

STP 8-91T14-SM-TG

**SOLDIER'S MANUAL
AND TRAINER'S GUIDE**

MOS 91T

**ANIMAL
CARE
SPECIALIST**

SKILL LEVELS 1/2/3/4



**AUGUST 2002
HEADQUARTERS, DEPARTMENT OF THE ARMY**

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SOLDIER'S MANUAL and TRAINER'S GUIDE

MOS 91T

Soldier's Manual, Skill Levels 1/2/3/4 and Trainer's Guide, MOS 91T, Animal Care Specialist

Skill Levels 1, 2, 3 and 4

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PREFACE

This publication is for skill level 1, 2, 3, and 4 soldiers holding military occupational specialty (MOS) 91T and for trainers and first-line supervisors. It contains standardized training objectives, in the form of task summaries, to train and evaluate soldiers on critical tasks that support unit missions during wartime. Trainers and first-line supervisors should ensure soldiers holding MOS/SL 91T1/2/3/4 have access to this publication. This STP is available for download from the Reimer Digital Library (RDL).

This manual applies to both Active and Reserve Component soldiers.

Use of trade names in this manual is for clarity only and does not constitute endorsement by the Department of Defense (DOD).

The proponent of this publication is HQ, TRADOC. Send comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Academy of Health Sciences, ATTN: MCCS-HTI, 1750 Greeley Rd, STE 135, Fort Sam Houston, TX 78234-5078.

CHAPTER 1

Introduction

1-1. General

This manual identifies the individual MOS training requirements for soldiers in MOS 91T. Commanders, trainers, and soldiers should use it to plan, conduct, and evaluate individual training in units. This manual is the primary MOS reference to support the self-development and training of every soldier.

Use this manual with Soldier's Manuals of Common Tasks (STP 21-1-SMCT and STP 21-24-SMCT), Army Training and Evaluation Programs (ARTEPs), and FM 25-101, Battle Focused Training, to establish effective training plans and programs which integrate soldier, leader, and collective tasks.

1-2. Battle Focused Training

As described in FM 25-100, Training the Force, and FM 25-101, Battle Focused Training, the commander must first define the mission essential task list (METL) as the basis for unit training. Unit leaders use the METL to identify the collective, leader, and soldier tasks which support accomplishment of the METL. Unit leaders then assess the status of training and lay out the training objectives and the plan for accomplishing needed training. After preparing the long- and short-range plans, leaders then execute and evaluate training. Finally, the unit's training preparedness is reassessed, and the training management cycle begins again. This process ensures that the unit has identified what is important for the wartime mission, that the training focus is applied to the necessary training, and that training meets established objectives and standards.

1-3. Relationship of Soldier Training Publications (STPs) to Battle Focused Training

The two key components of enlisted STPs are the Trainer's Guide (TG) and Soldier's Manual (SM). The TG and SM give leaders important information to help in the battle focused training process. The TG relates soldier and leader tasks in the MOS and SL to duty positions and equipment. It provides information on where the task is trained, how often training should occur to sustain proficiency, and who in the unit should be trained. As leaders go through the assessment and planning stages, they should use the TG as an important tool in identifying what needs to be trained.

The execution and evaluation of soldier and leader training should rely on the Armywide training objectives and standards in the SM task summaries. The task summaries ensure that soldiers in any unit or location have the same definition of task performance and that trainers evaluate the soldiers to the same standard.

1-4. Task Summaries

Task summaries contain information necessary to conduct training and evaluate soldier proficiency on tasks critical to the MOS. A separate task summary is provided for each critical task. These task summaries are, in effect, standardized training objectives which ensure that

soldiers do not have to relearn a task on reassignment to a new unit. The format for the task summaries included in this manual is as follows:

- **Task Title.** The task title identifies the action to be performed.
- **Task Number.** A 10-digit number identifies each task or skill. Include this task number, along with task title, in any correspondence relating to the task.
- **Conditions.** The task conditions identify all the equipment, tools, references, job aids, and supporting personnel that the soldier needs to perform the task in wartime. This section identifies any environmental conditions that can alter task performance, such as visibility, temperature, and wind. This section also identifies any specific cues or events that trigger task performance.
- **Standards.** The task standards describe how well and to what level you must perform a task under wartime conditions. Standards are typically described in terms of accuracy, completeness, and/or speed.
- **Performance Steps.** This section includes a detailed outline of information on how to perform the task.
- **Evaluation Preparation (when used).** This subsection indicates necessary modifications to task performance in order to train and evaluate a task that cannot be trained to the wartime standard under wartime conditions. It may also include special training and evaluation preparation instructions to accommodate these modifications and any instruction that should be given to the soldier before evaluation.
- **Performance Measures.** This evaluation guide identifies the specific actions that the soldier must do to successfully complete the task. These actions are listed in a GO/NO-GO format for easy evaluation. Each evaluation guide contains a feedback statement that indicates the requirements for receiving a GO on the evaluation.
- **References.** This section identifies references that provide more detailed and thorough explanations of task performance requirements than that given in the task summary description.

Additionally, some task summaries include safety statements and notes. Safety statements (danger, warning, and caution) alert users to the possibility of immediate death, personal injury, or damage to equipment. Notes provide a small, extra supportive explanation or hint relative to the performance measures.

1-5. Soldier's Responsibilities

Each soldier is responsible for performing individual tasks which the first-line supervisor identifies based on the unit's METL. The soldier must perform the tasks to the standards listed in the SM. If a soldier has a question about how to do a task or which tasks in this manual he or she must perform, it is the soldier's responsibility to ask the first-line supervisor for clarification. The first-line supervisor knows how to perform each task or can direct the soldier to the appropriate training materials.

1-6. NCO Self-Development and the Soldier's Manual

Self-development is one of the key components of the leader development program. It is a planned progressive and sequential program followed by leaders to enhance and sustain their military competencies. It consists of individual study, research, professional reading, practice, and self-assessment. Under the self-development concept, the NCO, as an Army professional,

has the responsibility to remain current in all phases of the MOS. The SM is the primary source for the NCO to use in maintaining MOS proficiency.

Another important resource for NCO self-development is the Army Correspondence Course Program (ACCP). Refer to DA Pamphlet 350-59 for information on enrolling in this program and for a list of courses, or write to: AMEDDC&S, ATTN: MCCS-HSN, 2105 11TH STREET SUITE 4191, FORT SAM HOUSTON TX 78234-5064.

Unit learning centers are valuable resources for planning self-development programs. They can help access enlisted career maps, training support products, and extension training materials. A life cycle management diagram for MOS 91T soldiers is on page 1-4. You can find more information and check for updates to this diagram at <http://das.cs.amedd.army.mil/ooc.htm> (scroll down to LIFE CYCLE MANAGEMENT, select ENLISTED, and find the appropriate tab along the bottom.) This information, combined with the MOS Training Plan in Chapter 2, forms the career development model for the MOS.

1-7. Trainer's Responsibilities

Training soldier and leader tasks to standard and relating this training to collective mission-essential tasks is the NCO trainer's responsibility. Trainers use the steps below to plan and evaluate training.

- Identify soldier and leader training requirements. The NCO determines which tasks soldiers need to train on using the commander's training strategy. The unit's METL and ARTEP and the MOS Training Plan (MTP) in the TG are sources for helping the trainer define the individual training needed.
- Plan the training. Training for specific tasks can usually be integrated or conducted concurrently with other training or during "slack periods." The unit's ARTEP can assist in identifying soldier and leader tasks which can be trained and evaluated concurrently with collective task training and evaluation.
- Gather the training references and materials. The SM task summary lists all references which can assist the trainer in preparing for the training of that task.
- Determine risk assessment and identify safety concerns. Analyze the risk involved in training a specific task under the current conditions at the time of scheduled training. Ensure that your training preparation takes into account those cautions, warnings, and dangers associated with each task.
- Train each soldier. Show the soldier how the task is done to standard, and explain step-by-step how to do the task. Give each soldier one chance to do the task step-by-step.
- Emphasize training in mission-oriented protective posture (MOPP) level 4 clothing. Soldiers have difficulty performing even the very simple tasks in an NBC environment. The combat effectiveness of the soldier and the unit can degrade quickly when trying to perform in MOPP 4. Practice is the best way to improve performance. The trainer is responsible for training and evaluating soldiers in MOPP 4 so that they are able to perform critical wartime tasks to standards under NBC environment conditions.

**MOS 91T
ANIMAL CARE SPECIALIST
CAREER/TRAINING LIFE CYCLE**

RANK	AMEDD Course NR	TRAINING	LENGTH	LOCATION	ATTENDANCE REQUIREMENT	Self-Development Course NR	SELF-DEVELOPMENT	LENGTH	LOCATION	ATTENDANCE REQUIREMENT
E1 - E5							Army Correspondence Course Program			
		Basic Combat Training Course	9 wks	Ft. LW Ft. Sill Ft. Jackson Ft. Benning	IET	081-CBRNE-W	<i>Introduction to CBRNE</i>		<i>On-Line</i>	<i>Just in Time</i>
						MD0400	Mobilization for AMEDD Personnel		Correspondence	Optional
	321-91T10	Animal Care Spec 91T10	9 wks	FSH, TX	IET/MOS	MD1630	ASMAAT		Unit Training	Sustainment
		PLDC	4 wks	Multiple sites	Leadership		Animal Care Specialist Sustainment Course (16 subcourses)		Correspondence	Sustainment
	6G-F8/321-F8	Marine Mammal Veterinary Medicine Training	2 wks	San Diego, CA	Just in time		Veterinary Food Inspection Specialist Sustainment Course (13 subcourses)		Correspondence	Sustainment
	6G-F7/321-F7	91T NCO Plans, Operations, and Sustainment Course	1 wk	FSH, TX	Just in time		Veterinary Food Inspection Specialist Preparatory Advanced (4 subcourses)		Correspondence	Sustainment
							Combat Life Saver (CLS)		Unit Training	Just in Time
	6-8-C40	BNCO 91T30	16 wks	FSH, TX	Leadership					
							PPSCP			
		Various FDA and USDA Courses		Multi sites	Just in time	300-A0704	75/71 Personnel/Retention Legal/EO	4 days	SA, TX	Just in Time
						300-A0709	VET/PM NCO Short Course	4 days	SA, TX	Just in Time
		BASELINE	REQUIRED	RECOMMENDED	PROFIS	340-A0715	MEDCOM CSM/SGM NCO Short Course	4 days	SA, TX	Leadership
		CardioPulmonary Resuscitation (CPR)		X		340-A0743	CSM/SGM SR NCO Course	4 days	Landstuhl, Germany	Leadership
		NBC Course		X						
		Emergency Medical Training (EMT)		X						
		Certification Courses								
		Veterinary Technician National Examination Certification		X						
		American Association of Laboratory Animal Science Certification		X						
E6 - E9		Instructor Courses								
	5K-F3/520-F3	Instructor Training Course	10 days	AHS, FSH, TX	Just in time SQI-H		Specialty Courses			
	5K-F6/520-F6	Small Group Instruction Training	5 days	AHS, FSH, TX	Just in Time	5K-F13/520-F10	CBRNE TRAINER EVALUATOR	2 Days	Fort Sam Houston, TX	
		Battle Staff	6 wks, 2 days	USASMA	Just in time - ASI 2S	5K-F7/520-F7(PILOT)	Advanced Instructor Training	1 Wk, 3 Days	Fort Sam Houston, TX	
		Recruiter	6 wks	USAREC	Just in time	5K-F8/520-F8(PILOT)	Education and Training for the 21st Century	4 Weeks	Fort Sam Houston, TX	
		Master Fitness Trainer	2 wks	Multiple sites	Just in time ASI-P5					
		Drill Sgt School	9 wks	Multiple Sites	Just in Time SQI-X					
	6-8-C42	ANCO (SL4)	6 wks	FSH, TX	Leadership					
		First Sergeant Course	5 wks	USASMA	Just in time SQI-M					
		SGM Course	9 months	USASMA	Just in time MEL-A					
		CSM Course	1 wk	USASMA	Just in time/leadership					
NOTE: **MOS 91T converts to 91R at E8 Expert Field Medical Badge if assigned PROFIS										

- Check each soldier. Evaluate how well each soldier performs the tasks in this manual. Conduct these evaluations during individual training sessions or while evaluating soldier proficiency during the conduct of unit collective tasks. This manual provides an evaluation guide for each task to enhance the trainer's ability to conduct year-round, hands-on evaluations of tasks critical to the unit's mission. Use the information in the MTP as a guide to determine how often to train the soldier on each task to ensure that soldiers sustain proficiency.

- Record the results. The leader book referred to in FM 25-101, appendix B, is used to record task performance and gives the leader total flexibility on the method of recording training. The trainer may use DA Forms 5164-R (Hands-On Evaluation) and 5165-R (Field Expedient Squad Book) as part of the leader book. The forms are optional and locally reproducible. STP 21-24-SMCT contains a copy of the forms and instructions for their use.

- Retrain and evaluate. Work with each soldier until he or she can perform the task to specific SM standards.

1-8. Training Tips for the Trainer

Prepare yourself.

- Get training guidance from your chain of command on when to train, which soldiers to train, availability of resources, and a training site.
- Get the training objective (task, conditions, and standards) from the task summary in this manual.
- Ensure you can do the task. Review the task summary and the references in the reference section. Practice doing the task or, if necessary, have someone train you on the task.
- Choose a training method.
- Prepare a training outline consisting of informal notes on what you want to cover during your training session.
- Practice your training presentation.

Prepare the resources.

- Obtain the required resources identified in the conditions statement for each task.
- Gather equipment and ensure it is operational.
- Coordinate for use of training aids and devices.
- Prepare the training site according to the conditions statement and evaluation preparation section of the task summary, as appropriate.

Prepare the soldiers.

- Tell the soldier what task to do and how well it must be done. Refer to the standards statement and evaluation preparation section for each task as appropriate.
- Caution soldiers about safety, environment, and security.
- Provide any necessary training on basic skills that soldiers must have before they can be trained on the task.
- Pretest each soldier to determine who needs training in what areas by having the soldier perform the task. Use DA Form 5164-R and the evaluation guide in each task summary to make this determination.

NOTE: Deficiencies noted in soldiers' ability to perform critical tasks taught in schools or by extension training materials should be reported to the proponent school.

Train the soldiers who failed the pretest.

- Demonstrate how to do the task or the specific performance steps to those soldiers who could not perform to SM standards. Have soldiers study the appropriate materials.
- Have soldiers practice the task until they can perform it to SM standards.
- Evaluate each soldier using the evaluation guide.
- Provide feedback to those soldiers who fail to perform to SM standards and have them continue to practice until they can perform to SM standards.

Record results in the leader book.

1-9. Training Support

This manual includes the following information which provides additional training support information.

- Appendix A, DA Form 5165-R (Field Expedient Squad Book). This appendix provides an overprinted copy of DA Form 5165-R for the tasks in this MOS. The NCO trainer can use this form to set up the leader book described in FM 25-101, appendix B. The use of this form may help preclude writing the soldier tasks associated with the unit's mission essential task list, and can become a part of the leader book.
- Glossary. The glossary, which follows the last appendix, is a single comprehensive list of acronyms, abbreviations, definitions, and letter symbols.
- References. This section contains two lists of references, required and related, which support training of all tasks in this SM. Required references are listed in the conditions statement and are required for the soldier to do the task. Related references are materials which provide more detailed information and a more thorough explanation of task performance.

CHAPTER 2

Training Guide

2-1. General. The MOS Training Plan (MTP) identifies the essential components of a unit training plan for individual training. Units have different training needs and requirements based on differences in environment, location, equipment, dispersion, and similar factors. Therefore, the MTP should be used as a guide for conducting unit training and not a rigid standard. The MTP consists of two parts. Each part is designed to assist the commander in preparing a unit training plan which satisfies integration, cross training, training up, and sustainment training requirements for soldiers in this MOS.

Part One of the MTP shows the relationship of an MOS skill level between duty position and critical tasks. These critical tasks are grouped by task commonality into subject areas.

Section I lists subject area numbers and titles used throughout the MTP. These subject areas are used to define the training requirements for each duty position within an MOS.

Section II identifies the total training requirement for each duty position within an MOS and provides a recommendation for cross training and train-up/merger training.

- **Duty Position column.** This column lists the duty positions of the MOS, by skill level, which have different training requirements.
- **Subject Area column.** This column lists, by numerical key (see Section I), the subject areas a soldier must be proficient in to perform in that duty position.
- **Cross Train column.** This column lists the recommended duty position for which soldiers should be cross trained.
- **Train-up/Merger column.** This column lists the corresponding duty position for the next higher skill level or MOSC the soldier will merge into on promotion.

Part Two lists, by general subject areas, the critical tasks to be trained in an MOS and the type of training required (resident, integration, or sustainment).

- **Subject Area column.** This column lists the subject area number and title in the same order as Section I, Part One of the MTP.
- **Task Number column.** This column lists the task numbers for all tasks included in the subject area.
- **Title column.** This column lists the task title for each task in the subject area.
- **Training Location column.** This column identifies the training location where the task is first trained to soldier training publications standards. If the task is first trained to standard in the unit, the word "Unit" will be in this column. If the task is first trained to standard in the training base, it will identify, by brevity code (ANCOC, BNCOC, etc.), the resident course where the task was taught. Figure 2-1 contains a list of training locations and their corresponding brevity codes.

BNCOC	Basic NCO Course
AIT	Advanced Individual Training
UNIT	Trained in the Unit
ANCOC	Advanced NCO Course

Figure 2-1. Training Locations

- **Sustainment Training Frequency column.** This column indicates the recommended frequency at which the tasks should be trained to ensure soldiers maintain task proficiency. Figure 2-2 identifies the frequency codes used in this column.

BA	- Biannually
AN	- Annually
SA	- Semiannually
QT	- Quarterly
MO	- Monthly
BW	- Bi-weekly
WK	- Weekly

Figure 2-2. Sustainment Training Frequency Codes

- **Sustainment Training Skill Level column.** This column lists the skill levels of the MOS for which soldiers must receive sustainment training to ensure they maintain proficiency to soldier's manual standards.

2-2. Part One, Section I. Subject Area Codes.

Skill Level 1

- 1 Emergency Care
- 2 Clinical
- 3 Laboratory
- 4 Anesthesia
- 5 Surgical
- 6 Radiology
- 7 Large Animals
- 8 Laboratory Animals
- 9 NBC
- 10 Administrative

Skill Level 2

- 11 Large Animal (SL 2)
- 12 Laboratory Animal (SL 2)

Skill Level 3

- 13 Emergency Care (SL 3)
- 14 Clinical (SL 3)
- 15 Laboratory (SL 3)
- 16 Anesthesia (SL 3)
- 17 Surgical (SL 3)
- 18 Radiology (SL 3)
- 19 Large Animal (SL 3)
- 20 Laboratory Animal (SL 3)
- 21 NBC (SL 3)
- 22 Administrative (SL 3)

Skill Level 4

- 23 Administrative (SL 4)

2-3. Part One, Section II. Duty Position Training Requirements.

	DUTY POSITION	SUBJECT AREAS	CROSS TRAIN	TRAIN-UP/MERGER
SL 1	Animal Care Specialist	1-10	NA	91T2 Animal Care Specialist
SL 2	Animal Care Specialist	1-12	NA	91T3 Animal Care Specialist
SL 3	Animal Care Specialist	1-22	NA	91T4 Animal Care Specialist
SL 4	Animal Care Specialist	1-23	NA	91R5 Veterinary Services NCO

2-4. Part Two. Critical Tasks List.**MOS TRAINING PLAN
91T14****CRITICAL TASKS**

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
Skill Level 1					
1. Emergency Care	081-891-1005	INITIATE FIRST AID ON A MILITARY WORKING DOG FOR HEAT STROKE	AIT	AN	1-4
	081-891-1006	INITIATE FIRST AID ON A MILITARY WORKING DOG FOR A COLD INJURY	AIT	AN	1-4
	081-891-1037	INITIATE FIRST AID ON A MILITARY WORKING DOG FOR DEHYDRATION	AIT	AN	1-4
	081-891-1041	INITIATE FIRST AID ON A MILITARY WORKING DOG FOR ANAPHYLAXIS	AIT	AN	1-4
	081-891-1042	INITIATE FIRST AID ON A MILITARY WORKING DOG FOR HYPOVOLEMIC SHOCK	AIT	AN	1-4
	081-891-1094	PERFORM A PRIMARY SURVEY ON A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1301	INITIATE FIRST AID FOR AN EYE INJURY OF A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1302	INITIATE FIRST AID FOR GASTRIC DILATATION-VOLVULUS (BLOAT) IN A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1602	PERFORM BASIC CARDIAC LIFE SUPPORT ON A MILITARY WORKING DOG	AIT	AN	1-4
2. Clinical	081-891-1007	TAKE THE VITAL SIGNS OF A MILITARY WORKING DOG (TEMPERATURE, PULSE, AND RESPIRATIONS)	AIT	AN	1-4
	081-891-1010	CLEAN THE EXTERNAL EAR CANALS OF A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1011	CLEAN THE TEETH OF A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1012	ADMINISTER ORAL MEDICATION TO A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1013	ADMINISTER OTIC MEDICATION TO A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1014	ADMINISTER OPHTHALMIC MEDICATION TO A MILITARY WORKING DOG	AIT	AN	1-4

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	081-891-1015	ADMINISTER A SUBCUTANEOUS INJECTION TO A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1016	ADMINISTER AN INTRAMUSCULAR INJECTION TO A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1017	ADMINISTER AN INTRAVENOUS INJECTION TO A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1018	INITIATE AN INTRAVENOUS INFUSION ON A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1022	PERFORM A SKIN SCRAPING ON A MILITARY WORKING DOG FOR MICROSCOPIC ECTOPARASITE EVALUATION	AIT	AN	1-4
	081-891-1023	OBTAIN A VENOUS BLOOD SPECIMEN FROM A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1024	PERFORM A DIRECT MICROSCOPIC EXAMINATION OF WHOLE BLOOD FOR MICROFILARIA	AIT	AN	1-4
	081-891-1038	PLACE AN INTRAVENOUS CATHETER IN A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1063	ASSIST WITH PERFORMING A PHYSICAL EXAM OF A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1086	ASSIST WITH EUTHANASIA OF A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1204	COLLECT EAR SWABS FROM A MILITARY WORKING DOG FOR MICROSCOPIC EVALUATION	AIT	AN	1-4
	081-891-1401	COLLECT A URINE SAMPLE FROM A MILITARY WORKING DOG USING THE FREE CATCH METHOD	AIT	AN	1-4
	081-891-1409	RECONSTITUTE VETERINARY VACCINES	AIT	AN	1-4
	081-891-1501	ASSIST WITH APPLYING A BANDAGE TO THE HEAD, NECK, OR TRUNK OF A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1502	ASSIST WITH APPLYING A BANDAGE TO THE LEG OR PAW OF A MILITARY WORKING DOG	AIT	AN	1-4
3. Laboratory	081-891-1039	PERFORM A WHITE BLOOD CELL DIFFERENTIAL ON THE BLOOD OF A MILITARY WORKING DOG	AIT	AN	1-4

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	081-891-1048	PERFORM A PACKED CELL VOLUME DETERMINATION ON THE BLOOD OF A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1050	CULTURE SPECIMENS FROM ANIMALS FOR FUNGAL GROWTH	AIT	AN	1-4
	081-891-1051	PERFORM A FECAL EXAMINATION USING THE DIRECT SMEAR METHOD ON A SPECIMEN FROM A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1052	PERFORM A FECAL EXAMINATION USING THE FLOATATION METHOD ON A SPECIMEN FROM A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1064	PERFORM A WHITE BLOOD CELL COUNT ON WHOLE BLOOD OF A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1065	PERFORM A MICROPORE FILTER TEST FOR MICROFILARIA ON THE BLOOD OF A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1066	SUBMIT A SPECIMEN FOR BLOOD CHEMISTRY OR SEROLOGICAL EVALUATION OF A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1067	ASSIST WITH THE COLLECTION OF NECROPSY TISSUE FROM A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1070	PERFORM A DIFF-QUIK STAIN ON THE BLOOD OF A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1071	PERFORM A HEARTWORM ANTIGEN TEST ON THE BLOOD OF A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1074	PERFORM A TOTAL PROTEIN DETERMINATION (REFRACTOMETER) ON THE BLOOD OF A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1202	PERFORM A MICROHEMATOCRIT/BUFFY COAT EVALUATION FOR THE PRESENCE OF MICROFILARIA ON THE BLOOD OF A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1203	PERFORM A MODIFIED KNOTT'S TEST ON THE BLOOD OF A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1206	PERFORM A GRAM STAIN ON A SPECIMEN FROM A MILITARY WORKING DOG	AIT	AN	1-4

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	081-891-1207	PERFORM A ROUTINE URINALYSIS ON A SPECIMEN FROM A MILITARY WORKING DOG	AIT	AN	1-4
4. Anesthesia	081-891-1029	INTUBATE A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1031	VENTILATE A MILITARY WORKING DOG FOR RESPIRATORY ARREST DURING SURGERY	AIT	AN	1-4
	081-891-1068	MAINTAIN ANESTHESIA ON A MILITARY WORKING DOG	AIT	AN	1-4
5. Surgical	081-891-1069	PREPARE VETERINARY SURGICAL INSTRUMENTS FOR USE	AIT	AN	1-4
	081-891-1087	PERFORM A SURGICAL SKIN PREPARATION ON A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1089	PUT ON STERILE GLOVES USING THE OPEN GLOVE TECHNIQUE FOR A VETERINARY PROCEDURE	AIT	AN	1-4
	081-891-1090	PERFORM THE SURGICAL HAND AND ARM SCRUB FOR A VETERINARY PROCEDURE	AIT	AN	1-4
	081-891-1091	PUT ON STERILE GOWN AND GLOVES USING THE CLOSED GLOVE TECHNIQUE FOR A VETERINARY PROCEDURE	AIT	AN	1-4
	081-891-1092	GOWN AND GLOVE SURGICAL TEAM MEMBERS FOR A VETERINARY PROCEDURE	AIT	AN	1-4
	081-891-1403	REMOVE SUTURES OR STAPLES ON A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1603	PROVIDE POSTOPERATIVE CARE TO A MILITARY WORKING DOG	AIT	AN	1-4
6. Radiology	081-891-1054	RADIOGRAPH THE THORAX OF A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1055	RADIOGRAPH THE ABDOMEN OF A MILITARY WORKING DOG	AIT	AN	1-4
	081-891-1062	RADIOGRAPH THE PELVIS OF A MILITARY WORKING DOG FOR HIP DYSPLASIA EVALUATION	AIT	AN	1-4
	081-891-1073	DEVELOP RADIOGRAPHIC FILM USING AN AUTOMATIC FILM PROCESSOR IN AN ANIMAL FACILITY	AIT	AN	1-4

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	081-891-1088	PROCESS RADIOGRAPHIC FILM MANUALLY AT A VETERINARY TREATMENT FACILITY	AIT	AN	1-4
	081-891-1205	RADIOGRAPH THE FLEXED ELBOW OF A MILITARY WORKING DOG	AIT	AN	1-4
7. Large Animals	081-891-1402	PERFORM A PHYSICAL EXAMINATION ON AN EQUINE	AIT	AN	1-4
	081-891-1406	PERFORM PHYSICAL RESTRAINT OF LARGE ANIMALS	AIT	AN	1-4
	081-891-1407	ADMINISTER ORAL MEDICATION TO A LARGE ANIMAL	AIT	AN	1-4
8. Laboratory Animals	081-891-1405	PERFORM PHYSICAL RESTRAINT OF LABORATORY ANIMALS	AIT	AN	1-4
	081-891-1408	PERFORM A PHYSICAL EXAMINATION OF A LABORATORY ANIMAL	AIT	AN	1-4
9. NBC	081-891-1404	PERFORM NUCLEAR, BIOLOGICAL, AND CHEMICAL DECONTAMINATION OF A MILITARY ANIMAL	AIT	AN	1-4
10. Administrative	081-891-1026	PREPARE A SUSPECTED RABIES SPECIMEN FOR SHIPMENT	AIT	AN	1-4
	081-891-1028	MAKE ENTRIES IN THE CONTROLLED SUBSTANCES REGISTER FOR VETERINARY SERVICES	AIT	AN	1-4
	081-891-1036	MAKE ENTRIES IN THE HEALTH RECORD OF A MILITARY WORKING DOG USING THE CCSOAP FORMAT	AIT	AN	1-4
	081-891-1101	COMPLETE PART III OF DD FORM 2341 (REPORT OF ANIMAL BITE - POTENTIAL RABIES EXPOSURE)	AIT	AN	1-4
	081-891-1503	CALCULATE DRUG DOSAGES FOR A MILITARY WORKING DOG	AIT	AN	1-4
Skill Level 2					
11. Large Animal (SL 2)	081-891-2001	INSERT A NASOGASTRIC TUBE IN AN EQUINE	UNIT	AN	2-4
12. Laboratory Animal (SL 2)	081-891-1504	PERFORM MANUAL RESTRAINT OF AN UNSEDATED NONHUMAN PRIMATE	UNIT	AN	2-4

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	081-891-2002	PERFORM MANUAL RESTRAINT OF A SEDATED NONHUMAN PRIMATE	UNIT	AN	2-4
Skill Level 3					
13. Emergency Care (SL 3)	081-891-1058	PERFORM LIFE SAVING THERAPY ON A MILITARY WORKING DOG FOR ORGANOPHOSPHATE OR CARBAMATE POISONING	BNCOC	AN	3-4
	081-891-1059	PERFORM LIFE SAVING THERAPY ON A MILITARY WORKING DOG WITH BURNS	BNCOC	AN	3-4
	081-891-1061	PERFORM A VENOUS CUTDOWN ON A MILITARY WORKING DOG	BNCOC	AN	3-4
	081-891-3005	PERFORM LIFE SAVING THERAPY ON A MILITARY WORKING DOG FOR HEAT STROKE	BNCOC	AN	3-4
	081-891-3006	PERFORM LIFE SAVING THERAPY ON A MILITARY WORKING DOG FOR A COLD INJURY	BNCOC	AN	3-4
	081-891-3012	PERFORM LIFE SAVING THERAPY ON A MILITARY WORKING DOG FOR DEHYDRATION	BNCOC	AN	3-4
	081-891-3013	PERFORM LIFE SAVING THERAPY ON A MILITARY WORKING DOG FOR HYPOVOLEMIC SHOCK	BNCOC	AN	3-4
	081-891-3101	PERFORM A NEEDLE THORACENTESIS ON A MILITARY WORKING DOG	BNCOC	AN	3-4
	081-891-3201	PERFORM LIFE SAVING THERAPY ON A MILITARY WORKING DOG FOR NUCLEAR, BIOLOGICAL, AND CHEMICAL INJURIES	BNCOC	AN	3-4
	081-891-3202	PERFORM LIFE SAVING THERAPY FOR GASTRIC DILATATION-VOLVULUS (BLOAT)	BNCOC	AN	3-4
	081-891-3203	PERFORM LIFE SAVING THERAPY ON AN ANIMAL FOR ANAPHYLAXIS	BNCOC	AN	3-4
	081-891-3304	PERFORM A SECONDARY SURVEY ON A MILITARY WORKING DOG	BNCOC	AN	3-4
	081-891-3501	INSERT A CHEST TUBE ON A MILITARY WORKING DOG	BNCOC	AN	3-4
	081-891-3502	PERFORM A TRACHEOTOMY ON A MILITARY WORKING DOG	BNCOC	AN	3-4
	081-891-3503	PERFORM A BLOOD TRANSFUSION ON A MILITARY WORKING DOG	BNCOC	AN	3-4

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
14. Clinical (SL 3)	081-891-1045	APPLY A BANDAGE TO THE HEAD, NECK, OR TRUNK OF A MILITARY WORKING DOG	BNCOC	AN	3-4
	081-891-1046	APPLY A BANDAGE TO THE LEG OR PAW OF A MILITARY WORKING DOG	BNCOC	AN	3-4
	081-891-1053	COLLECT A URINE SAMPLE FROM A MILITARY WORKING DOG BY CYSTOCENTESIS OR USING A URETHRAL CATHETER	BNCOC	AN	3-4
	081-891-1060	OBTAIN AN ECG TRACING FROM A MILITARY WORKING DOG	BNCOC	AN	3-4
15. Laboratory (SL 3)	081-891-1201	PERFORM A MICROSCOPIC EXAMINATION TO IDENTIFY COMMON INTRACELLULAR BLOOD PARASITES IN THE BLOOD OF A MILITARY WORKING DOG	BNCOC	AN	3-4
	081-891-3103	PERFORM CYTOLOGICAL EXAMINATION ON VARIOUS LABORATORY SAMPLES AT A VETERINARY TREATMENT FACILITY	BNCOC	AN	3-4
16. Anesthesia (SL 3)	081-891-1030	INDUCE ANESTHESIA IN A MILITARY WORKING DOG	BNCOC	AN	3-4
17. Surgical (SL 3)	081-891-1043	DEBRIDE A WOUND ON A MILITARY WORKING DOG	BNCOC	AN	3-4
	081-891-1044	CLOSE A WOUND ON A MILITARY WORKING DOG	BNCOC	AN	3-4
18. Radiology (SL 3)	081-891-3104	ASSIST IN PERFORMING AN UPPER GASTROINTESTINAL CONTRAST RADIOGRAPHY STUDY ON A MILITARY WORKING DOG	BNCOC	AN	3-4
	081-891-3106	DEVELOP A RADIOGRAPH TECHNIQUE CHART FOR A VETERINARY TREATMENT FACILITY	BNCOC	AN	3-4
	081-891-3107	ASSIST IN PERFORMING A DOUBLE CONTRAST CYSTOGRAM ON A MILITARY WORKING DOG	BNCOC	AN	3-4
	081-891-3108	ASSIST IN PERFORMING AN INTRAVENOUS UROGRAM ON A MILITARY WORKING DOG	BNCOC	AN	3-4
19. Large Animal (SL 3)	081-891-3403	PERFORM AN INSPECTION OF AGRICULTURAL ANIMAL FEED	BNCOC	AN	3-4
20. Laboratory Animal (SL 3)	081-891-3105	PERFORM A NECROPSY ON A LABORATORY ANIMAL	BNCOC	AN	3-4

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	081-891-3302	ANESTHETIZE A LABORATORY ANIMAL	BNCOC	AN	3-4
	081-891-3305	OBTAIN A BLOOD SPECIMEN FROM A LABORATORY ANIMAL	BNCOC	AN	3-4
	081-891-3308	ADMINISTER AN INTRAMUSCULAR INJECTION TO A LABORATORY ANIMAL	BNCOC	AN	3-4
	081-891-3309	ADMINISTER A SUBCUTANEOUS INJECTION TO A LABORATORY ANIMAL	BNCOC	AN	3-4
	081-891-3310	ADMINISTER AN INTRAVENOUS INJECTION TO A LABORATORY ANIMAL	BNCOC	AN	3-4
	081-891-3311	ADMINISTER AN INTRADERMAL INJECTION TO A LABORATORY ANIMAL	BNCOC	AN	3-4
	081-891-3312	ADMINISTER AN INTRAPERITONEAL INJECTION TO A LABORATORY ANIMAL	BNCOC	AN	3-4
21. NBC (SL 3)	081-891-3015	SUPERVISE THE ESTABLISHMENT OF A NUCLEAR, BIOLOGICAL, AND CHEMICAL DECONTAMINATION FACILITY FOR MILITARY ANIMALS	BNCOC	AN	3-4
22. Administrative (SL 3)	081-891-3004	ENSURE COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS SPECIFIC TO A VETERINARY ACTIVITY	BNCOC	AN	3-4
	081-891-3011	MAINTAIN THE MILITARY VETERINARY TREATMENT RECORD OF A MILITARY WORKING DOG	BNCOC	AN	3-4
	081-891-3014	INSPECT ANIMAL FACILITIES	BNCOC	AN	3-4
	081-891-3016	MANAGE A CONTROLLED SUBSTANCE PROGRAM FOR VETERINARY SERVICES	BNCOC	AN	3-4
Skill Level 4					
23. Administrative (SL 4)	081-891-0043	MANAGE A HAZARD COMMUNICATION PROGRAM FOR VETERINARY SERVICES	ANCOC	AN	4
	081-891-4001	COORDINATE EXECUTION OF AN ANIMAL MEDICINE PLAN	ANCOC	AN	4

CHAPTER 3

MOS/Skill Level Tasks

Skill Level 1

Subject Area 1: Emergency Care

INITIATE FIRST AID ON A MILITARY WORKING DOG FOR HEAT STROKE

081-891-1005

Conditions: A military working dog is exhibiting signs of heat stroke. You must initiate first aid on the dog. The dog handler is available to restrain the dog. Necessary materials and equipment include: thermometer, intravenous catheter with cap, various sizes of needles and syringes, sterile isotonic replacement crystalloid solution, adhesive tape, clippers with a #40 blade, 70% isopropyl alcohol, surgical scrub, gauze sponges, roll gauze or self-adhesive conforming wrap, fluid administration set, cool water, towels, and the dog's health record.

Standards: Initiated first aid on a military working dog for heat stroke without causing further harm to the animal.

Performance Steps

1. Recognize the signs of heat stroke.
 - a. Elevated rectal temperature ($>105^{\circ}$ F).
 - b. Weakness.
 - c. Collapse.
 - d. Rapid pulse.
 - e. Panting.
 - f. Bright red mucous membranes.
 - g. Shock (see task 081-891-1042).
2. Initiate intravenous fluid therapy.
 - a. Place a large bore peripheral intravenous catheter (see task 081-891-1038).
 - b. Start IV fluids (see task 081-891-1018).
3. Immediately cool the dog using one or more of the following methods.
 - a. Spray or pour cool water on the dog.
 - b. Immerse the dog in cool water.
 - c. Move the dog to a shaded area (if outdoors) or into a cool building.
 - d. Place alcohol on the footpads and on the axillary and groin regions.
 - e. Use cool (NOT cold) intravenous fluids (see step 2).
 - f. Use fans to direct air over the dog, if available.
4. Monitor vital signs (see task 081-891-1007) every 5 minutes.
5. Discontinue cooling efforts when the rectal temperature reaches 103° F.
6. Dry the dog with towels.
7. Notify the veterinarian and provide additional treatment, as directed.

Performance Steps

8. Record the treatment in the dog's health record (see task 081-891-1036).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Recognized the signs of heat stroke.	_____	_____
2. Initiated intravenous fluid therapy.	_____	_____
3. Immediately took measures to cool the dog.	_____	_____
4. Monitored vital signs every 5 minutes.	_____	_____
5. Discontinued cooling efforts when the rectal temperature reached 103° F.	_____	_____
6. Dried the dog with towels.	_____	_____
7. Notified the veterinarian and provided additional treatment, as directed.	_____	_____
8. Recorded the treatment in the dog's health record.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

INITIATE FIRST AID ON A MILITARY WORKING DOG FOR A COLD INJURY

081-891-1006

Conditions: A military working dog is presented with a cold-induced injury. The dog is muzzled and a dog handler is available to position and restrain the dog. Necessary materials and equipment include: timepiece, thermometer, blankets or towels, circulating warm water heating pad or forced-air warming device, hot water bottles, electric space heaters, and the dog's health record.

Standards: Identified the type of cold injury and took all steps necessary to treat the injury. Warmed the dog without causing further injury.

Performance Steps

1. Take the vital signs of the dog (see task 081-891-3304).
2. Determine the type of cold injury from the following characteristics:
 - a. Hypothermia.
 - (1) Subnormal body temperature (less than 95°F rectal). The dog will be cold to the touch.
 - (2) Dog may be unconscious or display signs of reduced consciousness.
 - (3) Decreased respirations.
 - (4) Decreased pulse rate.
 - (5) Weakness.
 - (6) Shock.
 - b. Frostbite.

NOTE: Peripheral tissues including ear tips, scrotum, tail, and distal limbs and toes are the most common areas affected by frostbite.

- (1) Tissues are very cold to the touch.
- (2) The dog has a history of exposure to extreme cold.
- (3) Ischemia due to frozen tissue.
 - (a) Gray skin rather than pink.
 - (b) Cyanosis (bluish color) of affected skin.
 - (c) Most noticed at nail beds and edge of ear pinna.

3. Take appropriate action to treat the dog.

NOTE: With both of these cases you will warm the dog as quickly as possible.

- a. Hypothermia.
 - (1) Warm the dog by one or more of the following methods:
 - (a) Wrap the dog in blankets or towels.
 - (b) Place the dog on a circulating warm water heating pad, ensuring a water temperature of 85° to 103°F. Wrap the water pad in towels or a blanket and cover the dog and pad with a blanket.
 - (c) Apply warm water bottles wrapped in a towel or similar protective material between the rear legs and cover the dog with a blanket.
 - (d) Use a heater to warm the environment.
 - (e) Use a forced-air warming device (e.g., BAIR Hugger device).
 - (2) Treat the dog for shock, as directed by the veterinarian.
 - (3) Monitor the rectal temperature every 15 minutes.
- b. Frostbite.
 - (1) Warm the affected area by one of the following methods:

Performance Steps

- (a) Place the injured part(s) of the dog in warm water, 85° to 103°F for 15 to 20 minutes.
- (b) Apply warm wet towels to the affected area for 15 to 20 minutes, changing the towels every 5 minutes.
- (2) Gently pat dry the injured area. Do not rub.
- (3) Prevent self-trauma to the affected area, if necessary.
 - (a) Apply an Elizabethan collar.
 - (b) Apply a muzzle.
- 4. Notify the senior 91T or veterinarian.
- 5. Record the history, exam findings, therapy, and monitoring notes on SF 600 (see task 081-891-1036).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Took the vital signs of the dog.	—	—
2. Determined the type of cold injury.	—	—
3. Took appropriate action to treat the dog.	—	—
4. Notified the senior 91T or veterinarian.	—	—
5. Recorded all findings and treatment in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

INITIATE FIRST AID ON A MILITARY WORKING DOG FOR DEHYDRATION

081-891-1037

Conditions: A military working dog is exhibiting signs of dehydration. The dog has been muzzled and the dog handler is available to position and restrain the dog. Necessary materials and equipment include: materials required to perform a PCV, total plasma protein determination, and urine specific gravity, fluid administration set, dehydration chart, intravenous catheters and caps, sterile isotonic replacement crystalloid solution, and the dog's health record.

Standards: Initiated first aid on a military working dog for dehydration.

Performance Steps

1. Determine that the dog is dehydrated by observing signs of dehydration as well as performing specific laboratory tests.
 - a. Signs of dehydration.
 - (1) Mental depression.
 - (2) Reduced physical activity.
 - (3) Dry and tacky mucous membranes.
 - (4) Pink to pale mucous membrane color.
 - (5) Prolonged capillary refill time (CRT).
 - (6) Sunken eyes.
 - (7) Weight loss.
 - (8) Increased skin turgor.
 - b. Specific laboratory tests.
 - (1) PCV (see task 081-891-1048). An elevated PCV value (>50) is usually seen in dehydration.
 - (2) Total plasma protein (see task 081-891-1074). An elevated TPP is usually seen in dehydration.
 - (3) Urine specific gravity (see task 081-891-1207). A value of 1.030 or greater is usually seen in dehydration.
2. If instructed, estimate the fluid volume deficit due to dehydration, given the estimated percent dehydration by the veterinarian.
 - a. Multiply the estimated percent dehydration (as a decimal) by the dog's body weight in kilograms to give the amount of fluid (in liters) that the dog is deficit due to dehydration. Example: A 40 kilogram dog is estimated to be 8% dehydrated. The fluid deficit due to dehydration is estimated to be $40 \text{ kg} \times 0.08 = 3.2$ liters.
 - b. Multiply the volume in liters by 1000 to give the amount of fluid (in milliliters) that the dog is deficit due to dehydration. Example: A 3.2 liter fluid deficit is equal to 3200 milliliters (ml).
3. If instructed, determine the daily fluid maintenance requirements.
 - a. Calculate the dog's body weight in kilograms by 40-60 ml/kg to estimate the daily fluid requirement for maintenance of normal body functions.
 - b. Use 40 ml/kg as a factor for military working dogs greater than 50 kg body weight, and use 60 ml/kg as a factor for military working dogs less than 50 kg body weight.
 - c. Examples: A 35 kg dog has a daily fluid maintenance requirement of $35 \text{ kg} \times 60 \text{ ml/kg} = 2100 \text{ ml}$. A 55 kg dog has a daily fluid maintenance requirement of $55 \text{ kg} \times 40 \text{ ml/kg} = 2200 \text{ ml}$.

Performance Steps

4. If instructed, determine the total amount of fluid required to give to a dog to provide maintenance fluid requirements and to replace deficits due to dehydration.
 - a. Add the amount of fluid required to replace losses due to dehydration (step 3a) and the daily fluid requirement (step 3b) to give the total volume required on the first day (first 24 hours of fluid therapy).
 - b. Example: The total fluid requirement for a 40 kg dog that is 8% dehydrated would be 3200 ml to replace losses due to dehydration (40 kg X 0.08) plus 3600 ml to provide daily maintenance (40 kg X 60 ml/kg) = 6800 ml.
5. Place at least one peripheral venous catheter that is at least 18 gauge diameter and 1 1/2 inches long (see task 081-891-1038).
6. Initiate an intravenous infusion of sterile isotonic replacement crystalloid solution (e.g., lactated Ringer's solution, Plasmalyte-R®) at an hourly rate as directed by the veterinarian or senior veterinary personnel (see tasks 081-891-1038 and 081-891-1018).
7. Record all findings and treatments in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Determined that the dog is dehydrated by observing signs of dehydration as well as performing specific laboratory tests.	_____	_____
2. Calculated the fluid deficit due to dehydration.	_____	_____
3. Calculated the daily maintenance fluid requirement.	_____	_____
4. Calculated the total fluid requirement for the first 24 hours.	_____	_____
5. Placed an intravenous catheter of appropriate size and length.	_____	_____
6. Administered intravenous fluids at the hourly rate directed by the veterinarian.	_____	_____
7. Recorded the treatment in the dog's health record.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

INITIATE FIRST AID ON A MILITARY WORKING DOG FOR ANAPHYLAXIS

081-891-1041

Conditions: A military working dog exhibiting signs of shock is brought to your veterinary facility. You are the most senior veterinary person present. The veterinarian has been notified, and is en route. The veterinarian has authorized you to provide emergency care for this dog until he arrives. The dog handler is available to assist you. Necessary materials and equipment include: appropriately sized syringes and needles, sterile isotonic replacement crystalloid solution, intravenous catheters and cap, epinephrine hydrochloride, endotracheal tube and supplies required to intubate the dog, ventilatory assist device (Ambu bag), emergency drug dosage chart, stethoscope, and the dog's health record.

Standards: Initiated first aid on a military working dog for anaphylaxis.

Performance Steps

1. Recognize the clinical signs of anaphylactic shock.
 - a. Sudden collapse or unconsciousness after exposure to an agent known to cause anaphylaxis (e.g., vaccines, venomous insect stings, snake envenomations, antibiotics, blood products, anesthetic agents, parasiticides, iodinated radiocontrast agents, narcotic drugs, mannitol, dextrans).
 - b. Respiratory distress.
 - c. Pale or cyanotic mucous membranes.
 - d. Weak or absent pulse.
 - e. Prolonged capillary refill time (CRT).

2. Call for help and locate emergency supplies and equipment.

NOTE: Every veterinary facility should have a central storage site for emergency drugs, supplies, and equipment. Most commonly, this is a portable "crash cart" with everything necessary to provide emergency care for the most common veterinary emergencies. Recommended drugs, supplies, and equipment are listed in The Handbook of Veterinary Care and Management of the Military Working Dog. This storage site could also be a designated cabinet in an accessible area of the facility. The storage area should be labeled to facilitate rapid location of drugs, supplies, and equipment during emergencies, and it should be checked frequently to ensure drugs are not expired and sterile supplies and equipment have not become contaminated. Every person in the facility should know where the storage site is in case of emergencies.

3. Perform a primary survey of the patient (see task 081-891-1094).
 - a. Establish a patent airway by intubating the dog (see task 081-891-1029) if airway obstruction (e.g., from edema) is present or the animal is unconscious.
 - b. Begin basic cardiac life support (BCLS) if cardiac, respiratory, or cardiopulmonary arrest has occurred (see tasks 081-891-1602 and 081-891-1031).
4. Establish intravenous access and begin fluid therapy for shock.
 - a. Place at least two large bore intravenous catheters (see task 081-891-1038).
 - b. Initiate an intravenous infusion of crystalloid fluid (see task 081-891-1018).
 - c. Treat shock IAW task 081-891-1042.
5. Provide supplemental oxygen.
 - a. If an endotracheal tube is in place, attach the breathing circuit from an anesthesia machine to the tube and use the standard oxygen flow rate (30 ml/kg).

Performance Steps

- b. If an endotracheal tube is not in place, use a face mask attached to the anesthesia machine breathing circuit and a high oxygen flow rate (10 L/min). If the animal is conscious and will not tolerate a face mask, simply hold the Y-piece of the breathing circuit near the patient's muzzle and nose and use high oxygen flow rates (10-15 L/min) to provide oxygen by "blow-by" technique.
6. Administer an emergency dose of epinephrine hydrochloride.
NOTE: Epinephrine is available in concentrations of 0.1 mg/ml (a dilution of 1:10,000) and 1 mg/ml (a dilution of 1:1,000). BE CERTAIN you know which form of this drug you are using when calculating dosages.
- a. Use an emergency drug chart or local clinical SOP to determine the dose for the dog.
 - b. If an emergency drug chart is not available and the local SOP does not provide a dose, use a dose of 0.01-0.02 mg/kg body weight.
 - c. For best results, epinephrine should be given intravenously in a central vein. If a central vein is not available, use a peripheral vein.
 - d. If an intravenous injection cannot be obtained, double the dose of epinephrine and give the drug in the endotracheal tube if an endotracheal tube is in place.
 - (1) Use either a male feline ("tom cat") or male canine urinary catheter attached to the syringe with the epinephrine in it passed down the inside of the endotracheal tube to a point just past the end of the tube to ensure the drug is administered to the patient and doesn't simply coat the inside of the tube.
 - (2) Flush the catheter with 5-10 ml of saline after injecting the epinephrine to ensure all of the drug is administered.
7. Monitor the patient as directed by the veterinarian or in local SOP until the veterinarian or senior technician arrives.
8. Record all findings and treatment in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Recognized the signs of anaphylaxis.	_____	_____
2. Called for help and located the emergency storage of drugs, supplies, and equipment.	_____	_____
3. Performed a primary survey of the patient IAW task 081-891-1094. <ul style="list-style-type: none"> a. Established a patent airway by endotracheal intubation if an airway obstruction was present or the patient was unconscious. b. Began BCLS if indicated. 	_____	_____
4. Established intravenous access using at least two large bore peripheral catheters.	_____	_____
5. Initiated an intravenous infusion of crystalloid fluid and treated for shock IAW tasks 081-891-1018 and 081-891-1042.	_____	_____
6. Provided supplemental oxygen.	_____	_____
7. Administered an appropriate dose of epinephrine.	_____	_____

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
8. Monitored the patient as directed by the veterinarian or local SOP until the veterinarian or senior technician arrived.	—	—
9. Recorded all findings and treatment in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

INITIATE FIRST AID ON A MILITARY WORKING DOG FOR HYPOVOLEMIC SHOCK 081-891-1042

Conditions: You are presented with a military working dog with signs of hypovolemic shock. Necessary materials and equipment include: thermometer, peripheral intravenous catheters with caps, various sizes of needles and syringes, adhesive tape, clippers with a #40 blade, 70% isopropyl alcohol, surgical scrub, gauze sponges, external warming device, sterile crystalloid fluid for intravenous use, fluid administration set, towels or blankets, stethoscope, and the dog's health record.

Standards: Recognized the signs of hypovolemic shock and initiated first aid on the military working dog without causing more harm to the dog.

Performance Steps

1. Perform a primary survey (see task 081-891-1094) and take the vital signs of the dog (see task 081-891-1007).
2. Recognize the signs of shock due to low blood volume (hypovolemia).
 - a. Pale or cyanotic mucous membranes.
 - b. Abnormal heart rate - high (tachycardia) or low (bradycardia).
 - c. Weak arterial pulse.
 - d. Prolonged capillary refill time (CRT) >2 seconds.
 - e. Increased respiratory rate (tachypnea).
 - f. Weakness, unconsciousness, or depressed mentation.
 - g. Hypothermia.
 - h. Cold extremities.
 - i. Low blood pressure (hypotension; mean arterial blood pressure <60 mm Hg; see task 081-891-1068, step 2e).
3. Administer supplemental oxygen (see task 081-891-1041, step 5).
4. Place at least two peripheral intravenous catheters using the cephalic veins and/or saphenous veins (see task 081-891-1038).
5. Initiate intravenous fluid therapy (see task 081-891-1018) using a calculated "shock volume" of fluids of 90 ml per kilogram of body weight to combat hypovolemic shock.
 - a. Use the "10-20-10-20 Rule" to evaluate response to shock therapy and to direct fluid therapy.
 - (1) Collect baseline blood and urine (if possible) and perform a packed cell volume (PCV), total plasma protein (TPP), and urine specific gravity.
 - (2) Measure and record heart rate, respiratory rate, rectal temperature, hemoglobin saturation (SpO₂), and arterial blood pressure (see task 081-891-1068).
 - (3) Rapidly administer one quarter of the calculated volume of shock fluid in the first 10 minutes (or as rapidly as possible). For example, if you calculated a 40 kg dog needs 4500 ml of fluid for shock (40 kg X 90 ml/kg body weight), then give 1125 ml as the quarter shock volume (4500 ml divided by 4).
 - (4) Measure and record heart rate, respiratory rate, rectal temperature, hemoglobin saturation (SpO₂), and arterial blood pressure.
 - (5) If the patient is still tachycardic, tachypneic, and hypotensive, give a second quarter dose of the calculated shock volume over the next 20 minutes (or as rapidly as possible).

Performance Steps

- (6) Repeat the measurements of PCV, TPP, heart rate, respiratory rate, and arterial blood pressure after the second quarter dose of fluids has been given.
 - (7) If the patient is still in shock (tachycardia, tachypnea, hypotension), the PCV is above 30%, and the TPP is above 3.5 g/dl, give a third quarter dose of shock fluids over the next 10 minutes (or as rapidly as possible).
 - (8) Repeat the measurements of PCV, TPP, heart rate, respiratory rate, and arterial blood pressure after the third quarter dose of fluids has been given.
 - (9) If the patient is still in shock (tachycardia, tachypnea, hypotension), the PCV is above 30%, and the TPP is above 3.5 g/dl, give the final quarter dose of shock fluids over the next 20 minutes (or as rapidly as possible).
 - b. If at any time during fluid therapy for shock the PCV goes below 30% or the TPP drops below 3.5 g/dl, slow the rate of crystalloid fluid therapy to maintenance requirements (see task 081-891-1037, step 4) and await further instructions from the veterinarian.
 - c. Slow the rate of fluid administration and begin administration of maintenance fluid requirements (see task 081-891-1037, step 4) once the signs of shock have dissipated.
6. Keep the dog warm by one or more of the following methods:
- a. Place the dog on a circulating warm water heating pad.
 - b. Cover the dog with blankets, towels, or similar material.
 - c. Use a forced-air rewarming device.
 - d. Place hot water bottles around the dog. Ensure that the bottles are wrapped in towels to prevent burning the dog's skin.
7. Monitor the patient at least every 15 minutes until relieved by the veterinarian or senior veterinary personnel.
- a. Monitor the dog's vital signs (see task 081-891-1007).
 - b. Auscultate the lungs for "crackles" that suggest pulmonary edema.
 - c. Check capillary refill time, mucous membrane color, mental alertness, and pulse strength.
9. Record all findings and treatment in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed a primary survey.	_____	_____
2. Recognized the clinical signs of hypovolemic shock.	_____	_____
3. Administered supplemental oxygen.	_____	_____
4. Placed at least 2 peripheral IV catheters.	_____	_____
5. Initiated IV fluid therapy using "shock" volumes and the "10-20-10-20 Rule".	_____	_____
6. Kept the dog warm.	_____	_____
7. Monitored the patient appropriately at least every 15 minutes.	_____	_____
8. Recorded all findings and treatment.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM A PRIMARY SURVEY ON A MILITARY WORKING DOG
081-891-1094

Conditions: A military working dog has been traumatized and is presented to you for emergency medical care. You must perform a primary survey to determine the type and extent of any life threatening injuries or medical problems. The dog handler is present to assist as needed. Necessary materials and equipment include: watch or clock with second hand, stethoscope, and the dog's health record.

Standards: Performed a primary survey and detected potentially life threatening problems within 2 minutes of beginning the patient evaluation.

Performance Steps

1. Visually assess the dog from a distance as you approach it.
 - a. Note the level of consciousness, responsiveness to you and the handler, and any unusual behavior or activity.
 - b. Note unusual body or limb postures or positions that suggest bone fractures, joint dislocations, or neurologic injury.
 - c. Listen for unusual breathing efforts and patterns, and for any audible airway or breathing sounds.
 - d. Look for any obvious blood, wounds, or other gross abnormalities.
 - e. Immediately notify the senior veterinary person present if any abnormalities are noted.
2. Assess the AIRWAY for patency.
 - a. Listen for labored inspiration and noisy breathing that suggest something is obstructing the airway.
 - b. Palpate the throat area and trachea in the ventral neck for obvious masses, wounds, swelling, or deformity that may be causing airway obstruction.
 - c. If possible, open the mouth and examine the oral cavity and oropharynx for masses, foreign objects, swelling, or deformity that may be causing airway obstruction.

NOTE: Do not attempt to open the mouth of a conscious military working dog, especially if it is distressed - it will likely bite you. Only open the mouth of an unconscious animal or have the dog's handler open the mouth while you visually examine the dog.

- d. If an airway obstruction is found or suspected, immediately notify the senior veterinary person present so proper emergency management can be performed.
3. Assess BREATHING.
 - a. Look at the animal's breathing pattern for clues to the location of lung or airway trauma or problems.
 - (1) Deep, labored breathing suggests lung trauma or problems, such as pulmonary contusions (lung bruising).
 - (2) Shallow, rapid breathing suggests pleural space problems such as pneumothorax (air in the pleural space), hemothorax (blood in the pleural space), or pleural effusion (other fluid in the pleural space).
 - (3) Absence of any obvious breathing indicates respiratory arrest.
 - (4) Irregular breathing pattern may indicate brain injury.
 - b. Look at the mucous membrane color to detect cyanosis (blue coloration of the gums) that indicates severe inability to oxygenate the body.
 - c. Palpate the thorax for signs of wounds, fractures, or other signs of trauma (e.g., sucking chest wound, rib fractures, flail chest).

Performance Steps

- d. Auscultate the thorax.
 - (1) Absence of lung sounds or muffled lung sounds in an animal that has labored breathing suggest pneumothorax, hemothorax, or pleural effusion.
 - (2) Pulmonary contusions usually cause localized areas of quiet lung sounds.
 - e. If breathing is not effective, immediately notify the senior veterinary person present so proper emergency management can be performed.
4. Assess CIRCULATION.
 - a. Check for a pulse, count the heart rate, assess the quality of the pulse, and check the capillary refill time.
 - (1) Rapid heart rate or pulse with a weak pulse quality and prolonged capillary refill time suggest major trauma or medical problem.
 - (2) Absence of a pulse or heart rate indicates cardiac arrest.
 - b. If abnormalities are noted, immediately notify the senior veterinary person present so proper emergency management can be performed.
 5. Perform a brief, rapid examination of the remainder of the patient.
 - a. Quickly assess the patient's body for wounds, fractures, and evidence of trauma elsewhere (e.g., abrasions, bruises, painful areas).
 - b. Pay particular attention to the spinal column, abdominal region, flank, and limbs for signs of trauma.
 6. When time permits, record all findings in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Visually assessed the dog from a distance.	_____	_____
2. Assessed the airway for patency.	_____	_____
3. Assessed the effectiveness of breathing.	_____	_____
4. Assessed circulation.	_____	_____
5. Performed a rapid assessment of the patient's body.	_____	_____
6. Recorded the treatment in the dog's health record.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

INITIATE FIRST AID FOR AN EYE INJURY OF A MILITARY WORKING DOG
081-891-1301

Conditions: A military working dog is exhibiting signs of an eye injury. The dog has been muzzled and the dog handler is available to position and restrain the dog. Necessary materials and equipment include: cotton balls, sterile saline, several 12 cc syringes, 18 or 20 gauge needles, penlight or ophthalmoscope, tissue forceps, ophthalmic fluorescein strips, topical ophthalmic anesthetic solution, and the dog's health record.

Standards: Recognized the signs of an eye injury and initiated first aid without causing further harm to the dog.

Performance Steps

1. Recognize the signs of an eye injury.
 - a. Lacerations to the skin adjacent to the eye.
 - b. Lacerations involving the eyelids.
 - c. Swelling in the area of the eye.
 - d. Exudate in the conjunctival sac or on the eyelids.
 - e. Twitching of the eyelids.
 - f. Noticeable tearing.
 - g. Rubbing at the eye.
2. Obtain a history regarding the eye injury.
 - a. Time.
 - b. Place.
 - c. Dog's activity at the time.

NOTE: This information may establish the probable type of eye injury (e.g., chemical burn, corneal scratch, trauma).

3. Gather first aid supplies.
 - a. Cotton balls.
 - b. Sterile saline.
 - c. Several 12 cc syringes.
 - d. 18 or 20 gauge needles.
 - e. Penlight or ophthalmoscope.
 - f. Ophthalmic fluorescein strips.
 - g. Topical ophthalmic anesthetic solution.
 - h. Tissue forceps.
4. Apply 2-3 drops of topical ophthalmic anesthetic solution to the cornea of each affected eye (see task 081-891-1014).
5. Remove exudate from the affected eye(s), if present.
 - a. Soak cotton balls in sterile saline by using a syringe and needle to transfer saline to the cotton.
 - b. Gently remove the exudate by carefully wiping the area repeatedly.
6. Examine the injured eye(s).
 - a. Face the patient and observe head and eyes for symmetry to determine if one or both eyes are affected.
 - b. Closely examine the involved eye(s).

Performance Steps

- (1) Use a penlight or an ophthalmoscope.
 - (2) If possible, darken the exam room.
 - (3) Examine the cornea and sclera for obvious damage.
 - (a) Lacerations.
 - (b) Erosions.
 - (4) Examine the conjunctival area and eye(s) for foreign and penetrating material (e.g., particles, grass, plant seeds, thorns).
7. Using the ophthalmic fluorescein strips, stain the cornea of each affected eye to look for corneal injury.
 - a. Open the package containing the test strip and apply one drop of sterile water or saline to the end of the strip.
 - b. Place the drop of water or saline from the strip onto the affected eye by gently touching the edge of the strip to the conjunctiva.
 - c. Allow the stain to set for approximately 30 seconds, and then rinse the residual stain from the eye using sterile saline or ophthalmic solution.
 - d. Examine the cornea with an ophthalmoscope and record the stain procedure as "POSITIVE" if the all or part of the cornea has taken up the stain (the stain will adhere to the damaged cornea and appear as an apple-green discoloration of the cornea).
 8. Initiate first aid based upon history and examination findings.
 - a. Suspected chemical burn.
 - (1) Load several 12 cc syringes with sterile saline (minimum volume of 60 cc).
 - (2) Warm the saline by holding the loaded syringe in a closed hand.
 - (3) Gently flush the injured eye.
 - (a) Place a thumb on the lower eyelid.
 - (b) Place your pointer finger on the upper eyelid and gently spread the two fingers apart to expose the eye.
 - (c) Slowly wash the surface of the eye by dribbling sterile saline onto the sclera.
 - b. Suspected corneal scratch. Notify the veterinarian immediately.
 - c. Foreign material in the conjunctival area or adhering to the eye. Follow the instructions in steps 6a(1)-6a(3).
 - d. Lacerations and damage to the eyelids.
 - (1) Soak cotton balls with saline as in step 4a.
 - (2) Clean the injury with gentle strokes in one direction.
 9. Inform the NCOIC that the dog is ready for bandaging and assist, if required.
 10. Inform the veterinarian of exam findings and treatment given to the dog.
 11. Record the exam findings and treatment in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Recognized the signs of an eye injury.	_____	_____
2. Obtained a history regarding the eye injury.	_____	_____
3. Gathered first aid supplies.	_____	_____
4. Removed exudate from the affected eye(s), if present.	_____	_____

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Anesthetized each affected eye with topical ophthalmic anesthetic solution.	—	—
6. Examined the injured eye(s).	—	—
7. Applied fluorescein stain to each affected eye to detect corneal injury.	—	—
8. Initiated first aid based upon history and examination findings.	—	—
9. Informed the NCOIC that the dog was ready for bandaging and assisted, if required.	—	—
10. Informed the veterinarian of exam findings and treatment given to the dog.	—	—
11. Recorded the exam findings and treatment in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

INITIATE FIRST AID FOR GASTRIC DILATATION-VOLVULUS (BLOAT) IN A MILITARY WORKING DOG

081-891-1302

Conditions: A military working dog is presented with profound abdominal distention, rapid and shallow breathing, anxiety, and weakness. The handler is available to position and restrain the dog. The veterinarian is not present, but has been notified and is en route. You are the most senior veterinary person present, and must initiate first aid while other personnel arrive.

Necessary materials and equipment include: 12-14 gauge trocar or IV catheter or hypodermic needle, assorted surgical preparation supplies, IV catheters, IV infusion sets, IV crystalloid fluid, adhesive tape, a functioning anesthesia machine with oxygen source, blood collection tubes (EDTA and serum), laboratory supplies and equipment for determination of critical initial tests, and the dog's health record.

Standards: Initiated first aid on a military working dog for gastric dilatation-volvulus.

Performance Steps

1. Recognize the signs of gastric dilatation-volvulus (GDV, "bloat").

a. Early signs.

(1) Varying degrees of abdominal distention from stomach filling with air, food, and fluid.

NOTE: Many medical problems cause abdominal distention. It can be difficult to tell the difference between these and GDV. However, if abdominal distention is present in addition to these other signs, assume GDV is present and initiate first aid as directed in steps 2 through 6.

(2) Nonproductive retching, attempted vomiting without result, retching a small amount of saliva, "dry heaves."

(3) Grunting, especially when the stomach or abdomen is palpated.

(4) Anxiety, which is commonly noted as pacing, anxious stares, and inability to get comfortable when lying down.

(5) Salivating.

(6) Panting.

(7) Pale mucous membranes.

(8) Prolonged capillary refill time.

(9) Increased (rapid) heart rate.

b. Advanced signs of shock.

(1) Weak, rapid pulse.

(2) Weakness, lethargy.

(3) Prolonged capillary refill time.

2. Provide supplemental oxygen therapy.

a. The easiest method is to use an anesthesia face mask connected by tubing to an oxygen source (e.g., anesthesia machine and breathing circuit) held loosely over the muzzle. Alternatively, if the animal will not tolerate a face mask, oxygen can be provided by "blow by" technique in which the face mask is removed and oxygen is provided directly from the anesthesia machine circuit tubing near the nose and mouth.

NOTE: Ensure the anesthesia vaporizer is not operating. Only the oxygen flow should be operating.

b. Use high oxygen flow rates of 5-10 liters per minute.

Performance Steps

3. Provide first aid to treat shock.
 - a. Place at least one large bore, short IV catheter (see task 081-891-1038). If the patient is assessed to be in moderate or severe shock, use at least two IV catheters in different veins.
 - b. Initiate an IV infusion of crystalloid fluid, using the volume and rate recommended for shock resuscitation (up to 90 ml/kg, given over 1 hour) (see task 081-891-1018), or using a volume and rate defined in local SOP.
4. Decompress the stomach by placing a trocar.
 - a. Position yourself on the left side of the patient, or lay the dog with its left side down (left lateral recumbency).
 - b. Locate the insertion point.
 - (1) Palpate the last rib.
 - (2) Move the hand 2 inches caudal to the last rib, midway between the spine and the ventral border of the abdomen on the right side.
 - c. Using a stethoscope, auscultate the lateral abdominal wall at the most distended area while percussing (flicking) the abdominal wall firmly with a finger. This percussion will elicit a "pinging" sound, and the site of insertion of the trocar should be at the point of loudest "pinging."
 - d. Clip the hair from a 6 inch X 6 inch square area over the proposed insertion site, and quickly perform a surgical skin preparation of the area (see task 081-891-1087).
 - e. Forcefully insert a 12-14 gauge trocar, IV catheter needle, or hypodermic needle through the skin, abdominal wall, and stomach wall. Ensure the abdominal wall and distended stomach are penetrated.
 - f. A successful trocarization has been performed if gas or air emanates through the trocar from the stomach. If no air or gas is coming from the trocar, attempt gastric trocarization one more time. If still unsuccessful, do not attempt any further trocarizations.
 - g. Leave the trocar in place.
5. Collect preliminary blood samples and perform critical initial tests.
 - a. Collect at least one purple top (EDTA) tube and at least one red top (serum, clot) tube to save for CBC and biochemistry testing.
 - b. Perform the following critical tests:
 - (1) Packed cell volume (PCV, hematocrit).
 - (2) Total protein (TP, total serum protein).
 - (3) BUN, if available.
 - (4) Blood glucose, if available.
 - (5) Activated clotting time (ACT) or other tests of coagulation status, if available.
6. Monitor the dog until the veterinarian or senior technician arrives.
7. Record all findings and treatment in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Recognized the signs of gastric dilatation-volvulus.	—	—
2. Provided supplemental oxygen therapy.	—	—
3. Initiated first aid for shock by placing one or more IV catheters and providing fluid therapy for shock resuscitation.	—	—
4. Decompressed the stomach with a trocar.	—	—
5. Collected blood for subsequent testing, and performed critical initial tests.	—	—
6. Monitored the dog until the veterinarian or senior technician arrived.	—	—
7. Recorded the treatment in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM BASIC CARDIAC LIFE SUPPORT ON A MILITARY WORKING DOG
081-891-1602

Conditions: A military working dog may have had a cardiopulmonary arrest. You must assess the patient for the presence of cardiopulmonary arrest. If cardiopulmonary arrest has occurred, you must perform basic cardiac life support using the two-person, closed chest method of artificial ventilation and chest compression. The dog's handler and one other veterinary technician are available to assist. Necessary materials and equipment include: stethoscope, an endotracheal tube of appropriate size with a functioning cuff, ventilatory assist device (Ambu bag) or functioning anesthesia machine with oxygen source and anesthesia breathing circuit, and the dog's health record.

Standards: Performed basic cardiac life support on a military working dog in the correct sequence and using the proper technique.

Performance Steps

1. Determine if cardiac arrest, respiratory arrest, or cardiopulmonary arrest has occurred.
 - a. Attempt to physically and verbally arouse the animal.
 - b. Check the femoral artery pulse and simultaneously auscultate the thorax over the left heart area and the lung fields for the presence of heart and lung sounds. Visually observe for chest wall motion at the same time (see task 081-891-1007).
 - c. These steps should be completed within 30 seconds.

NOTE: Basic cardiac life support (BCLS) must be performed properly, in sequence, and rapidly to maximize success. The times stated for each step in BCLS are general targets to try to achieve for best success, and not rigid requirements.

- d. If no heart beat is detected, cardiac arrest has occurred. If no breathing is detected, respiratory arrest has occurred. If there is no detectable heart beat or breathing, then full cardiopulmonary arrest has occurred.
 - e. Begin BCLS immediately if respiratory, cardiac, or cardiopulmonary arrest has occurred.
2. Call for help. BCLS requires at least two people to be most successful.
 3. Establish an airway.
 - a. Establish an open airway by intubating the animal (see task 081-891-1029) as rapidly as possible.
 - (1) Secure the endotracheal tube in place, and inflate the cuff to minimize air leaks.
 - (2) If you are unable to place an endotracheal tube quickly, immediately begin chest compressions (step 6). Have an assistant attempt to intubate as you begin chest compressions, or assist the veterinarian with an emergency tracheotomy, if required.

NOTE: It is better to proceed with chest compressions if it is not possible to intubate the animal quickly. Cardiac compressions are absolutely essential for survival. As soon as possible, the airway must be opened and secured, but do not delay starting chest compressions while repeatedly trying to place an endotracheal tube.

- b. You should intubate the animal, secure the endotracheal tube, and inflate the cuff within 30 seconds.

Performance Steps

4. Ventilate (breathe for) the animal.
 - a. Attach a ventilatory assist device (Ambu bag) to the endotracheal tube and use oxygen or room air, or connect the breathing circuit from an anesthesia machine to the endotracheal tube and use 100% oxygen and the reservoir bag to ventilate the patient.
 - b. Ventilate the animal twice over 15-20 seconds, using deep squeezes on the Ambu bag or reservoir bag. Verify that the chest wall rises and falls as you breathe for the dog.
 - c. You should complete these steps within 30 seconds.
5. Repeat step 1 to determine if the patient has been resuscitated.
 - a. It should take no more than 10-15 seconds to check the pulse, listen for the heart and lung sounds, and watch the chest wall for movement.
 - b. If the patient recovers, assist the veterinarian as directed in post-resuscitation monitoring and care.
 - c. If the patient is not resuscitated, immediately begin chest compressions.
6. Perform chest compressions.
 - a. Place the dog in either lateral recumbency (either side down) or dorsal recumbency (on its back).
 - b. Place both hands at the widest portion of the chest wall (if the dog is in lateral recumbency) or at the widest portion of the sternum (if the dog is in dorsal recumbency).
 - (1) The hands should be held with the thumbs interlocked or with the hands held closely together and interlocked at the space between the thumbs and index fingers.
 - (2) The palms of the hands should face downward (on the dog), with the fingers close together.
 - c. You should stand or kneel next to the dog, bend forward slightly at the waist, extend the arms, and partially lock the elbows in position. Force should be applied down onto the chest wall by rocking forward, not by bending at the elbows and thrusting with your lower arms. This allows more sustained and forceful chest compression.
 - d. For a military working dog, the chest should be compressed at least 2-4 cm, which requires about 40-80 pounds of force.

NOTE: You can practice generating this amount of force using a bathroom or clinic scale. Get in position next to the scale, and position your arms and hands as described. Rock forward and backward, applying force to the scale. With practice, you can consistently apply 40-80 pounds of force during BCLS.

- e. Compress the chest at a rate between 80-120 compressions per minute.

NOTE: BCLS on a large dog is physically demanding work. Be prepared (by practicing) to rotate positions with other personnel for chest compressions.

7. Continue ventilating the patient.
 - a. Once chest compressions are started, an assistant should ventilate the patient approximately 20 times per minute, or once every 3 seconds. Do not pause chest compressions to ventilate - maintain consistent chest compressions, and ventilate about every 3 seconds regardless of what phase of chest compression is occurring.
 - b. Alternatively, the assistant can ventilate the patient every time chest compressions are applied. This is called "simultaneous compression-ventilation" BCLS, and may be more successful than intermittent or periodic ventilation in large dogs.
8. BCLS should be continued without stopping for at least 2-3 minutes before assessing the patient's response.

Performance Steps

NOTE: Every time BCLS is stopped, blood pressure drops and blood flow and ventilation stop. Frequent stopping results in poor survival rates. Stop only every 2-3 minutes, and only long enough to quickly check the patient's breathing, pulse, and heart beat.

9. Repeat step 1 to determine if the patient has been resuscitated.
 - a. It should take no more than 10-15 seconds to check the pulse, listen for the heart and lung sounds, and watch the chest wall for movement.
 - b. If the patient is not resuscitated, immediately continue BCLS.
 - c. If the patient is resuscitated, assist the veterinarian with Advanced Cardiac Life Support (ACLS) and Prolonged Cardiac Life Support (PCLS) measures as directed.
10. If BCLS is not being successful, change the patient's body position (e.g., if in lateral, try dorsal recumbency), switch the person doing chest compressions, change the amount of force applied to the chest (e.g., use more), use simultaneous compression-ventilation (e.g., if you haven't been), or change the position of the hands during chest compressions. These changes may result in improved BCLS.
11. Discontinue BCLS only if 1) directed to stop by the senior veterinary person present, 2) the animal is successfully resuscitated, or 3) BCLS has been performed properly for at least 20 minutes without successful resuscitation.

NOTE: "Successful resuscitation" means the patient has a pulse, a heart beat is present, and the animal is breathing on its own.

12. Record all actions and therapy in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Verified cardiac arrest, respiratory arrest, or cardiopulmonary arrest.	—	—
2. Immediately called for help.	—	—
3. Established a secure, patent airway by intubating the dog, securing the tube, and inflating the cuff. If unable to successfully intubate the patient, proceeded on to chest compressions, and attempted to open an airway as time permitted.	—	—
4. Ventilated the animal twice over 15-20 seconds using an Ambu bag or anesthesia machine oxygen source, breathing circuit, and reservoir bag.	—	—
5. Reassessed the patient to determine effectiveness of initial airway and breathing efforts.	—	—
6. Immediately began chest compressions if initial efforts were unsuccessful, at a rate of 80-100 compressions per minute, using appropriate force of compression and proper technique.	—	—
7. Continued to ventilate the patient at a rate of 20 ventilations per minute, or, alternatively, simultaneously with chest compressions.	—	—
8. Provided sustained BCLS (chest compression and ventilation) for at least 2-3 minutes before stopping to reassess the patient's status.	—	—

Performance Measures	<u>GO</u>	<u>NO GO</u>
9. Quickly reassessed the patient for a pulse, heart beat, and breathing periodically.	—	—
10. Resumed BCLS immediately after each assessment if resuscitation was unsuccessful.	—	—
11. Made appropriate changes to the BCLS technique if efforts at resuscitation were not successful.	—	—
12. Discontinued BCLS if directed to do so by the senior veterinary person present, if resuscitation was successful, or if appropriate BCLS had been performed for at least 20 minutes without successful resuscitation.	—	—
13. Performed steps 1 through 12, as necessary, in sequence.	—	—
14. Recorded all actions and events in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

Subject Area 2: Clinical

TAKE THE VITAL SIGNS OF A MILITARY WORKING DOG (TEMPERATURE, PULSE, AND RESPIRATIONS)**081-891-1007**

Conditions: The veterinarian or senior 91T has directed you to take the vital signs of a military working dog. The dog has been muzzled and the dog handler is available to position and restrain the dog. Necessary materials and equipment include: timing device, digital thermometer, sterile lubricant, 4X4 gauze sponges, exam table, and the dog's health record.

Standards: Took the temperature, pulse, and respirations of a military working dog.

Performance Steps

1. Direct the dog handler to position and restrain the dog on the exam table.
2. Determine the patient's rectal temperature.
 - a. Lubricate the thermometer.
 - (1) Squeeze a small amount (pea-sized) of sterile lubricant onto a gauze sponge.
 - (2) Roll the thermometer in the lubricant.
 - b. Insert the thermometer into the dog's rectum.
 - (1) Lift the tail.
 - (2) Insert the thermometer approximately 1 to 2 inches.
 - c. Activate the thermometer by pressing the button.
 - d. Hold the thermometer in place until it beeps or flashes.
 - e. Remove the thermometer and wipe it with a gauze sponge soaked with disinfectant.
 - f. Read the thermometer.
 - (1) Normal rectal temperature for a dog is 100° to 102°F.
 - (2) The temperature may be higher due to environment, anxiety, or exercise, or because of illness or injury.
3. Determine the patient's pulse rate and quality.
 - a. Locate the femoral artery.
 - b. Apply gentle pressure with the index and middle fingers of one hand until you feel pulsations.
 - c. Count the number of pulsations to determine beats per minute.
 - (1) Count using one of the following methods:
 - (a) Count for 60 seconds.
 - (b) Count for 30 seconds and multiply the result by 2.
 - (c) Count for 15 seconds and multiply the result by 4.
 - (2) Normal pulse is 60-120 beats per minute (bpm).
 - (a) Large dogs will have a slower normal pulse.
 - (b) Small dogs will have a faster normal pulse.
 - d. Judge pulse quality as follows:
 - (1) Regular.
 - (2) Irregular.
 - (3) Intermittent.
 - (4) Bounding.
 - (5) Strong.
 - (6) Weak.

Performance Steps

- (7) Thready.
- 4. Determine the patient's respiration rate and character.
 - a. Count the number of times the dog breathes to determine breaths per minute.
 - (1) Count the breaths using one of the following methods:
 - (a) Count the number of times the dog breathes in 60 seconds.
 - (b) Count the number of times the dog breathes in 30 seconds and multiply by 2.
 - (2) Normal respiration rate is 10 to 30 breaths per minute.
 - b. Judge respiration character as follows:
 - (1) Depth.
 - (a) Shallow.
 - (b) Deep.
 - (c) Normal.
 - (2) Rhythm.
 - (a) Panting.
 - (b) Regular.
 - (c) Forced.
 - (3) Pattern.
 - (a) Thoracic.
 - (b) Abdominal.
 - (c) Combination of both.
- 5. Record the vital signs (see task 081-891-1036).
- 6. Notify the veterinarian of any abnormalities.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Directed the dog handler to position and restrain the dog on the exam table.	—	—
2. Determined the patient's rectal temperature.	—	—
3. Determined the patient's pulse rate and quality.	—	—
4. Determined the patient's respiration rate and character.	—	—
5. Recorded the vital signs.	—	—
6. Notified the veterinarian of any abnormalities.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

CLEAN THE EXTERNAL EAR CANALS OF A MILITARY WORKING DOG

081-891-1010

Conditions: The veterinarian has directed you to clean the ears of a military working dog. The dog has been muzzled and the dog handler is available to position and restrain the dog. You must clean the external ear canals of the dog. Necessary materials and equipment include: 4X4 gauze sponges, cotton tip applicators, cotton balls, otoscope or penlight, otic cleanser, and the dog's health record.

Standards: Cleaned the external ear canals without causing injury to the dog.

Performance Steps

1. Direct the dog handler to position and restrain the dog.
 - a. Sternal recumbency.
 - b. Sitting.
2. Examine the ear canal.
 - a. Use an otoscope with a small diameter speculum. If unavailable, use a penlight.
 - b. Evaluate the extent of the debris in the--
 - (1) Horizontal ear canal.
 - (2) Vertical ear canal.
 - c. Observe abnormalities.
 - (1) Ulcers.
 - (2) Raw areas.
 - (3) Tumors, polyps, swollen areas.
 - (4) Diameter of the canal.
 - d. Visualize the tympanic membrane (ear drum).
 - (1) Most ear cleaning solutions require the tympanic membrane be intact.
 - (2) Obtain guidance from the veterinarian if the integrity of the tympanic membrane is questionable.
3. Clean the external ear canals.
 - a. Hold the pinna vertically with one hand.
 - b. Apply otic cleanser IAW manufacturer's instructions.

NOTE: In most cases, the ear canal is filled with the otic cleanser.

- c. Ensure the dog does not shake the cleanser out of the ear.
- d. Massage the external canal to break up cerumen and accumulated dirt.
- e. Allow the dog to shake its head to move debris out of the canal.
- f. Blot excess cleanser using cotton or 4X4 quilted gauze.
- g. Repeat steps 3b through 3e until no further debris is observed on the gauze.
- h. Examine the ear canal. (Repeat step 2.)
- i. The presence of debris or exudate in the canal requires a repeat of step 3.

NOTE: The goal is to remove most of the debris and exudate from the horizontal canal and all the debris and exudate from surrounding areas.

4. Clean the inner surface of the pinna and entrance to the ear canal.
 - a. Supplies needed include:
 - (1) Cotton tipped applicators
 - (2) Cotton balls.
 - b. Moisten cotton balls and applicators with otic cleanser.
 - c. Gently clean the area. Do not scrub. Pay special attention to:

Performance Steps

- (1) Crevices in the pinna cartilage.
- (2) Crevices in the area of the ear canal entrance.
- (3) Debris and exudate in the hair and immediate area.

NOTE: Do not push debris or exudate into or down the ear canal.

- 5. Repeat the process (steps 2, 3, and 4) on the other ear.
- 6. Record the treatment in the dog's health record.
- 7. Inform the veterinarian of observations and/or abnormalities.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Directed the dog handler to position and restrain the dog.	—	—
2. Examined the ear canal.	—	—
3. Cleaned the external ear canals.	—	—
4. Cleaned the inner surface of the pinna and entrance to the ear canal.	—	—
5. Repeated the process (steps 2, 3, and 4) on the other ear.	—	—
6. Recorded the treatment in the dog's health record.	—	—
7. Informed the veterinarian of observations and/or abnormalities.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

CLEAN THE TEETH OF A MILITARY WORKING DOG

081-891-1011

Conditions: You have been instructed to clean the teeth of a military working dog. The dog is anesthetized and intubated. An anesthetist will monitor anesthesia throughout the dental cleaning. The dog handler is available to assist. Necessary materials and equipment include: dental work table, personal protective equipment (exam gloves, face mask, eye protection), oral speculum, dental record including a dental chart, graduated dental probe, dental ronguer, dental curette, ultrasonic scaler with manufacturer's instructions, water supply, dental pumice, polishing unit with manufacturer's instructions, polishing cup, pressurized irrigation system or hand held squeeze bottle, chlorhexidine solution 1:100, fluoride solution (optional), plaque disclosing solution, and the dog's health record.

Standards: Removed dental calculus and polished the teeth without causing unnecessary trauma to the dog.

Performance Steps

1. Position the anesthetized dog on the dental work table.
 - a. If the table tilts, adjust the table top so the hindquarters are 2 to 3 inches higher than the head of the dog.
 - b. Position the dog in lateral recumbency.
2. Put on personal protective equipment.
 - a. Surgical or exam gloves.
 - b. Face mask.
 - c. Eye protection.
3. Place an oral speculum.
 - a. Compress the speculum spring.
 - b. Place the dental retainers on the ventral opposing canine teeth.
 - c. Slowly open the speculum to open the mouth until resistance is encountered.
4. Examine the oral cavity, report the following abnormalities to the veterinarian, and request guidance on modifying the dental procedures because of these abnormalities.
 - a. Ulcers.
 - b. Masses.
 - c. Loose teeth.
 - d. Fractured teeth.
 - e. Gingival hyperplasia (excessive gingival growth over the lateral or medial aspects of the crown of a tooth).
5. Remove heavy dental calculus using a dental ronguer.
 - a. Grasp the tooth including the calculus.
 - b. Close the ronguer to crack and loosen calculus.
 - c. Wipe calculus away with gauze.
6. Remove residual calculus and plaque by hand scaling using a dental scaler.
 - a. Place the dental scaler at the base of the crown of the tooth near the gingiva, and hold the scaler on the tooth with firm pressure.
 - b. Scrape firmly toward the tip of the tooth (to prevent gingival trauma) to remove residual calculus and plaque.

Performance Steps

- c. Remove as much residual calculus as possible from each tooth before you begin ultrasonic scaling.

NOTE: Scaling of the lingual surfaces of the teeth is only done with the ultrasonic scaler.

7. Perform subgingival curettage with a dental curette.
 - a. Place the blade of the dental curette in the gingival sulcus and scrape out the gingival sulcus with gentle care, toward the tip of the tooth. Using too much pressure may cause trauma to the gingiva and may cause gingival recession.
 - b. The curette will remove any remaining calculus and plaque, leaving a clean healthy gum that is more apt to heal.
8. Scale the teeth with an ultrasonic cleaning.
 - a. Adjust the ultrasonic cleaner IAW the manufacturer's instructions.
 - (1) Ensure there is a continuous water supply to generate a water spray at the scaler tip.
 - (2) Set the power knob to a low setting so you do not damage the teeth.
 - b. Begin scaling by placing your foot on the control pedal and the scaler tip on the tooth surface.
 - c. Use the lateral aspect of the tip of the scaler so that minimal damage is done to the enamel.
 - d. Move the scaler tip continuously over the tooth surfaces in a sweeping motion, overlapping each stroke.
 - (1) DO NOT leave the scaler tip in contact with one area of the tooth for more than 2 seconds, or heat injury to the enamel and pulp may occur.
 - (2) DO NOT spend more than 10-15 seconds on any one tooth for the same reason.
 - e. Scale all the teeth on the buccal aspect (up side) and lingual aspect (down side).
 - f. Scale the gingival sulcus, but use caution to avoid injury to the gingiva.
9. Apply plaque disclosing solution (e.g., Reveal® solution) that discolors residual plaque.
 - a. Place the solution on a cotton-tipped applicator and rub it onto each tooth surface.
 - b. Rinse the solution from all teeth.
10. Repeat ultrasonic scaling on any tooth that has residual disclosing solution on it, as this reflects residual plaque that must be removed.
11. Polish the teeth.
 - a. Assemble equipment IAW the manufacturer's instructions.
 - (1) Drive unit.
 - (2) Drive cable.
 - (3) Hand piece.
 - (4) Polishing cup.
 - (5) Dental pumice.
 - b. Fill the polishing cup with dental pumice.
 - c. Rest the polishing cup on the tooth surface.
 - d. Activate the drive unit.
 - e. Polish each tooth, moving the polishing cup over the entire tooth surface.
 - (1) Maximum time per tooth is 3 seconds.
 - (2) Move quickly from tooth to tooth.
 - (3) Polish all surfaces of each tooth, using sweeping motions that overlap.
 - (4) Gently flare the edge of the cup in the gingival sulcus of each tooth.
 - f. Rinse the oral cavity.
 - (1) Flush blood, pumice, and other debris from the oral cavity.

Performance Steps

- (2) Flush the gingival sulcus around all teeth.
 - (3) Use a pressurized system or a hand held squeeze bottle.
 - (4) Use a flushing solution consisting of dilute chlorhexidine solution (1:100)
 - g. Apply fluoride solution if directed to do so by the veterinarian.
12. Probe the gingival sulcus of each tooth using a graduated dental probe.
 - a. Place the probe in the gingival sulcus in four separate areas around each tooth to measure the depth of the sulcus (in millimeters) using the graduations on the probe.
 - b. The probe should be vertical in the sulcus and lying flat against the side of the tooth.
 13. Chart the following findings on a dental chart:
 - a. Probe depth greater than 4 mm. Note the proper tooth and draw a vertical line to the area on the tooth where the measurement was taken. Record the depth as a number above this line.
 - b. Fractured teeth. Place a diagonal line across the tooth that graphically depicts the general line of the fracture.
 - c. Missing teeth. Place an X mark over the tooth that is missing.
 - d. Ensure the dental chart is provided to the veterinarian, who is responsible for charting any other abnormalities noted.
 14. Report the following to the veterinarian:
 - a. Evidence of caries (cavities), seen as a hole or crevice in a tooth.
 - b. Gingival hyperplasia.
 - c. Gingival recession.
 - d. Tumors or masses.
 - e. Pulp cavity exposure.
 - f. Worn teeth.
 - g. Retained teeth.
 - h. Fractured teeth.
 - i. Loose teeth.
 15. Notify the veterinarian when the dental prophylaxis is complete for inspection and examination of any abnormalities by the veterinarian.
 16. Complete the dental record and dental chart.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Positioned the anesthetized dog on the dental work table.	_____	_____
2. Put on personal protective equipment.	_____	_____
3. Placed an oral speculum.	_____	_____
4. Performed an oral exam and requested guidance concerning abnormalities.	_____	_____
5. Removed heavy calculus with a dental ronguer.	_____	_____
6. Removed residual calculus and plaque with a hand scaler.	_____	_____
7. Performed subgingival curettage.	_____	_____

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
8. Scaled the teeth with an ultrasonic scaler.	—	—
9. Used plaque disclosing solution to identify residual plaque, and removed residual plaque.	—	—
10. Polished the teeth.	—	—
11. Measured gingival sulcus depth.	—	—
12. Charted abnormal findings on the dental chart.	—	—
13. Reported appropriate findings to the veterinarian and notified the veterinarian of the completion of the procedure.	—	—
14. Completed the dental record and chart and the patient's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ADMINISTER ORAL MEDICATION TO A MILITARY WORKING DOG
081-891-1012

Conditions: The veterinarian has instructed you to administer an oral medication (tablet, capsule, or liquid) to a military working dog. The dog's handler is available to position and restrain the animal. Necessary materials and equipment include: prescribed medication and 5 ml syringe (if the medication is in liquid form), and the dog's health record.

Standards: Calculated the dosage, administered the oral medication, ensured ingestion, and did not cause any harm to the dog.

Performance Steps

1. Obtain the prescribed medication.
 - a. Verify that the medication is what was prescribed by the veterinarian (type, quantity, strength, etc.).
 - b. Ensure the drug is not expired by checking the expiration date.
2. Calculate the amount of medication to be administered (see task 081-891-1503).
3. Obtain the correct number of tablets or capsules or draw the correct amount of liquid into a syringe.
4. Direct the dog handler to position and restrain the dog in a down or sitting position.
5. Administer the medication.
 - a. Tablets or capsules.
 - (1) Grasp the upper jaw with the palm of one hand resting on the dog's muzzle.
 - (2) Lift and extend the dog's head.
 - (3) Press the upper lips over the upper jaw teeth.
 - (a) Exert gentle pressure directly behind the canine teeth.
 - (b) Use the thumb and index finger.
 - (c) Do not cause harm to the dog by using too much force or pressure.
 - (4) Pick up the tablet or capsule using the thumb and index finger or the index and middle finger of the free hand.
 - (5) Open the dog's mouth by pushing downward on the lower jaw using the free fingers of the hand holding the pill or capsule.
 - (6) Place the pill or capsule on the center, far back portion of the dog's tongue.
 - (7) Hold the dog's mouth closed.
 - (8) Massage the dog's throat with a gentle up and down motion until the dog swallows the tablet or capsule.
 - (9) If the dog does not swallow the capsule try the following:
 - (a) Gently tap the nose or under the chin to startle the dog into swallowing the capsule.
 - (b) Blow sharply into the dog's nostrils to cause the dog to swallow. This is not advised on a highly fractious or aggressive dog.
 - (c) Place 1 to 2 drops of water on the dog's nose.
 - (10) Open the dog's mouth to ensure that the tablet or capsule was swallowed.
 - b. Liquid.
 - (1) Tilt the dog's head so the nose is on a horizontal plane with the eyes.
 - (2) Form a pocket (buccal pouch) by pulling out the dog's lower lip at the corner of the mouth.

Performance Steps

- (3) Insert the syringe into the buccal pouch using the free hand.
 - (a) Do not scrape the gums with the syringe.
 - (b) Push the plunger forward.
 - (c) Administer the medication in 3 to 5 ml increments.
 - (d) Observe for swallowing between increments of administration.
- 6. Record the treatment in the dog's health record.
- 7. Release the dog to the handler with instructions.
 - a. Observe for possible side effects and inform the veterinarian if any of the following symptoms develop.
 - (1) Drooling.
 - (2) Nausea.
 - (3) Vomiting.
 - (4) Depression.
 - (5) Diarrhea or change in stool.
 - b. Include instructions for when to return, if required.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Obtained the prescribed medication.	_____	_____
2. Calculated the amount of medication to be administered.	_____	_____
3. Obtained the correct number of tablets or capsules or drew the correct amount of liquid into a syringe.	_____	_____
4. Directed the dog handler to position and restrain the dog.	_____	_____
5. Administered the medication.	_____	_____
6. Recorded the treatment in the dog's health record.	_____	_____
7. Released the dog to the handler.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ADMINISTER OTIC MEDICATION TO A MILITARY WORKING DOG
081-891-1013

Conditions: You have been directed by the veterinarian to administer otic medication to a military working dog. He has prescribed the type and amount of medication required. The dog handler is available to position and restrain the animal. You must administer otic medication to the dog. Necessary materials and equipment include: prescribed medication and the dog's health record.

Standards: Administered otic medication into the external ear canal of a military working dog.

Performance Steps

1. Obtain the prescribed medication.
2. Inspect the medication vial.
 - a. Ensure it is the proper medication and strength.
 - b. Ensure the medication is not expired.
3. Direct the dog handler to position and restrain the dog.
 - a. Sternal recumbency.
 - b. Sitting.
4. Expose the ear canal by holding the pinna vertically.
5. Administer the otic medication.
 - a. Position the dispenser directly above the external opening.
 - b. Do not touch any portion of the ear with the dispenser.
 - c. Administer the exact amount of the prescribed medication.
 - (1) It must go directly into the ear canal.
 - (2) Avoid getting medication in the cracks and crevices of the pinna.
6. Massage the vertical ear canal.
7. Release the pinna.
8. Repeat the procedure in the other ear, if applicable.
9. Record the treatment in the dog's health record.
10. Release the dog to the handler along with the veterinarian's instructions.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Obtained the prescribed medication.	_____	_____
2. Inspected the medication vial.	_____	_____
3. Directed the dog handler to position and restrain the dog.	_____	_____
4. Exposed the ear canal.	_____	_____
5. Administered the otic medication.	_____	_____

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
6. Massaged the vertical ear canal.	_____	_____
7. Released the pinna.	_____	_____
8. Repeated the procedure in the other ear, if applicable.	_____	_____
9. Recorded the treatment in the dog's health record.	_____	_____
10. Released the dog to the handler.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ADMINISTER OPHTHALMIC MEDICATION TO A MILITARY WORKING DOG

081-891-1014

Conditions: The veterinarian has directed you to administer ophthalmic ointment to a military working dog and has prescribed the type and amount of medication. The dog has been muzzled and the dog handler is available to position and restrain the dog. Necessary materials and equipment include: prescribed medication, ophthalmic irrigation solution, gauze sponges or cotton balls, sterile normal saline, and the dog's health record.

Standards: Administered ophthalmic medication without causing trauma to the dog.

Performance Steps

1. Obtain the prescribed medication.

NOTE: If the veterinarian prescribed concurrent administration of an ophthalmic ointment and solution, administer the solution first. Allow at least 5 minutes to elapse after applying the solution before applying the ointment.

- a. Ensure it is the proper medication and strength.
 - b. Ensure the medication is not expired.
2. If an ophthalmic ointment has been used before, expel a small amount of the medication onto a gauze sponge to remove possible contaminants.
 3. Direct the dog handler to position and restrain the dog.
 - a. Sternal recumbency or sitting.
 - b. Restrain the head to prevent sudden head movement.
 4. Inspect the eyes for extraneous debris.
 - a. Clean the eyes, if necessary.
 - (1) Remove dry debris with a gauze sponge or cotton ball dampened with normal saline.
 - (a) Gently stroke the eyelids and surrounding area. Do not rub the eye directly.
 - (b) Allow the dog to close the eye during this procedure.
 - (2) Flush moist secretions and purulent discharge from the eyes with ophthalmic irrigation solution or sterile normal saline.
 5. Place one hand under the dog's jaw with your thumb on the lower eyelid.
 6. Place the opposite hand holding the medication on top of the dog's head with the medication dispenser directly above the surface of the eye.
 7. Administer the medication.
 - a. Ointment.
 - (1) Use the heel of the hand holding the medication to pull the upper eyelid open.
 - (2) Use the thumb of the hand holding the jaw to pull the lower eyelid downward to expose the lower palpebral border of the lower eyelid.
 - (3) To prevent contamination or injury, do not allow the tip of the tube to touch the eye or any other surface.
 - (4) Lay a single ribbon of ointment 1/4 to 1/2 inch long directly on the conjunctiva.
 - (5) Allow the dog to blink. If the dog does not blink, do it manually.
 - (6) Repeat the procedure for the other eye if prescribed.
 - b. Solution.
 - (1) Position the head.

Performance Steps

- (a) One hand holds the muzzle.
- (b) Lift the nose about 45 degrees above horizontal.
- (2) Use the thumb of the hand holding the muzzle and the heel of the hand holding the medication to spread the eyelids apart.
- (3) Position the medication dispenser over the eye.
- (4) Administer the prescribed number of drops on the sclera.

NOTE: The sclera is less sensitive to cold solutions than the cornea.

- (5) Allow the dog to blink.
 - (6) Repeat the procedure for the other eye, if prescribed.
8. Record the treatment in the dog's health record.
 9. Release the dog to the handler with instructions.
 - a. Duty restrictions, if any.
 - b. When to return, if required.
 - c. If subsequent applications are required, review the procedure and frequency with the handler.
 - d. Possible reactions include:
 - (1) Tearing.
 - (2) Rubbing at eyes.
 - (3) Swelling of eyelids.
 - (4) Squinting.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Obtained the prescribed medication.	_____	_____
2. Expelled a small amount of previously used ointment on a gauze sponge to remove possible contaminants, if necessary.	_____	_____
3. Directed the dog handler to position and restrain the dog.	_____	_____
4. Inspected the eyes for extraneous debris.	_____	_____
5. Placed one hand under the dog's jaw with your thumb on the lower eyelid.	_____	_____
6. Placed the hand holding the medication on top of the dog's head with the medication dispenser directly above the surface of the eye.	_____	_____
7. Administered the medication without contaminating the medication or touching the eye.	_____	_____
8. Recorded the treatment in the dog's health record.	_____	_____
9. Released the dog to the handler with instructions.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ADMINISTER A SUBCUTANEOUS INJECTION TO A MILITARY WORKING DOG

081-891-1015

Conditions: The veterinarian or senior 91T has instructed you to administer a subcutaneous injection to a military working dog. The dog's handler is available to position and restrain the animal. You must administer the injection and not cause any harm to the dog. Necessary materials and equipment include: 22 gauge X 5/8" to 1" needle, assorted syringes (size will depend on amount of medication or vaccine to be administered), alcohol, gauze sponges or cotton balls, medication or vaccine, and the dog's treatment record.

Standards: Administered the prescribed amount of medication or vaccine subcutaneously without harming the dog.

Performance Steps

1. Select a needle and syringe.
 - a. A 22 gauge needle, 5/8" to 1" long, is normally used for subcutaneous injection.
 - b. The syringe size will depend on the amount of medication or vaccine being injected.
2. Assemble the needle and syringe.
 - a. Test the plunger for smooth easy movement and tight seal by pulling the plunger back and forth.
 - b. Aseptically join the needle and syringe by screwing them together.
 - (1) Open the package containing the needle.
 - (2) Screw the needle onto the syringe while holding the package.
 - (3) Once the needle is screwed into place, remove the outer package. The cap should remain over the needle.
3. Draw the prescribed amount of medication or vaccine into the syringe.
 - a. Inspect the medication or vaccine vial.
 - (1) Ensure it is the proper vaccine or medication and strength.
 - (2) Ensure it is not expired.
 - (3) Calculate the drug dosage (see task 081-891-1503), if required.
 - b. Wipe the top of the medication vial with a gauze sponge soaked in 70% isopropyl alcohol. Do not perform this step if injecting a modified live virus vaccine.
 - c. Remove the needle cap and insert the needle into the medication vial and withdraw slightly more medication than prescribed. Hold the needle, syringe, and medication bottle vertical with the needle pointing up.
 - d. Work the air bubbles out of the syringe.
 - (1) Hold the needle, syringe, and medication bottle vertical with the needle pointing up.
 - (2) Tap the syringe with a finger to work air bubbles towards the needle.
 - (3) Push the plunger
 - e. Push the plunger of the syringe forward until the prescribed amount of medication remains in the syringe.
 - f. Remove the needle from the vial.
 - g. Replace the needle cap.
4. Direct the handler to position and restrain the dog.
 - a. Subcutaneous injections can be given wherever there is loose skin.
 - b. Follow local SOP or manufacturer's instructions for injection sites.
 - c. Ensure the injection site is accessible.

Performance Steps

5. Prepare the subcutaneous injection site.
 - a. Pinch up a fold of skin forming a "tent" or inverted V.
 - b. Apply alcohol with a soaked cotton ball or gauze sponge to the center of the injection site.
 - c. If injecting a modified live virus vaccine, do not use alcohol at the injection site.
6. Inject the medication.
 - a. Insert the needle quickly and firmly.
 - b. Insert the needle approximately 1/2" to 3/4" into the center of the prepared injection site (the "tent" formed by grasping the skin).
 - c. Do not allow the needle to go through the tent and out the other side.
 - d. Aspirate the syringe to ensure that the needle is not in a blood vessel.
 - (1) Pull back on the plunger of the syringe.
 - (2) If the needle is in a blood vessel, blood will flash into the hub and syringe.
 - (3) If a blood flash appears, immediately remove the needle. **DO NOT INJECT!**
Return to step 3 and repeat the procedure at another site.
 - e. Press the plunger forward while holding the syringe barrel steady.
 - f. Monitor the injection site for swelling during and after the injection.
 - g. When finished injecting the medication, withdraw the needle.
7. Dispose of the needle and syringe IAW local SOP.
8. Record the injection in the dog's health record (see task 081-891-1036).
9. Release the dog to the dog handler with instructions.
 - a. Observe for possible side effects and inform the veterinarian if any of the following symptoms develop:
 - (1) Drooling.
 - (2) Nausea.
 - (3) Vomiting.
 - (4) Depression.
 - (5) Diarrhea or change in stool.
 - (6) Change in breathing pattern.
 - (7) Skin rash.
 - b. When to return, if required.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Selected a needle and syringe.	_____	_____
2. Assembled the needle and syringe.	_____	_____
3. Drew up the prescribed amount of medication or vaccine into the syringe after verifying correct medication and ensuring the medication was not expired.	_____	_____
4. Directed the handler to position and restrain the dog.	_____	_____
5. Prepared the subcutaneous injection site.	_____	_____
6. Injected the medication.	_____	_____

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
7. Disposed of the needle and syringe IAW local SOP.	—	—
8. Recorded the injection in the dog's health record.	—	—
9. Released the dog to the dog handler with instructions.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ADMINISTER AN INTRAMUSCULAR INJECTION TO A MILITARY WORKING DOG

081-891-1016

Conditions: The veterinarian or senior 91T has instructed you to administer an intramuscular injection to a military working dog. The dog's handler is available to position and restrain the animal. You must administer the injection and not cause any harm to the dog. Necessary materials and equipment include: 22 gauge X 5/8" to 1" needle, assorted sizes of syringes, alcohol, gauze sponges or cotton balls, medication or vaccine, and the dog's treatment record.

Standards: Administered the prescribed amount of medication or vaccine intramuscularly without harming the dog.

Performance Steps

1. Select a needle and syringe.
 - a. A 22 gauge needle, 5/8" to 1" long is normally used for intramuscular injection.
 - b. The syringe size will depend on the amount of medication or vaccine being injected.
2. Assemble the needle and syringe.
 - a. Test the plunger for smooth easy movement and a tight seal by pulling the plunger back and forth.
 - b. Aseptically join the needle and syringe by screwing them together.
 - (1) Open the package containing the needle.
 - (2) Screw the needle onto the syringe while holding the package.
 - (3) Once the needle is screwed into place, remove the outer package. The cap should remain over the needle.
3. Draw the prescribed amount of medication or vaccine into the syringe.
 - a. Inspect the medication or vaccine vial.
 - (1) Ensure it is the proper medication or vaccine and strength.
 - (2) Ensure it is not expired.
 - (3) Calculate the drug dosage (see task 081-891-1503), if required.
 - b. Wipe the top of the medication vial with a gauze sponge soaked in 70% isopropyl alcohol. DO NOT perform this step if injecting a modified live virus vaccine.
 - c. Remove the needle cap and insert the needle into the medication vial and withdraw slightly more medication than prescribed. Hold the needle, syringe, and medication bottle vertical with the needle pointing up.
 - d. Work the air bubbles out of the syringe.
 - (1) Hold the needle, syringe, and medication bottle vertical with the needle pointing up.
 - (2) Tap the syringe with a finger to work air bubbles towards the needle.
 - (3) Push the plunger.
 - e. Push the plunger of the syringe forward until the prescribed amount of medication remains in the syringe.
 - f. Remove the needle from the vial.
 - g. Replace the needle cap.
4. Direct the handler to position and restrain the dog.
 - a. Have the dog in the standing position.
 - b. Ensure the injection site is accessible. Intramuscular injections are usually administered in the muscle mass caudal to the femur, avoiding the sciatic nerve.

Performance Steps

5. Prepare the intramuscular injection site.
 - a. Follow local SOP or manufacturer's instructions for injection sites.
 - b. Isolate the muscle receiving the injection. There are two acceptable ways to do this.
 - (1) Wrap your thumb around the cranial portion of the thigh.
 - (a) Use your fingers to push out the muscle from the medial to lateral side.
 - (b) With the tip of your thumb, cover the sciatic nerve on the lateral side to protect it from the injection.
 - (2) Wrap your fingers around the cranial portion of the thigh from lateral to medial.
 - (a) Use the heel of your hand to push the muscle up.
 - (b) Use your fingers to block off the sciatic nerve.
 - c. Apply alcohol to the injection site.
 - (1) With the free hand, apply alcohol with an alcohol-soaked cotton ball or gauze sponge.
 - (2) If injecting a modified live virus vaccine, do not use alcohol at the injection site.

6. Inject the medication.

NOTE: The maximum volume per injection site is 5 ml.

- a. Insert the needle quickly and firmly.
 - b. Insert the needle at a 90° angle to the skin.
 - c. Insert the needle 1/2" to 3/4".
 - d. Aspirate the syringe to ensure that the needle is not in a blood vessel.
 - (1) Pull back on the plunger of the syringe.
 - (2) If the needle is in a blood vessel, blood will flash into the hub and syringe.
 - (3) If a blood flash appears, immediately remove the needle. **DO NOT INJECT!**
Repeat step 3 at a different site.
 - e. Press the plunger steadily forward while holding the syringe barrel steady.
 - f. When finished injecting the medication, withdraw the needle.
 - g. Monitor the injection site for swelling before releasing the dog to the handler.
7. Dispose of the needle and syringe IAW local SOP.
 8. Record the injection in the dog's health record (see task 081-891-1036).
 9. Release the dog to the dog handler with instructions.
 - a. Observe for possible side effects and inform the veterinarian if any of the following symptoms develop:
 - (1) Drooling.
 - (2) Nausea.
 - (3) Vomiting.
 - (4) Depression.
 - (5) Diarrhea or change in stool.
 - (6) Change in breathing pattern.
 - (7) Skin rash.
 - b. When to return, if required.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Selected a needle and syringe.	—	—
2. Assembled the needle and syringe.	—	—
3. Drew the prescribed amount of medication into the syringe after verifying it is the correct medication and that it has not expired.	—	—
4. Directed the handler to position and restrain the dog.	—	—
5. Prepared the intramuscular injection site.	—	—
6. Injected the medication.	—	—
7. Disposed of the needle and syringe IAW local SOP.	—	—
8. Recorded the injection in the dog's health record.	—	—
9. Released the dog to the dog handler with instructions.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ADMINISTER AN INTRAVENOUS INJECTION TO A MILITARY WORKING DOG

081-891-1017

Conditions: The veterinarian has instructed you to administer an intravenous injection to a military working dog. The dog's handler is available to position and restrain the animal. Necessary materials and equipment include: 21 gauge X 5/8" to 1" needle, assorted syringes (size will depend on amount of medication to be administered), alcohol, gauze sponges or cotton balls, tourniquet (if needed), medication, and the dog's treatment record.

Standards: Administered the prescribed amount of medication intravenously without harming the dog.

Performance Steps

1. Select a needle and syringe.
 - a. A 21 gauge needle, 5/8" to 1" long, is normally used for venipuncture.
 - b. Use a larger or smaller gauge needle depending on the size of the dog.
2. Assemble the needle and syringe.
 - a. Test the plunger on the syringe for smooth easy movement. Pull the plunger back and forth to test.
 - b. Inspect the rubber stopper of the plunger to ensure a tight seal.
 - c. Aseptically join the needle and syringe by screwing them together.
 - (1) Open the package containing the needle.
 - (2) Screw the needle onto the syringe while holding the package.
 - (3) Once the needle is screwed into place, remove the outer package. The cap should remain over the needle.
3. Draw the prescribed amount of medication into the syringe.
 - a. Inspect the medication vial.
 - (1) Ensure it is the proper medication and strength.
 - (2) Ensure it is not expired.
 - (3) Calculate the drug dosage (see task 081-891-1503), if necessary.
 - b. Wipe the top of the vial with a gauze sponge soaked in 70% isopropyl alcohol.
 - c. Remove the needle cap and insert the needle into the medication vial and withdraw slightly more medication than prescribed.
 - d. Work the air bubbles out of the syringe.
 - (1) Hold the needle, syringe, and medication bottle vertical with the needle pointing up.
 - (2) Tap the syringe with a finger to work air bubbles towards the needle.
 - (3) Push the plunger of the syringe slightly forward to move air bubbles into the medication vial.
 - e. Inject excess medication back into the vial until only the prescribed amount remains in the syringe.
 - f. Remove the syringe and needle from the vial.
 - g. Replace the needle cap.
4. Direct the handler to position and restrain the dog.
 - a. For a cephalic injection, place the dog in sternal recumbency.
 - b. For a saphenous injection, place the dog in lateral recumbency.
5. Prepare the venipuncture site.

Performance Steps

- a. Thoroughly wet the venipuncture site with 70% isopropyl alcohol using a soaked cotton ball or gauze sponge.
 - b. Part the hair over the site to visualize the vein.
 - c. Direct the dog handler to stabilize the leg.
 - d. Occlude the vein using one of the following methods:
 - (1) Have the dog handler apply pressure to the vein proximal to the site.
 - (2) Apply a quick-release tourniquet.
 - e. Place the thumb of the nondominant hand adjacent to the site to stabilize the vein.
6. Inject the medication.
- a. Puncture the skin at a 45° angle.
 - b. Insert the needle with the bevel up.
 - c. Once the needle punctures the skin, decrease the angle of the needle until it is almost parallel to the skin surface.
 - d. Pierce the vein.
 - e. Thread the needle into the vein approximately 1/4 inch.
 - f. Aspirate the syringe to ensure that the needle is in the vein.
 - (1) Pull back on the plunger of the syringe.
 - (2) If the needle is in the vein, blood will flash into the hub and syringe.
 - (3) If venipuncture is not confirmed with a flash of blood, gently redirect the needle.
 - (a) Pull the syringe back slightly but do not pull it all of the way out of the skin.
 - (b) Gently redirect into the vein.
 - (c) Repeat steps 6f(1) and 6f(2) until venipuncture is confirmed.
 - g. Release occluding pressure.
 - (1) Tell the handler to "release".
 - (2) Release the tourniquet.
 - h. Press the plunger slowly and steadily forward while holding the syringe barrel steady.
 - i. Monitor the injection site for swelling while injecting the medication.
 - (1) Swelling may be blood or medication seeping from the vein.
 - (2) If swelling occurs:
 - (a) Stop the injection.
 - (b) Withdraw the needle at the same angle it was inserted.
 - (c) Have the veterinarian examine the site and evaluate possible effects of the medication.
 - j. When finished injecting the medication, withdraw the needle at the same angle it was inserted.
7. Apply direct pressure to the injection site for at least 1 minute to reduce hematoma formation.
- a. Either the handler or the technician can apply pressure.
 - b. Place 4X4 gauze or a cotton ball over the injection site and apply pressure on the sponge/cotton ball.
8. Dispose of the needle and syringe IAW local SOP.
9. Record the injection in the dog's health record.
10. Release the dog to the dog handler with instructions.
- a. Observe for possible side effects and inform the veterinarian if any of the following symptoms develop.
 - (1) Drooling.
 - (2) Nausea.

Performance Steps

- (3) Vomiting.
 - (4) Depression.
 - (5) Diarrhea or change in stool.
 - (6) Change in breathing pattern.
- b. Include instructions for when to return, if required.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Selected the appropriate needle and syringe.	—	—
2. Assembled the needle and syringe.	—	—
3. Drew the medication into the syringe after verifying it was the correct medication and had not expired.	—	—
4. Directed the handler to position and restrain the dog.	—	—
5. Prepared the venipuncture site.	—	—
6. Injected the medication.	—	—
7. Applied direct pressure to the injection site.	—	—
8. Disposed of the needle and syringe IAW local SOP.	—	—
9. Recorded the injection in the dog's health record.	—	—
10. Released the dog to the dog handler with instructions.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

INITIATE AN INTRAVENOUS INFUSION ON A MILITARY WORKING DOG

081-891-1018

Conditions: You have been directed by a veterinarian to initiate an intravenous (IV) infusion of fluid to a military working dog. Necessary materials and equipment include: adhesive tape, sterile isotonic crystalloid solution, fluid administration set, intravenous catheter with cap, 70% isopropyl alcohol, surgical scrub, gauze sponges, IV stand, hair clippers with a #40 blade, and the dog's health record.

Standards: Initiated an IV infusion without violating aseptic technique or causing trauma to the dog.

Performance Steps

1. Assemble supplies.
 - a. 1" tape.
 - b. Appropriate number of bags of the prescribed sterile IV fluid.
 - c. Fluid administration set.
 - d. Appropriate intravenous catheter.
 - e. Surgical scrub and 70% isopropyl or ethyl alcohol.
 - f. Catheter cap, if prescribed by the veterinarian or local SOP.
2. Inspect the catheter, IV fluid bag, catheter cap, and administration set for sterility.
 - a. Ensure the items are not expired by checking the expiration date.
 - b. Ensure the seals on the items have not been broken, and that packaging is intact.
3. Prepare the equipment.
 - a. Remove the protective wrapper from the IV fluids.
 - b. Remove the covering of the IV fluid bag injection port.
 - c. Remove the administration set from its packaging.
 - d. Close the administration set clamp.
 - e. Remove the cap from the administration set spike and insert the spike into the injection port of the IV fluid bag aseptically.
 - f. Squeeze the sides of the administration set drip chamber to force fluid into the chamber. Fill the chamber half way or to the arrow mark or line on the side.
 - g. Hang the IV solution bag from an IV stand approximately 2 feet above the patient.
 - h. Remove the protective cover from the end of the administration set line.
 - i. Open the administration set clamp and allow fluids to flow to clear air from the IV line.
 - j. Close the tubing clamp and recap the end of the IV line with the protective cover.

NOTE: Depending on the reason for the IV infusion, the veterinarian may require that the fluids be warmed. Follow local SOP for warming fluids, if required.

4. Place the IV catheter (see task 081-891-1038) and attach a catheter cap, if directed.
5. Connect the IV fluid administration set to the IV catheter aseptically (if a cap was not used) or aseptically attach an 18 gauge needle to the end of the administration set tubing and insert the needle through the catheter cap (if a cap was used).
6. Start the IV fluid flow at 3/4 to full open by turning the flow control dial on the administration set.
7. Observe the catheter insertion site for the formation of a hematoma or swelling that would indicate improper catheter placement.

Performance Steps

8. Calculate the hourly rate of fluid administration, given the total volume of fluid to be given to the patient and the total time over which fluids will be given.
 - a. The hourly rate (milliliters per hour; ml/hr) is determined by dividing the total volume of fluids to be given by the total time over which fluids are to be given.
 - b. Example: You are directed to give 3200 ml to a dog over 8 hours. The hourly rate is: 3200 ml divided by 8 hrs = 400 ml/hr.
 - c. Example: You are directed to give 2300 ml to a dog over 24 hours. The hourly rate is: 2300 ml divided by 24 hrs = 95.8 ml/hr.

NOTE: Generally it is acceptable to round up to the nearest whole number when calculating fluid therapy flow rates. In the preceding example, it would be acceptable to round 95.8 ml/hr up to 96 ml/hr.

9. Administer IV fluid therapy to a patient using an infusion pump.

NOTE: There are many types of fluid infusion pumps available commercially. Most require that you input the hourly rate of fluid delivery (ml/hr), and either the time over which fluids are to be given (in minutes or hours) or the total volume of fluid to be given (in ml). Always follow the manufacturer's instructions and become very familiar with how your pumps work. Most pumps also require that you use specific types of fluid administration sets. Always use the set recommended by the manufacturer, because failure to do so may result in inaccurate fluid delivery.

- a. Input the hourly rate of fluid delivery (calculated in step 8) and either the total time or total volume to be given, depending on the type of pump you are using.
- b. Start the pump and monitor for complications (e.g., air in the line, occlusion).
- c. If pump alarms sound, immediately determine the cause of the alarm and take appropriate measures to correct any problems.
- d. Frequently check the patient and the pump to ensure proper fluid delivery.

10. Administer IV fluid therapy to a patient using a drip set and calculating the number of drops per second to control fluid delivery rates.

NOTE: Fluid therapy is best provided using infusion pumps that accurately deliver a set fluid rate per hour. If infusion pumps are not available, you can deliver fluids by calculating the number of drops per second and CAREFULLY monitoring the patient and fluid delivery to ensure you provide the required amount of fluids in the required amount of time without overhydrating the patient. Fluid therapy using drops per second (without a pump) is less accurate and more prone to error.

- a. Determine the drip set fraction (DSF) for the specific fluid administration set you are using.
 - (1) The DSF is calculated by dividing the number of drops per ml for the specific set you have by 60.
 - (2) The DSF for an administration set with 10 drops to equal 1 ml of fluid is: 10 divided by 60 = 0.17.
 - (3) The DSF for an administration set with 15 drops to equal 1 ml of fluid is: 15 divided by 60 = 0.25.
 - (4) The DSF for an administration set with 60 drops to equal 1 ml of fluid is: 60 divided by 60 = 1.0.
- b. Multiply the DSF for the set you are using by the hourly rate of fluid administration (calculated in step 8) to give the number of drops required per minute.
Example: You have a drip set with 15 drops to equal 1 ml (DSF = 0.25), and are instructed to give fluids at an hourly rate of 200 ml/hr. The number of drops per minute thus equals $0.25 \times 200 \text{ ml/hr} = 50 \text{ drops per minute}$.

Performance Steps

- c. Divide the number of drops per minute by 60 to determine the number of drops per second to deliver the correct volume of fluid to the patient.
 - (1) Example: For the problem above (50 drops per minute required), the number of drops per second thus equals 50 drops per minute divided by 60 = 0.83 drops per second.
 - (2) It is acceptable to round up or down to determine the number of drops per second to set. For example, you cannot count 0.83 drops per second, but you can round up to 1 drop per second, which can be counted. You could also double the number of drops per second ($0.83 \times 2 = 1.67$) and estimate about 1 1/2 drops every 2 seconds.
 - d. Use the dial on the administration set to control the number of drops given per second.
 - e. Monitor fluid delivery using tape marks on the fluid bag.
 - (1) Place a piece of tape vertically down the side of the fluid bag parallel to the graduation markings on the bag.
 - (2) Make a mark on the tape even with the starting fluid level.
 - (3) Make a mark on the tape even with the level the fluid should be at each hour after administration is begun using the hourly rate calculated for the patient.
 - f. Frequently check the patient and the fluid level to ensure fluid delivery is as directed.
 - g. Check with the veterinarian if fluid delivery is not accurate (i.e., too fast or too slow) and request guidance on how to correct the discrepancy.
11. Secure the IV catheter and fluid administration set tubing to the patient.
 - a. Place one piece of tape around the hub of the catheter and then around the dog's leg, and fold the end back on itself to form a courtesy tab.
 - b. Place a second piece of tape around the dog's leg and the tubing, securing the tubing to the dog's leg just proximal to the catheter and tubing connection site, and create a courtesy tab.
 - c. Form a loop with the IV tubing and place the tape around the dog's leg and tubing, securing the tubing to the dog's leg, and create a courtesy tab.
 12. Record the procedure in the dog's health record.
 13. When the infusion is complete, either put a heparin saline lock on the catheter (see task 081-891-1038, step 1 for directions on making heparin saline flush) and place a protective wrap over the catheter or remove the catheter, if directed.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Assembled supplies.	_____	_____
2. Inspected the supplies.	_____	_____
3. Prepared the equipment.	_____	_____
4. Placed the IV catheter.	_____	_____
5. Connected the IV fluid administration set to the IV catheter aseptically.	_____	_____
6. Started the IV fluid flow at 3/4 to full open by turning the flow control dial on the drip set.	_____	_____

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
7. Observed the catheter insertion site for the formation of a hematoma or swelling that would indicate improper catheter placement.	—	—
8. Calculated the hourly fluid delivery rate, given the total volume to be given and the total number of hours over which fluids are to be given.	—	—
9. Administered fluids using either an infusion pump or by controlling the number of drops per second.	—	—
10. Secured the IV catheter and fluid administration set tubing to the patient.	—	—
11. Recorded the procedure in the dog's health record.	—	—
12. Properly discontinued fluid therapy.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

**PERFORM A SKIN SCRAPING ON A MILITARY WORKING DOG FOR MICROSCOPIC
ECTOPARASITE EVALUATION**

081-891-1022

Conditions: The veterinarian has directed you to perform a skin scraping on a lesion on a military working dog. You must perform the skin scraping and examine it for microscopic ectoparasites. The dog has been muzzled and the dog handler is available to position and restrain the dog. Necessary materials and equipment include: mineral oil, scalpel blades, microscope slides, coverslips, microscope, laboratory request form, and the dog's health record.

Standards: Collected skin scrapings without causing undue trauma to the dog and identified ectoparasites found without error.

Performance Steps

1. Direct the dog handler to position and restrain the dog. Ensure the lesion is easily accessible.
2. Prepare the scalpel blade.
 - a. Carefully remove the blade from its package.
 - b. Dull the blade by running the blade across an edge of a microscope slide several times in a cutting motion.
 - c. Place 1 to 2 drops of mineral oil on the slide and coat both sides of the blade in the oil.
3. Perform the skin scrape.
 - a. Gently pinch a fold of skin between the thumb and the index finger at the outer edge of the lesion. Choose an area of the lesion that has not been medicated.
 - b. Gently scrape the edge of the skin fold with the scalpel blade until capillary bleeding occurs.
 - (1) Hold the blade perpendicular to the skin to avoid accidental incision.
 - (2) Briefly squeeze or pinch the skin with some force to empty skin follicles to the surface.
4. Transfer the scraped debris and mineral oil onto the microscope slide.
5. Place a coverslip over the debris.
6. Scan the slide with a microscope using the low power objective (4X) to locate possible ectoparasites. (See Figure 3-1.)

Performance Steps

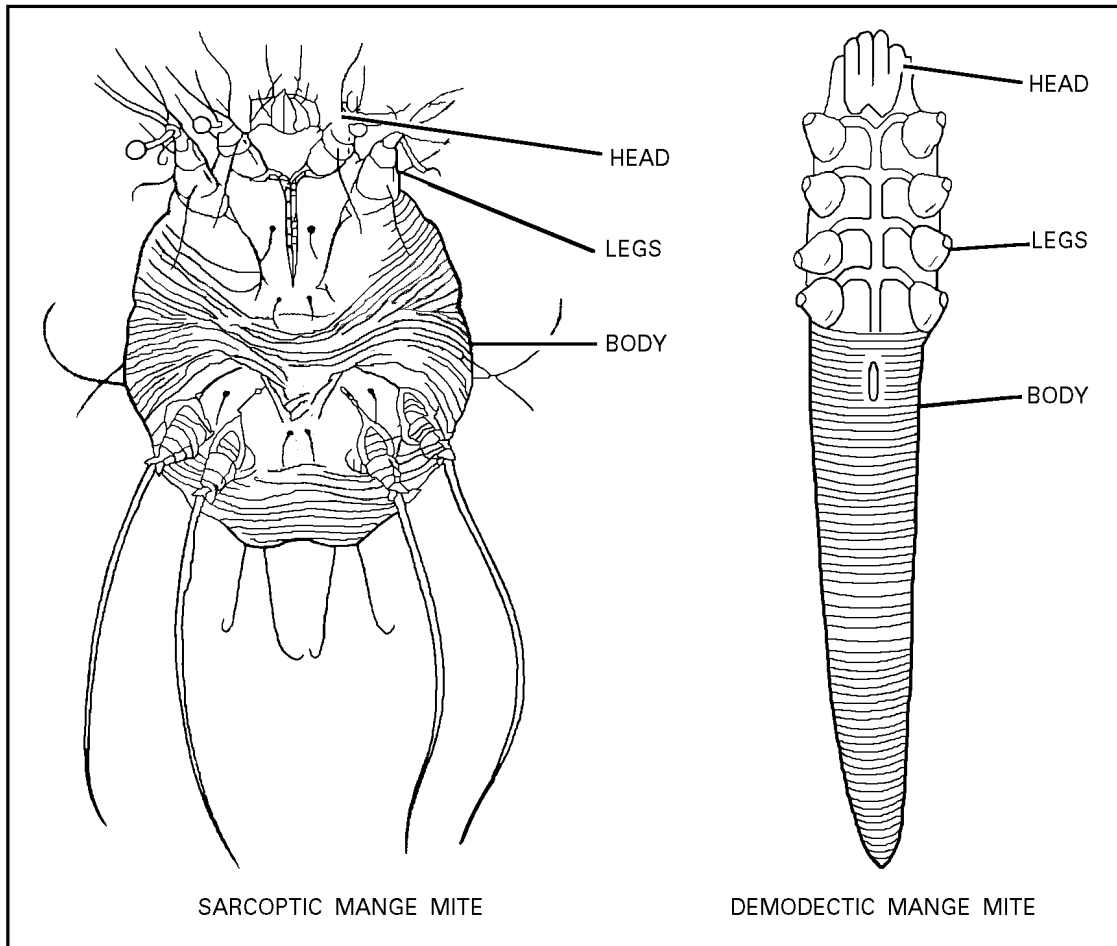


Figure 3-1

7. Identify ectoparasites found using the high/dry power objective.
 - a. Demodex.
 - b. Sarcoptes.
8. Report the findings to the veterinarian.
9. Record the results on SF 552. Check the "Other" block and record results in the box below.
10. Place the completed laboratory request form in the dog's health record.
11. Release the dog to the dog handler along with the veterinarian's instructions for treatment (if required).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Directed the dog handler to position and restrain the dog.	_____	_____
2. Prepared the scalpel blade.	_____	_____
3. Performed the skin scrape.	_____	_____
4. Transferred the scraped debris and mineral oil onto the microscope slide.	_____	_____
5. Placed a coverslip over the debris.	_____	_____
6. Scanned the slide with a microscope using the low power objective.	_____	_____
7. Identified any ectoparasites found using the high/dry power objective.	_____	_____
8. Reported the findings to the veterinarian.	_____	_____
9. Recorded the results on the laboratory request form.	_____	_____
10. Placed the completed laboratory request form in the dog's health record.	_____	_____
11. Released the dog to the dog handler with the veterinarian's instructions for treatment.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

OBTAIN A VENOUS BLOOD SPECIMEN FROM A MILITARY WORKING DOG

081-891-1023

Conditions: The veterinarian has directed you to obtain a venous blood specimen from a military working dog. The veterinarian has told you how much blood to draw and what vein to draw it from. The dog has been muzzled and the dog handler is available to restrain the dog. Necessary materials and equipment include: various sizes of needles, 70% isopropyl alcohol, gauze sponges, cotton balls, and the dog's health record.

Standards: Obtained a venous blood specimen from a military working dog without causing trauma to the dog.

Performance Steps

1. Select a needle and syringe.
 - a. A 21 gauge needle, 5/8" to 1" long, is normally used for venipuncture.
 - b. Use a larger or smaller gauge needle depending on the size of the dog.
 - c. Choose a syringe based on how much blood is to be collected.
2. Assemble the needle and syringe.
 - a. Test the plunger on the syringe for smooth, easy movement. Pull the plunger back and forth.
 - b. Inspect the rubber stopper of the plunger to ensure a tight seal.
 - c. Aseptically join the needle and syringe by screwing them together.
 - (1) Open the package containing the needle.
 - (2) Screw the needle onto the syringe while holding the package.
 - (3) Once the needle is screwed into place, remove the outer package. The cap should remain over the needle.
3. Select the venipuncture site and have the handler position the dog.
 - a. Cephalic vein - Have the handler position and restrain the dog in sternal recumbency.
 - b. Lateral saphenous vein - Have the handler position and restrain the dog in lateral recumbency.
 - c. External jugular vein - Have the handler position and restrain the dog in sternal recumbency with the head pulled back and slightly to one side to expose the vein.
4. Prepare the venipuncture site.
 - a. Thoroughly wet the venipuncture site with 70% isopropyl alcohol. Apply alcohol with an alcohol-soaked cotton ball or gauze sponge.
 - b. Part the hair over the site to visualize the vein.
 - c. Direct the handler to stabilize the leg or head.
 - d. Occlude the vein using one of the following methods:
 - (1) Have the handler apply pressure to the vein proximal to the site (leg vein).
 - (2) Apply a quick release tourniquet (leg vein).
 - (3) Place a finger of the nondominant hand near the thoracic inlet (external jugular vein).
 - e. Place the thumb of the nondominant hand adjacent to the site to stabilize the vein.
5. Puncture the vein.
 - a. Puncture the skin at a 45° angle.
 - b. Insert the needle with the bevel up.

Performance Steps

- c. Once the needle punctures the skin, decrease the angle of the needle until it is almost parallel to the skin surface.
- d. Pierce the vein.
- e. Thread the needle into the vein approximately 1/4 inch.
- f. Aspirate the syringe to ensure that the needle is in the vein.
 - (1) Pull back on the plunger of the syringe.
 - (2) If the needle is in the vein, blood will flash into the hub and syringe.
 - (3) If venipuncture is not confirmed with a flash of blood, gently redirect the needle.
 - (a) Pull the syringe back slightly but do not pull it all the way out of the skin.
 - (b) Gently redirect into the vein.
 - (c) Repeat steps 1 and 2 until venipuncture is confirmed.
- 6. Aspirate until the required amount of blood is obtained.
- 7. Instruct the handler to release the occluding pressure from the vein or release the tourniquet before withdrawing the needle.
- 8. Withdraw the needle from the vein at approximately the same angle it was inserted.
- 9. Direct the dog handler to apply direct pressure for approximately one minute at the venipuncture site to minimize hematoma formation.
- 10. Label the blood sample with the following:
 - a. Dog's name.
 - b. Tattoo number.
 - c. Facility.
 - d. Date and time of withdrawal.
- 11. Release the dog to the dog handler.
- 12. Record the procedure in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Selected a needle and syringe.	_____	_____
2. Assembled the needle and syringe.	_____	_____
3. Selected the venipuncture site and had the handler position the dog.	_____	_____
4. Prepared the venipuncture site.	_____	_____
5. Punctured the vein.	_____	_____
6. Aspirated until the required amount of blood is obtained.	_____	_____
7. Instructed the handler to release the occluding pressure from the vein or release the tourniquet prior to withdrawing the needle.	_____	_____
8. Withdrew the needle from the vein at approximately the same angle it was inserted.	_____	_____
9. Directed the dog handler to apply direct pressure for approximately one minute at the point of needle insertion.	_____	_____

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
10. Labeled the blood sample.	—	—
11. Released the dog to the dog handler.	—	—
12. Recorded the procedure in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

**PERFORM A DIRECT MICROSCOPIC EXAMINATION OF WHOLE BLOOD FOR
MICROFILARIA
081-891-1024**

Conditions: You have drawn a venous blood sample as directed to immediately perform a direct smear for microfilaria. Necessary materials and equipment include: needle and syringe with a whole blood sample or purple top tube with a whole blood sample, pipette, microscope slide and coverslip, microscope, SF 552, and the dog's health record.

Standards: Performed a direct microscopic exam of whole blood for microfilaria and recorded the results.

Performance Steps

1. Prepare the slide.
 - a. Place one drop of blood in the center of a microscope slide using one of the following methods:
 - (1) Directly from the collection syringe via the needle. Discard the first 3 to 5 drops of blood from the syringe.
 - (2) Transfer from a purple top tube using a pipette.
 - b. Place a coverslip over the drop of blood.
 2. Examine the prepared slide under a microscope using the 10X and 45X power objective.
 - a. Observe for erratic movement (rhythmic swirling) in the field of RBCs.
 - b. Observe microfilaria.
 - c. Observing either condition indicates a positive test.
- NOTE:* Do not attempt to identify the microfilaria by genus and species with this test.
3. Record the results on SF 552.
 - a. Check the "Other" block and annotate "Microfilaria Test--Direct Exam".
 - b. Results (positive or negative) are annotated in the "Remarks" block.
 4. Report the results to the veterinarian.
 5. Place the completed laboratory request form in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Prepared the slide.	_____	_____
2. Examined the prepared slide under a microscope using the 10X and 45X power objectives.	_____	_____
3. Recorded the results on SF 552.	_____	_____
4. Reported the results to the veterinarian.	_____	_____
5. Placed the completed laboratory request form in the dog's health record.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PLACE AN INTRAVENOUS CATHETER IN A MILITARY WORKING DOG

081-891-1038

Conditions: The veterinarian has instructed you to place an intravenous catheter in a military working dog. The dog has been muzzled and the dog handler is available to position and restrain the dog. Necessary materials and equipment include: intravenous catheter with cap, various sizes of needles and syringes, 250 ml bag of saline, 1000 IU heparin, adhesive tape, hair clippers with a #40 blade, 70% isopropyl alcohol, chlorhexidine or povidone-iodine surgical scrub, gauze sponges, roll gauze or self-adhesive conforming wrap, an Elizabethan collar, and the dog's health record.

Standards: Placed an intravenous catheter in the cephalic or saphenous vein without causing trauma to the dog, secured the catheter in place, and placed a heparin lock.

Performance Steps

1. Prepare a heparinized saline flush.
 - a. Mix 2500 international units (IU) of heparin in 250 ml of sterile normal saline or sterile water for injection to yield a heparinized saline flush with final heparin concentration of 10 IU/ml.
 - b. Label the bag of heparinized saline with the quantity of heparin added and the date the solution was prepared.
 - c. Maintain the heparinized saline at room temperature for no more than 48 hours. After 48 hours, discard the saline.
2. Prepare, inspect, and assemble the intravenous (IV) equipment.
 - a. Catheter.

NOTE: Acceptable catheter sizes for military working dogs vary. For most applications, use an 18 gauge, 1 1/2 to 2 inch catheter. Shorter catheters become dislodged more easily, and smaller gauge catheters occlude more frequently.

- (1) Open the package containing the catheter.
 - (2) Remove the catheter by holding the hub of the needle.
 - (3) Remove the catheter cover.
 - (4) Check for burrs or a bent tip on the needle.
 - (5) Select another catheter if the needle is damaged.
 - (6) Replace the cover on the catheter.
 - b. Tape. Cut two strips of 1/4 to 1/2 inch wide adhesive tape long enough to go around the dog's leg (approximately 10 to 14 inches).
 - c. Open the package containing the catheter cap (also called an injection port or "PRN" adapter).
3. Select the venipuncture site.
 - a. The cephalic vein is the primary site.
 - b. The lateral saphenous vein is the alternate site.
4. Direct the handler to position the dog.
 - a. For cephalic IV catheter placement.
 - (1) Direct the dog handler to place and restrain the dog in sternal recumbency near one end of the table or another flat raised surface.
 - (2) Direct the handler to restrain the dog's head by wrapping his arm, farthest from the dog, around the dog's neck and cradling the dog's muzzle in his or her elbow.

Performance Steps

- (3) Direct the handler to wrap his fingers around the back of the dog's elbow and push the dog's leg slightly forward to stabilize it.
- b. For lateral saphenous IV catheter placement.
 - (1) Direct the dog handler to place and restrain the dog in lateral recumbency.
 - (2) Direct the handler to press one forearm across the dog's neck with that hand holding the forelegs and to place one finger between the front feet to achieve a more secure grip.
 - (3) Direct the handler to press the other arm across the dog's flank and hold the lower rear leg.
5. Prepare the venipuncture site.

NOTE: It is very important to prevent infection at the catheter site and to reduce the possibility of developing a blood-borne infection. Before handling catheters, injection ports, and IV tubing, and before manipulating catheters during placement, always wash your hands with antibacterial scrub. Wear uncontaminated exam gloves when preparing the placement site and placing the catheter.

 - a. Clip the hair of the intended placement site with a #40 blade.
 - b. Perform a surgical skin preparation on the area (see task 081-891-1087) using chlorhexidine or povidone-iodine surgical scrub and 70% alcohol.
6. Remove the catheter cover.
7. Occlude the selected vein for 5 to 10 seconds before proceeding to puncture the vein (step 8).
 - a. Cephalic vein.
 - (1) Direct the dog handler to place the thumb of the hand holding the foreleg on the medial side of the foreleg and rotate it slightly to the lateral side, applying pressure across the foreleg, being careful not to overrotate the vein.
 - (2) Control lateral movement of the cephalic vein by placing the thumb of the hand not holding the catheter parallel to the vein. Wrap the fingers of the same hand under the dog's leg to stabilize the leg.
 - b. Lateral saphenous vein.
 - (1) Steady the "up" leg by holding it with the fingers on the medial side and the thumb laid next to the vein to control lateral movement of the vein.
 - (2) Apply a tourniquet or have a third person apply pressure by placing their thumb over the back portion of the leg at the knee joint.
 - (3) Wrap fingers over the knee cap and, while maintaining pressure, rotate the hand in a forward direction.
8. Puncture the vein.
 - a. Pierce the skin with the catheter needle bevel facing upwards, at a 10 to 30 degree angle to the skin.
 - b. Decrease the angle of the catheter needle until it is almost parallel to the skin surface.
 - c. Pierce the vein.
 - d. Confirm venipuncture by observing for a flash of blood at the hub of the catheter needle.
9. Advance the catheter needle approximately 1/4 inch into the vein using a gentle forward motion.
10. Position the catheter.
 - a. Stabilize and hold the catheter needle hub with one hand.

Performance Steps

- b. Advance the catheter into the vein as far as possible with the other hand, only touching the hub of the catheter with the fingers.
- 11. Release occluding pressure on the vein.
- 12. Remove the needle from the catheter by pulling it back and out while stabilizing the catheter to keep it in the vein.
- 13. Attach an injection port to the hub of the catheter.
- 14. Flush the catheter through the injection port with 1 to 2 cc of heparinized saline.
- 15. Observe for the presence of a hematoma around the puncture site.
 - a. A hematoma will be characterized by a swelling forming near the area.
 - b. If a hematoma develops, withdraw the catheter and start over at another site.
- 16. Secure the catheter to the leg with adhesive tape.
 - a. Wrap the tape around the leg, ensuring that the tape is not so tight as to restrict circulation.
 - b. Fold the end of the tape over making a courtesy tab.
- 17. Wrap the catheter against the leg with roll gauze or self-adhesive conforming wrap.
- 18. Place an Elizabethan collar on the dog so that the animal does not chew the site.
- 19. Record the procedure in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Prepared a heparinized saline flush.	_____	_____
2. Prepared, inspected, and assembled the IV equipment.	_____	_____
3. Selected the venipuncture site.	_____	_____
4. Directed the handler to position the dog.	_____	_____
5. Prepared the venipuncture site.	_____	_____
6. Removed the catheter cover.	_____	_____
7. Occluded the selected vein for 5 to 10 seconds.	_____	_____
8. Punctured the vein.	_____	_____
9. Advanced the catheter needle approximately 1/4 inch into the vein using a gentle forward motion.	_____	_____
10. Positioned the catheter.	_____	_____
11. Released occluding pressure on the vein.	_____	_____
12. Removed the needle from the catheter by pulling it back and out.	_____	_____
13. Attached an injection port to the end of the catheter.	_____	_____

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
14. Flushed the catheter with 1 to 2 cc of heparinized saline.	—	—
15. Observed for the presence of a hematoma around the puncture site.	—	—
16. Secured the catheter to the leg with adhesive tape.	—	—
17. Wrapped the catheter against the leg with roller gauze or self-adhesive conforming wrap.	—	—
18. Placed an Elizabethan collar on the dog so that the animal does not chew the site.	—	—
19. Recorded the procedure in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ASSIST WITH PERFORMING A PHYSICAL EXAM OF A MILITARY WORKING DOG
081-891-1063

Conditions: You have been directed to perform a health check of a military working dog. The dog handler is available to position and restrain the animal. Necessary materials and equipment include: exam gloves, thermometer, timepiece, scale, SF 600, SF 512, and the dog's health record.

Standards: Performed a detailed health check of a military working dog, recorded all objective findings, and reported the results to the veterinarian.

Performance Steps

1. Review DD Form 2619 in the dog's health record for a quick synopsis of the dog's history.
2. Question the handler regarding the dog's history.
 - a. Any noted problems working or training.
 - b. Eating and drinking normally.
 - c. Any vomiting or diarrhea.
 - d. Urinating and defecating normally.
3. Measure and record the dog's vital signs. (See task 081-891-1007.)
 - a. Temperature.
 - b. Pulse.
 - c. Respirations.
 - d. Record the results on SF 600 in the CCSOAP format (see task 081-891-1036).
4. Weigh the dog.
 - a. Record the dog's weight on the SF 512 and SF600.
 - b. Note any large gains or losses from previous month's entries.
5. Examine the head.
 - a. Evaluate the dog at arm's length for symmetry and obvious abnormalities.
 - (1) Ocular discharge.
 - (2) Nasal discharge.
 - (3) Alopecia.
 - (4) Swellings.
 - (5) Masses.
 - (6) Skin lesions.
 - b. Evaluate the eyes.
 - (1) Examine the upper, lower, and third eyelid.
 - (a) Abnormal eyelash growth.
 - (b) Abnormal configuration.
 - (c) Cysts.
 - (d) Masses.
 - (e) Blepharospasm (twitching or spasmodic contraction).
 - (2) Examine the conjunctiva.
 - (a) Color.
 - (b) Vascularization.
 - (c) Discharge.
 - (3) Examine the cornea.
 - (a) Shine a penlight onto the cornea at an oblique angle.

Performance Steps

- (b) The cornea should be clear and glistening.
- (c) Scars.
- (d) Ulceration.
- (e) Pigmentation.
- (f) Opacity.
- (4) Evaluate pupillary response.
 - (a) Shine a penlight into the pupil.
 - (b) Observe the pupil's response to light.
 - (c) The response should be the same for both pupils.
- c. Examine the muzzle to include the nares.
 - (1) Symmetry.
 - (2) Swelling.
 - (3) Lesions.
 - (4) Discharge.
- d. Examine the lips.
 - (1) Anatomical defects.
 - (2) Papillomas.
 - (3) Masses.
 - (4) Inflammation.
- e. Examine the oral cavity.
 - (1) Direct the dog handler to remove the dog's muzzle and open the dog's mouth.
 - (a) Tell the dog handler to elevate the dog's muzzle to the vertical position and to insert an index finger and thumb into the interdental space on either side of the upper jaw.
 - (b) Direct the dog handler to apply mild pressure to the hard palate with the upper finger and thumb, while slowly pulling the mandible down with the other hand.
 - (2) Examine the interior of the oral cavity.
 - (3) Inspect the mucous membranes for color.
 - (4) Check the capillary refill time.
 - (5) Examine the cheek for ulcerations or masses.
 - (6) Smell the dog's breath for foul odor.
 - (7) Examine the teeth.
 - (a) Dental calculus.
 - (b) Periodontal disease.
 - (c) Fractures.
 - (d) Missing teeth.
 - (e) Retained teeth.
 - (8) Examine the hard and soft palates, the tongue, and the pharynx.
 - (a) Masses.
 - (b) Ulcerations.
 - (c) Inflammation.
 - (d) Foreign bodies.
 - (9) Direct the dog handler to replace the muzzle.
- f. Wash hands before continuing.
- g. Palpate the submandibular lymph nodes.
- h. Examine the ears for exudate.
 - (1) Ear mites produce a dark, dry, waxy debris.
 - (2) Bacteria or yeast infections produce a moist, greenish-yellow exudate.
 - (3) Sample abnormal exudate for laboratory testing.

Performance Steps

6. Examine the hair coat and skin.
 - a. Alopecia.
 - b. Ectoparasites.
 - c. Inflammation.
 - d. Crusts.
 - e. Scales.
 - f. Masses.

7. Examine the trunk and extremities.
 - a. Palpate the prescapular, axillary, superficial inguinal, and popliteal lymph nodes.
 - (1) Size.
 - (2) Consistency.
 - (3) Pain.
 - b. Palpate the muscles and bones of the rib cage, forelimbs, and hind limbs.
 - (1) Swelling.
 - (2) Atrophy.
 - (3) Masses.
 - (4) Pain.
 - c. Flex and extend all the joints of the forelimbs and hind limbs.
 - (1) Swelling.
 - (2) Pain.
 - d. If there is a history of lameness, observe the dog walking before and after flexion and extension to help localize and assess the severity.
 - e. Check the interdigital spaces of the paws.
 - (1) Foreign objects.
 - (2) Abrasions.
 - (3) Ulcers.
 - (4) Swelling or masses.
 - f. Check the nails for proper trimming. Nails should not extend beyond the pad of the toes.
 - g. Palpate each mammary gland separately for masses.

8. Evaluate the genitalia.
 - a. Vulva of the female.
 - (1) All female dogs are spayed when they enter the military. Because of this, the vulva is normally very small and tucked up.
 - (2) Inflammation.
 - (3) Size.
 - (4) Swelling.
 - (5) Discharge.
 - b. Penis and scrotum of the male.
 - (1) Put on exam gloves.
 - (2) Examine the penis. The penis must be extruded from the prepuce for examination. This may be accomplished by pushing the prepuce caudally.
 - (a) Discharge.
 - (b) Bleeding.
 - (c) Inflammation.
 - (d) Masses.
 - (e) An odiferous secretion (smegma) is normal.
 - (3) Evaluate the scrotum.

Performance Steps

- (a) Palpate the testicles and observe for any swelling, asymmetry, or pain.
 - (b) Examine the outer surface for signs of dermatitis.
 - (4) Examine the prostate.
 - (a) Apply a generous amount of lubrication to a gloved index finger.
 - (b) Insert the index finger slowly and gently into the rectum. Insertion should be between 2-4" depending on the size of the dog.
 - (c) Palpate the prostate for size, symmetry, and masses.
 - (d) Do not remove the finger - immediately proceed to check the anal sacs (step 8b(5)).
 - (5) Check anal sacs.
 - (6) Remove the exam gloves.
9. Evaluate the rectum.
 - a. Inflammation.
 - b. Swelling.
 - c. Masses.
 - d. Pasty or blood-tinged stools.
 - e. Parasites.
 10. Examine the tail.
 - a. Breaks.
 - b. Abrasions.
 - c. Alopecia.
 11. Question the dog handler about any medical problem found during the health check.
 - a. How long has the problem been observed by the handler?
 - b. How severe are the symptoms?
 - c. Is the problem chronic or acute?
 - d. Has the handler treated the problem? If so, with what, for how long, and has any change occurred?
 - e. Discuss other possible symptoms the handler might have noticed during routine handling of the dog.
 12. Record the findings on SF 600 in the CC-SOAP format (see task 081-891-1036).
 - a. Describe the location, appearance, and size of any abnormalities.
 - b. Record only objective findings that can be seen, smelled, touched (palpated), or measured in the O: portion of the CC-SOAP format.
 - c. Do not make a diagnosis or prescribe medication.
 13. Report the results to the veterinarian.
 14. Release the dog to the dog handler.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed DD Form 2619 in the dog's health record for a quick synopsis of the dog's history.	—	—
2. Questioned the handler regarding the dog's history.	—	—
3. Measured and recorded the dog's vital signs.	—	—

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
4. Weighed the dog.	_____	_____
5. Examined the head.	_____	_____
6. Examined the hair coat and skin.	_____	_____
7. Examined the trunk and extremities.	_____	_____
8. Evaluated the genitalia.	_____	_____
9. Evaluated the rectum.	_____	_____
10. Examined the tail.	_____	_____
11. Questioned the dog handler about any medical problem found during the health check.	_____	_____
12. Recorded the findings on SF 600 in CC-SOAP format.	_____	_____
13. Reported the results to the veterinarian.	_____	_____
14. Released the dog to the dog handler.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ASSIST WITH EUTHANASIA OF A MILITARY WORKING DOG
081-891-1086

Conditions: You have been instructed to assist with the euthanasia of a military working dog. The dog has been muzzled and the dog handler is available to restrain and position the dog. Necessary materials and equipment include: assorted needles and syringes, red top blood tubes, purple top blood tubes, sterile urine specimen cup, euthanasia solution, microchip scanner, paperwork from a field grade commander in the supervisory chain of command of the unit owning the dog approving euthanasia or the veterinarian's written confirmation that euthanasia is indicated for medical reasons, scale, DD Form 1743, DD Form 1626, appropriate laboratory request forms, and the dog's health record.

Standards: Assisted the veterinarian with the euthanasia of a military working dog by verifying that the correct paperwork was completed and appropriate laboratory tests were performed and recorded as required in AR 40-905, AR 190-12, and TB MED 283.

Performance Steps

1. Verify that the paperwork requesting and authorizing euthanasia has been completed thoroughly and signed by the proper authorities before any further action is taken.
 - a. IAW AR 190-12, written approval for euthanasia must be obtained from the first field grade officer in the supervisory chain of command (the responsible officer) of the unit owning the dog.
 - b. In cases of medical necessity, a veterinarian may euthanize a military working dog before written approval is acquired.
 - c. IAW AR 40-905, at the time of death of an MWD the veterinarian will prepare, sign, and submit DD Form 1743 to the responsible officer.

NOTE: IAW TB MED 283, a complete necropsy will be performed on all MWDs that die or are euthanized.

2. Verify that the dog presented for euthanasia is the dog approved for euthanasia.
 - a. Verify the tattoo number on the dog.
 - b. Scan the dog with a microchip reader and verify the microchip number (if applicable).
 - c. Compare the picture in the medical record with the dog.
3. Weigh the dog. The dog's weight will determine the amount of euthanasia solution needed.
4. Before euthanasia, collect blood and urine samples (see task 081-891-1401 or 081-891-1053).
 - a. As a minimum, collect one red top and one purple top (EDTA) tube of blood.
 - b. Collect as much urine as possible in a specimen cup.
5. Ensure the following laboratory tests are submitted before euthanasia IAW TB MED 283:
 - a. Total WBC count.
 - b. Differential WBC count.
 - c. Packed cell volume.
 - d. Hemoglobin.
 - e. Blood urea nitrogen.
 - f. Total plasma protein.
 - g. Albumin/globulin ratio or total albumin.
 - h. Serum transaminases (ALT and AST).
 - i. Alkaline phosphatase.

Performance Steps

- j. Urine specific gravity.
- k. Urine creatinine.
- l. Urine protein.
- m. Urine glucose.
- n. Urine microscopic sediment examination.

6. Ensure the results from the laboratory tests are recorded on DD Form 1626.
7. Draw up the euthanasia solution based on the dog's weight and the veterinarian's instructions.

NOTE: Euthanasia solution is a controlled substance and the amount used must be recorded in the controlled drug log (see task 081-891-1201).

8. Inform the veterinarian that the animal is ready to be euthanized and await further instructions.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Verified that the paperwork requesting and authorizing euthanasia has been completed thoroughly and signed by the proper authorities before any further action is taken.	—	—
2. Verified that the dog presented for euthanasia was the dog approved for euthanasia.	—	—
3. Weighed the dog.	—	—
4. Collected blood and urine samples.	—	—
5. Ensured that certain laboratory tests were completed IAW TB MED 283.	—	—
6. Ensured the results from the laboratory tests were recorded on DD Form 1626.	—	—
7. Drew up the euthanasia solution based on the dog's weight and the veterinarian's instructions.	—	—
8. Informed the veterinarian that the animal was ready to be euthanized and awaited further instructions.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
None

Related
AR 190-12
AR 40-905
TB MED 283

**COLLECT EAR SWABS FROM A MILITARY WORKING DOG FOR MICROSCOPIC
EVALUATION
081-891-1204**

Conditions: You have been directed by the veterinarian to collect ear swabs for microscopic evaluation. The dog is muzzled and the dog handler is available to position and restrain the animal. Necessary materials and equipment include: penlight, cotton-tipped applicators, microscope slides, coverslips, mineral oil, and the dog's health record.

Standards: Collected ear swabs for microscopic evaluation without causing trauma to the dog.

Performance Steps

1. Direct the handler to position and restrain the dog.
 - a. Sitting.
 - b. Sternal recumbency.
 - (1) On an exam table.
 - (2) On the floor.
 - c. Have the head positioned so that the nose is level (parallel to the floor).
2. Select and prepare materials needed to collect an ear swab.
 - a. Materials needed.
 - (1) Microscope slides.
 - (2) Coverslips.
 - (3) Mineral oil.
 - (4) Several cotton-tipped applicators.
 - (5) Pencil.
 - b. Prepare materials.
 - (1) Position two or more microscope slides on a clean work surface.
 - (2) Place a drop of mineral oil on one of the microscope slides.
 - (3) Roll the cotton end of one of the applicators in the mineral oil on the slide.
3. Visually inspect the ear canal.
 - a. Hold the pinna vertically.
 - b. Use a penlight and observe the interior surface of the pinna and ear canal for abnormalities.
 - (1) Dark, dry, waxy debris that looks like coffee grounds could indicate *Otodectes* (ear mites).
 - (2) Moist, greenish-yellow exudate could indicate bacteria or yeast.
4. Collect ear swabs.
 - a. A minimum of two swabs will be collected.
 - b. Hold the ear pinna vertically with one hand.
 - c. With the free hand, introduce a cotton-tipped applicator gently into the ear canal.
 - (1) Introduce the dry applicator first.
 - (2) Hold the applicator vertically.
 - (3) Insert the applicator to the depth of the vertical ear canal. The applicator will naturally stop at the point where the vertical canal turns into the horizontal canal.

NOTE: Do not force the cotton-tipped applicator into the ear canal.
 - (4) Rotate the cotton-tipped applicator.

 - d. Remove the applicator.
 - e. Repeat the procedure with the oil-soaked applicator.

Performance Steps

f. Repeat steps 4a through 4e for the opposite ear, if directed by the veterinarian.

NOTE: If both ears are affected, or only one ear is affected, this should be determined by repeating the procedure for the opposite ear.

5. Transfer the samples obtained from each swab to a microscope slide.
 - a. Roll the oil-soaked applicator in the mineral oil on one of the slides.
 - b. Roll the dry applicator on the surface of one or more dry slides.
 - c. Break up or remove large chunks of exudate from the slide with the applicator.
 - d. Place a coverslip over the sample from the oil-soaked applicator.
6. Label the microscope slides with the following:
 - a. Dog's name.
 - b. Tattoo number.
 - c. The words "right ear" or "left ear".

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Directed the handler to position and restrain the dog.	_____	_____
2. Selected and prepared materials needed to perform an ear swab.	_____	_____
3. Visually inspected the ear canal.	_____	_____
4. Collected ear swabs.	_____	_____
5. Transferred the samples to the prepared microscope slides.	_____	_____
6. Labeled the microscope slides.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

COLLECT A URINE SAMPLE FROM A MILITARY WORKING DOG USING THE FREE CATCH METHOD

081-891-1401

Conditions: The veterinarian has directed you to collect a urine sample from a military working dog using the free catch method. The dog has been muzzled and the handler is available to walk the dog. Necessary materials and equipment include: a straightened wire coat hanger or small-diameter aluminum rod, exam gloves, sterile urine specimen cup, and the dog's health record.

Standards: Collected a clean urine sample from a military working dog using the free catch method.

Performance Steps

1. Prepare the equipment and supplies needed.
 - a. Sterile specimen cup. Remove the cup from the sterile outer wrapping but do not remove the lid until ready to use.
 - b. Specimen cup holder.
 - (1) If a specimen cup holder is not available, one must be made out of one of these materials:
 - (a) Wire coat hanger.
 - (b) Thin aluminum rod.
 - (2) Wire coat hanger.
 - (a) The coat hanger must be straightened.
 - (b) Bend a circle in one end of the metal to accommodate the specimen cup.
 - (3) Thin aluminum rod.
 - (a) The metal must be thin enough to bend.
 - (b) Bend a circle in one end of the aluminum to accommodate the specimen cup.
 - (4) Ensure that the specimen cup holder is at least 1 1/2 feet long.
 - c. Assemble the cup and holder by placing the specimen cup in the circle.
2. Explain the procedure to the dog handler so that it is understood what is to be accomplished.
3. Put on exam gloves.
4. Instruct the handler to walk the dog.
 - a. Remove the specimen cup lid.
 - b. Follow the dog closely with the collection apparatus. Be ready to place the specimen cup when the animal begins to urinate.
5. Collect a "midstream" urine sample. Allow the dog to start urinating, and then place the cup under the stream of urine.

6. Carefully remove the specimen cup from the holder and replace the lid when the dog is finished urinating.

NOTE: If the sample cannot be tested within 30 minutes, it must be refrigerated. Refrigerated samples should be kept no more than 6 hours (up to 12 hours in an emergency).

7. Label the urine specimen cup.
 - a. Dog's name.
 - b. Tattoo number.

Performance Steps

- c. Date and time urine was collected.
- d. The word, "URINE".

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Prepared the equipment and supplies needed.	—	—
2. Explained the procedure to the dog handler so that it is understood what is to be accomplished.	—	—
3. Put on exam gloves.	—	—
4. Instructed the handler to walk the dog.	—	—
5. Collected a "midstream" urine sample.	—	—
6. Removed the specimen cup from the holder and replaced the lid when the dog was finished urinating.	—	—
7. Labeled the urine specimen cup appropriately.	—	—
8. Refrigerated the sample if analysis could not be performed within 30 minutes of collection.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

RECONSTITUTE VETERINARY VACCINES

081-891-1409

Conditions: You have been directed to reconstitute a veterinary vaccine for administration. Necessary materials and equipment include: assorted needles and syringes, vaccine vial, and diluent vial.

Standards: Reconstituted the veterinary vaccine aseptically and in accordance with manufacturer's directions.

Performance Steps

1. Select and assemble a needle and syringe (see steps 1 and 2 of task 081-891-1017).

NOTE: You must not contaminate the stoppers of the vials, the needle, or the syringe tip.

Check the diluent and dry vaccine to ensure the correct vaccine has been selected and that it has not expired.

2. Draw up diluent.

- a. Remove the needle cap.
- b. While holding the syringe in your dominant hand, pull back on the plunger to break the seal and fill the syringe with approximately 1 cc of air.
- c. Hold the diluent vial vertically and upside down using the thumb and forefinger of your non-dominant hand.
- d. Hold the syringe with your dominant hand at the wings of the syringe barrel using your thumb and forefinger to stabilize the barrel. Use your third, fourth, and fifth fingers of that hand to manipulate the plunger of the syringe.
- e. Firmly rest the barrel of the syringe on the palm of the hand that is holding the diluent vial to stabilize your hands and minimize needle sticks.
- f. Insert the needle through the rubber stopper of the diluent vial.
- g. Inject the 1 cc of air into the vial.
- h. Keep the vial inverted with the needle still in the vial.
- i. Withdraw all diluent from the vial.
 - (1) Pull back on the plunger to aspirate the diluent.
 - (2) Partially withdraw the needle from the vial while pulling on the plunger so that the tip of the needle is near the inner surface of the stopper to ensure all diluent is drawn into syringe.
- j. Withdraw the needle completely from the vial once all diluent has been removed.

3. Inject the diluent into the vial containing the lyophilized (freeze-dried) vaccine.

- a. Hold the vaccine vial vertically and upside down using the thumb and forefinger of your non-dominant hand.
- b. Hold the syringe with your dominant hand at the wings of the syringe barrel using your thumb and forefinger to stabilize the barrel. Use your third, fourth, and fifth fingers of that hand to manipulate the plunger of the syringe.
- c. Firmly rest the barrel of the syringe on the palm of the hand that is holding the vaccine vial to stabilize your hands and minimize needle sticks.
- d. Insert the needle through the rubber stopper of the vaccine vial.
- e. Inject all the diluent into the vaccine vial.

NOTE: Do not remove the needle from the vaccine vial.

4. Agitate and mix the diluent with the dry vaccine.

- a. Hold the vial and syringe as one unit in one hand.

Performance Steps

- b. Rotate in a semicircular motion and gently rock the vial back and forth.
 - (1) Mix for 5 to 10 seconds.
 - (2) Ensure all powder dissolves in the diluent.

5. Place the reconstituted vaccine vial with the syringe and needle in place on the counter adjacent to the exam table with the needle still in the vial.

NOTE: Follow the vaccine manufacturer's directions regarding proper storage of reconstituted vaccine. Generally, vaccines should be reconstituted immediately before use, and should not be left unrefrigerated for more than one hour.

NOTE: Always follow proper handling procedures for needles.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Selected and assembled a needle and syringe as described in steps 1 and 2 of task 081-891-1017).	—	—
2. Drew up diluent.	—	—
3. Injected the diluent into the vial containing the dry vaccine.	—	—
4. Agitated and mixed the diluent with the dry vaccine.	—	—
5. Placed the reconstituted vaccine vial with the syringe and needle in place on the counter adjacent to the exam table.	—	—
6. Performed all steps without contaminating the vial stoppers or touching the needle.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ASSIST WITH APPLYING A BANDAGE TO THE HEAD, NECK, OR TRUNK OF A MILITARY WORKING DOG

081-891-1501

Conditions: You are required to assist in applying a bandage to the head, neck, or trunk of a military working dog. The dog has been muzzled and the dog handler is available to position and restrain the dog. Necessary materials and equipment include: adhesive tape of assorted sizes, roll gauze, gauze sponges, nonadherent dressings, roll cotton, adhesive elastic tape, tongue depressors, topical ointment or other medications if prescribed by the veterinarian, bandage scissors, other materials as directed.

Standards: Gathered required supplies and assisted the veterinarian or senior technician in applying a bandage to the head, neck, or trunk of a military working dog.

Performance Steps

1. Gather supplies.
 - a. Adhesive tape of assorted sizes.
 - b. Roll gauze.
 - c. Gauze sponges.
 - d. Nonadherent dressings.
 - e. Roll cotton.
 - f. Adhesive elastic tape.
 - g. Tongue depressors.
 - h. Topical ointment or other medications as prescribed by the veterinarian.
 - i. Elizabethan collar.
 - j. Bandage scissors.
 - k. Other supplies as directed.
2. Assist in applying a topical ointment or medication to the affected area as directed by the senior technician or veterinarian.
 - a. If necessary, clip the hair and clean the area to be bandaged as directed by the veterinarian or senior technician.
 - b. Ensure that the body part to be medicated is easily accessible.
 - c. Ensure that the dog handler properly and safely restrains the dog.
 - d. Ensure that the topical ointment or medication is the prescribed medication and is not expired.
3. Assist in applying an initial contact layer.
 - a. Cut the bandage materials when asked.
 - b. Help the handler position the dog, if needed, for easy access to the affected area.
 - c. Inform the senior technician or veterinarian if you notice pressure points or that the bandage is covering the wound improperly.
4. Assist in applying an intermediate bandage layer.
 - a. Cut the bandage materials when asked.
 - b. Help the handler position the dog, if needed, for easy access to the affected area.
 - c. Inform the senior technician or veterinarian if the bandage is not securing the initial contact layer.
5. Assist in applying the outer bandage layer.
 - a. Cut the bandage materials when asked.

Performance Steps

- b. Help the handler position the dog, if needed, for easy access to the affected area.
- c. Inform the senior technician or veterinarian of any pressure points or slippage of the bandage.

NOTE: During this procedure, communicate with the senior technician or veterinarian and the dog handler to ensure that the bandage is applied properly and does not cause trauma to the wound or to the dog and does not interfere with the dog's ability to breathe properly.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Gathered supplies.	_____	_____
2. Assisted in applying a topical ointment or medication to the affected area.	_____	_____
3. Assisted in applying an initial contact layer.	_____	_____
4. Assisted in applying an intermediate bandage layer.	_____	_____
5. Assisted in applying the outer bandage layer.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ASSIST WITH APPLYING A BANDAGE TO THE LEG OR PAW OF A MILITARY WORKING DOG

081-891-1502

Conditions: You are required to assist in applying a bandage to the leg or paw of a military working dog. The MWD has been muzzled and the dog handler is available to position and restrain the dog. Necessary materials and equipment include: adhesive tape of assorted sizes, roll gauze, gauze sponges, nonadherent dressings, roll cotton, adhesive elastic tape, tongue depressors, topical ointment or other medications if prescribed by the veterinarian, bandage scissors, other supplies as directed.

Standards: Gathered required supplies and assisted the veterinarian or senior technician in applying a bandage to the leg or paw of a military working dog.

Performance Steps

1. Gather supplies.
 - a. Adhesive tape of assorted sizes.
 - b. Roll gauze.
 - c. Gauze sponges.
 - d. Nonadherent dressings.
 - e. Roll cotton.
 - f. Adhesive elastic tape.
 - g. Tongue depressors.
 - h. Topical ointment or other medications as prescribed by the veterinarian.
 - i. Elizabethan collar.
 - j. Bandage scissors.
 - k. Other supplies as directed
2. Assist in applying a topical ointment or medication to the affected area as directed by the senior technician or veterinarian.
 - a. If necessary, clip the hair and clean the area to be bandaged as directed by the veterinarian or senior technician.
 - b. Ensure that the body part to be medicated is easily accessible.
 - c. Ensure that the handler properly and safely restrains the dog.
 - d. Ensure that the topical ointment or medication is the prescribed medication and is not expired.
3. Assist in applying an initial contact layer.
 - a. Cut the bandage materials when asked.
 - b. Help the handler position the dog, if needed, for easy access to the affected area.
 - c. Inform the senior technician or veterinarian if you notice pressure points or that the bandage is covering the wound improperly.
4. Assist in applying an intermediate bandage layer.
 - a. Cut the bandage materials when asked.
 - b. Help the handler position the dog, if needed, for easy access to the affected area.
 - c. Inform the senior technician or veterinarian if the bandage is not securing the initial contact layer.
5. Assist in applying the outer bandage layer.
 - a. Cut the bandage materials when asked.

Performance Steps

- b. Help the handler position the dog, if needed, for easy access to the affected area.
- c. Inform the senior technician or veterinarian of any pressure points or slippage of the bandage.

NOTE: During this procedure, communicate with the senior technician or veterinarian and the dog handler to ensure that the bandage is applied properly and does not cause trauma to the wound or to the dog.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Gathered supplies.	_____	_____
2. Assisted in applying a topical ointment or medication to the affected area.	_____	_____
3. Assisted in applying an initial contact layer.	_____	_____
4. Assisted in applying an intermediate bandage layer.	_____	_____
5. Assisted in applying the outer bandage layer.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

Subject Area 3: Laboratory

PERFORM A WHITE BLOOD CELL DIFFERENTIAL ON THE BLOOD OF A MILITARY WORKING DOG**081-891-1039**

Conditions: The veterinarian has instructed you to perform a WBC differential count on the blood of a military working dog. A fresh venous blood sample has been collected in a heparinized or EDTA tube and a blood smear has been made. Necessary materials and equipment include: Diff-Quik kit (with fixative solution, solution I, and solution II), distilled water, glass microscope slides, pencil, 95% alcohol, paper towels, microscope, immersion oil, differential cell counter, SF 549, and the dog's health record.

Standards: Performed a WBC differential count on the blood of a military working dog and recorded the results on SF 549.

Performance Steps

1. Stain the blood slide (see task 081-891-1070).
2. Place the slide on the microscope stage.
3. Find the feathered edge of the blood smear using the 10X objective.
4. Scan the slide to visualize the blood cells. Use the course and fine focus adjustments. (See Figure 3-2 for the scanning pattern).

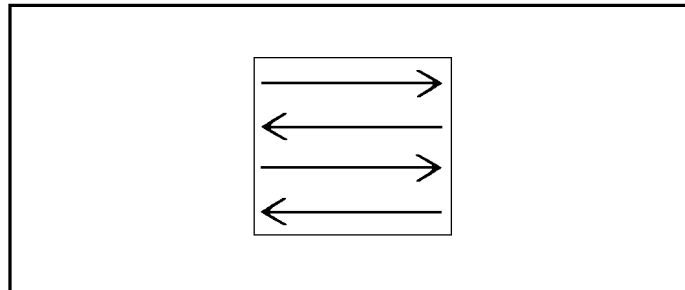


Figure 3-2

5. Examine the blood cells.
 - a. Ensure the cells are not clumped.
 - b. Ensure the cells are colored uniformly.
 - c. Ensure the cells are thinly spread.
 - d. Repeat steps 1 through 5c if the cells are clumped, poorly colored, or not thinly spread.
6. Identify 100 consecutive WBCs.
 - a. Use oil immersion for viewing the WBCs.
 - b. Repeat step 4.

Performance Steps

- c. Identify each WBC as one of the following (see Figure 3-3):
- (1) Lymphocyte.
 - (2) Monocyte.
 - (3) Banded neutrophil.
 - (4) Segmented neutrophil.
 - (5) Eosinophil.
 - (6) Basophil.

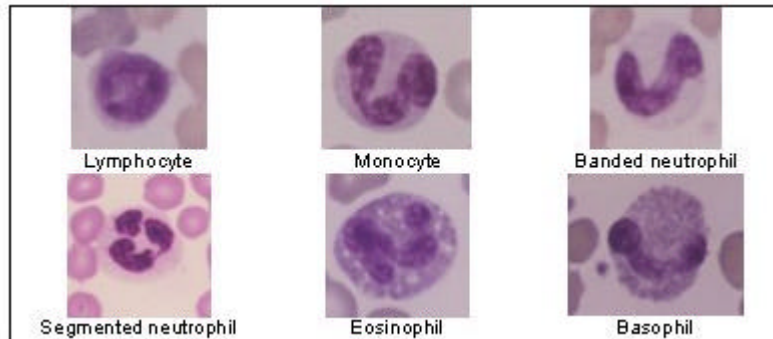


Figure 3-3

- d. Depress the corresponding key on the differential cell counter.

NOTE: The cell counter will ring when it reaches 100 cells counted. The number indicated in each corresponding window is the percentage of cells present in the specimen (e.g., 65 segmented neutrophils is 65%).

7. Complete SF 549.

- a. "Patient identification" box.
 - (1) Place the animal's name, tattoo #, and species at the top.
 - (2) The originating facility where the test is being performed goes on the second line.
 - (3) Point of contact name and phone number is placed on the third line.
- b. Check the "routine", "outpatient", and "vein" boxes.
- c. "Reported by" box.
 - (1) Technician's name.
 - (2) Circle the word "tech".
- d. "Date" box. Fill in the date the differential is done.
- e. "Requesting Physician's Signature" box. Have the veterinarian sign the form.
- f. "Tests" box.
 - (1) In the "Date" and "Time" blocks under "Specimen Taken", fill in the date and time the specimen was taken.
 - (2) In the "WBC Diff and Blood Cell Morph" section, annotate the percentages determined in step 6d.

NOTE: Leave all other blocks empty.

8. File the SF 549 in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Stained the blood slide.	_____	_____
2. Placed the slide on the microscope stage.	_____	_____
3. Found the feathered edge of the blood smear using the 10X objective.	_____	_____
4. Scanned the slide to visualize the blood cells.	_____	_____
5. Examined the blood cells.	_____	_____
6. Identified 100 consecutive WBCs.	_____	_____
7. Completed SF 549.	_____	_____
8. Filed the SF 549 in the dog's health record.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM A PACKED CELL VOLUME DETERMINATION ON THE BLOOD OF A MILITARY WORKING DOG

081-891-1048

Conditions: The veterinarian has instructed you to determine the packed cell volume on the blood of a military working dog. Necessary materials and equipment include: a freshly collected blood sample in a purple top tube, capillary tubes, sealing putty, microhematocrit centrifuge with manufacturer's instructions, microhematocrit reader with manufacturer's instructions, SF 549, and the dog's health record.

Standards: Performed a packed cell volume (PCV) determination on the blood of a military working dog and recorded the results on SF 549.

Performance Steps

1. Inspect the blood specimen.
 - a. Ensure that the sample was collected in an EDTA (lavender or purple top) blood collection tube.
 - b. Ensure that the tube is filled for proper dilution of the blood. A partially filled collection tube causes an EDTA excess which may result in a low PCV reading.
 - c. Ensure the specimen has not clotted by inverting the tube 1 or 2 times and observing for the presence of a clot.
2. Prepare the blood specimen.
 - a. Invert the tube 4 or 5 times to mix the blood with the anticoagulant.
 - b. Remove the rubber stopper.
 - c. Fill two capillary tubes, by capillary action, to at least 3/4 full.
 - d. Seal the full end by plunging the tube into sealing putty one or more times.
3. Centrifuge the capillary tubes in a microhematocrit centrifuge.
 - a. Follow manufacturer's instructions for operation.
 - b. Place the capillary tubes in the centrifuge heads opposite each other with the sealed ends of the capillary tubes facing outward and in contact with the rubber gasket. Failure to have the plugged end facing out will result in loss of sample.
 - c. Centrifuge the tubes for 5 minutes at 10,000 rpm (high speed).
4. Determine the packed cell volume using a microhematocrit reader.
 - a. Place the tube in the groove of the plastic arm, aligning the boundary between the red blood cells and the sealing putty with the black horizontal line.
 - b. Match the red vertical line on the plastic arm with the numeral 100 on the outer circle.
 - c. Rotate the inner circle while holding the outer circle stationary until the black spiral indicator line matches the plasma/air boundary within the tube.
 - d. Rotate both the inner and outer circles of the reader clockwise, simultaneously, until the black spiral indicator line matches the RBC/plasma boundary line, excluding the buffy coat (the white layer).
 - e. Read the number appearing below the red vertical indicator line.
5. Record the results as a percentage on SF 549 in the HCT block (e.g., 37%).

NOTE: The normal PCV is 37 to 55 percent. A military working dog will normally be on the higher end of this range.

Performance Steps

- 6. Examine the color of the plasma layer in the microhematocrit tube.
 - a. Yellow plasma indicates icterus.
 - b. Cloudy plasma indicates lipemia.
 - c. Red-tinged plasma indicates hemolysis.
 - d. Clear plasma indicates normal.
 - e. Record the color on the SF 549 in the remarks block (e.g., color=yellow).
- 7. File the lab slip in the dog's health record.
- 8. Report the results to the veterinarian.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Inspected the blood specimen.	_____	_____
2. Prepared the blood specimen.	_____	_____
3. Centrifuged the capillary tubes in a microhematocrit centrifuge.	_____	_____
4. Determined the packed cell volume (PCV) using a microhematocrit reader.	_____	_____
5. Recorded the results as a percentage on SF 549 in the HCT block.	_____	_____
6. Examined the color of the plasma layer in the microhematocrit tube.	_____	_____
7. Filed the lab slip in the dog's health record.	_____	_____
8. Reported the results to the veterinarian.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

CULTURE SPECIMENS FROM ANIMALS FOR FUNGAL GROWTH
081-891-1050

Conditions: The veterinarian has directed you to collect and culture samples for fungal growth from a military working dog with several localized and diffuse skin and hair lesions typical of fungal infections. The dog has been muzzled and the dog handler is available to position and restrain the dog. Necessary materials and equipment include: commercial dermatophyte test media (DTM), sterile hemostats or thumb forceps, sterile cotton balls or swabs, sterile toothbrush, 70% isopropyl alcohol, SF 553, and the dog's health record.

Standards: Collected and cultured specimens for fungal growth.

Performance Steps

1. Direct the dog handler to position and restrain the dog so that the lesions to be cultured are accessible.
2. Select two lesions for culture.
 - a. Localized.
 - (1) Distinct, identifiable border.
 - (2) Circular in shape.
 - (3) Thickened skin.
 - (4) Hair loss.
 - (5) Scaly skin.
 - b. Diffuse.
 - (1) Vague border.
 - (2) Irregular shape.
 - (3) Hair loss.
 - (4) Scaly skin.
3. Remove contaminating skin bacteria.
 - a. Use a damp cotton ball as the applicator.
 - b. Gently wipe each lesion with 70% isopropyl alcohol.
 - c. Allow the lesion to dry prior to collecting the sample.
4. Collect samples for culture.
 - a. Localized lesion.
 - (1) Use sterile hemostats or thumb forceps.
 - (2) Pluck several hairs from the edge of the lesion. Select--
 - (a) Broken hair.
 - (b) Frayed hair.
 - (c) Distorted hair.

NOTE: Do NOT cut hairs for sampling.

- (3) Collect skin scales.
 - (a) Gently scrape the skin with the instrument used to pluck the hairs.
 - (b) Proceed to step 5.
- b. Diffuse lesion.
 - (1) Collect the sample with a sterile toothbrush or swab.
 - (2) Gently rub the surface of the lesion to collect hair and skin scales.

Performance Steps

5. Inoculate the culture.

a. Remove the cap of the DTM.

NOTE: Use a commercial dermatophyte test medium (DTM). Not all commercially prepared DTMs will support the growth of all dermatophytes. Read the manufacturer's label.

b. Press collected hair and scale material gently onto the surface of the media but do not bury the sample into the media.

c. Recap the media bottle and leave the cap loose.

d. Label the media bottle with the following:

(1) Dog's name.

(2) Tattoo number.

(3) Date.

6. Release the dog to the handler with the following instructions:

a. Results will appear in 2 to 30 days. Some fungi grow very slowly.

b. The veterinarian will notify the Kennel Master of results.

c. The infection may be zoonotic. It is imperative to wash hands well after working with the dog.

d. Keep the dog isolated from other dogs as the infection may be contagious.

e. Sanitize the dog's housing area, collar, brushes, etc. with chlorhexidine solution.

f. The veterinarian will address the possible need for changes in sanitizing procedures for kennel, collars, brushes, etc.

g. The veterinarian will address the dog's suitability for duty with the Kennel Master.

7. Incubate the culture bottle using the following guidelines:

a. Keep at room temperature.

b. Keep out of direct sunlight.

c. Do not keep in the dark.

8. Observe the culture daily. Watch for the following signs:

a. Visible growth on the surface of the media.

b. Color change of the media.

(1) Red color is positive.

(2) The color change may occur quickly (48 hours) or be delayed for as long as 4 weeks depending on how rapidly the dermatophyte grows.

NOTE: To minimize false positives, it is imperative to understand that the color change precedes or appears along with the visible colony growth of dermatophytes. In contrast, contaminants may cause a color change only after well-established colonies are visible.

(3) The color intensifies daily.

(4) The entire media will become red in 7-14 days after the color change begins.

9. Report the results to the veterinarian daily.

10. Complete SF 553.

a. Place an X in the "Culture" box.

b. In the "Report" block, enter "DTM" and the word "positive" or "negative" as appropriate.

c. File in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Directed the dog handler to position and restrain the dog so that the lesions to be cultured are accessible.	—	—
2. Selected two lesions for culture.	—	—
3. Removed contaminating skin bacteria.	—	—
4. Collected samples for culture.	—	—
5. Inoculated the culture.	—	—
6. Released the dog to the handler with instructions.	—	—
7. Incubated the culture bottle using the guidelines.	—	—
8. Observed the culture daily. Watched the culture for specified signs.	—	—
9. Reported the results to the veterinarian.	—	—
10. Completed SF 553.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

**PERFORM A FECAL EXAMINATION USING THE DIRECT SMEAR METHOD ON A
SPECIMEN FROM A MILITARY WORKING DOG**

081-891-1051

Conditions: A fecal specimen has been collected. Necessary materials and equipment include: microscope, microscope slides, applicator sticks, coverslips, normal saline, Lugol's iodine or new methylene blue stain (if desired), SF 552, and the dog's health record.

Standards: Performed a direct smear fecal exam, including a macroscopic exam, and annotated the results on an SF 552.

Performance Steps

1. Perform a macroscopic fecal exam.
 - a. Determine the freshness of the sample.
 - (1) Dry and crusty.
 - (a) A dry and crusty sample is probably old.
 - (b) Direct the dog handler to collect another sample, if possible.
 - (2) Moist. The sample is probably fresh and usable.
 - b. Determine the consistency of the sample.
 - (1) Soft. A soft sample is considered normal.
 - (2) Watery. A watery sample could signify diarrhea.
 - (3) Hard. A hard sample could signify constipation.
 - (4) Record the results on SF 552.
 - (a) Check the "Consistency" box.
 - (b) In the "Results" column next to the consistency box, fill in the consistency of the sample.
 - c. Record the color of the feces on SF 552.
 - (1) Check the "Color" box.
 - (2) In the "Results" column next to the color box, fill in the color of the sample.
 - d. Examine the feces for gross blood. The blood will be visible on the surface of the sample.
 - (1) Red blood.
 - (2) Dark brown to black or tar-like blood.
 - (3) If present, record the results on SF 552.
 - (a) Check the "Gross Blood" box.
 - (b) In the "Results" column next to the gross blood box, fill in the color of the gross blood, if present.
 - (4) Write "Neg." or "Negative" if no blood is present.
 - e. Examine the surface of the feces for mucus.
 - (1) Mucus does not have the same consistency as the feces or gross blood. It may appear "slimy".
 - (2) If present, record the results on SF 552.
 - (a) Check the "Mucus" box.
 - (b) In the "Results" column next to the mucus box, fill in the word "yes".
 - (3) Write "Neg." or "Negative" if no mucus is present.
 - f. Observe the feces for the presence of tapeworm segments. Tapeworm segments look like pieces of rice.
 - (1) If present, record the results on SF 552.

Performance Steps

- (2) Check the "Ova/Parasites" box and write the word "tapeworms" in the space below the box.
2. Prepare the direct smear.
 - a. Place a drop of normal saline in the middle of a slide.
 - b. Place an equal amount of feces next to the drop of saline.
 - c. Mix the feces and normal saline thoroughly with an applicator stick to form a homogenous emulsion.
 - d. If desired, add a drop of Lugol's iodine or new methylene blue stain to the sample. Stain aids in the visualization of small, delicate protozoal structures.
 - e. Spread the emulsion on a microscope slide.
 - f. Using the applicator stick, remove large chunks of material that do not emulsify. Newsprint should be readable through the smear. If not, the smear is too thick and should be repeated.
 - g. Place a coverslip over the smear.
3. Scan the direct smear.
 - a. Place the prepared microscope slide on the microscope.
 - b. Scan the smear for the presence of parasite eggs using the low power (10X) objective. (Refer to Figure 3-4.)

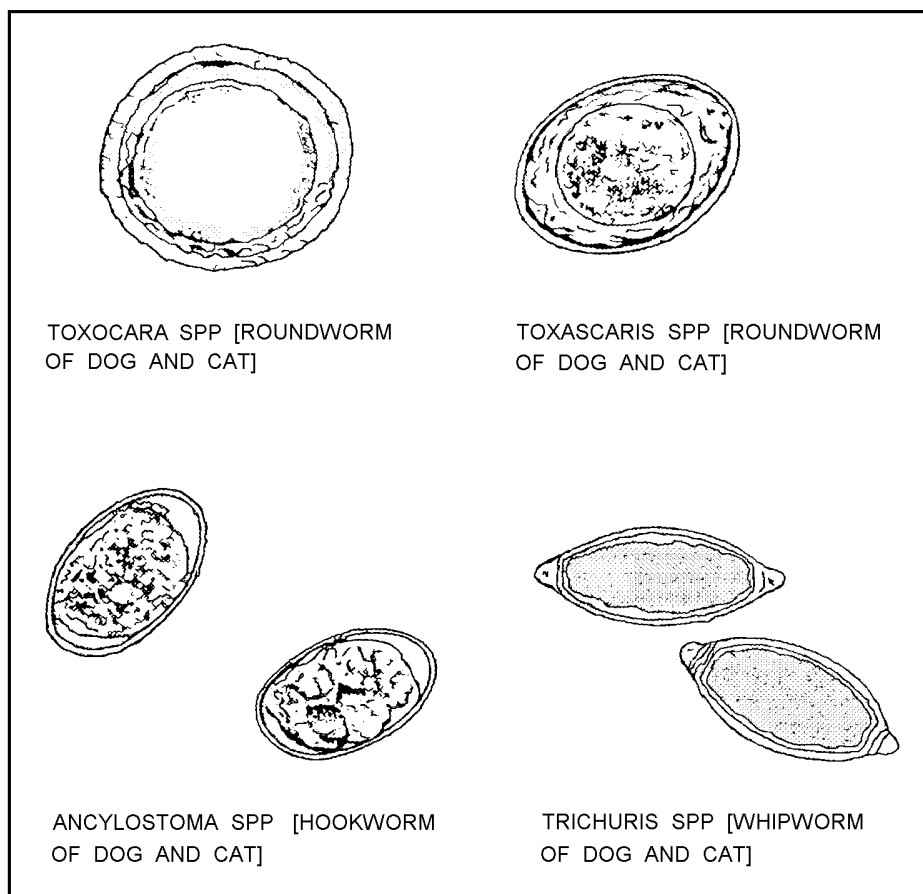


Figure 3-4

Performance Steps

- 4. Identify any parasite eggs found by using the high/dry power objective.
 - a. Record the results on SF 552.
 - (1) Check the "Ova/Parasites" box.
 - (2) In the blank space in the box, write the name of the eggs found in the sample.
 - (3) If no ova are found, write "Neg." or "Negative" in the box.
- 5. Ensure that SF 552 is completely filled out.
 - a. "Patient identification" box.
 - (1) Place the animal's name, tattoo #, and species at the top.
 - (2) The originating facility where the test is being performed goes on the second line.
 - (3) Point of contact name and phone number is placed on the third line.
 - b. Check the "routine", "outpatient", and "feces" boxes.
 - c. "Reported by" box.
 - (1) Technician's name.
 - (2) Circle the word "tech".
 - d. "Date" box. Fill in the date the test is run.
 - e. "Requesting Physicians Signature" box. Have the veterinarian sign the form.
- 6. File the completed SF 552 in the dog's health record.
- 7. Dispose of the waste in accordance with local SOP.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed a macroscopic fecal exam.	_____	_____
2. Prepared the direct smear.	_____	_____
3. Scanned the direct smear.	_____	_____
4. Identified any parasite eggs found by using the high/dry power objective.	_____	_____
5. Ensured that SF 552 was completely filled out.	_____	_____
6. Filed the completed form in the dog's health record.	_____	_____
7. Disposed of the waste in accordance with local SOP.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM A FECAL EXAMINATION USING THE FLOATATION METHOD ON A SPECIMEN FROM A MILITARY WORKING DOG

081-891-1052

Conditions: A fecal specimen has been collected. You have been directed to conduct a macroscopic examination and examine a flotation preparation for endoparasites. Necessary materials and equipment include: microscope, microscope slides, paper towels, microscope coverslips, fecal flotation solution, commercial fecal flotation kit, SF 552, timer, and the dog's health record.

Standards: Performed a macroscopic and microscopic fecal examine using the flotation method, identified endoparasites present, and recorded results on SF 552.

Performance Steps

1. Gather required supplies.
 - a. Commercial fecal flotation kit (e.g., Fecalizer®).
 - b. Sodium nitrate or zinc sulfate flotation solution.
 - c. Microscope slides.
 - d. Microscope coverslips.
 - e. SF 552.
2. Perform a macroscopic fecal exam.
 - a. Determine the freshness of the sample.
 - (1) Dry and crusty.
 - (a) A dry and crusty sample is probably old.
 - (b) Direct the dog handler to collect another sample, if possible.
 - (2) Moist. The sample is probably fresh and usable.
 - b. Determine the consistency of the sample.
 - (1) Soft. A soft sample is considered normal.
 - (2) Watery. A watery sample could signify diarrhea.
 - (3) Hard. A hard sample could signify constipation.
 - (4) Record the results on SF 552.
 - (a) Check the "Consistency" box.
 - (b) In the "Results" column next to the consistency box, fill in the consistency of the sample.
 - c. Record the color of the feces on SF 552.
 - (1) Check the "Color" box.
 - (2) In the "Results" column next to the color box, fill in the color of the sample.
 - d. Examine the feces for gross blood. The blood will be visible on the surface of the sample.
 - (1) Red blood.
 - (2) Dark brown to black or tar-like blood.
 - (3) If present, record the results on SF 552.
 - (a) Check the "Gross Blood" box.
 - (b) In the "Results" column next to the gross blood box, fill in the color of the gross blood, if present.
 - (4) Write "Neg." or "Negative" if no blood is present.
 - e. Examine the surface of the feces for mucus.
 - (1) Mucus does not have the same consistency as the feces or gross blood. It may appear "slimy".

Performance Steps

- (2) If present, record the results on SF 552.
 - (a) Check the "Mucus" box.
 - (b) In the "Results" column next to the mucus box, fill in the word "yes".
 - (3) Write "Neg." or "Negative" if no mucus is present.
 - f. Observe the feces and anal area of the dog for the presence of tapeworms. Tapeworms look like pieces of rice.
 - (1) If present, record the results on SF 552.
 - (2) Check the "Ova/Parasites" box and write the word "tapeworms" in the space below the box.
3. Prepare the feces for microscopic examination.
 - a. Disassemble the commercial fecal flotation kit.
 - (1) Grasp the outer barrel of the container with the thumb and first finger of your nondominant hand.
 - (2) Lift the hinged lid to the open position (if not already open) with your dominant hand.
 - (3) Grasp the inner cylinder with the thumb and first finger of your dominant hand and remove it.
 - (a) The large end is the top end.
 - (b) The small end is the sample end.
 - b. Load the kit barrel with the feces sample.
 - (1) Press the small end of the inner cylinder into the feces specimen.
 - (2) Return the inner cylinder into the outer barrel. Do not "snap" the cylinder into place.
 - c. Add fecal flotation solution by filling the barrel to the arrow on the side of the outer barrel (approximately 3/4 full).
 - d. Mix the feces with the flotation solution.
 - (1) Grasp the barrel of the barrel with the thumb and first finger of your nondominant hand.
 - (2) Grasp the inner cylinder with the thumb and first finger of your dominant hand.
 - (3) Twist the inner cylinder back and forth to mix the feces with the solution
 - e. Lock the inner cylinder in place.
 - (1) Fold a paper towel and place it over the inner cylinder.
 - (2) With the paper towel in place, press down on the inner cylinder until it "snaps" in place.
 - f. Fill the remainder of the barrel with fecal flotation solution until a liquid meniscus forms on the top of the inner cylinder.
 - g. Place a microscope coverslip on the meniscus. Ensure the liquid is in contact with the coverslip.
 - h. Set the timer for 15 to 20 minutes.
 4. Prepare a slide for microscopic evaluation.
 - a. Remove the coverslip from the solution by lifting straight up.
 - b. Place the coverslip on a microscope slide liquid-side down, trapping the liquid between the coverslip and the slide.
 5. Scan the prepared slide.
 - a. Place the prepared microscope slide on the microscope stage.

Performance Steps

- b. Scan the slide for the presence of parasite ova using the low power (10X) objective.
(Refer to Figure 3-5.)

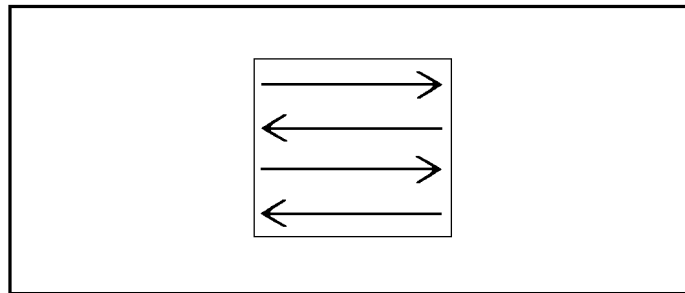


Figure 3-5

- (1) Start in one corner of the slide.
 - (2) Using the stage adjustment knobs, scan the slide from one side to the other.
6. Identify any parasite ova found by using the 10X objective. (Refer to Figure 3-6.)

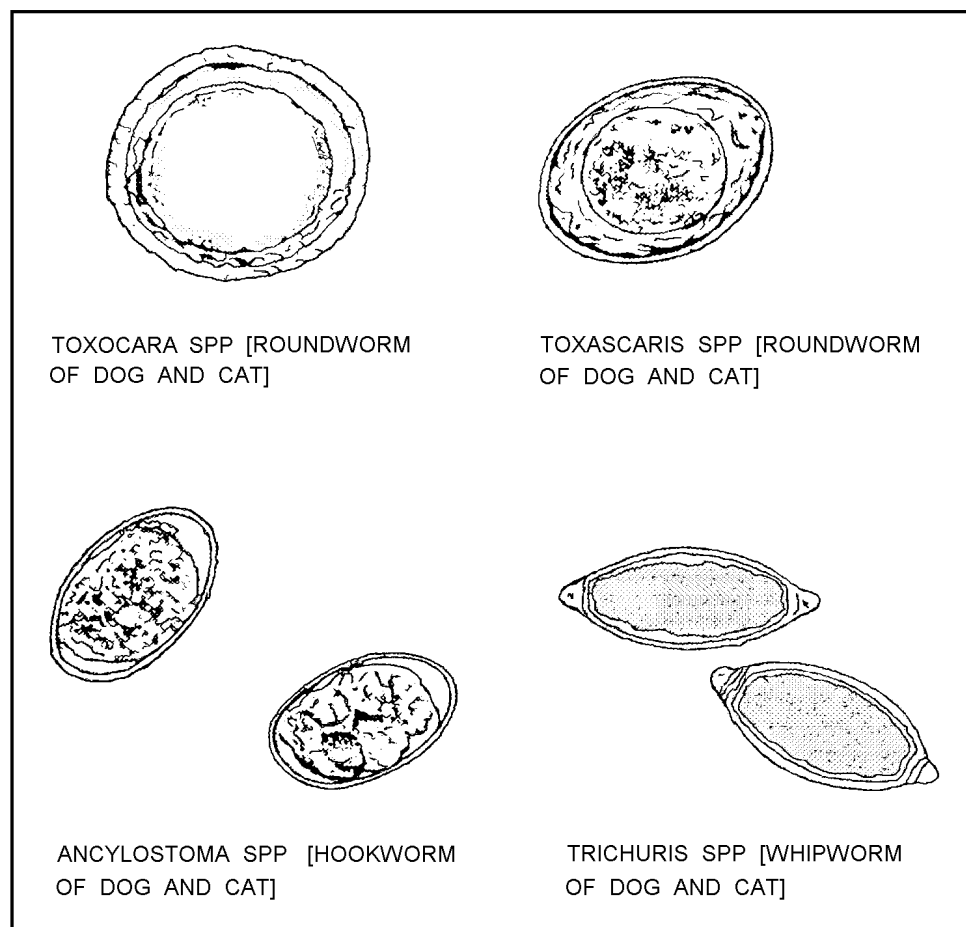


Figure 3-6

Performance Steps

- a. Record the results on SF 552.
 - b. Check the "Ova/Parasites" box.
 - c. In the blank space in the box, write the name of the ova found in the sample.
 - d. If no ova are found, write "Negative" or "Neg." in the box.
7. Ensure that SF 552 is completely filled out.
- a. "Patient identification" box.
 - (1) Place the animal's name, tattoo #, and species at the top.
 - (2) The originating facility where the test is performed goes on the second line.
 - (3) Point of contact name and phone number is placed on the third line.
 - b. Check the "routine", "outpatient" and "feces" boxes.
 - c. "Reported by" box.
 - (1) Technician's name.
 - (2) Circle the word "tech".
 - d. "Date" box. Fill in the date the test is run.
 - e. "Requesting Physician's Signature" box. Have the veterinarian sign the form.
8. File the completed SF 552 in the dog's health record.
9. Dispose of the waste in accordance with local SOP.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Gathered required supplies.	_____	_____
2. Performed a macroscopic fecal exam.	_____	_____
3. Prepared the feces for microscopic examination.	_____	_____
4. Prepared a slide for microscopic evaluation.	_____	_____
5. Scanned the prepared slide.	_____	_____
6. Identified any parasite ova found by using the high/dry power objective.	_____	_____
7. Ensured that SF 552 is completely filled out.	_____	_____
8. Filed the completed SF 552 in the dog's health record.	_____	_____
9. Disposed of the waste in accordance with local SOP.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM A WHITE BLOOD CELL COUNT ON WHOLE BLOOD OF A MILITARY WORKING DOG

081-891-1064

Conditions: You have received a properly collected blood sample with EDTA as the anticoagulant. The veterinarian has ordered a total white blood cell count. Necessary materials and equipment include: Unopette® for WBC determination (1:20 or 1:100 dilution), Neubauer hemacytometer with dedicated coverslip, Kimwipes® or lens paper, wooden applicator sticks, lens cleaner, distilled water, microscope with 10X objective, a timepiece, SF 549, and the dog's health record.

Standards: Obtained an accurate and consistent white blood count without contaminating the sample.

Performance Steps

1. Inspect the specimen.
 - a. Ensure that the sample is not more than 12 hours old.
 - b. Ensure that the sample is not clotted.
 - (1) Remove the cap of the blood tube.
 - (2) Insert a wooden applicator stick into the blood tube and check for clots.
 - (3) Mix the blood by replacing the cap of the blood tube and inverting the tube gently.
 - (4) Request a new sample if it is clotted.
 2. Prepare the WBC Unopette® IAW manufacturer's instructions.
 - a. Ensure that you have a Unopette® reservoir and a Unopette® pipette with protective shield (spike).
 - b. Place the reservoir on a flat surface and hold with one hand.
 - c. Pick up the pipette assembly in the other hand.
 - d. Spike or pierce the top diaphragm of the Unopette® reservoir with the shield.
 - e. Remove the pipette assembly by twisting the shield.
 - f. Expose the capillary pipette.
 3. Add the sample to the reservoir IAW manufacturer's instructions.
 - a. Mix the blood sample by inverting the blood collection tube several times.
 - b. Remove the cap from the blood tube and fill the capillary tube completely.
 - (1) Hold the pipette tip almost horizontally with one hand.
 - (2) Hold the blood tube almost horizontally with the other hand so that the blood almost touches the outer lip of the blood tube.
 - (3) Touch the tip of the pipette to the blood and the pipette will fill by capillary action.
 - (4) Filling is complete when the blood reaches the neck of the capillary tube and stops filling automatically.
 - c. Wipe off excess blood on the outside of the capillary tube with a Kimwipe®.
- NOTE:** Ensure that no part of the sample is removed from the inside of the capillary tube bore by the Kimwipe®.
- d. Place blood from the capillary tube into the reservoir.
 - (1) Squeeze the reservoir slightly to force out some air without expelling any liquid. Maintain pressure on the reservoir by keeping the reservoir squeezed.
 - (2) Seat the pipette securely in the reservoir while covering the opening of the overflow chamber of the pipette with your index finger.

Performance Steps

NOTE: Covering the opening of the pipette overflow chamber is recommended to prevent any spillage of the blood from inside the pipette bore.

- (3) Release pressure of the reservoir.
- (4) Remove the finger from the pipette overflow chamber opening.
- (5) Squeeze the reservoir gently two or three times to rinse the capillary bore from the inside.

NOTE: Ensure that you do not spill the sample. Release pressure each time to allow the diluent to return to the reservoir.

- (6) Place an index finger over the overflow opening and gently invert the reservoir several times to thoroughly mix the blood with the diluent.
- e. Let the sample stand for 10 minutes.

NOTE: The WBC count must be performed within 3 hours.

4. Prepare and clean the hemacytometer and cover glass.
 - a. Clean with distilled water or optical lens cleaner and lens paper.
 - b. Handle the cover glass carefully by grasping the outer edges.

NOTE: Handle the coverslip by the edges only. Do not handle the flat surface which will come in contact with the sample.

5. Charge the hemacytometer.
 - a. Mix the blood sample in the reservoir by placing an index finger over the overflow opening and gently inverting the reservoir several times.
 - b. Convert the pipette assembly into a dropper assembly by withdrawing the pipette from the reservoir and reseating the pipette securely in the reservoir in the reverse position.
 - c. Clean the capillary bore by inverting the reservoir, squeezing the sides, and expelling 3 or 4 drops.
 - d. Place the tip of the pipette near the edge of the coverglass. Maintain a firm squeeze on the reservoir to prevent the solution from going back up the pipette bore.
 - e. Place the tip of the pipette near the edge of the coverglass.
 - f. Charge the hemacytometer by gently squeezing the sides of the reservoir to expel the contents between the chamber and the coverglass.
 - g. Squeeze the reservoir until the chamber is properly filled and the dilution is distributed between the coverglass and counting chamber in one continuous flow.

NOTE: Ensure that the chamber is full but not overflowing.

6. Allow the hemacytometer to settle for 3 minutes before counting WBCs.

7. Place the hemacytometer on a microscope.

8. Count the cells using the 10X objective.
 - a. Count all the cells in the nine primary squares in one chamber.

NOTE: The hemacytometer is split into two chambers and each chamber has nine primary squares.

- (1) Look at each square individually.
- (2) Count the cells using an "S" pattern.
- (3) Count the cells touching the top and left hand borders of the square.

NOTE: Do not count the cells that are on the bottom or right hand borders. This avoids duplication.

- b. Repeat step 8a for the second chamber.

9. Calculate the white blood cell count.
 - a. Add together the total number of WBCs counted in both chambers.

Performance Steps

- b. Divide the result of step 9a by two to obtain an average.
 - c. Multiply the average by 10% (0.1) and add the result to the results of step 9b.
 - d. Multiply the results of step 9c by 100.
 - e. Record the results of step 9d as WBC/mm³.
10. Fill out and record the results on SF 549.
 - a. Record the results in the WBC column.
 - b. File the SF 549 in the dog's health record.
 11. Inform the veterinarian of the results.
 12. Record the results in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Inspected the specimen.	_____	_____
2. Prepared the WBC Unopette® IAW manufacturer's instructions.	_____	_____
3. Added the sample to the reservoir IAW manufacturer's instructions.	_____	_____
4. Prepared and cleaned the hemacytometer and cover glass.	_____	_____
5. Charged the hemacytometer.	_____	_____
6. Allowed the hemacytometer to settle for 3 minutes before counting WBCs.	_____	_____
7. Placed the hemacytometer on a microscope.	_____	_____
8. Counted the cells using the 10X objective.	_____	_____
9. Calculated the white blood cell count.	_____	_____
10. Filled out and recorded the results on SF 549.	_____	_____
11. Informed the veterinarian of the results.	_____	_____
12. Recorded the results in the dog's health record.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM A MICROPORE FILTER TEST FOR MICROFILARIA ON THE BLOOD OF A MILITARY WORKING DOG

081-891-1065

Conditions: The veterinarian has directed you to perform a micropore filter test on a blood sample from a military working dog for the presence of microfilaria. A venous blood sample has been obtained and is in an EDTA (purple top) tube. Necessary materials and equipment include: syringe, SF 552, filter holder, micropore filter, lysing solution, water, new methylene blue stain, microscope slides, coverslips, microscope, rat-toothed tissue forceps, and the dog's health record.

Standards: Performed a micropore filter test for microfilaria and recorded the results on SF 552.

Performance Steps

1. Prepare the filter.
 - a. Open the filter holder by grasping the bottom with one hand and unscrewing the top.
 - b. Place a new, disposable, porous, micropore filter on the screen of the filter holder.
 - c. Place the top on the filter holder and hand tighten it.
2. Mix the blood sample with the lysing solution.
 - a. Rock the EDTA tube containing the blood sample back and forth to mix the blood and the anticoagulant.
 - b. Draw 1 ml of blood from the sample using a 3 ml syringe and needle.
 - c. Draw 9 ml of lysing solution into a separate 10 or 12 ml syringe.
 - d. Inject the blood from step 2b into the lysing solution drawn up in step 2c through the port on the end of the syringe.
 - e. Invert the mixture several times to mix the blood and lysing solution.
3. Filter the mixture.
 - a. Secure the filter holder to the syringe tip in the same manner that a needle is secured to a syringe.
 - b. Force the mixture of blood and lysing solution through the filter by depressing the plunger.
 - c. Dispose of the waste materials from the mixture IAW local SOP.
4. Rinse the filter.
 - a. Separate the filter holder from the syringe
 - b. Draw 10 ml of water into the syringe.
 - c. Secure the filter holder to the syringe tip.
 - d. Force the water through the filter by depressing the plunger of the syringe.
5. Prepare the filter for microscopic examination.
 - a. Remove the filter holder from the syringe.
 - b. Open the filter holder.
 - c. Transfer the filter to a microscope slide by using small rat-toothed tissue forceps.
 - d. Ensure that the side of the filter that was "up" on the screen of the filter holder is also "up" on the microscope slide.
 - e. Stain the filter with 2 drops of new methylene blue stain, or stain provided by the manufacturer.
 - f. Place a coverslip over the filter.

Performance Steps

6. Scan the slide under a microscope using the 10X objective. Confirm the presence of microfilaria using the 45X objective.
7. Notify the veterinarian of the results.
8. Record the results on an SF 552.
 - a. Place a check in the "Other" box.
 - b. Underneath the check, write the word "Microfilaria".
 - c. In the big box below the "Other" box, write "Filter Test" and the results of the test.
9. Place the completed laboratory request form in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Prepared the filter.	_____	_____
2. Mixed the blood sample with the lysing solution.	_____	_____
3. Filtered the mixture.	_____	_____
4. Rinsed the filter.	_____	_____
5. Prepared the filter for microscopic examination.	_____	_____
6. Scanned the slide under a microscope using the 10X objective. Confirmed the presence of microfilaria using the 45X objective.	_____	_____
7. Notified the veterinarian of the results.	_____	_____
8. Recorded the results on SF 552.	_____	_____
9. Placed the completed laboratory request form in the dog's health record.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

**SUBMIT A SPECIMEN FOR BLOOD CHEMISTRY OR SEROLOGICAL EVALUATION OF A
MILITARY WORKING DOG****081-891-1066**

Conditions: The veterinarian has instructed you to submit a sample for chemical or serological evaluation. The dog has been muzzled and the handler is available to position and restrain the dog. Necessary materials and equipment include: blood collection tubes, Vacutainer® hubs, Vacutainer® needles, various sizes of needles and syringes, gauze sponges, 70% isopropyl alcohol, centrifuge with manufacturer's instructions, applicator sticks, capillary pipettes, paperwork required by the laboratory, sterile polypropylene screw cap tubes or new red top Vacutainer® tubes, labels for the tubes, shipping containers, shipping labels, plastic bags, ice or gel ice, packing material, tape, and the dog's health record.

Standards: Submitted an uncontaminated specimen for chemical or serological evaluation to a laboratory by the most expedient means.

Performance Steps

1. Determine sample requirements.
 - a. Check the manual provided by the lab or call the lab.
 - b. Does the lab require serum or plasma?
 - c. How much serum or plasma is required?
 - d. Does the sample require an anticoagulant?
 - (1) What type?
 - (2) How much?
2. Collect a venous blood specimen (see task 081-891-1023).
 - a. The volume collected must be twice that of the serum or plasma required (e.g., If the lab requires 1ml of serum, collect 2 ml of blood to yield 1ml of serum).
 - b. The recommended method of blood collection is with a Vacutainer®.
 - (1) Collect the sample in a red top or tiger top tube when serum is required.
 - (2) Collect the sample in a purple top (EDTA) tube for plasma.
 - (a) Replace the cap.
 - (b) Invert the tube gently several times to ensure the blood and the anticoagulant are thoroughly mixed.
 - c. Collect the blood with a needle and syringe if a Vacutainer® is unavailable.
 - (1) Transfer the blood into a tiger top or red top tube for serum.
 - (a) Remove the needle from the syringe.
 - (b) Remove the cap from the blood collection tube.
 - (c) Gently allow the blood to flow down the sides of the blood tube.
 - (d) Recap the blood tube.
 - (2) Transfer the blood into a purple top tube for plasma.
 - (a) Remove the needle from the syringe.
 - (b) Remove the cap from the blood collection tube.
 - (c) Gently allow the blood to flow down the sides of the blood tube.
 - (d) Recap the blood tube.
3. Prepare the sample for centrifugation.
 - a. To obtain serum using red top tubes.
 - (1) Allow the blood sample to clot for 20 to 30 minutes at room temperature.
 - (2) Remove the cap from the collection tube.

Performance Steps

- (3) Rim or "ring" the clot to separate the clot from the tube wall.
 - (a) Insert the applicator stick into the tube to near the bottom.
 - (b) Gently stir in a circular pattern.
 - (4) Replace the cap.
 - b. To obtain serum using tiger top tubes, the blood collected in 2b(1) or 2c(1) is ready to centrifuge.
 - c. To obtain plasma, the blood collected in 2b(2) or 2c(2) is ready to centrifuge.
 - 4. Centrifuge the sample IAW manufacturer's instructions at 2000 to 3000 rpm for 10 minutes.
 - 5. Remove the sample from the centrifuge.
 - 6. Pipette the serum or plasma off the red blood cells.
 - a. Use a capillary pipette such as a Pasteur pipette with a rubber bulb.
- NOTE:* Do not contaminate the serum or plasma with red blood cells from the bottom of the tube. If contamination occurs, you must centrifuge the sample again.
- b. Transfer the sample to a sterile polypropylene screw cap tube.
- NOTE:* New red top vacutainer tubes may be used for submission of either a serum or plasma sample if sterile polypropylene tubes are not available.
- c. Secure the cap tightly.
 - d. Label the tube.
 - (1) Dog's name.
 - (2) Tattoo number.
 - (3) Date the sample was collected.
- 7. Prepare the sample for submission by completing the paperwork required by the laboratory.
 - 8. Forward to the lab by the most expedient means IAW local SOP.
 - a. Use a foam shipping container of appropriate size.
 - b. Place gel ice on the bottom of the container to ensure that the samples will stay cold.
 - c. Pack insulating material around the tubes firmly so that they will not move around if the package is jarred during shipment.
 - d. Double-seal the paperwork in plastic bags and place it in the container on top of the packing material.
 - e. Seal the box with box sealing or filament tape.
 - f. Address the outside of the box to the veterinary laboratory.
 - g. Forward the package.
 - h. Coordinate package pick up and shipment with the shipper IAW local SOP.
 - 9. Notify the veterinarian that the package has been shipped.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Determined sample requirements.	—	—
2. Collected a venous blood specimen.	—	—
3. Prepared the sample for centrifugation.	—	—
4. Centrifuged the sample IAW manufacturer's instructions at 2000 to 3000 rpm for 10 minutes.	—	—

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Removed the sample from the centrifuge.	—	—
6. Pipetted the serum or plasma off the red blood cells.	—	—
7. Prepared the sample for submission by completing the paperwork required by the laboratory.	—	—
8. Forwarded to the lab by the most expedient means IAW local SOP.	—	—
9. Notified the veterinarian that the package has been shipped.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ASSIST WITH THE COLLECTION OF NECROPSY TISSUE FROM A MILITARY WORKING DOG

081-891-1067

Conditions: The veterinarian requires your assistance in collecting necropsy tissues from a military working dog (MWD). Necessary materials and equipment include: necropsy equipment as identified in TB MED 283, 10% buffered formalin, personal protective equipment (rubber or plastic apron, mask, exam gloves or heavy rubber gloves, goggles or other appropriate eye protection), permanent markers, labels, materials needed for carcass disposal IAW local SOP, disinfectant cleaner, and the MWD's health record.

Standards: Assisted with the collection, processing, and storage of necropsy tissues from the MWD as directed by the veterinarian.

Performance Steps

1. Assemble required supplies and equipment.

NOTE: The technician is assisting the veterinarian. TB MED 283 lists recommended supplies and equipment to perform a necropsy. Not every installation will have all the recommended equipment, and local SOPs should define what supplies and equipment will be used in these instances.

- a. 10% buffered formalin.
 - b. Writing utensils.
 - c. The MWD's health record.
 - d. Personal protective equipment (PPE).
 - (1) Rubber or plastic apron.
 - (2) Surgical masks.
 - (4) Exam gloves or rubber gloves.
 - (5) Protective eye wear.
 - e. Indelible ink markers.
 - f. Plastic tissue holding cassettes.
 - g. Wide-mouth plastic specimen jars.
 - h. Sterile specimen cups.
 - i. DD Form 1626 (Veterinary Necropsy Report Checklist and Guidelines).
 - j. DD Form 1743 (Death Certificate of Military Dog).
 - k. Adhesive labels.
2. Collect required ante-mortem blood and urine specimens, IAW TB MED 283, Table 2-1 and Table 2-2.
 3. Assist with euthanizing the dog, if required by the veterinarian (see task 081-891-1086).
 - a. Complete DD Form 1743 (Death Certificate of Military Dog) to include the reason for euthanasia or cause of death of the dog.
 - b. File DD Form 1743 in the animal's medical record.
 4. Put on PPE.
 5. Assist the veterinarian with the collection of the necropsy tissue, as directed.
 6. Dispose of the carcass IAW local SOP.
 7. Clean the necropsy area thoroughly with a disinfectant cleaner.

Performance Steps

- 8. Clean all instruments thoroughly with a disinfectant cleaner.
- 9. Properly manage tissue specimens that have been collected, IAW TB MED 283.
 - a. Agitate specimen containers periodically during the initial 24 hours of fixation.
 - b. Completely change out all formalin in the specimen containers after the initial 24 hour fixation period.
 - c. Properly submit all specimens, reports, radiographs, and medical records to appropriate agencies IAW TB MED 283, Chapter 5, as soon as possible after the necropsy has been completed.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Assembled the necessary supplies and equipment based on local SOP and discussion with the veterinarian performing the necropsy.	—	—
2. Completed DD Form 1743 properly and filed it with the MWD's medical record.	—	—
3. Collected required ante-mortem blood and urine specimens IAW TB MED 283, Table 2-1 and Table 2-2.	—	—
4. Assisted with euthanizing the dog, if required by the veterinarian.	—	—
5. Put on PPE.	—	—
6. Assisted the veterinarian with the collection of the necropsy tissue, as directed.	—	—
7. Disposed of the carcass IAW local SOP.	—	—
8. Cleaned the necropsy area thoroughly with a disinfectant cleaner.	—	—
9. Cleaned all instruments thoroughly with a disinfectant cleaner.	—	—
10. Properly managed tissue specimens collected during the necropsy, IAW TB MED 283. <ul style="list-style-type: none"> a. Agitated the specimen containers periodically during the initial 24 hours of fixation. b. Completely changed the formalin in the specimen containers after the initial 24 hours of fixation. c. Submitted all specimens, reports, radiographs, and medical records to appropriate agencies as soon as possible after the necropsy was completed, IAW TB MED 283, Chapter 5. 	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
TB MED 283

Related
AR 40-905

**PERFORM A DIFF-QUIK STAIN ON THE BLOOD OF A MILITARY WORKING DOG
081-891-1070**

Conditions: The veterinarian has instructed you to stain a slide using Diff-Quik® staining materials. Necessary materials and equipment include: a freshly collected blood sample in an EDTA or heparinized tube, a Diff-Quik® kit, distilled water, glass microscope slides, pencil, 95% alcohol, and paper towels.

Standards: Prepared a blood smear and performed a Diff-Quik® stain on the blood of a military working dog.

Performance Steps

1. Prepare two glass microscope slides by cleaning them with 95% alcohol.
2. Prepare a blood smear.
 - a. Place a drop of blood in the center of the slide and a short distance from the frosted end of the slide.
 - b. Use another microscope slide as a spreader. Place the edge of the spreader slide on the specimen slide at a 30 degree angle.
 - c. Pull the spreader slide toward the drop of blood until contact is made.
 - d. Push the spreader slide toward the opposite end of the specimen slide, drawing the blood behind it into a thin film.
 - e. Allow the smear to air-dry completely (takes approximately 5 minutes).
3. Write the name or identification number of the dog on the frosted end of the microscope slide.
4. Stain the slide.
 - a. Hold the slide by the frosted end with your thumb and forefinger.
 - b. Immerse the slide 10 consecutive times in each of the three solutions in the following order:
 - (1) Solution I - fixative solution (light blue color).
 - (2) Solution II (red color).
 - (3) Solution III (dark blue/purple color).
 - c. Between the three solutions, tap the narrow edge of the slide opposite the frosted end on a paper towel to remove excess solution.
5. Tap excess solution off the slide onto a paper towel.
6. Rinse the slide with distilled water.
7. Allow the slide to air-dry completely.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Prepared two glass microscope slides by cleaning them with 95% alcohol.	_____	_____
2. Prepared a blood smear.	_____	_____
3. Wrote the name or identification number of the dog on the frosted end of the microscope slide.	_____	_____

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
4. Stained the slide.	_____	_____
5. Tapped excess solution off the slide onto a paper towel.	_____	_____
6. Rinsed the slide with distilled water.	_____	_____
7. Allowed the slide to air dry completely.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM A HEARTWORM ANTIGEN TEST ON THE BLOOD OF A MILITARY WORKING DOG

081-891-1071

Conditions: The veterinarian has ordered that a heartworm antigen test be performed on a MWD. You must obtain a blood sample, perform the test, and record the results. The animal has been muzzled and the handler is available to position and restrain the animal. Necessary materials and equipment include: heartworm antigen test kit with instructions, needle, syringe, anticoagulant, centrifuge (if required), SF 552, and the dog's health record.

Standards: Performed a heartworm antigen test using the sample type required by the manufacturer and recorded the results on SF 552.

Performance Steps

1. Determine the sample type needed as recommended by the manufacturer's instructions for the test kit.
 - a. Fresh whole blood collected with an anticoagulant.
 - b. Fresh serum or plasma.
 2. Label all sample containers with the MWD's tattoo number.
- NOTE:* Hemolyzed or lipemic (red or cloudy) serum samples may interfere with test results. Use IAW the manufacturer's instructions.
3. Collect the sample type required (see task 081-891-1023).
 4. Prepare the test kit and reagents if present IAW the manufacturer's instructions.
 5. Perform the test IAW the manufacturer's instructions.
 6. Evaluate the results IAW the manufacturer's instructions.
 7. Record the results on an SF 552. Annotate "Heartworm Antigen Test" in the "Remarks" block.
 8. Notify the veterinarian of the results.
 9. Place the SF 552 in the dog's health record.
 10. Dispose of all waste IAW local SOP.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Determined the sample type needed as recommended by the manufacturer's instructions for the test kit.	—	—
2. Labeled all sample containers with the MWD's tattoo number.	—	—
3. Collected the sample type required.	—	—
4. Prepared the test kit and reagents if present IAW the manufacturer's instructions.	—	—
5. Performed the test IAW the manufacturer's instructions.	—	—

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
6. Evaluated the results IAW the manufacturer's instructions.	—	—
7. Recorded the results on SF 552. Annotated "Heartworm Antigen Test" in the "Remarks" block.	—	—
8. Notified the veterinarian of the results.	—	—
9. Placed the SF 552 in the dog's health record.	—	—
10. Disposed of all waste IAW local SOP.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM A TOTAL PROTEIN DETERMINATION (REFRACTOMETER) ON THE BLOOD OF A MILITARY WORKING DOG

081-891-1074

Conditions: The veterinarian has directed you to perform a total protein determination on the blood of a military working dog using a refractometer. Necessary materials and equipment include: a freshly collected blood sample in a purple top tube, capillary tubes, sealing putty, microhematocrit centrifuge with manufacturer's instructions, refractometer with total solids meter and manufacturer's instructions, distilled water, Kimwipes® or lens paper, SF 546, and the dog's health record.

Standards: Performed a total protein determination on the blood of a military working dog. Recorded the results on SF 546.

Performance Steps

1. Inspect the blood specimen.
 - a. Ensure that the sample was collected in an EDTA (lavender or purple top) blood collection tube.
 - b. Ensure that the tube is filled for proper dilution of the blood. A partially filled collection tube causes an EDTA excess which may hinder results.
 - c. Ensure the specimen has not clotted by inverting the tube 1 or 2 times and observing for the presence of a clot.
 2. Prepare the blood specimen.
 - a. Invert the tube 4 or 5 times to mix the blood with the anticoagulant.
 - b. Remove the rubber stopper.
 - c. Fill two capillary tubes, by capillary action, to at least 3/4 full.
 - d. Seal the full end by plunging the tube into sealing putty one or more times.
 3. Centrifuge the capillary tubes in a microhematocrit centrifuge.
 - a. Follow manufacturer's instructions for operation.
 - b. Place the capillary tubes in the centrifuge heads opposite each other with the sealed ends of the capillary tubes facing outward and in contact with the rubber gasket.
- NOTE:* Failure to have the plugged end facing out will result in loss of sample.
- c. Centrifuge the tubes for 5 minutes at 10,000 rpm (high speed).
 4. Clean the refractometer lens with distilled water and lens paper.
 5. "ZERO" the refractometer using distilled water.
 - a. Open the cover plate and place a few drops of distilled water on the surface (lens) of the prism.
 - b. Close the plate tightly.
 - c. Hold the refractometer up to the light and look through the eyepiece.
 - d. Turn the eyepiece until the scales come clearly into focus.
 - e. If the calibration is correct, the boundary line should fall exactly on the "wt." line.
 - f. If the unit needs calibration, adjust the boundary line to coincide with the "wt." line by turning the adjusting screw with the small screwdriver supplied with the unit.
 - g. After the calibration check, wipe off the distilled water with Kimwipes® or lens paper.
 6. Break the capillary tube just above the buffy coat. Do not include the buffy coat. If the buffy coat is included in the determination, the results will be erroneous.

Performance Steps

7. Gently tap several drops of the sample onto the lens of the refractometer and close the cover plate.
8. Hold the refractometer up to the light and take the reading at the dividing line between the light field and the dark fields.
9. Record the results on SF 546 in the total protein block. Results are recorded as grams per deciliter (g/dl).
10. Report the results to the veterinarian.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Inspected the blood specimen.	_____	_____
2. Prepared the blood specimen.	_____	_____
3. Centrifuged the capillary tubes in a microhematocrit centrifuge.	_____	_____
4. Cleaned the refractometer lens with distilled water and lens paper.	_____	_____
5. Zeroed the refractometer using distilled water.	_____	_____
6. Broke the capillary tubes just above the buffy coat. Did not include the buffy coat.	_____	_____
7. Gently tapped several drops of the sample onto the lens of the refractometer and closed the cover plate.	_____	_____
8. Held the refractometer up to the light and took the reading at the dividing line between the light field and dark fields.	_____	_____
9. Recorded the results on SF 546 in the total protein block.	_____	_____
10. Reported the results to the veterinarian.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM A MICROHEMATOCRIT/BUFFY COAT EVALUATION FOR THE PRESENCE OF MICROFILARIA ON THE BLOOD OF A MILITARY WORKING DOG

081-891-1202

Conditions: The veterinarian has instructed you to perform a microhematocrit/buffy coat evaluation on the blood of a military working dog. A fresh venous blood sample has been obtained in an EDTA (purple top) tube. Necessary materials and equipment include: microscope, microhematocrit tubes, clay sealer, microhematocrit centrifuge, SF 549, and the dog's health record.

Standards: Performed a microhematocrit/buffy coat evaluation on blood from a military working dog for the presence of microfilaria.

Performance Steps

1. Fill two microhematocrit tubes.
 - a. Remove the stopper from the tube.
 - b. Hold the tube at a 45° angle.
 - c. Touch the end of each microhematocrit tube to the blood and allow it to fill by capillary action to more than 3/4 full.
2. Seal one end of each tube.
 - a. Wipe blood from the outer surface of the tube.
 - b. Hold the microhematocrit tube with the thumb and forefinger 1 cm from the "full" end.
 - c. Plunge the microhematocrit into sealing clay once or twice.
3. Centrifuge the tubes.
 - a. Place the tubes in the centrifuge opposite each other with the sealed end pointing outward and in contact with the rubber gasket
 - b. Centrifuge the samples for 5 minutes at 10,000 rpm.
4. Remove the tubes from the centrifuge and visualize the buffy coat layer (thin white or cream colored layer) between the red blood cells and plasma.
5. Perform a microscopic examination.
 - a. Place the microhematocrit tube on the microscope stage.
 - b. Set the microscope objective on 10X.
 - c. Center the buffy coat layer under the microscope objective.
 - d. Examine the plasma area immediately adjacent to the buffy coat for the presence of moving microfilaria.
6. Record the results on SF 549.
 - a. Enter the test name in the "Remarks" block.
 - b. Enter "POSITIVE" or "NEGATIVE", depending on the results in the "Remarks" block.
7. Inform the veterinarian of the test results.
8. Place the SF 549 in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Filled two microhematocrit tubes.	_____	_____
2. Sealed one end of each tube.	_____	_____
3. Centrifuged the tubes.	_____	_____
4. Removed the tubes from the centrifuge and visualized the buffy coat layer between the red blood cells and plasma.	_____	_____
5. Performed a microscopic examination.	_____	_____
6. Recorded the results on SF 549.	_____	_____
7. Informed the veterinarian of the test results.	_____	_____
8. Placed the SF 549 in the dog's health record.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM A MODIFIED KNOTT'S TEST ON THE BLOOD OF A MILITARY WORKING DOG
081-891-1203

Conditions: A venous blood sample has been obtained and is in a purple-top tube. Necessary materials and equipment include: microscope, microscope slides, coverslips, two 15 ml centrifuge tubes or test tubes, centrifuge with manufacturer's instructions, water, 2% formalin, methylene blue stain, disposable pipettes, SF 552, SF 600, and the dog's health record.

Standards: Determined the presence or absence of and classification of microfilaria by performing a modified Knott's test.

Performance Steps

1. Pour 9 to 10 ml of 2 percent formalin into a 15 ml test tube.
2. Mix the blood sample by inverting the blood collection tube four or five times.
3. Using a pipette, add 1 ml of blood to the test tube containing the formalin.
4. Cap the tube and invert the tube several times to mix the blood and formalin. The mixture should become clear red (wine red) in color.
5. Centrifuge the solution.
 - a. Place the blood/formalin test tube in the centrifuge.
 - b. Ensure that the centrifuge is balanced by placing a tube filled with water opposite the blood/formalin tube.
 - c. Close and lock the centrifuge lid.
 - d. Centrifuge the specimen IAW manufacturer's instructions at 1500 rpm for 5 minutes.
6. Prepare the sample for microscopic examination.
 - a. Remove the blood/formalin test tube from the centrifuge.
 - b. Pour off the clear liquid (supernatant) from the top of the test tube. This will leave a precipitate in the bottom of the tube.
 - c. Add one drop of 1:1000 new methylene blue to the precipitate.
 - d. Mix the stain and precipitate by gently tapping the bottom of the test tube.
 - e. Using a pipette, place one drop of stained precipitate on a microscope slide.
 - f. Place a coverslip over the precipitate.
7. Examine the slide for microfilaria.
 - a. Place the specimen slide on the microscope stage.
 - b. Scan the slide for microfilaria using the 10X objective.
 - c. Confirm the presence of and attempt to classify the microfilaria using the 45X objective.
 - (1) *Dirofilaria immitis*.
 - (a) Usually a large number are present.
 - (b) The head appears oval and tapered.
 - (c) Generally there is a gradual taper to the posterior body ending in a tail.
 - (2) *Dipetalonema* spp.
 - (a) Generally few in number.
 - (b) The head appears flat and not tapered.
 - (c) There is very little or no taper to the body. Usually the body ends abruptly and the filamentous tail begins. The tail may appear as a buttonhook.
 - d. Positive test results must be confirmed by the veterinarian.

Performance Steps

- 8. Report findings to the veterinarian.
- 9. Record results on SF 552.
 - a. Fill in the "Patient Identification" box.
 - (1) Animal's name.
 - (2) Tattoo number.
 - (3) Species.
 - (4) Name of originating facility.
 - (5) Point of contact and phone number.
 - b. In the "Urgency" section, place an x in the "Routine" box.
 - c. Place an x in the "Outpatient" box in the "Patient Status" section.
 - d. Place an x in the "Blood" box in the "Specimen Source" section.
 - e. The veterinarian signs in the "Requesting Physicians Signature" box.
 - f. Write your name and circle "Tech" in the "Reported By" box.
 - g. Ensure that the date and time are entered in the "Specimen Taken" box.
 - h. Place a check in the "Other" box.
 - i. Underneath the check, write the words Modified Knott's Test and the results of the test.
- 10. Enter the procedure on SF 600 (see task 081-891-1036).
- 11. File the SF 600 and SF 552 in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Poured 9 to 10 ml of 2 percent formalin into a 15 ml test tube.	_____	_____
2. Mixed the blood sample by inverting the blood collection tube four or five times.	_____	_____
3. Added 1 ml of blood to the test tube containing the formalin.	_____	_____
4. Mixed the blood and formalin.	_____	_____
5. Centrifuged the solution.	_____	_____
6. Prepared the sample for microscopic examination.	_____	_____
7. Examined the slide for microfilaria.	_____	_____
8. Reported findings to the veterinarian.	_____	_____
9. Recorded results on SF 552.	_____	_____
10. Entered the procedure on SF 600.	_____	_____
11. Filed the SF 600 and SF 552 in the dog's health record.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM A GRAM STAIN ON A SPECIMEN FROM A MILITARY WORKING DOG
081-891-1206

Conditions: You have been directed to perform a Gram stain of a primary culture from a liquid specimen, colony on an agar plate, or a swab. Necessary materials and equipment include: microscope slides, SF553, sterile pipette or loop or syringe, Bunsen burner, Gram stain reagents (crystal violet, Gram's iodine, decolorizer, safranin stain), exam gloves, inoculating loop or needle, glass slides, distilled water, tap water, a metal pan or sink, timepiece, microscope, and paper towels or lens paper.

Standards: Prepared a Gram stained smear and reported the results on SF 553.

Performance Steps

1. Label two microscope slides for each specimen to be stained. Label the slides with the following:
 - a. The military working dog's (MWD's) name.
 - b. Tattoo number.
 - c. Specimen source.
2. Prepare an SF 553.
 - a. "Patient Identification box".
 - (1) Place the animal's name, tattoo number, and species on the top line.
 - (2) Place the name of the treating facility on the second line.
 - (3) Place the point of contact and phone number on the third line.
 - b. Check the appropriate block in the "Patient Status" box.
 - c. Check the appropriate block in the "Infection" box.
 - d. The technician's name goes in the "Reported By" box.
 - e. The date the tests are run goes in the "Date" box.
 - f. The specimen source goes in the "Clinical Information" box.

NOTE: A separate SF 553 needs to be filled out for tests run on each specimen source.

- g. "Specimen Taken" block.
 - (1) Place the date the specimen is taken in the "Date" block.
 - (2) Place the time the specimen is taken in the "Time" block.
3. Prepare a specimen smear.
 - a. From a liquid specimen or medium.
 - (1) Using a sterile pipette, loop, or syringe, place one drop of the specimen in the center of the labeled microscope slide.
 - (2) Spread the liquid to about the size of a dime.
 - (3) Allow the smear to air dry completely.
 - b. From a colony on an agar plate.
 - (1) Place a small drop of distilled water on the center of the labeled microscope slide.
 - (2) Touch the top center of the colony with a sterile inoculating needle and transfer a small amount of the bacteria to the drop of water.
 - (3) Mix the bacteria and water with the inoculating needle.
 - (4) Spread the mixture out to the size of a dime.
 - (5) Allow the smear to air dry completely.
 - c. From a swab.
 - (1) Roll the swab across the center of the labeled microscope slide.
 - (2) Allow the smear to air dry completely.

Performance Steps

4. Heat fix the specimen with a Bunsen burner.
 - a. Hold the end of the slide parallel to the table top, specimen side up.
 - b. Pass the slide slowly through the flame two to three times.
5. Stain the slide.
 - a. Put on a pair of exam gloves.
 - b. Place the prepared slide on a level metal slide rack perched in a pan or sink.
 - c. Flood the slide with crystal violet.
 - (1) Gently pour stain onto the slide until the entire surface is covered.
 - (2) Let stand for 1 minute.
 - d. Rinse the slide with water for 5 seconds by holding it under a gentle stream of tap water.
 - e. Flood the slide with Gram's iodine.
 - (1) Gently pour the stain onto the slide until the entire surface is covered.
 - (2) Let stand for 1 minute.
 - f. Repeat step 5d.
 - g. Decolorize the slide.
 - (1) Hold the slide at a 45° angle.
 - (2) Gently pour the decolorizer over the slide for 5 to 7 seconds.
 - h. Repeat step 4d.
 - i. Flood the slide with safranin stain.
 - (1) Gently pour the stain onto the slide until the entire surface is covered.
 - (2) Let stand for 30 to 60 seconds.
 - j. Repeat step 4d.
 - k. Dry the slide using one of the following methods..
 - (1) Gently blot the slide dry by placing it between two paper towels or two sheets of lens paper.
 - (2) Let the slide air dry.
6. Examine the smear for Gram stain reaction.
 - a. Place a drop of immersion oil in the center of the stained slide.
 - b. Place the slide on the microscope stage.
 - c. View the slide under oil immersion power (100X) to determine whether the specimen is Gram positive or Gram negative.
 - (1) Gram negative bacteria appear red.
 - (2) Gram positive bacteria appear blue.
 - d. Mark the results in the "Report" block on the SF 553.
 - (1) Write the words "Gram Stain Reaction:" in the box.
 - (2) Write either "NEGATIVE" or "POSITIVE" based on the results of step 6c.
7. Examine the smear under oil immersion to determine the shape of the bacteria.
 - a. Rod shaped bacteria are reported as "BACILLI."
 - b. Spherical bacteria are reported as "COCCI."
 - c. Spiral-shaped bacteria are reported as "SPIRILLIM."
 - d. Mark the results in the "Report" block on the SF 553.
 - (1) Write the word "SHAPE:" in the box.
 - (2) Write the results found in steps 7a-7c.
8. Examine the smear under oil immersion for bacterial arrangement/grouping.
 - a. Pairs are reported as "DIPLO."
 - b. Chains are reported as "STREPTO."

Performance Steps

- c. Clusters or bunches are reported as "STAPHYLO."
- d. Mark the results in the "Report" block on the SF 553.
 - (1) Write the word "GROUPING:" in the box.
 - (2) Write the results found in steps 8a-8c.

- 9. Report the findings to the veterinarian and have him or her sign the lab slip.
- 10. Place the lab slip in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Labeled two microscope slides for each specimen to be stained.	_____	_____
2. Prepared an SF 553.	_____	_____
3. Prepared a specimen smear.	_____	_____
4. Heat fixed the specimen with a Bunsen burner or alcohol lamp.	_____	_____
5. Stained the slide.	_____	_____
6. Examined the smear for Gram stain reaction.	_____	_____
7. Examined the smear under oil immersion to determine the shape of the bacteria.	_____	_____
8. Examined the smear under oil immersion for bacterial arrangement/grouping.	_____	_____
9. Reported the findings to the veterinarian and had him or her sign the lab slip.	_____	_____
10. Placed the lab slip in the dog's health record.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

**PERFORM A ROUTINE URINALYSIS ON A SPECIMEN FROM A MILITARY WORKING DOG
081-891-1207**

Conditions: The veterinarian or senior 91T has instructed you to perform a routine urinalysis. Necessary materials and equipment include: a fresh sterile urine specimen in a specimen cup, SF 550, timepiece, veterinary refractometer with manufacturer's instructions, reagent strips for urine chemistries, microscope, microscope slides, coverslips, centrifuge, sediment stain, distilled water, lens paper, disposable conical test tubes, disposable transfer pipettes, and the dog's health record.

Standards: Performed a routine urinalysis on a specimen from a military working dog.

Performance Steps

1. Perform a macroscopic examination.
 - a. Record appearance.
 - (1) Turbidity (particles suspended in the liquid leading to a cloudy appearance).
 - (a) If the specimen is clear, record it as "CLEAR".
 - (b) If the specimen is not clear but can be seen through, record it as "HAZY".
 - (c) If the specimen is opaque and cannot be seen through, record it as "CLOUDY".
 - (d) Record in the "Remarks" section of the lab slip.
 - (2) Record color.
 - (a) Describe the urine color using shades of yellow, e.g., straw-yellow, amber.
 - (b) Record in the "Color" section of the lab slip.
 - b. Determine and record reagent strip chemistries.
 - (1) Follow the manufacturer's instructions on the container or package insert.
 - (2) Determine and record pH, protein, glucose, ketones, bilirubin, nitrite, urobilinogen, blood, and leukocyte esterase.
 - (3) Record results in the applicable blocks on the lab slip.
 - c. Determine and record specific gravity.
 - (1) Clean the refractometer
 - (a) Place several drops of distilled water on the stage.
 - (b) Wipe clean with lens paper.
 - (2) Zero the refractometer.
 - (a) Place 1 or 2 drops of distilled water on the stage.
 - (b) Close the cover.
 - (c) Hold the refractometer up to the light and look through the eyepiece.
 - (d) When zeroed, the blue shaded area will line up with the 1.000 reading on the far right scale.
 - (e) If the blue shaded area does not line up with the 1.000, consult the manufacturer's manual for instructions to recalibrate.
 - (3) Determine specific gravity.

NOTE: If the urine specimen is cloudy, follow the steps outlined in steps 2a(1)-2a(6).

- (a) Resuspend the urine by inverting the cup several times. Ensure that the lid is tightly capped before inverting the specimen.
- (b) Place 1 or 2 drops of urine on the refractometer stage and close the cover.
- (c) Specific gravity is read where the blue shaded area lines up on the scale.
- (d) Results should be recorded as 1.0__ , e.g., 1.025.
- (e) Record results in the "Specific Gravity" section of the lab slip.

Performance Steps

- d. Determine the presence of bile and record.
 - (1) Shake the specimen vigorously until a foam develops. Ensure that the lid is tightly capped before shaking the specimen.
 - (2) Evaluate the color of the foam.
 - (a) The foam will either be clear, indicating no bile, or green.
 - (b) A green tint indicates the presence of bile.
 - (c) Record the results in the "Bile" section of the lab slip. Results are either "positive" when there is bile, or "negative" when there is no indication of bile.
2. Perform a microscopic examination.
 - a. Set up a sediment slide.
 - (1) Resuspend the urine by inverting the cup several times. Ensure that the lid is tightly capped before inverting the specimen.
 - (2) Pour or pipette 5 ml of urine into a conical tip centrifuge tube and replace the cap on the tube.
 - (3) Place the tube in the centrifuge.
 - (4) Balance the centrifuge by placing a tube of equal volume directly across from the urine tube.
 - (5) Centrifuge the specimen for 5 minutes at 2000 rpm.
 - (6) When the centrifuge has stopped, remove the urine tube.
 - (7) Pour off the supernatant (the clear fluid left in tube after the sediment spins to the bottom). Leave approximately 0.5 ml of supernatant in the bottom of the conical tube.
 - (8) Resuspend the remaining sediment and supernatant by agitating or "finger flipping" the bottom of the tube.
 - (9) Add 1 or 2 drops of sediment stain to the mixture.
 - (10) Transfer a drop of the mixture to a microscope slide with a pipette. Place a coverslip over the sample.
 - b. Examine the prepared slide.
 - (1) Systematically examine the entire slide with the low power objective. Note the presence of structures.
 - (a) Casts and crystals can be identified under low power.
 - (b) Cells can be identified under low power but will need to be looked at under high power to characterize them.
 - (c) Count at least 10 microscopic fields and average the number of elements per field.
 - (d) Record the number of casts and crystals as the number per low-powered field (lpf).
 - (2) Examine the slide with the high power objective.
 - (a) Determine if the cell structures are red blood cells (RBCs), white blood cells (WBCs) or epithelial cells.
 - (b) Determine the presence of bacteria.
 - (c) Count at least 10 microscopic fields and average the number of elements per field.
 - (d) Record the number of RBCs, WBCs, or epithelial cells as the number per high-powered field (hpf).
3. Fill out the remaining blocks of the SF 550.
 - a. "Date" block--date specimen was collected.
 - b. "Time" block--time specimen was collected.

Performance Steps

- c. "Patient identification" block.
 - (1) Dog's name.
 - (2) Tattoo number.
 - (3) Facility.
 - (4) Time.
 - d. "Urgency" block--check the relevant box.
 - e. "Patient status" block--check the relevant box.
 - f. "Specimen source" block--check the relevant box.
 - g. "Reported by" block--fill in your name and circle "tech".
 - h. "Date" block--fill in the date the urinalysis is performed.
 - i. "Requesting physician's signature" block--have the veterinarian sign the lab slip.
4. Report abnormal results to the veterinarian and await further instructions. Do not discard the slides as the veterinarian may want to examine the slides.
 5. File the lab slip in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed a macroscopic examination.	_____	_____
2. Performed a microscopic examination.	_____	_____
3. Filled out the remaining blocks of the SF 550.	_____	_____
4. Reported abnormal results to the veterinarian and awaited further instructions.	_____	_____
5. Filed the lab slip in the dog's health record.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

Subject Area 4: Anesthesia

INTUBATE A MILITARY WORKING DOG

081-891-1029

Conditions: The veterinarian has directed you to intubate a military working dog. The dog is anesthetized and stabilized. The dog handler is available to position and restrain the dog. Necessary materials and equipment include: sterile lubricant, assorted sizes of endotracheal tubes with inflatable cuffs, 10 cc plastic syringe, roller gauze, and laryngoscope with assorted sizes of blades and spare batteries and bulbs, tape, and 4X4 gauze sponges.

Standards: Intubated the dog in the trachea without causing injury to the dog.

Performance Steps

1. Select and prepare the equipment.
 - a. Endotracheal tube.
 - (1) Select a cuffed endotracheal tube. The diameter of the tube should be approximately 3/4 the size of the trachea.
 - (2) Check the endotracheal tube.
 - (a) Inspect the tube for cracks, dirt, or debris.
 - (b) Check the cuff of the tube for leaks by inflating it with a syringe. Observe for air loss. Discard the tube if the cuff does not retain air.
 - (c) Deflate the cuff totally by withdrawing the air from the cuff with a syringe.
 - b. Assemble the laryngoscope and check it for proper operation.
 - (1) Choose and attach a blade that will reach to the base of the animal's tongue. Follow manufacturer's instructions for assembly.
 - (2) Once attached, ensure that the light on the laryngoscope blade is functional. If the light does not work, replace the batteries or the bulb, as needed.
2. Prepare the endotracheal tube.
 - a. Predetermine how far in the trachea the tube will be placed.
 - (1) Place the tube along side the extended head and neck of the dog.
 - (2) Locate the larynx and position the cuff just below it.
 - (3) With the tube still lined up along side of the head and neck and the cuff positioned just below the larynx, choose a landmark in the dog's mouth (such as the dog's incisors) to mark with tape. This will serve as a depth indicator when inserting the tube.
 - (4) Place a piece of tape around the tube where the tube reaches the chosen landmark.
 - b. Cut and tie an 18 to 24 inch length of roller gauze to the end of the tube with the tape on it.
 - c. Place a small amount of sterile surgical lubricant onto a 4X4 gauze sponge. Roll the cuffed end of the endotracheal tube in the lubricant. Lube approximately 1/3 of the tube.
3. Intubate the dog.
 - a. Direct the dog handler to place the animal in sternal recumbency.
 - b. Have the handler lift and extend the dog's neck with one hand holding the upper jaw and the other hand holding the back of the head.
 - c. Grasp the animal's tongue with a 4X4 gauze sponge.

Performance Steps

- d. Using the dominant hand, pull the tongue out and down between the canine teeth.
 - e. Hold the laryngoscope in the other hand and place the tip of the blade on the base of the animal's tongue.
 - f. Push downward with the laryngoscope and move the epiglottis to visualize the opening to the trachea.
 - g. Transfer the laryngoscope to the hand holding the animal's tongue.
 - h. Pick up the endotracheal tube with the free hand.
 - i. Using a slight rotating motion, guide the tube over the epiglottis, between the vocal cords through the opening to the trachea.
 - j. Advance the endotracheal tube into the trachea until the tape marker reaches the landmark chosen in step 2a(3).
4. Check endotracheal tube placement.
 - a. Palpate the dog's neck and feel for one tube. If two tubes are felt, the endotracheal tube is in the esophagus (one "tube" is the trachea and the other is the endotracheal tube in the esophagus). Remove the tube and repeat steps 3a through 3j.
 - b. Place the base of the laryngoscope at a 90 degree angle next to the end of the endotracheal tube and look for fogging of the base. This is caused by the animal exhaling air through the endotracheal tube.
 5. Inflate the cuff with the syringe until back pressure is seen in the syringe.
 6. Secure the tube into place by securing the attached roller gauze behind the canine teeth. Tie the gauze using a bow knot around the upper or lower jaw of the animal.
 7. Inform the veterinarian that the animal has been intubated.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Selected and prepared the equipment.	_____	_____
2. Prepared the endotracheal tube.	_____	_____
3. Intubated the dog.	_____	_____
4. Checked endotracheal tube placement.	_____	_____
5. Inflated the cuff with the syringe until back pressure is seen in the syringe.	_____	_____
6. Secured the tube into place by securing the attached roller gauze behind the canine teeth.	_____	_____
7. Informed the veterinarian that the animal has been intubated.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

VENTILATE A MILITARY WORKING DOG FOR RESPIRATORY ARREST DURING SURGERY

081-891-1031

Conditions: A military working dog is on the surgery table and is being maintained under anesthesia on an anesthesia machine. You are monitoring the dog and the anesthesia machine. The dog has stopped breathing. Necessary materials and equipment include: stethoscope.

Standards: Ventilated (performed artificial respiration on) the dog until it breathed on its own.

Performance Steps

1. Inform the veterinarian that the dog is not breathing and it has been at least 35 seconds since the last respiration.
2. Turn the anesthetic vaporizer knob to the OFF position.
3. Evaluate the status of the endotracheal tube.
 - a. Palpate the neck area to ensure that the tube is in the trachea. You should be able to palpate only one hard tube.
 - b. If two hard tubes are felt, the endotracheal tube is in the esophagus and must be removed immediately.
 - c. Palpate the inflation bulb on the endotracheal tube to ensure that the cuff is inflated.
 - d. Ensure that the trachea tube is not obstructed by blowing into the tube and observing the chest rise.
4. Purge the anesthesia system of residual anesthetic gas.
 - a. Open the pop off valve.
 - b. Squeeze the rebreathing bag to empty it.
5. Provide ventilation (artificial respiration) to the patient.
 - a. Close the pop off valve.
 - b. Fill the rebreathing bag with oxygen.
 - (1) Push the "oxygen flush" valve.
 - (2) Fill the bag more than half full.
 - c. Squeeze the rebreathing bag.
 - (1) Observe the patient's chest rise.
 - (2) Observe the manometer gauge and ensure that the pressure reaches 20 to 30 cm of water.
 - (3) Inspiration time should be approximately 1.5 seconds.
 - d. Release the rebreathing bag.
 - e. Open the pop off valve.
 - (1) Allow the lungs to deflate passively.
 - (2) The expiration time should be approximately 3 to 4.5 seconds.
 - f. Repeat steps 5a through 5e at a rate of 10 to 12 per minute.
6. Evaluate the dog's circulatory system.
 - a. Mucous membrane color should be pink.
 - b. Determine capillary refill time.
 - c. Auscultate the chest for a heartbeat.
 - d. Determine the pulse rate and quality (see task 081-891-1007).

Performance Steps

7. Keep the veterinarian informed and follow additional instructions.
8. Continue ventilation until the dog breathes spontaneously.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Informed the veterinarian that the dog is not breathing.	_____	_____
2. Turned the anesthetic vaporizer knob to the OFF position.	_____	_____
3. Evaluated the status of the endotracheal tube.	_____	_____
4. Purged the anesthesia system of residual anesthetic gas.	_____	_____
5. Provided ventilation to the patient.	_____	_____
6. Evaluated the dog's circulatory system.	_____	_____
7. Kept the veterinarian informed and followed additional instructions.	_____	_____
8. Continued ventilation until the dog breathed spontaneously.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

MAINTAIN ANESTHESIA ON A MILITARY WORKING DOG

081-891-1068

Conditions: A dog has been anesthetized and intubated and inhalant anesthesia has been initiated in 100% oxygen. The veterinarian has specified the depth of anesthesia to be maintained. Necessary materials and equipment include: esophageal stethoscope, timepiece, 10 or 12 ml syringe, sterile water-soluble lubricant, thermometer, anesthetic agent, oxygen supply, DA Form 7389, pulse oximeter, capnograph, electrocardiograph, indirect arterial blood pressure monitor, central venous pressure monitor, and the dog's health record.

Standards: Maintained the specified depth of anesthesia and monitored patient parameters during anesthesia IAW recommendations of the American College of Veterinary Anesthesiologists (<http://www.acva.org/>) and *The Handbook of Veterinary Care and Management of the Military Working Dog*.

Performance Steps

1. Monitor the anesthesia machine to ensure proper administration of oxygen and inhalant gas, carbon dioxide removal, and waste anesthetic gas scavenging.
 - a. Ensure there is an adequate amount of anesthetic agent in the vaporizer and replenish the anesthetic agent IAW manufacturer's instructions if the volume gets too low.
 - b. Ensure adequate oxygen flow.
 - (1) Periodically check the oxygen source pressure gauge and switch to another tank if the pressure drops below 500 psi.
 - (2) Check the flowmeter to ensure that the oxygen is flowing at the calculated rate (30 ml/kg body weight, unless otherwise directed by the veterinarian).
 - c. Ensure that the rebreathing bag is kept between 1/2 to 2/3 full at maximal size.
 - (1) Open the "pop off" (exhaust) valve slightly if the bag is more than 2/3 full, or decrease the oxygen flow rate slightly if the pop off is already open.
 - (2) Close the pop off valve slightly or increase the oxygen flow rate slightly if the bag is less than 1/2 full.

NOTE: NEVER close the "pop off" valve completely for more than a few seconds when you sigh the patient. Lung trauma can result from excessive pressure if the valve is left closed.

- d. Monitor the color of the soda lime crystals. If more than half of the crystals turn blue during the anesthesia procedure, replace the entire contents of the soda lime canister after the anesthesia is completed.

NOTE: The facility should have a program for monitoring soda lime usage. Most manufacturers recommend changing soda lime after a certain number of hours of use (typically 6-8 hours of use). Veterinary personnel should monitor use of soda lime and replace as directed by the manufacturer. If this is done properly, it is unusual for more than half the soda lime to change color during a procedure.

- e. Maintain the plane of anesthesia as directed by the veterinarian by adjusting the percent concentration of anesthetic being delivered.
 - (1) Increase the vaporizer percent concentration setting, as directed by the veterinarian, if the dog is light on anesthesia.
 - (2) Decrease the vaporizer percent concentration setting, as directed by the veterinarian, if the dog is too deeply anesthetized.
- f. Ensure the patient rebreathing circuit is not kinked or obstructed.
- g. Ensure the waste anesthesia gas scavenging system that is used in the facility is operational and complies with OSHA requirements.

Performance Steps

- (1) If a charcoal scavenging device is being used, ensure use complies with the manufacturer's recommendations for use. This usually requires careful monitoring of the number of hours a device has been in use or the cumulative weight of the canister.
 - (2) If a passive scavenging system is being used, ensure its use meets the manufacturer's recommendations regarding length of exhaust tubing and venting requirements. Excessively long exhaust tubing or improper venting can lead to carbon dioxide rebreathing by the patient and unacceptable exposure of personnel to waste anesthetic gases.
 - (3) If an active scavenging system is being used, ensure it is functioning properly. An improperly functioning or unused system can lead to carbon dioxide rebreathing by the patient and unacceptable exposure of personnel to waste anesthetic gases.
2. Place an intravenous peripheral catheter (see task 081-891-1038) and initiate an intravenous infusion of a sterile isotonic maintenance crystalloid solution (e.g., Normosol-M®, Plasmalyte-M®, lactated Ringer's solution with 20 mEq/L potassium chloride added) at an hourly rate of 10 ml/kg/hr (see task 081-891-1018) to help offset the tendency to develop hypotension during anesthesia and for venous access in an emergency.
 3. Monitor circulation with the goal to ensure blood flow to body tissues is adequate.
 - a. Monitor the capillary refill time (CRT) to subjectively assess the quality of peripheral blood flow.
 - (1) The CRT is determined by blanching an area of the gums with a finger, and timing how long it takes for blood to return to the area after releasing pressure.
 - (2) Notify the veterinarian if the CRT is greater than 2 seconds or if the CRT cannot be determined.
 - b. Palpate the peripheral pulse using the dorsal metatarsal artery or femoral artery, and palpate the heart beat through the thoracic wall.
 - (1) Calculate the pulse and heart rates, estimate the pulse quality (strong, weak, or absent), and evaluate the pulse and heart rhythm (regular or irregular) to subjectively assess blood pressure and heart function.
 - (2) If the pulse or heart rate is less than 60 beats per minute or greater than 120 beats per minute, if the pulse quality is weak or absent, or if the pulse or heart rhythm is irregular, notify the veterinarian immediately.
 - (3) Simultaneously palpate the peripheral pulse and auscultate the heart beat to detect pulse deficits - a heart beat that is not followed by a pulse. Notify the veterinarian immediately if pulse deficits are noted.
 - c. Auscultate the heart beat using a stethoscope placed on the exterior thoracic wall at the 4th to 6th intercostal space or by using an esophageal stethoscope and calculate the heart rate, estimate the heart rhythm, and estimate the heart beat quality (strong, weak, or absent).
 - (1) If the heart rate is less than 60 beats per minute or greater than 120 beats per minute, if the heart beat is weak or absent, or if the heart rhythm is irregular, notify the veterinarian immediately.
 - d. Record a continuous Lead II electrocardiogram (ECG) to monitor the electrical activity of the heart (see task 081-891-1060) and monitor heart rate, heart rhythm, and waveforms for irregularities.
 - (1) If the heart rate is absent, check the patient connections first to ensure proper lead attachments, and notify the veterinarian if a heart beat is still not present.

Performance Steps

- (2) If the heart rate is less than 60 beats per minute or greater than 120 beats per minute, or if the heart rhythm is irregular, notify the veterinarian immediately.
- (3) Notify the veterinarian if the P wave is inverted or if the QRS complex is wide and bizarre, or if any other irregularities are noted on the ECG.
- e. Measure noninvasive (indirect) arterial blood pressure using a Doppler ultrasound monitor or an oscillometric monitor to allow detection of hypotension.
 - (1) Doppler ultrasound technique for indirect arterial blood pressure measurement.
 - (a) Shave a small area of hair over the desired artery monitoring site, which is usually the palmar or plantar artery of a paw or the caudal tail artery.
 - (b) Place a small amount of lubricant or ultrasound gel on the face of the ultrasound probe, turn the monitor ON, place the probe over the artery, and adjust the placement of the probe until an arterial pulse can be clearly heard. Tape the probe in place.
 - (c) Place an inflatable blood pressure cuff around the limb above (proximal to) the artery, ensuring the arrow head and the word "ARTERY" are directly over the artery from which you want to measure pressure and the cuff width is 40-60% of the limb or tail circumference.
 - (d) Inflate the cuff to a pressure of about 150-180 mm Hg (about 30 mm Hg above the point that the pulse sound is no longer audible), then slowly deflate the cuff until the first pulse pressure sound is heard - this is the systolic blood pressure.
 - (e) Record the systolic blood pressure, and notify the veterinarian if the systolic pressure is less than 100 mm Hg or greater than 160 mm Hg or if the pressure changes suddenly.
 - (2) Oscillometric technique for indirect arterial blood pressure measurement.
 - (a) Place the cuff of an oscillometric blood pressure monitor around the distal forearm, distal hind leg, or proximal tail of the patient.
 - (b) Ensure the arrow head and the word "ARTERY" on the cuff are directly over the artery from which you want to record pressure.
 - (c) Ensure the cuff width is 40-60% of the circumference of the limb or tail to reduce falsely high or falsely low readings.
 - (d) Start the pressure measurement, and record the results for systolic, mean, and diastolic arterial pressures.
 - (e) Notify the veterinarian if the mean arterial blood pressure is less than 60 mm Hg or greater than 90 mm Hg, or if the blood pressure decreases or increases rapidly.
- f. Monitor central venous pressure (CVP) to assess blood volume status using a water manometer or pressure transducer.
 - (1) Request that a Skill Level 3-qualified Animal Care Specialist place a central venous catheter such that the tip is located within the thorax in the cranial vena cava or right atrium (see task 081-891-3012), as this is required to monitor CVP.
 - (2) Water manometry technique.
 - (a) Attach a 10 ml syringe filled with sterile saline to a piece of extension tubing, and connect the opposite end of the tubing to a 3-way stopcock that is connected to a plastic water manometer.
 - (b) Attach one end of a sterile, saline-filled tubing to the catheter port and the opposite end to the other port of the stopcock that is attached to the manometer.

Performance Steps

- (c) Hold the manometer next to the manubrium so that the zero on the scale is directly opposite the manubrium. This establishes the zero reference for the CVP manometer.
 - (d) Close the stopcock so it is OFF to the patient, and fill the manometer with saline from the syringe until the meniscus is above at least 15 cm H₂O on the scale.
 - (e) Close the stopcock so it is OFF to the syringe and open from the patient to the manometer.
 - (f) Wait for the meniscus to stop falling (or rising) and stabilizes, and read the number off the scale as the CVP in cm of water (cm H₂O). There should be very slight fluctuations in the meniscus from changes in intrathoracic pressure as the patient breathes that let you know you are actually measuring CVP.
 - (3) If using a pressure transducer, set up the transducer and monitor IAW manufacturer's instructions and monitor CVP directly.
 - (4) Notify the veterinarian if the CVP is less than zero or greater than or equal to 10 cm H₂O.
4. Monitor body temperature to ensure peri-anesthetic hypothermia is prevented or detected.
- a. Record continuous rectal or esophageal body temperature with an indwelling probe or intermittently record rectal temperature using a mercury or digital thermometer.
 - b. Use a warm water circulating blanket, forced-air heating blanket, or a heated surgical table to maintain body temperature within the normal temperature range.
 - c. Notify the veterinarian if the body temperature decreases below 97° F or increases above 103° F.
5. Monitor oxygenation to ensure an adequate concentration of oxygen in the arterial blood.
- a. Observe mucous membrane color to subjectively assess blood oxygen content.
 - (1) Normal mucous membrane color is salmon pink.
 - (2) Notify the veterinarian immediately if mucous membranes are pale (whitish), blue (cyanosis), yellow (icterus), or if you cannot determine what the color is (e.g., darkly pigmented gums).
 - b. Monitor hemoglobin saturation using pulse oximetry (SpO₂) to allow detection of hypoxemia.
 - (1) Place a pulse oximeter probe on the tongue, lip, ear fold, flank skin, or other thin area to record the pulse oximetry if using a transmittance probe, or in the rectum or esophagus if using a reflectance probe.
 - (2) Investigate any SpO₂ reading less than 95%. A reading less than 95% could signify hypoxemia or could be due to artifact.
 - (a) Ensure the probe has not fallen off or become dislodged, moisten the tongue if that is where the probe is placed, or reposition the probe if the thickness of the tissue is too great or if the tissue is pigmented heavily.
 - (b) If replacing the probe, repositioning the probe, or moistening the tongue does not correct the SpO₂ reading, assume hypoxemia is present and notify the veterinarian immediately.
 - (3) Notify the veterinarian immediately if the SpO₂ reading is less than 90% at any time, before troubleshooting the machine.
 - c. Measure the partial pressure of oxygen in an arterial blood sample (PaO₂) if equipment is available to perform arterial blood gas analysis.
 - (1) Anaerobically collect a 1 ml sample of blood in a lithium heparin-coated syringe from a dorsal metatarsal artery or femoral artery.

Performance Steps

- (2) Perform arterial blood gas analysis on the sample within 10 minutes, or hold the sample on ice until analysis is possible.

6. Monitor ventilation to ensure the patient is adequately eliminating waste carbon dioxide (CO₂).
 - a. Subjectively assess adequacy of ventilation by observing the rise and fall of the chest wall, observing the filling and emptying of the anesthesia rebreathing bag, and by auscultating the lung sounds with a stethoscope placed on the external thoracic wall or using an esophageal stethoscope.

NOTE: Notify the veterinarian if the animal is apneic for more than 20 seconds, or if the respiratory rate is less than 8 breaths per minute, or if respirations are shallow or irregular.

- b. Monitor respiratory rate using an apnea monitor or respiratory monitor in line with the endotracheal tube, if available.

NOTE: Notify the veterinarian if the animal is apneic for more than 20 seconds, or if the respiratory rate is less than 8 breaths per minute, or if respirations are shallow or irregular.

- c. Measure the patient's tidal volume (VT) using a spirometer, if available.
 - (1) Follow the manufacturer's instructions for measuring VT.
 - (2) Notify the veterinarian if the patient's VT is not adequate (inadequate is defined as a VT less than 10ml/kg body weight), or if the respiratory rate is less than 8 breaths per minute.
- d. Monitor end-tidal carbon dioxide concentration (ETCO₂) to detect apnea or hypo- or hyperventilation.

NOTE: Capnography is the measurement and recording of the CO₂ concentration in a patient's exhaled breath. The peak CO₂ concentration at the end of a breath (end-tidal CO₂) is roughly equivalent to the arterial CO₂ concentration. Hypoventilation (inadequate breathing) is defined as an end-tidal CO₂ greater than 60 mm Hg and hyperventilation (panting or excessive breathing) is defined as an end-tidal CO₂ less than 25 mm Hg. The normal ETCO₂ is 35-45 mm Hg.

- (1) Notify the veterinarian if the patient is apneic for more than 20 seconds, or if the respiratory rate is less than 8 breaths per minute.
- (2) Notify the veterinarian if the ETCO₂ is greater than 60 mm Hg or less than 25 mm Hg.
- e. Measure the partial pressure of carbon dioxide in an arterial blood sample (PaCO₂) if equipment is available to perform arterial blood gas analysis, using the same steps outlined in paragraph 4c.

7. Maintain an anesthesia record.
 - a. Complete DA Form 7389 or equivalent form based on local SOP or policy.
 - b. Record all drugs that are administered (in milligrams), time of administration, and route of administration.
 - c. Record all significant events, times these events occurred, and relevant information about the event. Use the reverse of the form if more space is needed.
 - d. Measure and record patient parameters as directed by the veterinarian, but AT LEAST every 15 minutes, and ideally every 5 minutes.
 - e. Patient parameters should be recorded using symbols or numeric values.

8. Monitor patient reflexes and response to manipulation to subjectively assess the level of anesthesia.

- a. Palpebral (blink).
 - (1) Touch the hairs along the lateral side of the upper eyelid lightly.
 - (2) Observe the dog's eye for a blinking response.

Performance Steps

NOTE: This reflex is present in awake and lightly anesthetized dogs. Routine dental prophylaxis may be performed; however, the dog would not be sufficiently anesthetized for any surgical procedures in which an incision would be necessary, until the reflex is sluggish or absent.

- b. Jaw tone.
 - (1) Open the jaws of the dog and subjectively assess jaw tone as absent, slight, or strong.
 - (2) Notify the veterinarian if a strong jaw tone is detected.
- 9. Sigh the dog every 5 to 10 minutes to reduce lung atelectasis (collapse of alveoli) that is common with anesthesia.
 - a. If the veterinarian is performing chest or abdominal surgery, request permission before sighing the dog.
 - b. Close the "pop off" valve.
 - c. Compress the rebreathing bag and monitor the pressure manometer on the anesthesia machine.
 - d. Inflate the thorax to a pressure of 15 to 25 cm of water.
 - e. Immediately release the rebreathing bag
 - f. Open the "pop off" valve and maintain the rebreathing bag at 1/2 to 2/3 full.
- 10. Maintain anesthesia until the veterinarian or senior technician instructs you to discontinue anesthesia.
- 11. To discontinue anesthesia, turn off the anesthesia vaporizer and maintain the dog on 100% oxygen for several minutes to facilitate inhalant gas "wash out."

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Monitored the anesthesia machine. <ul style="list-style-type: none"> a. Ensured an adequate amount of inhalant agent in the vaporizer. b. Ensured adequate oxygen flow to the patient. c. Ensured adequate reserve in the rebreathing bag. d. Monitored the soda lime crystals. e. Ensured the anesthetic waste gas scavenging system used in the facility was in use and operating properly. 	_____	_____
2. Placed a peripheral intravenous catheter, initiated an infusion of appropriate fluid, and provided fluid therapy at an hourly rate of 10 ml/kg/hr.	_____	_____
3. Monitored circulation. <ul style="list-style-type: none"> a. Monitored CRT and notified the veterinarian if the CRT was greater than 2 seconds or could not be determined. b. Monitored the peripheral pulse and heart beat and notified the veterinarian if the pulse or heart rate was less than 60 or greater than 120 beats per minute, if the pulse or heart beat was irregular, if the pulse or heart beat was weak or absent, or if pulse deficits were detected. 	_____	_____

Performance MeasuresGONO
GO

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| <ul style="list-style-type: none"> c. Auscultated the heart beat and notified the veterinarian if the heart beat was weak or absent, if the heart rate was irregular, or if the heart rate was less than 60 or greater than 120 beats per minute. d. Recorded a continuous Lead II ECG and notified the veterinarian if there was no recordable heart rhythm, if the heart rhythm was irregular, if the heart rate was less than 60 or greater than 120 beats per minute, or if abnormal complexes were noted. e. Measured noninvasive arterial blood pressure using either a Doppler ultrasound monitor or an oscillometric monitor, and notified the veterinarian if systolic blood pressure was less than 100 or greater than 160 mm Hg or if the mean arterial blood pressure was less than 60 or greater than 90 mm Hg. f. Measured central venous pressure using a pressure transducer and monitor or water manometry, and notified the veterinarian if the CVP was less than zero or greater than or equal to 10 cm H₂O. | <p>_____</p> <p>_____</p> | <p>_____</p> <p>_____</p> |
| <p>4. Monitored body temperature and notified the veterinarian if the body temperature was less than 97° F or greater than 103° F.</p> | <p>_____</p> | <p>_____</p> |
| <p>5. Monitored oxygenation.</p> <ul style="list-style-type: none"> a. Observed mucous membrane color and notified the veterinarian if abnormal color was noted or if color could not be determined. b. Monitored hemoglobin saturation using pulse oximetry, took appropriate measures to troubleshoot decreases in SpO₂ below 95%, and notified the veterinarian if hypoxemia was present. c. Measured arterial partial pressure of oxygen, if equipment was available, on a sample properly collected from an arterial puncture. | <p>_____</p> | <p>_____</p> |
| <p>6. Monitored ventilation.</p> <ul style="list-style-type: none"> a. Assessed ventilation subjectively by observing the chest wall, rebreathing bag, and lung auscultation, and notified the veterinarian if ventilation was absent, if apnea persisted for more than 20 seconds, if the respiratory rate was less than 8 breaths per minute, or if respirations were shallow or irregular. b. Monitored respiratory rate using an apnea monitor or in-line endotracheal tube meter, and notified the veterinarian if ventilation was absent, if apnea persisted for more than 20 seconds, or if the respiratory rate was less than 8 breaths per minute. c. Measured the tidal volume, and notified the veterinarian if VT was less than 10 ml/kg or if the respiratory rate was less than 8 breaths per minute. d. Monitored end-tidal carbon dioxide concentration using capnography, and notified the veterinarian if ETCO₂ was less than 25 or greater than 60 mm Hg, if the respiratory rate was less than 8 breaths per minute, or if apnea persisted for more than 20 seconds. e. Measured arterial partial pressure of carbon dioxide, if equipment was available, on a sample properly collected from an arterial puncture. | <p>_____</p> | <p>_____</p> |
| <p>7. Maintained an anesthesia record, using DA Form 7389 or locally approved form.</p> | <p>_____</p> | <p>_____</p> |

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
a. Recorded all drugs used, times and routes of administration for all drugs and anesthetics, and significant events.		
b. Measured and recorded patient parameters as directed by the veterinarian at least every 15 minutes.		
8. Monitored patient reflexes and notified the veterinarian if abnormal reflexes were present.	—	—
9. Sighed the dog every 5 to 10 minutes.	—	—
10. Maintained anesthesia until the veterinarian instructed the soldier to discontinue anesthesia.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
None

Related
HDBK VET CARE OF MWD

Subject Area 5: Surgical

PREPARE VETERINARY SURGICAL INSTRUMENTS FOR USE

081-891-1069

Conditions: The veterinarian has completed a surgical procedure and handed you the soiled instruments. You must prepare the surgical instruments for use. Necessary materials and equipment: soft bristled scrub brush, ultrasonic cleaner with manufacturer's instructions and recommended cleaning solution, sink with hot and cold running water, distilled or demineralized water, a noncorrosive low-sudsing neutral pH detergent solution, muslin wrappers, autoclave tape, sterilization indicators, level surface, pen, steam sterilizer with manufacturer's instructions, disposable exam gloves, soft absorbent towels, sterilization pouches, instrument trays or pans, heat sealer, dust covers, and instrument milk.

Standards: Cleaned, wrapped, and sterilized the surgical instruments.

Performance Steps

1. Put on a pair of disposable exam gloves.
2. Rinse the surgical instruments.
 - a. Rinse under cold running tap water.
 - b. Rinse as soon as possible after surgery.
 - c. Ensure blood and other gross organic material is removed.
3. Clean the surgical instruments.
 - a. Scrub with a soft bristled scrub brush using a noncorrosive, low-sudsing, neutral pH detergent solution to remove all organic debris.
 - (1) Clean each instrument separately.
 - (2) Open all hinged instruments to expose the boxlocks and serrations to the detergent.
 - (3) Multiple component instruments should be disassembled.
 - (4) Give special attention to the hinged area and the serrations of the instrument's grasping surface.
 - (5) Rinse instruments with distilled or demineralized water.
 - b. Place the instruments in an ultrasonic instrument cleaner.
 - (1) Open all hinged instruments to expose the boxlocks and serrations to the detergent.
 - (2) Use the manufacturer's recommended cleaning solution.
 - (3) Set the timer for cleaning IAW the manufacturer's instructions.
 - (4) Remove the instruments after the prescribed cleaning time.
4. Perform rinses.
 - a. First rinse. Rinse instruments under cold running tap water.
 - b. Second rinse. Rinse instruments in distilled or demineralized water.
5. Remove gloves.
6. Dry the instruments with a soft, absorbent towel.
7. Treat "working" instruments (box locks, hinges, etc.) with instrument milk IAW the manufacturer's instructions.

Performance Steps

8. Sort, inspect, and test the instruments.
 - a. Put like items together.
 - b. Inspect all surfaces for organic debris such as blood and tissue.
 - c. Inspect for signs of corrosion, wear, and cracks.
 - d. Test the normal action of all items to ensure that they open and close properly.

NOTE: If the instruments are corroded, stained, or do not function properly, have the veterinarian determine whether or not they should be included in the instrument pack or replaced.

9. Assemble the pack.

NOTE: Surgical packs should not exceed 12 X 12 X 20 inches nor weigh more than 12 pounds.

- a. Place a sterilization indicator in the bottom center of the instrument tray or pan.
 - b. Gather the instruments and supplies needed in the surgical pack. Contents should be predetermined by the veterinarian.
 - c. Unlock all instruments with boxlocks, except the Backaus towel forceps. Backaus towel forceps should be kept closed to avoid snagging or puncturing.
 - d. Arrange the instruments by size and type in the instrument tray or pan.
 - (1) String the ringed instruments on a stringer or the longest instrument that fits the tray.
 - (2) Arrange loose instruments neatly.
 - e. Place gauze sponges in the center of the pack, if required.
 - f. Place towels and drapes at the top of the pack, if required.
 - (1) Accordion fold the towels and drapes.
 - (2) Leave courtesy tabs so that the towels and drapes are easily removed from the pack.
10. Wrap the surgical instrument pack in muslin wrappers.
 - a. Place the wrapper on a flat surface with the point of one corner toward you. (See Figure 3-7.)

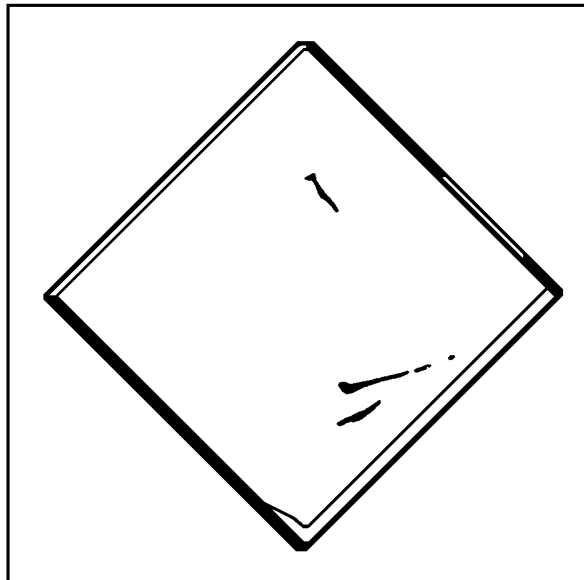


Figure 3-7

Performance Steps

- b. Place the tray or instrument pack to be wrapped in the center of the wrapper with the long side of the pack parallel (going from left to right) to you. (See Figure 3-8.)

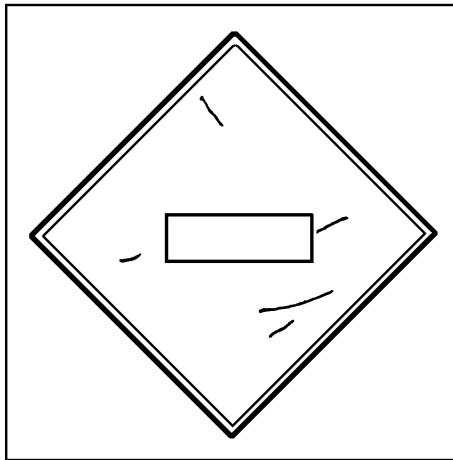


Figure 3-8

- c. Fold the corner nearest to you over the pack until the pack is completely covered. (See Figure 3-9.)

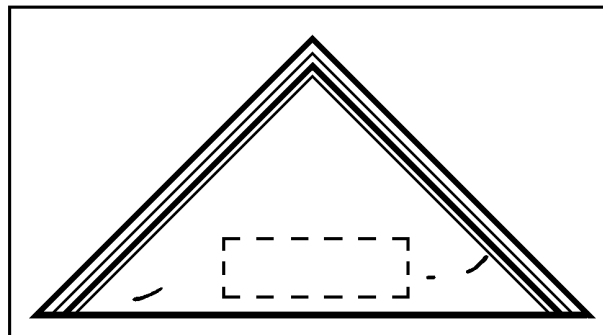


Figure 3-9

NOTE: If the pack cannot be completely covered, use a larger wrapper.

- d. Fold back the corner approximately 2 to 2-1/2 inches toward you, without uncovering any portion of the pack. (See Figure 3-10.)

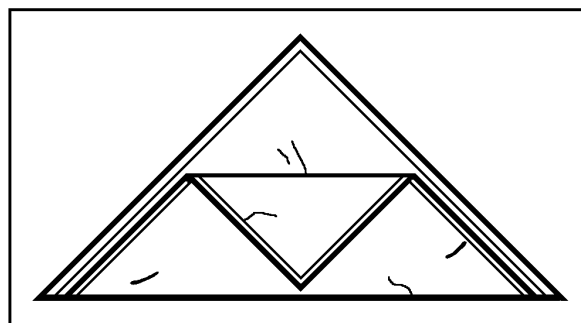


Figure 3-10

Performance Steps

- e. Fold one side of the wrapper firmly, without changing the shape of the pack being wrapped, over and parallel to the pack.
- f. Fold back the corner formed in step 10e approximately 2 to 2-1/2 inches while maintaining the tension. (See Figure 3-11.) The corner is turned back so that the tip can be reached without entering the pack.

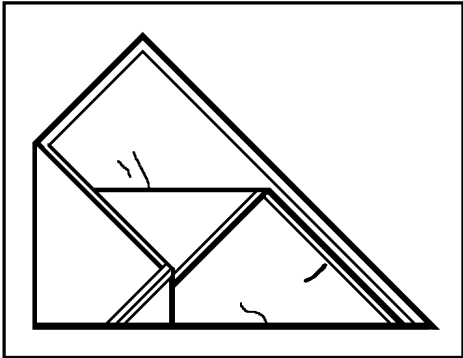


Figure 3-11

- g. Repeat steps 10e and 10f for the opposite side of the pack. (See Figure 3-12.)

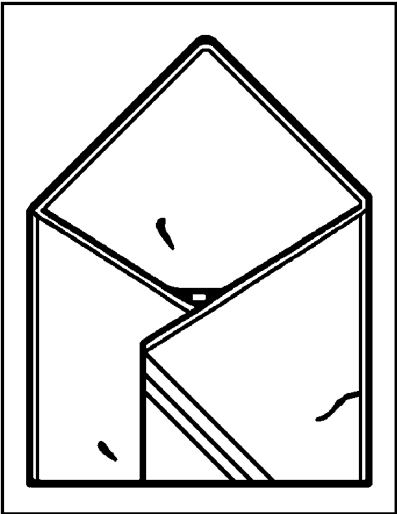


Figure 3-12

- h. The center folds must overlap at least 1/2 inch at the center when finished.
- i. Make a slight tuck in the top layer of the fourth corner, using the material located along and just in front of the pack. (See Figure 3-13.)

Performance Steps

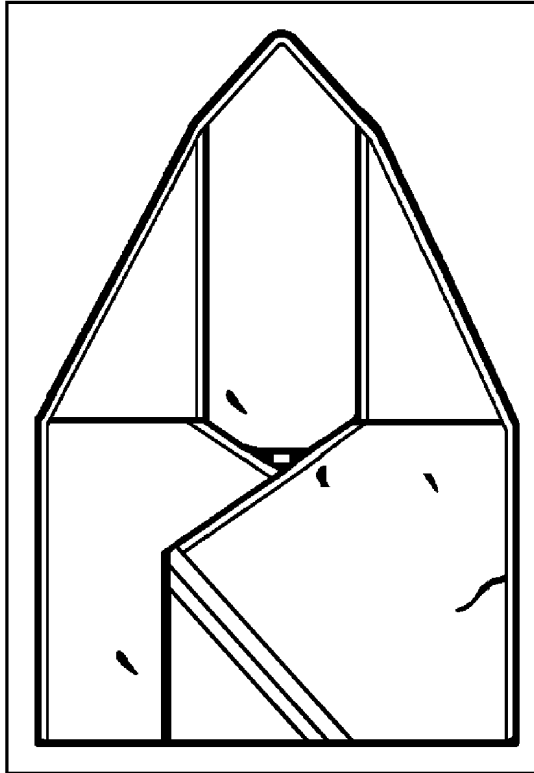


Figure 3-13

- j. Bring the fourth corner up and over the pack and tuck underneath the folded sides, while maintaining tension and simultaneously turning back the corner.
- k. Repeat steps 10a through 10i with a second muslin wrapper so that the pack is double wrapped.

NOTE: Ensure that the wrapper provides protection against contact contamination and is not too tight.

- 11. Apply autoclave tape to the pack.
 - a. Apply the tape over the fourth corner of the outer wrap to seal the package. (See Figure 3-14.)
 - b. Leave a "courtesy" tab on the tape by folding 1/4 to 1/2 inch of the tape back on itself at one end. (See Figure 3-14.)

Performance Steps

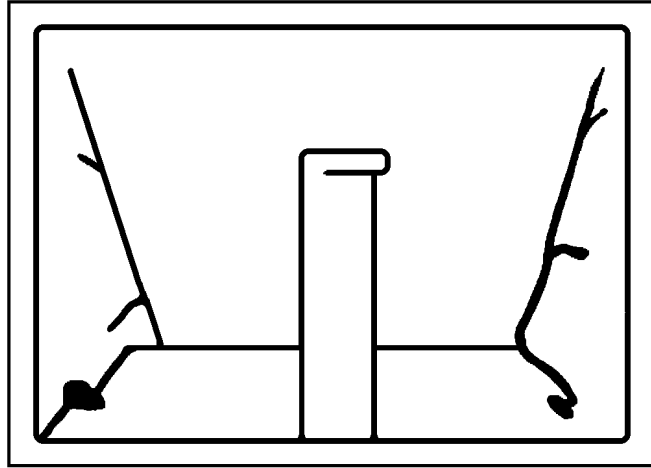


Figure 3-14

- c. Label the tape with the following:
 - (1) The contents of the pack.
 - (2) Initials of pack assembler.
 - (3) Expiration date of the pack.
 - (a) Double wrapped muslin packs are considered sterile for 30 days after sterilization.
 - (b) Double wrapped packs that are placed in a plastic dust cover or placed in a cabinet are considered sterile for 60 days after sterilization.
 - (c) Packs double wrapped in muslin and hermetically sealed after cooling are considered sterile for 6 months after sterilization.
12. Sterilize the surgical packs.
 - a. Load the sterilizer.
 - (1) Place packs in the sterilizer so that they do not touch the sides of the chamber.
 - (2) Criss-cross the packs when they are stacked.
 - b. Prepare the sterilizer IAW the manufacturer's instructions. The following are some general guidelines:
 - (1) Ensure adequate water level is in the reservoir tank. Add distilled water as needed IAW the manufacturer's instructions.
 - (2) Close and lock the door.
 - (3) Turn the unit on.
 - (4) Set the desired temperature. Normal processing is 250°F at 15 psi for 20 to 30 minutes.
 - (5) Set the timer when the desired temperature is reached.
 - (6) Vent the sterilizer chamber upon completion of the cycle.
 - (7) Open the door slightly after the pressure is vented off.
 - (8) Allow the items to cool in the sterilizer for 15 to 20 minutes.
 - (9) Remove the items when cool and place them on wire mesh or wooden slats covered with muslin to allow the packs to finish cooling.
 13. Store the sterilized packs.
 - a. Store packs in a dry place.
 - b. Store packs in a well-spaced area with no sharp projections that may do damage.

Performance Steps

- c. Arrange packs to allow air circulation on all sides.
- d. Closed cabinets are preferred. Keep doors closed.

14. If the pack is not used before its expiration date do the following:

- a. Disassemble the pack.
- b. Inspect instruments for corrosion and function.
- c. Reassemble the pack.
- d. Wrap with clean linen.
- e. Sterilize the pack.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Put on a pair of disposable exam gloves.	_____	_____
2. Rinsed the surgical instruments.	_____	_____
3. Cleaned the surgical instruments.	_____	_____
4. Performed rinses.	_____	_____
5. Removed gloves.	_____	_____
6. Dried the instruments with a soft, absorbent towel.	_____	_____
7. Treated "working" instruments (boxlocks, hinges, etc.) with instrument milk IAW manufacturer's instructions.	_____	_____
8. Sorted, inspected, and tested the instruments.	_____	_____
9. Assembled the pack.	_____	_____
10. Wrapped the surgical instrument pack in muslin wrappers.	_____	_____
11. Applied autoclave tape to the pack.	_____	_____
12. Sterilized the surgical packs.	_____	_____
13. Stored the sterilized packs.	_____	_____
14. Took action if the pack was not used before its expiration date.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM A SURGICAL SKIN PREPARATION ON A MILITARY WORKING DOG
081-891-1087

Conditions: You have been instructed to perform a surgical skin preparation on a military working dog. The proposed site has been described or shown to you. Necessary materials and equipment include: surgical prep table, V-trough positioner, soft rope or roll gauze, clippers with a #40 blade, chlorhexidine or povidone-iodine surgical scrub and solution, 4X4 gauze sponges, 70% isopropyl alcohol, surgical hand scrub brush, hand scrub sink, surgical gloves, vacuum cleaner or sticky tape, surgical cap, and surgical mask.

Standards: Performed a surgical skin preparation on a dog while maintaining a sterile field.

Performance Steps

1. Position the dog so that the surgical site is accessible.
2. Immobilize the dog.
 - a. Place the dog in a V-trough positioner.
 - b. Tie the dog's legs to the surgical prep table with soft rope or roller gauze.
3. Put on a surgical cap and mask.
4. Clip the dog's hair with a #40 blade.
 - a. Hold the clippers so that the blade is parallel to the skin.
 - b. Clip first with the hair grain and then against the hair grain.
 - c. Clip an area at least 2 to 3 inches larger than the anticipated incision.
 - d. Remove all loose hair with either a vacuum or sticky tape.
5. Put on sterile surgical gloves (see task 081-891-1089).
6. Scrub the surgical site identified by the veterinarian.
 - a. Use surgical scrub and a gauze sponge.
 - b. Wet a gauze sponge with water.
 - c. Apply surgical scrub to the area where the incision will be made.
 - d. Use back and forth motions over the incision area.
 - e. Use a small circular scrubbing pattern for the remainder of the clipped area.
 - (1) Scrub from the incision site to one edge of the clipped area.
 - (2) Scrub the remaining area from the incision site to the opposite edge of the clipped area.
 - (3) Never cross the incision site with the circular scrubbing.
7. Spray the entire scrubbed area with 70% isopropyl alcohol.
8. Wipe the soap and alcohol away using dry gauze sponges.
 - a. Wipe the incision site first from one end to the other.
 - b. Wipe away the remainder of the soap and alcohol using straight line motions from one end to the other.
 - (1) Use a new gauze pad for each swipe.
 - (2) Never cross the incision site.
9. Repeat steps 6, 7, and 8 two more times.
 - a. Look carefully at the gauze pads after the third cleaning.

Performance Steps

- b. If there is any dirt or debris on the gauze pads, repeat steps 6, 7, and 8 until the gauze pads are "clean".
- 10. Spray or pour a germicidal solution onto the scrubbed, clipped area.
- 11. Inform the veterinarian that the dog is ready for surgery.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Positioned the dog so that the surgical site was accessible.	_____	_____
2. Immobilized the dog.	_____	_____
3. Put on a surgical cap and mask.	_____	_____
4. Clipped the dog's hair with a #40 blade.	_____	_____
5. Put on sterile surgical gloves.	_____	_____
6. Scrubbed the surgical site identified by the veterinarian.	_____	_____
7. Sprayed the entire scrubbed area with 70% isopropyl alcohol.	_____	_____
8. Wiped the soap and alcohol away using dry gauze sponges.	_____	_____
9. Repeated steps 6, 7, and 8 two more times.	_____	_____
10. Sprayed or poured a germicidal solution onto the scrubbed, clipped area.	_____	_____
11. Informed the veterinarian that the dog is ready for surgery.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PUT ON STERILE GLOVES USING THE OPEN GLOVE TECHNIQUE FOR A VETERINARY PROCEDURE

081-891-1089

Conditions: You have performed a surgical hand and arm scrub. You are gowned and in a sterile surgical environment. You must maintain the sterile environment. The correct size of gloves has already been selected, have been taken out of the outer unsterile wrapper, and have been placed on a table. The gloves are still in the inner sterile wrapper. Materials and equipment include: Sterile gloves.

Standards: Donned sterile gloves using the open glove technique without contaminating the sterile field.

Performance Steps

1. Extend your hands through the ends of the sleeves of the surgical gown.
2. Position the inner package so that the cuff end is closest to you.
3. Unfold the inner package.
 - a. Grasp the lower corner of the package.
 - b. Open the package to a fully flat position without touching the gloves.
4. Expose both gloves.
 - a. Grasp the lower corners or designated areas on the package.
 - b. Pull gently to the side without touching the gloves.
5. Put on the left glove.
 - a. Grasp the cuff of the left glove at the folded edge and remove it from the wrapper with your right hand.
 - b. Step away from the table or tray.
 - c. Keeping your hands above the waist, insert the fingers of the other hand into the glove.
 - d. Pull the glove on touching only the exposed inner surface of the glove.

NOTE: If there is difficulty in getting the fingers fully fitted into the glove fingers, make the adjustments after both gloves are on.

6. Put on the right glove.
 - a. Insert the fingertips of the gloved left hand under the edge of the folded over cuff of the right glove.

NOTE: The gloved thumb may be kept up and away from the cuff area or may be inserted under the edge of the folded over cuff with the fingertips.

- b. Keeping your hands above the waist, insert the fingers of the right hand into the glove.
 - c. Pull the glove on.
 - d. Do not contaminate either glove.

7. Adjust the gloves to fit properly.
 - a. Grasp and pick up the glove surfaces on the individual fingers to adjust them.
 - b. Pick up the palm surfaces and work the fingers into the gloves .
 - c. Interlock the gloved fingers and work the gloved hands until the gloves are firmly on the fingers.

NOTE: If either glove tears while putting them on or adjusting the gloves, both gloves must be removed and the procedure must be repeated.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Extended both hands through the ends of the sleeves of the gown.	—	—
2. Positioned the inner package.	—	—
3. Unfolded the inner package.	—	—
4. Exposed both gloves.	—	—
5. Put on the first glove.	—	—
6. Put on the second glove.	—	—
7. Adjusted the gloves to fit properly.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM THE SURGICAL HAND AND ARM SCRUB FOR A VETERINARY PROCEDURE

081-891-1090

Conditions: You are to assist with or perform a sterile procedure. The operating room has been set up and the package containing the sterile gown and towel have been opened and placed on a table in the operating room. There is a sink available for performing the surgical hand and arm scrub. Necessary materials and equipment include: chlorhexidine or povidone-iodine surgical scrub in a dispenser with foot control, surgical scrub brush with nail cleaner, scrub sink, nail polish remover, fingernail trimmer, and spare scrub clothes.

Standards: Performed a thorough surgical hand and arm scrub in a veterinary surgical environment while maintaining a sterile environment.

Performance Steps

1. Check supplies and equipment.
 - a. Antimicrobial surgical detergent dispenser with plenty of antimicrobial surgical detergent.
 - b. Surgical scrub brush and nail cleaner.
 - c. Adequate supply of water.
 - d. Ensure the water control valves are operable.
 - e. Open the scrub brush and nail cleaner package and place them to the side in an accessible location.
 2. Prepare for the surgical scrub.
 - a. Remove any rings, bracelets, or other jewelry from your hands and arms.
 - b. Trim your fingernails as necessary. The nails should not be visible when looking at the palm side of the hand.
 - c. Remove nail polish if applicable.
 - d. Roll the sleeves of the scrub shirt to approximately 4 inches above the elbow.
 - e. Position the soap dispenser foot control on the floor near the sink where it is easily accessible.
 3. Turn on the water.
 - a. Adjust the temperature to a comfortable degree of warmth.
 - b. Adjust the water flow.
 - (1) The water must be fast enough to allow expeditious rinsing but not so fast as to splash scrub clothing.
 - (2) Change scrub clothes if they become wet to avoid possible contamination.
 4. Wash hands and arms.
 - a. Bend your body slightly at the waist.
 - b. Do not allow any part of your body to touch the sink.
 - c. Keep your hands above elbow level.
 - d. Do not allow your hands, arms, and elbows to touch other parts of your body.
 - e. Wet your hands and arms by making a smooth, gliding motion through the water flow.
 - (1) Wet one arm at a time.
 - (2) Begin at the fingertips and continue to approximately 2 inches above the elbow.
- NOTE:** Perform all washing, scrubbing, rinsing, and drying actions beginning at the fingertips and ending above the elbows.
- f. Dispense a few drops of the antimicrobial soap into the palms of your hands.
 - g. Make a lather by adding a small amount of water.

Performance Steps

- h. Wash your hands and arms to 2 inches above the elbows using the palms.
- i. Clean your fingernails.
 - (1) Remove the fingernail cleaner from the opened package.
 - (2) Clean your fingernails by scraping under each one while holding the hands under the running water.
 - (3) Drop the fingernail cleaner in the bottom of the sink or trash can.
- j. Rinse your hands and arms, one at a time.
 - (1) Hold your hands higher than your elbows.
 - (2) Pass each hand and arm through the water, starting at the fingertips and rinsing to 2 inches above the elbow.

NOTE: The first hand and arm is completely rinsed before proceeding to the other hand and arm.

- (3) Repeat steps 4i(1) and 4i(2) if additional rinsing is required to remove all the soap.

5. Scrub your hands and arms.

- a. Pass the scrub brush under the running water.
 - (1) If using a disposable brush, squeeze until the lather forms.
 - (2) If using a nondisposable brush, apply antimicrobial soap to the bristles.

NOTE: Each finger, thumb, hand, and arm is considered a four sided object. Each of the four sides of each part of each hand and arm must be scrubbed. The disposable brush is turned from the bristle side to the sponge side to apply the lather and back to the bristle side to scrub. This rotation is repeated for each of the four sides. Additional soap will probably need to be added during the scrub to maintain sufficient lather.

- b. Scrub your fingertips.
 - (1) If using a disposable brush, apply the soap using the sponge portion of the brush.
 - (2) If using a nondisposable brush, apply the soap using the bristle side of the brush.
 - (3) Scrub your fingernails vigorously for 30 strokes using the bristle side of the brush.
- c. Scrub your fingers, thumbs, and web spaces.
 - (1) Apply soap to each anatomical section to be scrubbed as in steps 5b(1) and 5b(2).
 - (2) Scrub each of the four sections in each of the anatomical sections with 30 strokes each.
- d. Scrub the palm, back side, and heel of your hand.
 - (1) Apply soap to each anatomical section to be scrubbed as in steps 5b(1) and 5b(2).
 - (2) Scrub each of the four sections in each of the anatomical sections with 20 strokes each.
- e. Scrub the first arm.
 - (1) Scrub 3-inch areas with the brush.
 - (2) Use a small circular motion.
 - (3) Make 20 strokes per 3-inch area.
 - (4) Systematically scrub from the wrist to 2 inches above the elbow.
 - (5) Scrub all four sides of your arm as you progressively move up toward the elbow.
 - (6) Keep the hand and arm above the level of the elbow at all times allowing the water to flow away from the scrubbed area.
- f. Repeat steps 5e(1) through 5e(6) to scrub the other arm.
- g. Repeat steps 4i(1) through 4i(3) to rinse both hands and arms.

6. Discard the scrub brush.

- a. Leave nondisposable brushes in the area designated by local SOP.

Performance Steps

b. Discard disposable brushes in the trash receptacle.

7. Turn off the water IAW sink design and local SOP. Do not touch the sink with scrubbed hands or arms.

CAUTION: Avoid touching unsterile items during the scrub. If the scrubbed area is touched by an unsterile object, the entire scrub must be repeated.

8. Enter the sterile area (operating room).

a. Keep your hands and arms above elbow level.

b. Position your hands and arms in front of your body.

NOTE: Maintain your hands and arms in this position to prevent touching contaminated objects and to allow water to drip from the elbows rather than run down the forearms towards the hands.

9. Dry your hands and arms.

a. Lift a sterile hand towel from the top of the gown pack straight up without touching the sterile gown under the towel or any unsterile item. (See Figure 3-15.)

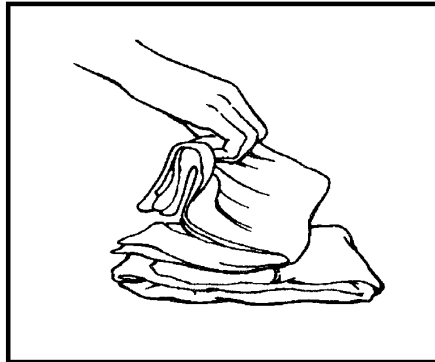


Figure 3-15

NOTE: Take care to avoid dripping water onto the sterile field. If the sterile field is contaminated, a new gown pack must be obtained.

b. Step back from the sterile field and bend forward slightly at the waist.

c. Turn the hand to be dried palm up.

d. Place the end of the towel on the palm surface of the hand to be dried.

(See Figure 3-16.)



Figure 3-16

Performance Steps

- e. Use a rotating and blotting motion to dry the hand and arm starting at the fingertips.
(See Figure 3-17.)



Figure 3-17

NOTE: Do not retrace over areas that have been dried.

- f. Grasp the dry end of the towel with the hand that has been dried and repeat step 9c to dry the other hand and arm.

NOTE: Do not allow the towel to contact your scrub suit.

- 10. Discard the towel by either placing it in the laundry hamper or allowing the circulator to take it.

NOTE: Do not allow the circulator to touch you.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Prechecked supplies and equipment.	_____	_____
2. Prepared for the surgical scrub.	_____	_____
3. Turned on the water.	_____	_____
4. Washed hands and arms.	_____	_____
5. Scrubbed hands and arms.	_____	_____
6. Discarded the scrub brush.	_____	_____
7. Turned off the water IAW sink design and local SOP.	_____	_____
8. Entered the sterile area.	_____	_____
9. Dried hands and arms.	_____	_____
10. Discarded the towel by either placing it in the laundry hamper or allowing the circulator to take it.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PUT ON STERILE GOWN AND GLOVES USING THE CLOSED GLOVE TECHNIQUE FOR A VETERINARY PROCEDURE

081-891-1091

Conditions: You are preparing to assist in a sterile procedure, during which you must maintain the sterile environment. You have donned a surgical headcover, surgical mask, and footcovers. You have performed a surgical hand and arm scrub. Sterile surgical gloves of the correct size for you have been taken out of the outer unsterile wrapper and have been placed on a table, still in the inner sterile wrapper. A sterile surgical gown of the correct size for you is also on the table with the outer unsterile wrapper open, exposing the sterile hand towel and gown. An operating room circulator is available to tie the gown once it is donned. Materials and equipment include: sterile surgical gloves, sterile hand towel, and a sterile gown.

Standards: Donned a sterile surgical gown and sterile surgical gloves using the closed glove technique without contaminating the sterile field or yourself.

Performance Steps

1. Prepare the gown.
 - a. Lift the entire folded gown directly upward by grasping it so that all layers are held in one hand.
 - (1) Touch only the gown and not the wrapper.
 - (2) Touch only the inside of the gown.
 - b. Step back from the sterile field while keeping your hands above waist level in front of and away from your body.
 - c. Open the gown by grasping the inner collar of the gown with your free hand, holding the gown at arms length and at eye level, and allow it to gently unfold. The gown's inner side should be toward you.

NOTE: Disposable gowns are folded and packaged differently. Follow the manufacturer's instructions for opening them.

2. Put on the gown.
 - a. Slide your hands and arms into the arm openings.
 - (1) Move your hands to the sleeve openings.
 - (2) Slip both hands into the arm holes simultaneously while keeping your hands at eye level and your elbows slightly flexed.
 - b. Pass your hands and arms down the sleeves of the gown to the seam between the sleeve and cuff.
 - c. Grasp the inside of each sleeve at the seam between the gown and the cuff using the thumb and index finger to prevent your hands from being exposed.
 - d. Bend at your waist slightly until the circulator has tied the waist ties.
3. Step up to and face the sterile field that is holding your sterile gloves.
4. Position the glove package without allowing your bare fingers to protrude from the gown cuff, touching only the sterile inner side of the glove package. Turn the package so that the gloves are right side up and the arrow on the paper package is pointing toward you.
5. Put on the first glove.
 - a. Remove the first glove from the package.
 - (1) Lift the glove compartment flap with one hand.

Performance Steps

(2) With the other hand, pick up the folded cuff edge of the glove and remove it from the wrapper.

NOTE: Do not allow your hands to come out of the sleeves of the gown.

- b. Place the glove on the palm side of the opposite hand. The palm of the glove should be down with the fingers of the glove pointing towards your elbow, thumb to thumb.
- c. Grasp the rolled edge of the glove cuff with your thumb and fingers that are in the sleeve cuff and stretch the glove up and over the gown cuff while working your fingers out of the cuff of the gown and into the glove.

NOTE: Do not adjust the glove until both gloves have been put on.

- 6. Put on the second glove.
 - a. Remove the second glove from the other side of the wrapper with your gloved hand.
 - b. Place it on the sleeve of the gown with the fingers pointing towards your elbow, palm side down, thumb to thumb.
 - c. Grasp the rolled edge of the glove cuff with your thumb and fingers that are in the sleeve cuff without allowing your hand to come out of the sleeve.
 - d. Stretch the glove up and over the gown cuff while working your fingers out of the cuff of the gown into the glove.
- 7. Adjust the gloves so that the fingers fit snugly.
- 8. Stand still and allow the circulator to make the final adjustments on the neck, waist closures, and the hem of the gown.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Prepared the gown.	_____	_____
2. Put on the gown.	_____	_____
3. Stepped up to and faced the sterile field.	_____	_____
4. Positioned the glove package and did not allow the fingers to protrude from the gown cuff.	_____	_____
5. Put on the first glove.	_____	_____
6. Put on the second glove.	_____	_____
7. Adjusted the gloves so that the fingers fit snugly.	_____	_____
8. Stood still to allow the circulator to make the final adjustments on the neck, waist closures, and the hem of the gown.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

GOWN AND GLOVE SURGICAL TEAM MEMBERS FOR A VETERINARY PROCEDURE
081-891-1092

Conditions: You are the member of a surgical team. You are gowned, gloved, capped, masked, and have shoecovers over your shoes. You are in a sterile environment. There is an open package laid out including a gown and towel for each team member to be gowned. There is an open package laid out including gloves of the appropriate size for each member to be gloved. There is a sterile pan containing 500 cc of sterile saline. Necessary materials and equipment include: sponge, lap tape, or disposable sterile towel.

Standards: Gowned and gloved surgical team members in a veterinary surgical environment without compromising the sterile environment.

Performance Steps

1. Remove the sterile towel from the package.

NOTE: Maintain the sterile environment at all times.

- a. With one hand, pick up the towel from on top of the gown.
 - b. Holding the towel vertically, grasp the seamed edges at the center of the folded towel with the thumb and forefinger of each hand.
 - c. Open the towel by extending both arms to full length.
2. Give the towel to the team member being gowned.
 - a. Without touching the ungloved hand, drape the towel over the team member's extended hand.
 - b. Ensure the longer portion of the towel is hanging off the fourth finger side of the hand.
 3. Prepare the gown.
 - a. Lift the gown from the package by grasping the entire gown.
 - b. Step back from the sterile field, hold onto the outside shoulder seams, and allow the gown to unfold.
 - c. Hold the gown at arm's length and chest level, making sure that the inside of the gown is facing toward the team member being gowned.
 - d. Hold the gown at the outside of the neck and shoulder area.
 - e. Make a cuff of the neck and shoulder area of the gown.
 4. Gown the team member.
 - a. Present the gown with arms still stretched out.
 - b. Have the team member step up to and don the gown.
 - c. Hold the gown until the team member's hands and forearms are in the sleeves.
 - d. Step back from the team member being gowned.
 5. Present the first glove.
 - a. Pick up the glove by placing the fingers of each hand up under the glove cuff with the thumbs of each hand pointed outward.
 - b. Position the glove with the palm side toward the team member being gloved.
 - c. Tell the team member which glove, right or left, is being presented.
 - d. Pull the glove over the team member's gown sleeve cuff by stretching the glove cuff wide and releasing gently.
 6. Present the second glove by repeating steps 5a, 5b, and 5d.

Performance Steps

7. Moisten a sponge, lap pad, or disposable towel in the normal saline and pass it to the team member.
8. Moisten a sponge, lap pad, or disposable towel in the normal saline and wipe the powder from your gloves.
9. Assist with tying only the last wrap of the team member's gown.

NOTE: Do not tie the back of the team member's gown. A nonsterile operating room technician should tie the gown.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Removed the sterile towel from the package.	_____	_____
2. Gave the towel to the team member being gowned.	_____	_____
3. Prepared the gown.	_____	_____
4. Gowned the team member.	_____	_____
5. Presented the first glove.	_____	_____
6. Presented the second glove.	_____	_____
7. Moistened a sponge, lap tape, or disposable towel in the normal saline and passed it to the team member.	_____	_____
8. Moistened a sponge, lap tape, or disposable towel in the normal saline and wiped the powder from his or her own gloves.	_____	_____
9. Assisted with tying only the last wrap of the team member's gown.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

**REMOVE SUTURES OR STAPLES ON A MILITARY WORKING DOG
081-891-1403**

Conditions: The veterinarian has instructed you to remove sutures or staples from a military working dog. The dog is muzzled and the dog handler is available to position and restrain the animal. Necessary materials and equipment include: hemostatic forceps or tissue forceps, suture scissors, wire cutting scissors, staple remover with manufacturer's instructions, 4X4 gauze sponges, disinfectant, and the dog's health record.

Standards: Removed skin sutures or staples without causing further trauma to the dog and had the veterinarian reevaluate the site.

Performance Steps

1. Remove sutures or staples.
 - a. Sutures.
 - (1) Secure the suture by using hemostatic or tissue forceps.
 - (2) Cut the suture by placing it between the blades of the suture scissors.
 - (3) Remove the suture from the skin by pulling one end. Do not pull the suture knot through the skin.
 - (4) Repeat steps 2a(1)-2a(3) until all sutures are removed.
 - b. Stainless steel suture. Follow steps 2a(1)-2a(4) except use wire cutting scissors to cut the steel.
 - c. Staples.
 - (1) Slide the two forks of the staple remover under the staple with the single fork on the top of the staple and centered between the two sites where the staple enters the skin.
 - (2) Squeeze the handles together compressing the middle of the staple and pulling the ends out of the skin.
 - (3) Repeat steps 2c(1) and 2c(2) until all staples are removed.
2. Clean the suture site area with a disinfectant and 4X4 gauze.
3. Have the veterinarian evaluate the suture site area once the sutures are completely removed.
4. Record the procedure in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Removed the sutures or staples.	_____	_____
2. Cleaned the suture site area with a disinfectant and 4X4 gauze.	_____	_____
3. Had the veterinarian evaluate the suture site area once the sutures are completely removed.	_____	_____
4. Recorded the procedure in the dog's health record.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PROVIDE POSTOPERATIVE CARE TO A MILITARY WORKING DOG
081-891-1603

Conditions: The veterinarian has instructed you to provide postoperative care to a military working dog immediately following surgery. The dog is in the recovery room. Necessary materials and equipment include: recovery cage, circulating warm water heating pad or forced-air rewarming device, blankets, thermometer, timepiece, and a 10 or 12 cc syringe.

Standards: Provided postoperative care on a military working dog without causing further trauma to the dog.

Performance Steps

1. Stabilize the dog in a recovery cage.
 - a. It should be clean.
 - b. It should be well ventilated.
 - c. Provide supplemental heat under the patient using one of the following methods:
 - (1) Circulatory warm water pad.
 - (2) Circulatory warm air pad.
 - (3) Warmed blankets.
 - d. Place the dog in a lateral recumbency position in the recovery cage.
 - (1) Position the head towards the cage door.
 - (2) The head and neck should be placed in a slightly extended position to prevent obstruction of the airway.
 - e. Gently pull the dog's tongue out and drape it over the lower jaw.
 - f. Maintain the IV fluid rate as directed by the veterinarian.
2. Monitor the dog.
 - a. Take the vital signs and capillary refill time (CRT) at least every 15 minutes (see task 081-891-1007).
 - b. Rotate the dog to the opposite side every 15 to 30 minutes.
 - c. Untie the gauze holding the trachea tube in place when reflexes (palpebral, toe pinch, etc.) begin to return.
3. Extubate the dog once the animal has regained the ability to swallow.

NOTE: Chewing on the tube usually indicates that the swallowing reflex has returned.

- a. Deflate the cuff prior to extubation.
 - (1) Use a 10 or 12 cc syringe.
 - (2) Attach the empty syringe to the cuff inflation indicator.
 - (3) Deflate the cuff by pulling back on the plunger of the syringe.
4. Advise the veterinarian of the patient's progress to include:
 - a. Vital signs and CRT.
 - b. Prolonged recovery.
 - c. Signs of pain.
 - d. Excitement.
 - e. Difficulty in breathing.
 - f. Bleeding from the surgical site.
5. Immediately notify the veterinarian if there are signs of shock to include:
 - a. Pale or cyanotic mucous membranes.
 - b. Rapid and shallow respiration.

Performance Steps

- c. Weak and rapid pulse.
- d. Coldness of body extremities.
- 6. Continue monitoring the dog until otherwise directed by the veterinarian.
- 7. Record all findings and treatment in the patient's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Stabilized the dog in a recovery cage.	_____	_____
2. Monitored the dog.	_____	_____
3. Extubated the dog once the animal regained the ability to swallow.	_____	_____
4. Advised the veterinarian of the patient's progress.	_____	_____
5. Immediately notified the veterinarian if there are signs of shock.	_____	_____
6. Continued monitoring the dog until otherwise directed by the veterinarian.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

Subject Area 6: Radiology

RADIOGRAPH THE THORAX OF A MILITARY WORKING DOG

081-891-1054

Conditions: The veterinarian has directed you to take a ventrodorsal, dorsoventral, or lateral radiograph of the thorax of a military working dog. If necessary, the dog has been anesthetized and stabilized and is ready for the procedure. The dog's handler and one other person are available to assist in positioning the animal on the table. Necessary materials and equipment include: radiology room, darkroom, unexposed cassette storage container, automatic radiography film developer, radiation personal protective equipment for all personnel involved (lead aprons, film badges, lead gloves, thyroid shields), assorted sizes of unexposed film in cassettes, sandbags, radiography machine with manufacturer's instructions, technique chart, measuring calipers, radiography log book, soft cotton rope, roller gauze or tape, radiolucent V-trough, radiolucent foam blocks and wedges, and the dog's health record.

Standards: Properly radiographed the thorax of a military working dog, and developed a film of diagnostic quality while ensuring safety of all personnel involved.

Performance Steps

1. Select an unexposed cassette and place it in the cassette tray of the radiography machine. *NOTE:* Normally, there is a central location for unexposed cassettes preloaded with film (unexposed cabinet). If unsure about the status of the cassette, go into the darkroom and open it. If a cassette is opened outside of the darkroom, the film within it will be exposed. A 14 inch X 17 inch cassette is normally used for thoracic radiography of military working dogs.

2. Fill out the radiograph label with the following information:

- a. Animal's name.
- b. Animal's tattoo number.
- c. Date radiograph is taken.
- d. Facility name.
- e. Position/view taken.

3. Turn the radiography machine on.

4. Set the focal film distance (FFD) IAW manufacturer's instructions. This is also known as the source-to-image distance (SID).

5. Set out positioning items needed for the procedure (e.g., sandbags).

6. Put on PPE.

NOTE: Involve a minimum number of personnel in the procedure to avoid unnecessary radiation exposure.

- a. Lead apron.
- b. Thyroid shield.
- c. Film badge (dosimeter). Attach it to the collar on the outside of the apron at the level of the thyroid gland.
- d. Lead gloves. It may be easier to don the gloves after measuring the dog and setting the machine.

7. Position the dog.

Performance Steps

a. Ventrodorsal (VD) view.

- (1) Position the dog on its back (dorsal recumbency).
- (2) Stabilize the dog by placing a radiolucent V-trough under it or use radiolucent foam wedges or blocks on each side of the thorax.

NOTE: If sandbags are used to stabilize the dog, place them outside the field of view because they are not radiolucent and will block the x-rays.

- (3) Pull the front legs forward, along each side of the dog's head, and tuck the elbows inward. Secure the legs with soft cotton rope, roller gauze, or tape.
- (4) Place sandbags under the neck and the caudal lumbar spine to aid stabilization, if necessary.
- (5) Place radiolucent foam blocks along the sides of the chest.
- (6) Position the cassette tray under the dog so that the following landmarks will be visible in the radiograph:
 - (a) Cranial aspect: the first rib, sternum, and thoracic inlet.
 - (b) Caudal aspect: the second lumbar vertebra.
 - (c) Lateral aspects: the left and right lateral thoracic walls.
- (7) Place a left or right radiopaque marker on the cassette to correctly identify the thorax.
- (8) Center the primary beam at the caudal margin of the scapula.

b. Lateral view.

- (1) Rotate the dog to left or right lateral recumbency, as directed by the veterinarian.
- (2) Pull the front legs forward far enough to avoid superimposing (overlapping) the humerus and tricep muscles on the cranial portion of the thorax.
- (3) Secure the legs with soft cotton rope, roller gauze, or tape.
- (4) Immobilize the neck and lower abdomen by utilizing sandbags, if necessary.
- (5) Elevate the sternum to ensure the midsagittal plane is parallel to the film by placing a radiolucent foam wedge under the sternum.
- (6) Avoid any degree of thorax rotation as it will distort the size and shape of the heart and the location of the trachea.
- (7) Position the dog's neck so as not to interrupt breathing.
- (8) Position the cassette tray under the dog so that the following landmarks will be visible in the radiograph:
 - (a) Cranial aspect: the first rib, sternum, and thoracic inlet.
 - (b) Caudal aspect: the second lumbar vertebra.
 - (c) Dorsal aspect: the dorsal spinous process of the thoracic vertebrae.
 - (d) Ventral aspect: the sternum.
- (9) Use a left or right radiopaque marker to indicate which side of the thorax is the closest to the cassette.
- (10) Center the primary beam immediately caudal to the caudal border of the scapula, midway between the vertebrae and sternum.

c. Place the radiograph label in the primary beam on the cassette.

NOTE: Labels that are placed directly on the cassette are just one method of permanent film identification. Another common procedure involves the use of a "flash" identification unit that imprints the patient and facility data on the film by exposing a small blocked area of the film after the radiograph is taken. Follow your unit SOP for permanent identification of all radiography film.

8. Calculate machine settings.

- a. Measure the thorax at the thickest portion to be radiographed to determine the maximal thoracic width.

Performance Steps

- b. Using a technique chart, determine the kVp based on the maximal thoracic width.
- c. Using a technique chart, determine the mAs based on the maximal thoracic width.
- 9. Set the kVp and mAs values found in step 8 IAW manufacturer's instructions.
- 10. Have all personnel leave the room unless they are required to help maintain the animal's positioning or monitor anesthesia. Ensure every person who remains in the room is properly observing all radiation safety rules and policies.
- 11. Expose the radiograph film.
- 12. Develop the radiograph (see task 081-891-1073).
- 13. Show the radiograph to the veterinarian for interpretation.
- 14. Record the procedure in the radiography log book.
- 15. Record the procedure in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Selected an unexposed cassette and placed it in the film tray of the radiography machine.	—	—
2. Filled out the radiograph label with specific information.	—	—
3. Turned the radiograph machine on.	—	—
4. Set the focal film distance IAW manufacturer's instructions.	—	—
5. Set out positioning items needed for the procedure.	—	—
6. Donned PPE.	—	—
7. Positioned the dog.	—	—
8. Calculated machine settings.	—	—
9. Set the correct kVp and mAs values on the radiography control panel.	—	—
10. Had all excess personnel leave the room and ensured everyone in the room was following proper radiation safety procedures.	—	—
11. Exposed the radiography film.	—	—
12. Developed the radiograph.	—	—
13. Showed the radiograph to the veterinarian for interpretation.	—	—
14. Recorded the procedure in the radiography log book.	—	—
15. Recorded the procedure in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

RADIOGRAPH THE ABDOMEN OF A MILITARY WORKING DOG

081-891-1055

Conditions: The veterinarian has directed you to take a radiograph of the abdomen of a military working dog. If necessary, the dog has been anesthetized and stabilized and is ready for the procedure. The dog's handler and one other person are available to assist in positioning the animal on the table. Necessary materials and equipment include: radiology room, darkroom, unexposed cassette storage container, automatic radiography film developer, radiation personal protective equipment for all personnel involved (lead aprons, film badges, lead gloves, thyroid shields), assorted sizes of unexposed film in cassettes, sandbags, soft cotton rope, roller gauze, or tape, radiolucent V-trough, radiolucent foam blocks and wedges, radiography machine with manufacturer's instructions, measuring calipers, radiography log book, and the dog's health record.

Standards: Properly radiographed the abdomen of a military working dog, and developed a film of diagnostic quality while ensuring safety of all personnel involved.

Performance Steps

1. Select an unexposed cassette and place it in the cassette tray of the radiography machine.
NOTE: Normally, there is a central location for unexposed cassettes preloaded with film (unexposed cabinet). If unsure about the status of the cassette, go into the darkroom and open it. If a cassette is opened outside of the darkroom, the film will be exposed. A 14 inch X 17 inch cassette is normally used for abdominal radiography of military working dogs.

2. Fill out the radiograph label with the following information:
 - a. Animal's name.
 - b. Animal's tattoo number.
 - c. Date radiograph is taken.
 - d. Facility name.
 - e. Position/view taken.

3. Turn the radiography machine on.

4. Set the focal film distance (FFD) IAW manufacturer's instructions. This is also known as the source-to-image distance (SID).

5. Set out positioning items needed for the procedure (e.g., sandbags).

6. Put on PPE.

NOTE: Involve a minimum number of personnel in the procedure to avoid unnecessary radiation exposure.

- a. Lead apron.
- b. Thyroid shield.
- c. Film badge (dosimeter). Attach it to the collar on the outside of the apron at the level of the thyroid gland.
- d. Lead gloves. It may be easier to don the gloves after measuring the dog and setting the machine.

7. Position the dog.

- a. Lateral view.
 - (1) Pull the rear legs caudally to avoid superimposing (overlapping) the quadriceps muscles on the caudal abdomen.

Performance Steps

- (2) Restrain the rear legs with soft cotton rope, roller gauze, or sandbags, if necessary.
- (3) Place sandbags over the front legs.
- (4) If sandbags are used, place them outside the field of view.
- (5) Ensure that the imaginary plane through the middle of the ventral abdomen and the midportion of the lumbar vertebrae is parallel to the film.
- (6) Position the cassette tray under the dog so that the following landmarks will be visible in the radiograph:
 - (a) Cranial aspect: the front of the diaphragm at the level of the fifth rib.
 - (b) Caudal aspect: the middle of the pelvis.
 - (c) Dorsal aspect: the dorsal spinous process of the lumbar spine.
 - (d) Ventral aspect: the abdominal wall.
- (7) Center the primary beam on the midpoint of the abdomen.
- (8) Place a left or right radiopaque marker on the cassette to properly identify the view.

NOTE: Radiographs for the lateral view of the abdomen must be properly labeled for the left or right lateral recumbent position. When the dog is in right lateral recumbency, the gastric air bubble will be in the fundus. If the dog is in left lateral recumbency, the gastric air bubble will be in the pyloric antrum.

- (9) Collimate the beam to the smallest possible field that will show the field of view.

b. Ventrodorsal (VD) view.

- (1) Position the dog on its back (dorsal recumbency).
- (2) Stabilize the dog by placing a radiolucent V-trough under it or by placing radiolucent foam wedges, sandbags, or blocks along the animal's sides.
- (3) If sandbags are used, place them along the thoracic wall outside the field of view.
- (4) Position the front legs so that the feet are not over the cranial abdomen.
 - (a) Pull the front legs cranially.
 - (b) Flex the elbows.
 - (c) Place a sandbag on each radius and ulna, or use tape or soft rope to restrain the front legs.
- (5) Position the rear legs with the hind limbs in the "frog leg" position and stabilize them by placing a sandbag across the hocks.

NOTE: When the rear legs are extended directly caudal to the body, dense skin folds develop over the caudal lateral abdomen, thereby obscuring radiographic detail. Do not extend the rear legs directly caudal unless necessary for restraint.

- (6) Position the cassette tray under the dog so that the following landmarks will be visible in the radiograph:
 - (a) Cranial aspect: the front of the diaphragm at the level of the fifth rib.
 - (b) Caudal aspect: the middle of the pelvis.
 - (c) Lateral aspect: the sides of the abdominal wall.
- (7) Center the primary beam on the midpoint of the abdomen.
- (8) Place a left or right radiopaque marker on the cassette to correctly identify the abdomen view.
- (9) Collimate the beam to the smallest possible field that will show the field of view.

c. Place the radiograph label in the primary beam on the cassette.

NOTE: Labels that are placed directly on the cassette are just one method of permanent film identification. Another common procedure involves the use of a "flash" identification unit that imprints the patient and facility data on the film by exposing a small blocked area of the film after the radiograph is taken. Follow your unit SOP for permanent identification of all radiography film.

Performance Steps

8. Calculate machine settings.
 - a. Measure the abdomen at the level of the last rib to determine the maximal abdomen width.
 - b. Using a technique chart, determine the kVp based on the maximal width.
 - c. Using a technique chart, determine mAs based on the maximal width.
9. Set the kVp and mAs values found in step 8 IAW manufacturer's instructions.
10. Have all personnel leave the room unless they are required to help maintain the animal's positioning or monitor anesthesia. Ensure every person who remains in the room is properly observing all radiation safety rules and policies.
11. Expose the radiograph film.
12. Develop the radiograph (see task 081-891-1073).
13. Show the radiograph to the veterinarian for interpretation.
14. Record the procedure in the radiography log book.
15. Record the procedure in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Selected an unexposed cassette and placed it in the film tray of the radiography machine.	—	—
2. Filled out the radiograph label with specific information.	—	—
3. Turned the radiography machine on.	—	—
4. Set the focal film distance IAW manufacturer's instructions.	—	—
5. Set out positioning items needed for the procedure.	—	—
6. Donned PPE.	—	—
7. Positioned the dog.	—	—
8. Calculated machine settings.	—	—
9. Set the correct kVp and mAs values on the radiography machine control panel.	—	—
10. Had all excess personnel leave the room and ensured everyone in the room was following proper radiation safety procedures.	—	—
11. Exposed the radiography film.	—	—
12. Developed the radiograph.	—	—
13. Showed the radiograph to the veterinarian for interpretation.	—	—
14. Recorded the procedure in the radiographic log book.	—	—
15. Recorded the procedure in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

**RADIOGRAPH THE PELVIS OF A MILITARY WORKING DOG FOR HIP DYSPLASIA
EVALUATION
081-891-1062**

Conditions: The veterinarian has directed you to take a radiograph of a military working dog for evaluation of hip conformation. The dog has been anesthetized and is ready for the procedure. The dog's handler and one other person are available to assist in positioning the animal on the table. Necessary materials and equipment include: radiology room, darkroom, unexposed cassette storage container, automatic radiography film developer, radiation personal protective equipment for all personnel involved (lead aprons, film badges, lead gloves, thyroid shields), assorted sizes of unexposed film in cassettes, radiography machine with manufacturer's instructions, measuring calipers, radiography log book, soft cotton rope, roll gauze, or tape, radiolucent V-trough or radiolucent foam blocks and wedges, sandbags, and the dog's health record.

Standards: Properly radiographed the pelvis of a military working dog for evaluation of hip conformation, and developed a film of diagnostic quality while ensuring the safety of all personnel involved.

Performance Steps

1. Select an unexposed cassette and place it in the cassette tray of the radiography machine. *NOTE:* Normally, there is a central location for unexposed cassettes preloaded with film (unexposed cabinet). If unsure about the status of the cassette, go into the darkroom and open it. If a cassette is opened outside of the darkroom, the film will be exposed. A 14 inch X 17 inch cassette is normally used for pelvis radiography of military working dogs.

2. Fill out the radiograph label with the following information:
- a. Animal's name.
 - b. Animal's tattoo number.
 - c. Date radiograph is taken.
 - d. Facility name.
 - e. Position/view taken.

3. Turn the radiography machine on.

4. Set the focal film distance (FFD) IAW manufacturer's instructions. This is also known as the source-to-image distance (SID).

5. Set out positioning items needed for the procedure (e.g., sandbags).

6. Put on PPE.

NOTE: Involve a minimum number of personnel in the procedure to avoid unnecessary radiation exposure.

- a. Lead apron.
- b. Thyroid shield.
- c. Film badge (dosimeter). Attach it to the collar on the outside of the apron at the level of the thyroid.
- d. Lead gloves. It may be easier to don the gloves after measuring the dog and setting the machine.

7. Position the dog.

- a. Position the dog on its back (dorsal recumbency).

Performance Steps

- b. Stabilize the dog by placing a radiolucent V-trough under it or radiolucent foam wedges or blocks on either side of it.

NOTE: If sandbags are used to stabilize the dog, place them outside the field of view.

- c. Ensure that the midsagittal plane is perpendicular to the film. This is an imaginary line between the sternum and the thoracic vertebrae.
- d. Pull the front legs forward, over the dog's head and secure them to the table with roll gauze, soft cotton rope, or tape.
- e. Pull the rear legs caudally with the long axes of the femurs parallel to each other.

NOTE: A pencil placed over the patellae should be parallel to the cassette surface.

- i. Place the radiograph label in the primary beam on the cassette.

NOTE: Labels that are placed directly on the cassette are just one method of permanent film identification. Another common procedure involves the use of a "flash" identification that imprints the patient and facility data on the film by exposing a small blocked area of the film after the radiograph is taken. Follow your unit SOP for permanent identification of all radiography film.

- 8. Calculate machine settings.
 - a. Measure the thickness of the pelvis in a ventral to dorsal direction with calipers.
 - b. Using a technique chart, determine the kVp based on the pelvic thickness.
 - c. Using a technique chart, determine the mAs based on the pelvic thickness.
- 9. Set kVp and mAs values found in step 8 IAW manufacturer's instructions.
- 10. Have all personnel leave the room unless they are required to help maintain the animal's positioning or monitor anesthesia. Ensure every person who remains is properly observing all radiation safety rules and policies.
- 11. Expose the radiograph film.
- 12. Develop the radiograph (see task 081-891-1073).
- 13. Show the radiograph to the veterinarian for interpretation.
- 14. Record the procedure in the radiography log book.
- 15. Record the procedure in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Selected an unexposed cassette and placed it in the film tray.	_____	_____
2. Filled out the radiograph label with specific information.	_____	_____
3. Turned the machine on.	_____	_____
4. Set the focal film distance (FFD) IAW manufacturer's instructions.	_____	_____
5. Set out positioning items needed for the procedure.	_____	_____
6. Donned PPE.	_____	_____
7. Positioned the dog.	_____	_____
8. Calculated machine settings.	_____	_____

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
9. Set kVp and mAs values found in step 8 IAW manufacturer's instructions.	—	—
10. Had all excess personnel leave the room.	—	—
11. Took the radiograph.	—	—
12. Developed the radiograph.	—	—
13. Showed the radiograph to the veterinarian for interpretation.	—	—
14. Retook the radiograph as directed by the veterinarian.	—	—
15. Recorded the procedure in the radiographic log book.	—	—
16. Recorded the procedure in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

DEVELOP RADIOGRAPHIC FILM USING AN AUTOMATIC FILM PROCESSOR IN AN ANIMAL FACILITY

081-891-1073

Conditions: An X-ray has just been taken. The veterinarian or senior 91T instructs you to develop the film using an automatic film processor. Necessary equipment and materials include: automatic film processor with manufacturer's instructions and all required developing chemicals, processing room (dark room) with a work table and safety light, exposed X-ray in a cassette, unexposed film, and exposed film to be used as a test film.

Standards: Developed radiographic film using an automatic film processor.

Performance Steps

1. Check the equipment prior to use.
 - a. Ensure that the power cord is connected to the power source.
 - b. Ensure that the power supply to the unit is turned on.
 - c. Allow the machine to warm up IAW manufacturer's instructions.
 - d. Ensure that the chemicals are at proper levels and at the proper pH (mixing strength) IAW manufacturer's instructions.
 - e. Ensure that the water source to the unit is turned on.
 - f. Ensure that the processor is at the proper temperature IAW manufacturer's instructions.
 - g. Ensure that the rinse water is circulating.
 - h. Run a test film.
 - (1) Use an old exposed film.
 - (2) This process will wet the rollers.
 - (3) The test film will ensure proper functioning of the processor.
2. Check the processing room (dark room) prior to use.
 - a. Shut off all other light in the room.
 - b. Ensure that the dark room is light proof.
 - c. Ensure that the safety lights are on and functional.
 - d. Ensure that the tabletop is dry and clean.
 - e. Ensure that there is unexposed film to reload the cassette.
3. Process the film.
 - a. Secure the door unless the door is revolving.
 - b. Turn off all lights except the safety lights.
 - c. Open the cassette and remove the film.
 - d. Close the cassette to minimize exposure to dust, etc.
 - e. Insert the film into the processor IAW manufacturer's instructions.
 - f. Reload the cassette with the proper size of unexposed film.
 - g. Close and fasten the cassette.
4. Place the reloaded cassette in the cassette storage bin.
5. Present the exposed film to the veterinarian and await further instructions.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Checked the equipment prior to use.	_____	_____
2. Checked the processing room (dark room) prior to use.	_____	_____
3. Processed the film.	_____	_____
4. Placed the reloaded cassette in the cassette storage bin.	_____	_____
5. Presented the exposed film to the veterinarian and awaited further instructions.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PROCESS RADIOGRAPHIC FILM MANUALLY AT A VETERINARY TREATMENT FACILITY
081-891-1088

Conditions: The veterinarian has instructed you to process a radiograph manually. Necessary materials and equipment include: a fully equipped darkroom, developing solution, rinse/wash solution, fixer solution, thermometer, timer, paddles for each solution, film hangers, cassette with radiograph to be processed, film to reload the cassette, manufacturer's instructions for developing film, safety goggles, and safety gloves.

Standards: Processed radiographic film manually in the proper sequence.

Performance Steps

1. Become familiar with the way the solutions are set up. The standard set up is from left to right:
 - a. Developer solution.
 - b. Rinse water.
 - (1) This water will also be used as a wash solution.
 - (2) Ensure that there is a steady, slow stream of water flowing into the tank and overflowing into the drain.
 - c. Fixer solution.
2. Don personal protective equipment (PPE).
 - a. Safety goggles or glasses.
 - b. Gloves.
3. Stir the solutions.
 - a. Use separate paddles for each solution to avoid possible contamination
 - b. Immediately rinse the paddles in the rinse solution.
4. Check the fluid levels of the solutions.
 - a. The fluid level should be high enough to accommodate the entire film being processed (approximately 1" below the top of each container).
 - b. If fluids must be added, ensure that the developer solution is added to the developer tank and fixer solution is added to the fixer tank.
5. Check the temperature of the rinse water.
 - a. The rinse water is in the middle container.
 - b. Use an accurate thermometer.
 - c. If possible, adjust the temperature to 68° (the ideal).
6. Establish the developing time.
 - a. Use the manufacturer's chart provided with the developing solution.
 - b. Developing time is based on solution temperature.
 - c. Set but do not activate the timer.
7. Locate all supplies needed.
 - a. Film hanger of correct size for the film.
 - b. Timer.
 - c. Unexposed film for reloading the cassette.
8. Turn on the red safety light and turn off the conventional room light.

Performance Steps

9. Load the film on the selected hanger.
 - a. Open the film cassette.
 - b. Remove the film.
 - c. Attach the film to the two immobile clips on the bottom of the film hanger.
 - d. Attach the film to the two flexible clips on the top of the hanger.
 - e. Ensure that all four corners of the film are secure in the clips and the film does not bulge.
10. Develop the radiographic film.
 - a. Immerse the film in the developing solution.
 - b. Agitate the hanger to dislodge small air bubbles from the surface of the film.
 - c. Center the film hanger in the developing solution container to ensure the film is not touching the sides of the container.
 - d. Activate the timer.
 - e. Agitate the film hanger two or three times during the developing time.
 - f. When the timer rings, quickly transfer the film hanger to the center rinse tank.
11. Rinse the film.
 - a. Vigorously raise and lower the film holder in the rinse water.
 - b. Rinse the film for 30 seconds.
 - c. Lift the film holder containing the film out of the rinse water.
 - d. Allow the water to drip off the film for 10 to 15 seconds.
12. Fix the film.
 - a. Immerse the film into the fixer solution.
 - b. Center the film hanger in the fixing solution to ensure the film is not touching the sides of the container.
 - c. Set the timer for two times the amount of time the film was developed.
 - d. Activate the timer.
 - e. Agitate the film holder periodically.
 - f. Remove the film from the fixer solution when the timer rings.
13. Wash the film for 30 seconds in the rinse water.
14. Place the processed film in the film dryer.
15. Reload the film cassette.
 - a. Load the cassette with the proper size unexposed film.
 - b. Secure the cassette.
 - c. Close the film storage bin.
 - d. Place the loaded cassette in the "ready to use" storage area.
16. Inform the veterinarian that the film is in the dryer.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Became familiar with the way the solutions are set up.	—	—
2. Donned personnel protective equipment (PPE).	—	—
3. Stirred the solutions.	—	—

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
4. Checked the fluid levels of the solutions.	_____	_____
5. Checked the temperature of the rinse water.	_____	_____
6. Established the developing time.	_____	_____
7. Located all supplies needed.	_____	_____
8. Turned on the red safety light and turned off the conventional room light.	_____	_____
9. Loaded the film on the selected hanger.	_____	_____
10. Developed the radiographic film.	_____	_____
11. Rinsed the film.	_____	_____
12. Fixed the film.	_____	_____
13. Washed the film for 30 seconds in the rinse solution.	_____	_____
14. Placed the processed film in the film dryer.	_____	_____
15. Reloaded the film cassette.	_____	_____
16. Informed the veterinarian that the film is in the dryer.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

RADIOGRAPH THE FLEXED ELBOW OF A MILITARY WORKING DOG
081-891-1205

Conditions: The veterinarian has directed you to take a radiograph of the flexed elbow of a military working dog. The dog has been anesthetized and is ready for the procedure. The dog's handler and one other person are available to assist in positioning the animal on the table. Necessary materials and equipment include: radiology room, darkroom, unexposed cassette storage container, automatic radiography film developer with manufacturer's instructions, radiation personal protective equipment for all personnel involved (lead aprons, film badges, lead gloves, thyroid shields), assorted sizes of unexposed film in cassettes, sandbags, radiography machine with manufacturer's instructions, measuring calipers, radiography log book, and the dog's health record.

Standards: Properly radiographed the flexed elbow of a military working dog, and developed a film of diagnostic quality while ensuring the safety of all personnel involved.

Performance Steps

1. Select an unexposed cassette and place it in the cassette tray of the radiography machine. *NOTE:* Normally, there is a central location for unexposed cassettes preloaded with film (unexposed cabinet). If unsure about the status of the cassette, go into the darkroom and open it. If a cassette is opened outside of the darkroom, the film will be exposed.

2. Fill out the radiograph label with the following information:

- a. Animal's name.
- b. Animal's tattoo number.
- c. Date radiograph is taken.
- d. Facility name.
- e. Position/view taken.

3. Turn the machine on.

4. Set the focal film distance (FFD) IAW manufacturer's instructions. This is also known as the source-to-image distance (SID).

5. Set out positioning items needed for the procedure (e.g., sandbags).

6. Put on PPE.

NOTE: Involve a minimum number of personnel in the procedure to avoid unnecessary radiation exposure.

- a. Lead apron.
- b. Thyroid shield.
- c. Film badge (dosimeter). Attach it to the collar on the outside of the apron at the level of the thyroid gland.
- d. Lead gloves. It may be easier to don the gloves after measuring the dog and setting the machine.

7. Position the dog.

- a. Place the dog in lateral recumbency with the selected elbow on the down side.
- b. Collimate the primary beam to reduce scatter radiation IAW manufacturer's instructions.
- c. Ensure that the center of the elbow is in the center of the primary beam.
- d. Flex the selected elbow joint as much as possible.

Performance Steps

- e. To avoid rotation of the elbow, keep the elbow joint and the carpus in a true lateral position.
 - g. Stabilize the dog's position with sandbags or tape, or have one person carefully maintain the flexed elbow position.
 - h. Place the radiograph label in the primary beam on the cassette.
- NOTE:* There are several types of devices used to permanently identify radiograph film. Follow your unit SOP and ensure every film is permanently identified.
9. Calculate machine settings.
 - a. Measure the thickest aspect of the elbow joint from the medial aspect to the lateral aspect with calipers.
 - b. Using a technique chart, determine the kVp based on the elbow thickness.
 - c. Using a technique chart, determine the mAs based on the elbow thickness.
 10. Set kVp and mAs values found in step 8 IAW manufacturer's instructions.
 11. Have all personnel leave the room unless they are required to help maintain the animal's positioning or monitor anesthesia. Ensure every person in the room is properly observing all radiation safety rules and policies.
 12. Expose the radiograph film.
 13. Develop the radiograph (see task 081-891-1073).
 14. Show the radiograph to the veterinarian for interpretation.
 15. Record the procedure in the radiography log book.
 16. Record the procedure in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Selected an unexposed cassette and placed it in the film tray.	_____	_____
2. Filled out the radiograph label with specific information.	_____	_____
3. Turned the machine on.	_____	_____
4. Set the focal film distance (FFD) IAW manufacturer's instructions.	_____	_____
5. Set out positioning items needed for the procedure.	_____	_____
6. Donned PPE.	_____	_____
7. Positioned the dog.	_____	_____
8. Calculated machine settings.	_____	_____
9. Set kVp and mAs values IAW manufacturer's instructions.	_____	_____
10. Had all excess personnel leave the room and ensured all personnel remaining in the room were following applicable radiation safety procedures.	_____	_____
11. Exposed the radiograph film.	_____	_____

Performance Measures

GO NO
GO

- | | | |
|-------------------------------------------------------------------|-------|-------|
| 12. Developed the radiograph. | _____ | _____ |
| 13. Showed the radiograph to the veterinarian for interpretation. | _____ | _____ |
| 14. Recorded the procedure in the radiographic log book. | _____ | _____ |
| 15. Recorded the procedure in the dog's health record. | _____ | _____ |

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

None

Related

AR 11-9

FM 8-52

Subject Area 7: Large Animals

PERFORM A PHYSICAL EXAMINATION ON AN EQUINE**081-891-1402**

Conditions: The veterinarian has directed you to perform a physical examination of an equine. The stablemaster or owner of the horse is available to restrain the horse. The horse has a halter and lead rope on. Necessary materials and equipment include: thermometer, string or rubber tubing, alligator clip or hemostatic forceps, stethoscope, hoof pick, and the horse's health record.

Standards: Performed a physical examination of an equine.

Performance Steps

1. Obtain the medical history.
 - a. Talk to the stablemaster or owner of the horse.
 - b. Check the veterinary treatment record for Coggin's test results, vaccination status, and anthelmintic administration history.
 - c. Check the diet and feeding times.
 - d. Obtain information on any current problems.

2. Observe the horse from a distance.

NOTE: Try to observe the horse in its natural environment, if possible. Horses are normally very alert and may change their attitude or demeanor when approached by people.

- a. Evaluate the mental attitude.
 - (1) Bright.
 - (2) Alert.
 - (3) Responsive.
 - (4) Anxious.
 - (5) Frightened.
- b. Evaluate the physical posture and mobility. Does the horse--
 - (1) Maintain its head in an elevated manner?
 - (2) Stand on three legs, relaxing the fourth?
 - (3) Move about the area easily?
 - (4) Show evidence of sweating?

3. Determine the vital signs.

- a. Rectal temperature. Normal temperature is 99° to 101° F.

NOTE: Be careful when approaching the back of the horse. Avoid the "kick zone."

NOTE: Ensure that string or rubber tubing and an alligator clip or hemostatic forceps are attached to the thermometer. Attach the alligator clip or forceps to the hair on the tail of the horse.

- b. Pulse rate and quality.
 - (1) Digitally palpate facial, digital, or great metatarsal arteries for rate. Normal pulse rate is 25 to 50 beats per minute.
 - (2) Characterize the pulse quality.
 - (a) Strong.
 - (b) Weak.
 - (c) Bounding.
 - (d) Thready.

Performance Steps

- (3) Auscultate the heart from both sides of the chest.
- c. Respiration rate and pattern.
 - (1) Count the respirations in one minute for rate. Normal respiration rate is 8 to 20 breaths per minute.
 - (2) Characterize the respiratory pattern.
 - (a) Labored.
 - (b) Forced.
 - (c) Abdominal.
 - (d) Thoracic.
 - (e) Regular.
 - (3) Auscultate the chest on both sides of the animal for respiratory sounds.
- 4. Examine the head.
 - a. Evaluate the ears. Be alert for abnormalities. Visualize both the interior and exterior of the ears.
 - (1) Insect irritation.
 - (2) Sores.
 - (3) Crustiness.
 - (4) Foxtails.
 - (5) Ticks.
 - (6) Mites.
 - b. Evaluate the eyes. Be alert for abnormalities.
 - (1) Pupils equal.
 - (2) Corneas clear.
 - (3) Absence of exudate.
 - (4) Eyelids in a normal "open" position.
 - (5) Tear production.
 - (6) Hair loss in the area.
 - c. Evaluate the nostrils. Be alert for abnormalities. The presence of clear moisture is normal.
 - d. Evaluate the mouth.
 - (1) Exterior.
 - (a) Lips.
 - (b) Hair in the area.
 - (2) Interior.
 - (a) Lips.
 - (b) Gums.
 - (c) Teeth.
 - (d) Capillary refill time.
- 5. Examine the mane, tail, and haircoat and annotate any abnormalities.
 - a. Sores.
 - b. Bare patches.
 - c. Parasites.
- 6. Visualize and palpate the legs and annotate any abnormalities.
 - a. Sores.
 - b. Swelling.
 - c. Heat.
 - d. Sensitivity to touch.

Performance Steps

7. Evaluate the wall and sole of the hooves.

NOTE: It is necessary to pick up the hooves to inspect them. Carefully pick up one hoof at a time.

- a. Hoof wall. Use a hoof pick to clean dirt and debris from around the frog and sole of the foot. Check for--
 - (1) Ridges.
 - (2) Grooves.
 - (3) Splits and cracks.
 - (4) Coronary band irregularities.
- b. Sole. Check for--
 - (1) Foreign objects.
 - (2) Cracks.
 - (3) Separation from the wall.
 - (4) Abnormal odor.
 - (5) Presence or absence of horseshoes. If shod, look for moisture, blood, cracks, and splits in the area where the nails penetrate the hoof wall.
 - (6) Proper trimming to ensure hooves hit the ground straight and level and in balance with frog pressure.

8. Evaluate the general body condition.

- a. Glossy hair coat.
- b. Elastic skin.
- c. Fat.
- d. Thin.

9. Evaluate the tail.

- a. Bald spots.
- b. Sores.
- c. Parasites.

10. Evaluate the external genitalia. Be alert for abnormalities.

- a. Discharge.
- b. Swelling.
- c. Exudate.
- d. Sores.
- e. Crustiness.

11. Have the handler or owner walk the horse and observe it from the side, front, and back.

- a. Lameness.
- b. Abnormal gate.

12. Annotate findings in the horse's veterinary treatment record.

13. Report abnormalities to the veterinarian.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Obtained the medical history.	_____	_____
2. Observed the horse from a distance.	_____	_____

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
3. Determined the vital signs.	_____	_____
4. Examined the head.	_____	_____
5. Examined the mane, tail, and haircoat and annotated any abnormalities.	_____	_____
6. Visualized and palpated the legs and annotated any abnormalities.	_____	_____
7. Evaluated the wall and sole of the hooves.	_____	_____
8. Evaluated the general body condition.	_____	_____
9. Evaluated the tail.	_____	_____
10. Evaluated the external genitalia. Noted abnormalities.	_____	_____
11. Had the handler or owner walk the horse and observed it from the side, front, and back.	_____	_____
12. Annotated findings in the horse's veterinary treatment record.	_____	_____
13. Reported any abnormalities to the veterinarian.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM PHYSICAL RESTRAINT OF LARGE ANIMALS
081-891-1406

Conditions: An equine, bovine, caprine, or swine patient requires treatment and must be physically restrained. The veterinarian or senior 91T has informed you of the procedure and procedure length. Necessary materials and equipment include: horse halter, cow halter, lead ropes (at least two), twitch (humane, chain, or rope), hitching post, horse stocks, chain shank, nose lead or tongs, hog snare, and a squeeze chute.

Standards: Safely restrained (controlled) a horse, cow, pig, or goat without causing injury to the animal or people in the vicinity.

Performance Steps

1. Determine the restraint method and patient position required based on:
 - a. Veterinarian or senior 91T's direction.
 - b. Type of procedure to be performed.
 - c. Length of procedure to be performed.
2. Gather necessary equipment.
 - a. Horse.
 - (1) Head tying.
 - (a) Halter.
 - (b) Lead rope.
 - (2) Cross tying.
 - (a) Halter.
 - (b) Two lead ropes.
 - (3) Twitch (there are three common types of twitches).
 - (a) A humane twitch has a solid metal clamp that gently catches the lip of the horse.
 - (b) A chain twitch has a chain that is wrapped around the horse's lip to which pressure is applied.
 - (c) A rope twitch has a rope that is wrapped around the horse's lip to which pressure is applied.
 - (d) Halter.
 - (e) Lead rope.
 - (4) Stocks.
 - (a) Stocks restrain a horse's body and consist of a narrow metal or wooden enclosure which restricts lateral, forward, or backward motion.
 - (b) Halter.
 - (c) Lead rope.
 - (5) Chain shank.
 - (a) A chain shank is a lead rope with a chain extension.
 - (b) Halter.
 - (c) Lead rope.
 - (6) Manual restraint techniques require no additional equipment.
 - (a) Halter.
 - (b) Lead rope.
 - b. Cow.
 - (1) Head tying.
 - (a) Halter.

Performance Steps

- (b) Lead rope. Usually, the halter and lead are one piece.
 - (2) Nose lead (also called nose tongs).
 - (3) Chute.
 - c. Pig.
 - (1) Hog snare.
 - (2) Manual restraint (no equipment needed).
 - d. Goat (or sheep).
 - (1) Halter.
 - (2) Lead rope.
 - (3) Manual restraint (no equipment necessary).
 - e. All applicable species - tail tying.
3. Perform restraint procedure.
- a. Horse.
 - (1) Head tying.
 - (a) Attach the lead rope to the ring on the halter below the chin of the horse.
 - (b) Approach the horse from the left side, loop the lead rope over the neck and place the circular or closed portion of the halter over the horse's nose.
 - (c) Place the loose end gently behind the ears from up and around the horse's neck. The loose end will go from the right side over to the left.
 - (d) Buckle the halter.
 - (2) Cross tying.
 - (a) Clip a lead rope to the ring on one side of the halter.
 - (b) Clip a second lead rope to the ring on the opposite side of the halter.
 - (c) Cross tie the horse by attaching each lead rope to a fixed ring mounted on the wall on each side of the horse. If rings are not available, have two people stand on either side of the horse.
 - (3) Twitch placement.
 - (a) Stand to the same side of the horse as the clinician (veterinarian or another technician).
 - (b) Put the twitch over the wrist of the left hand.
 - (c) Grab the nose or lip of the horse and slide the twitch over the hand and onto the nose.
 - (d) Twist the twitch.
 - (4) Stocks.
 - (a) Lead the horse up to and into the stocks.
 - (b) Stop when the animal is centered in the stocks.
 - (c) Run a rope in front of the horse from one side of the stocks to the other side and secure with Miller's knots. This will prevent the horse from moving forward.
 - (d) Run a rope behind the horse from one side of the stocks to the other side and secure with Miller's knots. This will prevent the horse from moving backward.
 - (5) Chain shank.
 - (a) Clip the chain end of the lead rope on the halter's center ring.
 - (b) Starting from the right side of the horse's nose, place the chain end of the lead rope over the nose of the horse.
 - (c) Run the end of the lead through the left side ring of the halter.
 - (6) Manual restraint techniques.
 - (a) Pick up a front foot opposite of the side being worked on to prevent movement.

Performance Steps

- (b) Perform a neck or shoulder roll by gently pinching a roll of skin in the neck region. Apply gentle pressure.
 - (c) Distract the horse by petting or swatting the horse's neck or shoulder firmly.
 - (d) Distract the horse by grasping and bending the horse's ear at the base. Do not twist the ear.
- b. Cow.
- (1) Head tying.
 - (a) Pass the large, circular, closed-loop portion of the halter over the ears.
 - (b) Pass the remaining closed-loop around the cow's muzzle leaving the top strap of the halter across the bridge of the nose.
 - (c) When properly placed, the lead rope of the halter will come off the halter beneath the cow's chin on the left side of the head.
 - (d) Tie the lead rope of the halter to a hitching post using a quick release knot.
 - (2) Nose lead or tongs.
 - (a) When possible a nose lead should be used in combination with a halter.
 - (b) Spread the nose lead or tongs to the open position.
 - (c) Place the ends of the tongs or nose lead in each nostril.
 - (d) Squeeze the handles of the nose lead or tongs together.
 - (e) Tie the nose lead or tongs to a hitching post.
 - (3) Chute. Since there are many models of chutes available, the following steps address generalities.
 - (a) Herd the animal into the chute.
 - (b) Close the rear gate to enclose the animal in the chute.
 - (c) Open the front gate (headgate) inwards.
 - (d) As the animal moves forward, close the headgate on the neck of the animal.
 - (e) Apply pressure or "squeeze" the sides of the animal.
- c. Pig.
- (1) Hog snare.
 - (a) Place the loop of the snare in the mouth of the pig above the tongue and around the top half of the snout. This leaves the top of the snout encircled by the loop.
 - (b) Pull the rod at the end of the snare pole snug, tightening the loop around the nose.
 - (c) Pull upwards and back on the catch pole.
 - (d) Stand in front of the pig and the animal will pull back and stand still.
 - (2) Pigs under 200 pounds can be manually restrained by holding a combination of the ears, tail, or legs.
- d. Goat (or sheep).
- (1) Head tying. Goat and sheep halters are usually made as a single piece of rope tied in two circles with the free end of the halter becoming the lead rope.
 - (a) Pass the large, circular loop of the halter that does not have the lead rope coming off of it over the animal's ears.
 - (b) Pass the remaining closed loop around the animal's muzzle leaving the top strap of the halter across the bridge of the nose and the bottom strap beneath the jaw. The lead rope end of the halter should come off the part of the halter that is beneath the jaw.
 - (c) Tie the lead rope of the halter to a hitching post using a quick release knot.
 - (2) Manual restraint
 - (a) Horned animals can be restrained by the horns.

Performance Steps

- (b) Goats can be restrained by placing one hand behind the ears and the other hand under the muzzle.
- (c) Cast the animal into lateral recumbency by lifting the animal by the skin of one flank with one hand and around the neck with the second hand. Simultaneously, bump the animal away from you with your knees.
- e. All species that have long tails.
 - (1) Tail tying.
 - (a) To restrain tails, tie a loop around the end of the tail.
 - (b) Attach this line to the animal's neck by passing a loop loosely around the neck and tying a slip knot.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Determined the restraint method and patient position required.	_____	_____
2. Gathered necessary equipment.	_____	_____
3. Performed the restraint procedure.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ADMINISTER ORAL MEDICATION TO A LARGE ANIMAL
081-891-1407

Conditions: An equine, bovine, caprine, or swine patient requires oral medication. Necessary materials and equipment include: mortar, pestle, syringes, tongue depressors, molasses or Karo Syrup, balling gun, dose syringe, and medication.

Standards: Properly and safely administered oral medications to a horse, cow, pig, or goat without causing injury to the animal or to personnel in the vicinity.

Performance Steps

1. Obtain the prescribed medication.
 - a. Verify that the medication is what was prescribed by the veterinarian (type, quantity, strength, etc.).
 - b. Check the expiration date.
2. Gather necessary equipment.
 - a. Liquids for all species - a dose syringe.
 - b. Tablets.
 - (1) Cattle - balling gun.
 - (2) Sheep - balling gun.
 - (3) Swine and horse - mortar and pestle, wide-mouth dose syringe.
 - c. Powdered or granular medications for all species.
 - (1) Wide-mouth dose syringe.
 - (2) Empty gelatin capsules.
3. Administer oral medication to the patient.
 - a. Liquids.
 - (1) Draw up the medication into a syringe.
 - (a) It must be large enough to hold the entire dose.
 - (b) If the volume exceeds 60 ml, split the dose into smaller increments.
 - (2) Insert the dispensing end of the syringe into the corner of the patient's mouth.
 - (a) Position the syringe between the teeth and cheek.
 - (b) Elevate the patient's head while dispensing the medication.
 - (3) Hold the patient's mouth closed and gently stroke the ventral throat to stimulate the swallowing reflex.
 - b. Tablet medications.
 - (1) Cattle.
 - (a) Place the tablets or pills into the balling gun.
 - (b) Insert the balling gun, pill end first, into the patient's mouth between the dental pad and lower jaw on the lateral side of the mouth where there are no teeth (at the interdental space).
 - (c) Continue to gently slide the balling gun over the base of the tongue until the handle is against the external portion of the lips.
 - (d) Eject the tablets from the balling gun by pushing the dispensing rod in the handle of the balling gun while slightly elevating the patient's head.
 - (2) Sheep.
 - (a) Place the tablets or pills into the balling gun.

Performance Steps

- (b) Insert the balling gun, pill end first, into the patient's mouth between the dental pad and lower jar on the lateral side of the mouth where there are no teeth (at the interdental space).
- (c) Continue to gently slide the balling gun deeper into the throat until the handle is against the external portion of the lips.
- (d) Eject the tablets from the balling gun by pushing the dispensing rod in the handle of the balling gun while slightly elevating the patient's head.
- (3) Swine and horse.
 - (a) Crush the tablet(s) using a mortar and pestle.
 - (b) Remove the end of a 60 cc syringe with a rasp.
 - (c) Pull back the plunger.
 - (d) Put 10 to 20 cc of molasses or Karo Syrup in the syringe barrel.
 - (e) Add the crushed tablet(s).
 - (f) Finish filling the syringe with molasses or Karo Syrup.
 - (g) Stir the mixture with a tongue depressor or a wooden applicator stick.
 - (h) Place the syringe in the patient's mouth through the interdental space.
 - (i) Deposit the mixture on top of the tongue.
- c. Powdered or granular medications for all species.
 - (1) Wide-mouth dose syringe.
 - (a) Remove the end of a 60 cc syringe with a rasp.
 - (b) Pull back the plunger.
 - (c) Put 10 to 20 cc of molasses or Karo Syrup in the syringe barrel.
 - (d) Add the powdered or granular medication.
 - (e) Finish filling the syringe with molasses or Karo Syrup.
 - (f) Stir the mixture with a tongue depressor or a wooden applicator stick.
 - (g) Place the syringe in the patient's mouth through the interdental space.
 - (h) Deposit the mixture on top of the tongue.
 - (2) Empty gelatin capsules.
 - (a) Place the powdered or granular medication in the gelatin capsules.
 - (b) Place the gelatin capsules into the balling gun.
 - (c) Insert the balling gun, pill end first, into the patient's mouth between the dental pad and lower jar on the lateral side of the mouth where there are no teeth (at the interdental space).
 - (d) Continue to gently slide the balling gun over the base of the tongue until the handle is against the external portion of the lips.
 - (e) Eject the tablets from the balling gun by pushing the dispensing rod in the handle of the balling gun while slightly elevating the patient's head.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Obtained the prescribed medication.	_____	_____
2. Gathered necessary equipment.	_____	_____
3. Administered oral medication to the patient.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

Subject Area 8: Laboratory Animals

PERFORM PHYSICAL RESTRAINT OF LABORATORY ANIMALS

081-891-1405

Conditions: The veterinarian or primary investigator has directed you to restrain laboratory animals for a procedure. The laboratory animals are in their cages. Necessary materials and equipment include: examination gloves, face mask, protective clothing (e.g., scrubs, lab coat), and restraint devices with manufacturer's instructions.

Standards: Restrained the laboratory animals so that a procedure or examination could be performed. Did not cause harm to the laboratory animal, and did not become injured during the procedure.

Performance Steps

1. Put on personal protective equipment (PPE).
 - a. Examination gloves.
 - b. Face mask.
 - c. Protective clothing (e.g., lab coat or scrubs).
2. Restrain the animal.
 - a. Mouse, hamster, or gerbil.
 - (1) Grasp the animal at the base of the tail with the thumb and index finger of your dominant hand.
 - (2) Lift the animal out of the cage.
 - (3) Place the animal in a new cage, on a firm surface, or on a wire lid of the cage.
 - (4) Gently pull the animal's tail by the base using the thumb and index finger of your dominant hand. The animal will usually pull forward.
 - (5) Grasp the animal by the loose skin over the nape of the neck with the thumb and index finger of the nondominant hand.
 - (6) Turn the nondominant hand palmar side up.
 - (7) Restrain the animal's tail by placing it between the 3rd and 4th digits of the nondominant hand and hold the tail against the palm.
 - b. Rat.
 - (1) Grasp the rat at the base of the tail with the thumb and index finger of your dominant hand.
 - (2) Lift the rat out of the cage.
 - (3) Place the rat in a new cage, on a firm surface, or on a wire lid of the cage.
 - (4) Gently pull the rat's tail at the base, which usually causes the rat to pull away from you.
 - (5) Using your nondominant hand, grasp the rat around the thorax firmly but gently, with the thumb under one front leg and the index finger under the other front leg.
 - (6) Restrain the base of the tail and rear legs with the free hand.
 - c. Guinea pig.
 - (1) Grasp the guinea pig around the thorax firmly but gently, with a thumb under one front leg and the index finger under the other front leg.
 - (2) Grab the hind quarters with the free hand.
 - (3) Lift the guinea pig out of the cage.

Performance Steps

- (4) Extend the hind legs gently away from the front legs, if an extended restraint method is required.
- d. Rabbit.
 - (1) Grasp the rabbit by loose skin over the nape of the neck.
 - (2) Firmly support the hind legs with the free hand.
 - (3) Lift the rabbit out of the cage.
 - (4) Tuck the rabbit's head between the arm and the body to transport it to the work area.
 - (5) Extend the hind legs firmly and gently away from the front legs, if an extended restraint method is required.

NOTE: If the procedure requires restraint for a prolonged period of time, the use of restraint devices may be required. If restraint devices are necessary, use them IAW manufacturer's instructions.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Donned PPE.	_____	_____
2. Restrained the animal.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM A PHYSICAL EXAMINATION OF A LABORATORY ANIMAL
081-891-1408

Conditions: You are working in a laboratory animal facility. The veterinarian or primary investigator has instructed you to perform a physical examination of a laboratory animal. Necessary materials and equipment include: exam gloves, mask, scrubs or lab coat, or other PPE required by the facility, scale, restraint devices (see task 081-891-1405), and the animal's medical record or paperwork required by the protocol or the veterinarian or investigator.

Standards: Performed a physical examination of a laboratory animal and annotated abnormalities found in the cage or on the animal in the medical record or on the paperwork required by the protocol or the veterinarian or investigator. Reported any abnormalities found to the veterinarian or investigator.

Performance Steps

1. Don PPE required by the facility or protocol. This includes, but is not limited to:
 - a. Gloves.
 - b. Mask.
 - c. Scrubs or lab coat.
2. Examine the animal closely before removing it from its cage by observing the following:
 - a. Movement.
 - b. Breathing.
 - c. Hair coat.
3. Examine the animal's cage and observe the following:
 - a. Food and water intake.
 - b. Presence of feces, urine, or vomitus in the bedding or metabolic pan.
4. Annotate abnormalities found in steps 2 and 3 in the animal's record or on the paperwork required by the protocol.
5. Remove the animal from its cage.
6. Restrain the animal (see task 081-891-1405).
7. Weigh the animal IAW local SOP.
8. Annotate weight changes in the animal's record or on the paperwork required by the protocol.
9. Examine the animal. Look for the following:
 - a. Alopecia.
 - b. Pale mucous membranes.
 - c. Thin body condition.
 - d. Bleeding.
 - e. Cough.
 - f. Diarrhea.
 - g. Abnormal discharge.
 - h. Dental malocclusion.
 - i. Rectal prolapse.
 - j. Pruritis.

Performance Steps

- k. Rough hair coat.
 - l. Sneezing.
 - m. Masses or tumors.
 - n. Vomiting.
 - o. Any other abnormalities.
10. Return the animal to its cage.
 11. Annotate any abnormalities in the animal's record or on the paperwork required by the protocol.
 12. Inform the veterinarian or investigator of any abnormalities noted.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Donned PPE.	_____	_____
2. Examined the animal closely before removing it from its cage.	_____	_____
3. Examined the animal's cage for abnormalities.	_____	_____
4. Annotated abnormalities found in steps 2 and 3 in the animal's record or on the paperwork required by the protocol.	_____	_____
5. Removed the animal from its cage.	_____	_____
6. Restrained the animal.	_____	_____
7. Weighed the animal IAW local SOP.	_____	_____
8. Annotated weight changes in the animal's record or on the paperwork required by the protocol.	_____	_____
9. Examined the animal for abnormalities.	_____	_____
10. Returned the animal to its cage.	_____	_____
11. Annotated any abnormalities in the animal's record or on the paperwork required by the protocol.	_____	_____
12. Informed the veterinarian or investigator of any abnormalities.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

Subject Area 9: NBC

**PERFORM NUCLEAR, BIOLOGICAL, AND CHEMICAL DECONTAMINATION OF A
MILITARY ANIMAL**

081-891-1404

Conditions: A military animal has been exposed to a nuclear, biological, or chemical agent. You are in MOPP Level 4. You have identified the agent involved and must decontaminate the animal. Necessary materials and equipment include: M291 skin decontamination kit, 5% sodium carbonate solution, 0.5% calcium or sodium hypochlorite solution, water, nonmedical ointment such as petroleum jelly, M295 decontamination kits, soap, dressing material, and saline.

Standards: Decontaminated a military animal that was contaminated with a nuclear, biological, or chemical agent IAW FM 8-9, FM 8-10-18, FM 8-284, and FM 8-285.

Performance Steps

1. Decontaminate for nuclear fallout. Remove radioactive particles from the haircoat and skin by brushing and bathing the animal in soap and water.

NOTE: The decision to decontaminate and treat a military working dog or other military animal will be based on local SOP, theater restrictions, and other factors. These decisions will be directed by the theater commander, senior medical commander in theater, or senior veterinary commander in theater. The steps outlined in this task are generic in nature and are based on current available doctrine. Modifications to these steps may be necessary based on numerous factors, and the commander must direct the specific steps to be followed for a given situation.

2. Decontaminate for biological agents. Wash the animal with soap and water, or follow command directives or policies for specific agents.

3. Decontaminate for nerve agent.

- a. Decontaminate hair and skin using the M291 skin decontamination kit or a 5% sodium carbonate solution.

NOTE: To make a 5% sodium carbonate solution, mix 50 grams of sodium carbonate powder with 1 liter of water.

- (1) Protect the eyes by applying a generous amount of ophthalmic ointment or similar nonmedical ointment (e.g., petroleum jelly).
- (2) Decontaminate using the M291 skin decontamination kit, or scrub the hair coat and skin with the sodium carbonate solution, ensuring the solution penetrates the coat completely and saturates the skin.
- (3) Rinse the animal thoroughly to remove the decontamination solution.
- (4) Bathe the animal with warm, soapy water, and rinse thoroughly.

- b. Decontaminate the eyes by irrigating with copious amounts of water or saline until all agent has been removed.

NOTE: Avoid using any components of the M291 skin decontaminating kit or sodium carbonate solution in the eyes.

- c. Decontaminate collars, leashes, muzzles, cages, bowls, and other items using M291 or M295 decontamination kits or by washing the items with a 5% sodium carbonate solution.

4. Decontaminate for irritant agents.

Performance Steps

- a. These agents have little effect on animals.
 - b. Flush the eyes with copious amounts of water or saline if liquid or solid agents come in contact with the eyes.
5. Decontaminate for white phosphorus.
- a. Immediately cover the affected area with water by submersion or with water-soaked bandaging material.
 - b. As quickly as possible, bathe the affected part in a bicarbonate solution to neutralize the phosphoric acid.
 - c. Remove remaining white phosphorous fragments (these are visible in dark surroundings as luminescent spots). This may require debriding the wound.
 - d. Treat the animal for thermal burns once all phosphorus has been removed (see task 081-891-1059).
6. Decontaminate for blood agents. Use the M291 skin decontamination kit.
7. Decontaminate for blister agents (mustard, nitrogen mustard agent, or arsenical blister agents).
- NOTE:* Decontamination should be carried out within 1-2 minutes after exposure and before treatment is initiated.
- a. Localized area of skin. Use the M291 skin decontamination kit.
 - b. Large area of skin contamination.
 - (1) Use a 0.5% chlorine solution made with either calcium or sodium hypochlorite.
 - (2) Apply a dressing soaked in the calcium or sodium hypochlorite solution to the contaminated area.
8. Decontaminate for incapacitating agents (BZ Type). Wash the hair coat and skin with warm, soapy water.
9. Dispose of wastes IAW local SOP.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Decontaminated for nuclear fallout by removing radioactive particles from the hair and skin by brushing and bathing the animal in soap and water.	—	—
2. Decontaminated for biological agents by washing the animal with soap and water or following command directives.	—	—
3. Decontaminated for nerve agent.	—	—
4. Decontaminated for irritant agents.	—	—
5. Decontaminated for white phosphorous.	—	—
6. Decontaminated for blood agents using the M291 skin decontamination kit.	—	—
7. Decontaminated for blister agents (mustard, nitrogen mustard agent, or arsenical blister agents).	—	—
8. Decontaminated for incapacitating agents (BZ type) by washing the hair coat and skin with warm, soapy water.	—	—

Performance Measures

<u>GO</u>	<u>NO</u> <u>GO</u>
_____	_____

9. Disposed of wastes IAW local SOP.

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
None

Related
FM 8-10-18
FM 8-284
FM 8-285
FM 8-9

Subject Area 10: Administrative

PREPARE A SUSPECTED RABIES SPECIMEN FOR SHIPMENT**081-891-1026**

Conditions: A bite report has been received by the veterinary treatment facility. The animal was identified and quarantined. During the quarantine the animal died. The veterinarian has directed you to send a specimen to the regional veterinary laboratory for evaluation for rabies. You are wearing a protective gown, gloves, mask, and ear and eye protection. Necessary materials and equipment include: knives, bone saws, 4 mil plastic bags, refrigerator, shipping container (wax treated cardboard box), bagged ice or hard-frozen gel-refrigerant packs, detergent or disinfectant, 1 inch filament tape, 2 inch box sealing tape, address labels, local SOPs, and forms (DD Form 2620, Vet Lab Form D-102, or forms used by the local state/county/city rabies lab).

Standards: Prepared the rabies suspect for shipment without contaminating yourself or others.

Performance Steps

1. Obtain the specimen.
 - a. Submit the whole body if it is a small animal such as a bat.
 - b. Submit the head only if it is a medium-sized animal such as a large rodent, cat, dog, skunk, fox, raccoon, or ferret.
 - c. Submit the brain only if it is a large animal such as a horse, cow, or goat.

NOTE: Brain removal must be done under the direct supervision of a veterinarian.

- d. If head removal is required, perform the following steps:
 - (1) Cut through skin and muscle tissue at the base of the skull.
 - (2) Cut through the spinal cord between the skull and the first cervical vertebra. Use a bone saw if necessary.
 - (3) Clean the instruments used for the removal of the sample in a disinfectant/detergent solution.
2. Secure the specimen in a plastic bag.
 - a. Place the specimen in a heavy (4 mil) plastic bag and seal tightly.
 - b. Evacuate air from the bag.
 - c. Place the bagged specimen into a second 4 mil plastic bag and repeat steps 2a and 2b.
3. Chill the specimen to 40°C immediately after securing the bag.

NOTE: Do not freeze the specimen.
4. Dispose of the carcass IAW local SOP.
5. Use detergent/disinfectant to thoroughly clean the area and all equipment used.
6. Remove protective garments and dispose of them IAW local SOP.
7. Prepare the shipping container and pack the specimen.
 - a. The inner container must be insulated (Styrofoam) and the outer container must be a cardboard box. Shipping firms will not accept Styrofoam containers that are not in a cardboard container.
 - b. Ensure the container is leakproof by lining it with a 4 mil plastic bag.

Performance Steps

- c. Place bagged ice or hard-frozen gel-refrigerant packs in the bottom of the container.
- d. Place the specimen in the shipping container.
- e. Cover the specimen with bagged ice or hard-frozen gel-refrigerant packs. Do not use dry ice for shipping the specimen.
 - (1) Keep gel packs in the freezer until needed.
 - (2) There should be enough ice or gel packs to keep the specimen cool for 36 hours.
- 8. Prepare DD Form 2620, Vet Lab Form D-102, or forms used by the local state/county/city rabies lab.
 - a. Follow the instructions on the form in order to fill it out properly.
 - b. Prepare the form in triplicate.
- 9. Distribute DD Form 2620, Vet Lab Form D-102, or forms used by the local state/county/city rabies lab.
 - a. One copy of the completed form goes in a plastic bag and is placed in the container on top of the bagged ice or hard-frozen gel-refrigerant packs.
 - b. Attach a second copy of the form to the outside of the container.
 - c. The third copy is maintained in the unit/VTF files.
- 10. Seal the shipping container with box sealing tape and filament tape.
- 11. Prepare the box for shipping.
 - a. Obtain the address of the nearest veterinary laboratory from the local SOP.
 - b. Complete an address form and affix it to the box.
 - c. Complete a "Diagnostic Specimen" label and affix it to the box.
 - (1) Label the shipment "Diagnostic Specimen-Animal".
 - (2) Do not use the term "rabies specimen".
- 12. Ship the specimen to the lab via a shipping company that guarantees overnight delivery.
- 13. Notify the regional veterinary laboratory by phone or e-mail that a rabies suspect has been forwarded. Include the following information:
 - a. Method of shipment and name of carrier.
 - b. Date and time shipped.
 - c. Expected arrival time.
 - d. Tracking number, if available.

NOTE: It is suggested that CONUS vet clinics use the local state/county/city rabies lab whenever possible.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Obtained the specimen.	—	—
2. Secured the specimen in a plastic bag.	—	—
3. Chilled the specimen to 40°C immediately after securing the bag.	—	—
4. Disposed of the carcass IAW local SOP.	—	—
5. Used detergent/disinfectant to thoroughly clean the area and all equipment used.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
6. Removed protective garments and disposed of them IAW local SOP.	—	—
7. Prepared the shipping container and packed the specimen.	—	—
8. Prepared DD Form 2620, Vet Lab Form D-102, or forms used by the local state/county/city rabies.	—	—
9. Distributed DD Form 2620, Vet Lab Form D-102, or forms used by the local state/county/city rabies.	—	—
10. Sealed the shipping container with box sealing tape and filament tape.	—	—
11. Prepared the box for shipping.	—	—
12. Shipped the specimen to the lab via a shipping company that guaranteed overnight delivery.	—	—
13. Notified the regional veterinary laboratory by phone or e-mail that a rabies suspect was forwarded.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

MAKE ENTRIES IN THE CONTROLLED SUBSTANCES REGISTER FOR VETERINARY SERVICES

081-891-1028

Conditions: You are in a facility in which controlled substances are maintained. The veterinarian has instructed you to dispense a controlled substance. Necessary materials and equipment include: the facilities' controlled substances log (usually a loose-leaf notebook) containing DA Form 3949, a calculator (optional), and the veterinarian's order for the administration of a controlled substance.

Standards: Legibly and without error made an expenditure entry to a DA Form 3949. Made corrections as necessary.

Performance Steps

1. Record expenditures on DA Form 3949. Fill in the relevant block with the following:
NOTE: Record controlled substance expenditures as the substance is being prepared for dispensing.
 - a. Record the day and hour the controlled substance is dispensed.
 - b. For privately owned animals, record the pet's name, owner's last name, and owner's Social Security Number in the PATIENT blank. For MWDs, record the dog's name and tattoo number of the dog in the PATIENT blank.
 - c. Record the first initial and last name of the veterinarian prescribing the controlled substance.
 - d. Ensure the individual administering the drug signs in the ADMINISTERED BY column.
 - e. Record the amount of the controlled substance administered in the EXPENDITURES column.
 - (1) If the amount administered is a fractional amount of the dose dispensed, place the amount administered in parentheses in front of the unit(s) dispensed. (See Figure 3-18.)
 - (2) If the accountable units are milliliters, record the amount administered as a decimal portion of the unit, such as 2.2 ml.
 - f. Record the new balance.
 - (1) Subtract the amount dispensed from the balance shown in the BALANCE column.
 - (2) Record the new balance on the line directly below the previous balance. (See Figure 3-18.)
2. Make corrections to DA Form 3949 as needed.
 - a. Draw a single line, in ink, through the erroneous entry and place your initials beside the correction.
 - b. Record the correct entry on the following line, if an entry is required. (See Figure 3-18.)

Performance Steps

For use of this form, see AR 40-2; the proponent agency is Office of the Surgeon General.

CONTROLLED SUBSTANCES RECORD		To be used with DA Form 3949-1		WARD 64th MED DET (VET SVCS)			
DATE	ITEM						
YEAR 92	Biatol, 1 Gram Bottle, 4% Solution (40 mg/ml), 2.5 ml/Bottle						
MONTH JAN							
DAY	HOOR	PATIENT'S NAME <small>MWD NAME: TATTOO NUMBER</small>	ORDERED BY (Dr's name)	ADMINISTERED BY (Signature)	EXPENDI- TURES	RECEIPTS (Amt from pharmacy)	BALANCE
2	0800	BALANCE FORWARDED					22
2	0805	MAX, C246	CPT C. CLARK	<i>Jim Jones</i>	(12)14		8
2	1500			<i>Jan Doe</i>	fs	100	108
6	0120	GUS 3471	LT. G. WHITE	<i>Jim Jones</i>	(14)16		94 fs
6	0120	GUS 3471	LT. G. WHITE	<i>Jim Jones</i>	(14)16		92
9	0830	SHEENA AØ1Ø	CPT C. CLARK	<i>Jim Jones</i>	(10)12		80

DA FORM 3949 1 APR 73 EDITION OF 1 OCT 72 IS OBSOLETE

Figure 3-18

Performance Measures

GO **NO**
GO

- | | | |
|------------------------------------------------|---|---|
| 1. Recorded expenditures without error. | — | — |
| 2. Made corrections to DA Form 3949 as needed. | — | — |

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
None

Related
AF REG AFI 41-20
AR 40-2
AR 40-905
NAVMED P-117

MAKE ENTRIES IN THE HEALTH RECORD OF A MILITARY WORKING DOG USING THE CCSOAP FORMAT

081-891-1036

Conditions: A military working dog (MWD) is in your clinic for a medical visit or examination. You are assisting the veterinarian with the dog's visit and must make entries in the dog's record. Necessary materials and equipment include: pen, SF 600, and the dog's health record.

Standards: Recorded in CCSOAP format on an SF 600 all information gathered and treatments given during the medical visit/examination.

Performance Steps

1. Record information gathered during a medical visit/examination on SF 600.
 - a. Record the date of the visit in the left hand column.
 - b. Stamp or print the veterinary organizational address under the date. Do not repeat the address on additional entries on the same page unless the sequence was interrupted by treatment at another facility.
 - c. Use the CCSOAP format to record information gathered during the visit.
 - (1) The first entry is the CC - Chief Complaint.
 - (a) Written as "CC:"
 - (b) Next to the CC: record the reason the dog handler brought the dog to the clinic.
 - (2) The next entry, written on the next line is the S - Subjective entry.
 - (a) Written as "S:"
 - (b) Record all observations regarding the dog's condition given to you from the handler.
 - (3) O - Objective entry is placed on the next line after the subjective entry.
 - (a) Written as "O:"
 - (b) Record measurable results of the exam (vital signs, weight, etc.).
 - (4) Following the O: is the A - Assessment entry on the next line.
 - (a) Written as "A:"
 - (b) Record the potential diagnosis and impressions.
 - (c) Only the veterinarian can provide a definitive diagnosis.
 - (5) P - Plan is the final entry in the CCSOAP format.
 - (a) Record the treatment and/or follow-up care directed by the veterinarian. This includes all tests performed and medications dispensed.
 - (b) Record medications administered by name, quantity, unit of measurement, route, and site of administration.
 - (c) Record orders given by the veterinarian to aid in the diagnosis, such as radiographs and laboratory tests.
2. If an error is made or detected, make corrections.
 - a. Draw a single line through the incorrect information leaving it legible.
 - b. Initial each correction.
 - c. Do not white out, strike over, or make other obliterations of the error.
 - d. Record the corrected information.
3. Sign entries to the SF 600 in the following format:
 - a. Rank.
 - b. Printed name.

Performance Steps

- c. MOS code.
 - d. Payroll signature.
4. Ensure that the veterinarian countersigns any entry detailing a major problem.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Recorded information gathered during a medical visit/examination on SF 600.	—	—
2. If an error was made or detected, corrections were made.	—	—
3. Signed entries to the SF 600 in the correct format.	—	—
4. Ensured that the veterinarian countersigned any entry detailing a major problem.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

**COMPLETE PART III OF DD FORM 2341 (REPORT OF ANIMAL BITE - POTENTIAL
RABIES EXPOSURE)**

081-891-1101

Conditions: A DD Form 2341 has been received by the veterinary treatment facility (VTF). Parts I and II of the form have been completed. The veterinarian has directed you to complete Part III of the form. You have been given all the information required for entry on the form including the location of the animal during quarantine and the results of the quarantine. Necessary materials and equipment include: AR 40-905, pen, notes regarding all actions taken (including points of contact and phone numbers), and phone number and address of the owner.

Standards: Completed Part III of DD Form 2341 IAW AR 40-905.

Performance Steps

1. Fill in block 21 "Authorities Notified".
 - a. Enter the name of all organizations/personnel that were notified due to involvement in the bite case.
 - b. Examples include military police, civilian authorities, and animal control officers.
2. Fill in block 22 "Initial Action".
 - a. Enter the initial action taken.
 - b. An example includes, "Contacted owner and established an appointment for the initial quarantine physical."
3. Fill in block 23 "Emergency Room Notified".
 - a. Fill in this block only if the Emergency Room has been notified.
 - b. Fill in the time, date, and initials of the person who notified the ER.
4. Fill in block 24 "Location of the Animal During Observation Period".
 - a. Enter whether the animal is quarantined on or off post.
 - b. Enter specific information to include an address and a point of contact name and number if the animal is not quarantined at the VTF.
5. Fill in block 25 "Observed By".
 - a. Fill in the name of the military or civilian agency responsible for observing the animal while in quarantine.
 - b. Include a point of contact name and number, if known.
 - c. An example includes, "CPT Honnold, Ft. Sam Houston VTF".
6. Fill in block 26 "Dates Observed".
 - a. Enter the date the quarantine starts in block 26a.
 - b. Enter the date the quarantine ends in block 26b.
7. Fill in block 27 "Date Animal Released" with the date when the animal was released from quarantine.
8. Fill in block 28 "Condition of Animal During and at the End of 10-Day Quarantine".
 - a. Note the animal's condition during and at the end of the quarantine in this block.
 - b. An example includes, "No clinical signs of rabies" or "Appears healthy".

Performance Steps

- 9. Fill in block 29 "Other Disposition of the Animal". Other dispositions can include "died", "escaped", "unlocated", "n/a", or location of the lab to which the rabies suspect was submitted.
- 10. Fill in block 30 "Laboratory Findings of Animal Submitted for Rabies Diagnosis".
 - a. Fill in this block only if specimens are submitted for rabies diagnosis.
 - b. Enter an X in block 30a next to the test conducted.
 - c. Enter the date the test was conducted in block 30b.
 - d. Enter an X in block 30c next to the negative or positive results, depending on what they were.
- 11. Ensure that block 31 "Information Reported to Rabies Board By" is filled in.
 - a. The person who reported the bite case information to the rabies board fills out this part of the form.
 - b. The person's printed name (last, first, middle initial) goes in block 31a.
 - c. The person's signature goes in block 31b.
 - d. The date signed goes in block 31c.
- 12. Ensure that the responsible veterinary officer fills in block 32 "Veterinary Officer".

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Filled in block 21.	_____	_____
2. Filled in block 22.	_____	_____
3. Filled in block 23.	_____	_____
4. Filled in block 24.	_____	_____
5. Filled in block 25.	_____	_____
6. Filled in block 26.	_____	_____
7. Filled in block 27.	_____	_____
8. Filled in block 28.	_____	_____
9. Filled in block 29.	_____	_____
10. Filled in block 30.	_____	_____
11. Ensured that block 31 was filled in.	_____	_____
12. Ensured that the responsible veterinary officer filled in block 32.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
AR 40-905

Related
None

CALCULATE DRUG DOSAGES FOR A MILITARY WORKING DOG**081-891-1503**

Conditions: A military working dog needs a course of medication. The veterinarian has instructed you to prepare the medication for the whole treatment. The weight of the animal and the number of days the treatment is required are provided. Necessary materials and equipment include: medication bottle with dose/weight and concentration listed, pencil, and paper.

Standards: Calculated the total milligrams the dog receives for each unit of weight, the single dose, the daily dose, and the amount of medication needed for the entire course of treatment.

Performance Steps

1. Weigh the dog or review the dog's record for the most recent weight entry.
2. Determine the dose/weight of the medication. It will be listed on the medication bottle (e.g., 10 mg per pound). The veterinarian may also specify a dose/weight.
3. Calculate the number of milligrams the dog receives for each dose based upon body weight times the dose/weight.
 - a. Multiply the dog's weight by the dose/weight.
 - b. Dog's weight X dose weight = Total milligrams/international units (IU)
 - c. Example: 50 pound dog X 10 mg per pound = 500 mg
4. Determine the concentration of the medication. It will be listed on the medication bottle (e.g., 250 mg per cc).
5. Calculate the single dose.
 - a. Divide the total milligrams/IU (found in step 3a) by the concentration (found in step 4).
 - b. Milligrams / concentration = dose.
 - c. Example: 500 mg / 250 mg per cc = 2 cc per dose
6. Calculate the daily dose.
 - a. Multiply the single dose by the number of administrations per day.
 - b. Single dose X number of administrations per day = the daily dose.
 - c. Example: 2 cc per dose X 3 doses per day = 6 cc per day
7. Calculate the dose for the course of treatment.
 - a. Multiply the daily dose by the number of days of administration.
 - b. Daily dose X number of days of administration = the dose/course of treatment
 - c. Example: 6 cc per day X 5 days = 30 cc dose/course treatment

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Weighed the dog or reviewed the dog's record for the most recent weight entry.	—	—
2. Determined the dose/weight of the medication.	—	—
3. Calculated the number of milligrams the dog receives for each dose based upon body weight times dose/weight.	—	—

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
4. Determined the concentration of the medication.	—	—
5. Calculated the single dose.	—	—
6. Calculated the daily dose.	—	—
7. Calculated the dose for the course of treatment.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

Skill Level 2

Subject Area 11: Large Animal (SL 2)

INSERT A NASOGASTRIC TUBE IN AN EQUINE

081-891-2001

Conditions: An equine patient needs a treatment or medication that requires placement of a nasogastric tube. The veterinarian instructs you to insert the tube. A handler is available to restrain the equine. Necessary materials and equipment include: horse halter, lead rope, twitch, sterile lubricant, and an equine nasogastric tube with one rounded end with holes in it and one slightly flared end.

Standards: Inserted a nasogastric tube into the esophagus of an equine patient without causing injury to the animal or people in the vicinity.

Performance Steps

1. Gather the necessary equipment.
 - a. Equine halter.
 - b. Twitch.
 - c. Sterile lubricant.
 - d. Equine nasogastric tube.

2. Restrain the equine (see task 081-891-1406).

NOTE: As a minimum the horse is haltered, held by an assistant, and has a twitch applied to its upper lip. For safety, you should stand to one side of the front of the horse, clear of the front legs, to pass the nasogastric tube.

3. Predetermine the insertion length of the nasogastric tube.
 - a. Hold the nasogastric tube up to the side of the equine with the flared end toward the muzzle.
 - b. Run the tube alongside the horse and place the distal end (the end with the holes) at the center of the last rib.
 - c. Mark the insertion depth.
 - (1) Choose a proximal landmark such as the front teeth.
 - (2) Mark the area on the tube at the point of the chosen landmark.

4. Lubricate a one-foot length of the distal end of the tube with the sterile lubricant.

5. Insert the nasogastric tube.
 - a. Insert the index finger of your nondominant hand part way into the patient's left nostril.
 - b. Holding the distal end of the tube in your dominant hand, insert the tube into the left nostril.
 - c. While pushing down and medially on the distal tip of the tube, gently advance it 16 to 20 inches.

NOTE: If you meet resistance within the first 2 to 4 inches, withdraw the tube slightly and readvance while pushing the tube more ventrally.

- d. Advance the tube into the esophagus when you reach the laryngeal area.
 - (1) You should encounter resistance as the tube reaches the laryngeal area.
 - (2) Advance the tube as the horse swallows. If the horse is reluctant to swallow you can induce swallowing by blowing firmly into the free end of the tube.

Performance Steps

- e. Look for the impression the tube makes on the soft tissue of the left side of the horse's ventral neck as the tube is swallowed and passes through the esophagus. If you do not see the impression, the tube may be in the trachea.

NOTE: You can blow gently into the free end of the tube as it is advanced in the proximal esophagus to help visualize the impression and movement of the tube.

- f. Advance the tube to the predetermined point found in step 3c(2).
- g. Consult a veterinarian if unsure of the tube placement.
- h. Once the tube is swallowed, continue advancing the tube until it enters the stomach.

- 6. Secure the free end of the tube to the halter with tape if it is to be left in place longer than a single treatment.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Gathered the necessary equipment.	_____	_____
2. Restrained the equine.	_____	_____
3. Predetermined the insertion length of the nasogastric tube.	_____	_____
4. Lubricated a one-foot length of the distal end of the tube with sterile lubricant.	_____	_____
5. Inserted the nasogastric tube.	_____	_____
6. Secured the free end of the tube to the halter with tape if the tube is to be left in place.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

Subject Area 12: Laboratory Animal (SL 2)

PERFORM MANUAL RESTRAINT OF AN UNSEDATED NONHUMAN PRIMATE

081-891-1504

Conditions: The veterinarian has instructed you to manually restrain a nonhuman primate (NHP). The animal is a New World monkey and weighs 5 kg or less. The NHP is housed in an individual cage with a functional squeeze apparatus. Necessary materials and equipment include: protective eyewear or face shield, face mask, disposable coveralls or lab coat, protective elbow-length leather gloves or gauntlet leather gloves, headcover, and protective footwear.

Standards: Manually restrained a nonhuman primate without harming the animal or handler.

Performance Steps

1. Put on personal protective equipment.
 - a. Protective eyewear or face shield.
 - b. Face mask.
 - c. Disposable coveralls or lab coat.
 - d. Protective elbow-length leather gloves or gauntlet leather gloves.

NOTE: Gauntlet leather gloves are gloves made of double layered heavy leather material that extend past the elbow up to the chest, protecting the entire arm and hand from bite injuries.

- e. Protective footwear.
 - f. Head cover.
 2. Unlock the false wall apparatus of the squeeze cage.
 3. Advance the squeeze cage false wall 1/2 to 2/3 the depth of the cage and lock it in place.
 4. Unlock the cage door and open it just enough to insert a leather gloved hand and arm.
 5. Grasp the primate by the body or upper arm.
- NOTE:* To avoid causing injury to the animal, do not grasp the tail, lower arm, or leg and use the minimal amount of restraint required to safely but firmly restrain the NHP.
6. Ensure a firm grip and restrain the animal's arms behind its back to limit the ability to turn and bite.
 7. Remove the NHP from the cage.
 8. Secure the legs by grasping them together with the opposite hand and gently extending the legs.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Donned protective equipment.	—	—
2. Unlocked the squeeze cage false wall apparatus.	—	—
3. Advanced the squeeze cage false wall 1/2 to 2/3 the depth of the cage and locked it in place.	—	—

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
4. Unlocked the cage door and opened it just enough to insert a gloved hand.	—	—
5. Grasped the primate by the body or upper arm.	—	—
6. Ensured a firm grip and restrained the animal's arms behind its back to limit the ability to turn and bite.	—	—
7. Removed the NHP from the cage.	—	—
8. Secured the legs grasping them together with the opposite hand and gently extending them.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM MANUAL RESTRAINT OF A SEDATED NONHUMAN PRIMATE
081-891-2002

Conditions: The veterinarian has instructed you to restrain a nonhuman primate using a combination of manual and chemical restraint. The NHP is housed in an individual cage with a functional squeeze apparatus. Necessary materials and equipment include: protective eyewear or face shield, face mask, disposable coveralls or lab coat, protective footwear, appropriate syringe and needle, prescribed drug for chemical restraint, and the animal's record and other paperwork required by the protocol.

Standards: Manually and chemically restrained a nonhuman primate without causing harm to the animal or injury to the handler.

Performance Steps

1. Gather necessary supplies and equipment.
 - a. Drug prescribed by veterinarian or local SOP for chemical restraint.
 - b. Needle and syringe appropriate for administering prescribed drug for chemical restraint.
 - c. Emergency kit with emergency drugs (determined by local SOP).
2. Draw up the prescribed drug for chemical restraint.
3. Put on protective equipment.
 - a. Protective eyewear or face shield.
 - b. Disposable coveralls or lab coat.
 - c. Head cover.
 - d. Protective footwear.
4. Restrain the nonhuman primate (NHP).
 - a. Unlock the squeeze apparatus on the cage.
 - b. Advance the false wall of the squeeze cage to the front of the cage slowly.
 - c. Lock the false wall in place, ensuring that the NHP is secured firmly between the false wall and the front of the cage.

NOTE: NHPs that are properly restrained will exhibit minimal movement. Attempts should be made to position the animal facing sideways for easier access to the thigh muscle.

5. Administer the prescribed drug for chemical restraint intramuscularly (IM) (see task 081-891-3308. Follow the same procedures as the task outlines for Military Working Dogs).
6. Reposition the squeeze cage false wall to 1/2 the depth of the cage to allow room for the animal to lie flat.

NOTE: The chemical effect should occur within 5-10 minutes. Ensure that the NHP is properly immobilized by the drug before removing it from the cage. The NHP should have little or no control over body movement. The NHP's eyes will usually remain open and blinking.

7. Remove the NHP from the cage to perform the required procedure.
 - a. Unlock the squeeze cage false wall apparatus.
 - b. Unlock the cage door and open it just enough to insert your hand and arm.
 - c. Grasp the primate by the body or upper arm.

NOTE: To avoid causing injury to the animal, do not grasp the tail, lower arm, or legs.

- d. Ensure a firm grip on the upper arms.
- e. Remove the NHP from the cage.

Performance Steps

- f. Secure the legs by grasping them together with the opposite hand and gently extending the legs.
- 8. Once the procedure is complete, return the primate to its cage, and monitor recovery from chemical restraint as directed in local SOPs.
- 9. Annotate all procedures in the animal's medical record and other paperwork as required by any protocols and in accordance with local SOPs.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Gathered necessary supplies and equipment.	_____	_____
2. Drew up the prescribed drug for chemical restraint.	_____	_____
3. Donned PPE.	_____	_____
4. Restrained the nonhuman primate (NHP).	_____	_____
5. Administered the prescribed drug intramuscularly.	_____	_____
6. Repositioned the squeeze cage false wall to 1/2 the depth of the cage.	_____	_____
7. Removed the NHP from the cage to perform the required procedure.	_____	_____
8. Returned the primate to its cage and monitored recovery as directed in local SOPs.	_____	_____
9. Annotated all procedures correctly in the animal's medical record and other paperwork required by protocol and IAW local SOPs.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

Skill Level 3

Subject Area 13: Emergency Care (SL 3)

**PERFORM LIFE SAVING THERAPY ON A MILITARY WORKING DOG FOR
ORGANOPHOSPHATE OR CARBAMATE POISONING**

081-891-1058

Conditions: You have been presented with a dog exhibiting clinical signs of organophosphate or carbamate poisoning. The dog has been muzzled if necessary and the dog handler is available to position and restrain the dog. Necessary materials and equipment include: stethoscope, piece of flexible plastic, surgical and surgical prep supplies, 3-way stopcock, IV tubing, suture material, local anesthetic, hemostats, exam gloves, timing device, digital thermometer, 4X4 gauze sponges, exam table, atropine sulfate, intravenous catheter with cap, various sizes of needles and syringes, sterile isotonic replacement crystalloid solution, adhesive tape, clippers with a #40 blade, 70% isopropyl alcohol, gauze sponges, roll gauze or self-adhesive conforming wrap, Elizabethan collar, fluid administration set, infusion pump, towels, IV stand, and the dog's health record.

Standards: Performed all steps necessary to initiate life saving therapy on a military working dog for organophosphate or carbamate poisoning without causing further harm to the dog.

Performance Steps

1. Perform primary and secondary surveys (see tasks 081-891-1094 and 081-891-3304).
2. Take the vital signs (see task 081-891-1007).
3. Recognize the signs of organophosphate and carbamate poisoning.
 - a. Excessive salivation and drooling.
 - b. Muscular twitching.

NOTE: Muscular twitching usually begins with the face and progresses over the entire body and becomes much more severe. Attempted walking becomes stiff and jerky.

- c. Respiratory distress.
 - d. Convulsions.
 - e. Coma.
 - f. Respiratory depression.
4. Gather additional history from the dog handler.
 - a. Focus on the past 12 hours and possible chemical exposure.
 - b. Were there unusual odors in the kennel or work environment?
 - c. Was the kennel area sprayed or fogged recently?
 - d. Was the dog exposed to unusual dust or powder?
 - e. Was anything applied to the dog topically?
5. Smell the haircoat for the odor of insecticide.
6. Initiate life saving therapy.
 - a. Administer atropine sulfate.
 - (1) The dose is 0.2 to 0.4 mg/kg IM.
 - (2) With severe signs, administer 1/4 of the dose IV and 3/4 of the dose IM.
 - (3) Use the higher dose if symptoms are severe.

Performance Steps

- (4) Watch for improvement of the patient or disappearance of signs within 3 to 10 minutes.
 - b. Place an IV catheter (see task 081-891-1038), using at least an 18 gauge, 1 1/2 inch catheter.
 - c. Initiate an IV infusion (see task 081-891-1018).
 - (1) Use a sterile isotonic replacement crystalloid solution (e.g., 0.9% sodium chloride, lactated Ringer's solution).
 - (2) Calculate and use a fluid delivery rate that is twice the maintenance requirement (see task 081-891-1037, step 3 [maintenance requirements] and task 081-891-1018, step 8 [hourly rate calculation]).
 - d. Continue to monitor the patient.
 - (1) Take the vital signs (see task 081-891-1007).
 - (2) Watch for muscular twitching to intensify.
 - (3) Watch for signs of atropine effect.
 - (a) Dry mucous membranes.
 - (b) Dilated pupils.
 - (4) Improved respirations with a normal respiration pattern.
 - (5) Mucous membrane color.
 - (6) Capillary refill time (CRT).
 - e. Lower elevated body temperature if it is over 104° F.
 - (1) Wet the dog with cool water.
 - (2) Wrap the dog in wet towels.
 - f. Reduce continued exposure to the toxic agent.
 - (1) Dermal exposure. Bathe the patient.
 - (2) Oral ingestion exposure.
 - (a) Administer activated charcoal orally using a dosing syringe if the dog is conscious and able to swallow at a dose of 2 grams per kilogram body weight (see task 081-891-1503).
 - (b) DO NOT attempt to administer activated charcoal orally or with a stomach tube if the dog is not conscious.
7. Repeat atropine administration if clinical signs return or intensify using a dose of 0.2 mg/kg given IM.
8. Contact the veterinarian immediately for further guidance.
9. Continue efforts to determine the chemical to which the dog was exposed.
10. Record all findings and treatment in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed primary and secondary surveys.	_____	_____
2. Took the vital signs.	_____	_____
3. Recognized the signs of organophosphate and carbamate poisoning.	_____	_____
4. Gathered additional history from the dog handler.	_____	_____
5. Smelled the haircoat for the odor of insecticide.	_____	_____

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
6. Initiated appropriate life saving therapy.	—	—
7. Repeated atropine administration if clinical signs returned or intensified.	—	—
8. Continued efforts to determine the chemical to which the dog was exposed.	—	—
9. Contacted the veterinarian immediately.	—	—
10. Recorded findings and treatment in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM LIFE SAVING THERAPY ON A MILITARY WORKING DOG WITH BURNS
081-891-1059

Conditions: You have been presented with a military working dog that has chemical or thermal burns. You must perform life saving therapy on the dog. The dog is muzzled and a dog handler is available to position and restrain the dog. Necessary materials and equipment include: Elizabethan collar, assorted bandage material and sterile dressings to include nonadherent dressings and laparotomy sponges, chlorhexidine surgical solution, sterile isotonic replacement crystalloid solution, cold water, tub, thermometer, timepiece, fluid administration set, silver sulfadiazine topical ointment, injectable butorphanol or buprenorphine analgesic, and the dog's health record.

Standards: Completed the steps necessary to perform life saving therapy on a dog with burns.

Performance Steps

1. Gather pertinent history from the handler. Does he know what happened?
2. Perform primary and secondary surveys (see tasks 081-891-1094 and 081-891-3304).
 - a. Be prepared to provide emergency therapy to establish an airway if the dog was exposed to smoke inhalation injury (e.g., building fire) and has developed airway or pulmonary edema (see tasks 081-891-1029, 081-891-1602, and 081-891-3502).
 - b. Be prepared to perform BCLS if cardiac, respiratory, or cardiopulmonary arrest has occurred (see task 081-891-1602).
 - c. Be prepared to provide supplemental oxygen if the dog was exposed to smoke inhalation injury (see task 081-891-3013, step 5).
3. Determine the severity of the burn from the following characteristics.
 - a. First degree (superficial) burn--redness and pain. The burn is similar to a sunburn.
 - b. Second degree (partial thickness) burn--red or mottled appearance, swelling, extreme hypersensitivity leading to pain. The area may appear wet and weeping due to subcutaneous edema. The hair should not be easily pulled out.
 - c. Third degree (full thickness) burn--dark and leathery appearance. Skin surface is dry. There is no pain as the nerve endings are destroyed. If any hair remains, it will pull out easily.
4. Estimate the percent of the total body surface area (%TBSA) that is burned by adding the estimated percent of burn from each of the following body areas:
 - a. Head and neck - 16%.
 - b. Chest - 22%.
 - c. Flank - 19%.
 - d. Fore limbs - 15%.
 - e. Hind limbs - 20%.
 - f. Tail - 4%.
5. Place at least one large bore intravenous catheter in a peripheral vein through unburned skin (see task 081-891-1018) and initiate an infusion of intravenous sterile isotonic replacement crystalloid solution (e.g., 0.9% sodium chloride, lactated Ringer's solution, Plasmalyte-R®, Normosol-R®).
 - a. Use an infusion rate of twice the daily fluid maintenance rate (see task 081-891-1037, step 3) for animals with first degree burn injury or second degree burn injury covering less than 15% of the body (see steps 3 and 4).

Performance Steps

- b. Use an infusion rate in animals with second degree burn injury covering more than 15% of the body and for all animals with third degree burns that provides daily maintenance fluid requirements plus additional fluid to make up for losses of fluid through burned skin.
 - (1) Daily maintenance fluid requirement is calculated by multiplying the dog's body weight (in kg) by 40-60 ml/kg.
 - (2) Additional fluid requirements are determined by multiplying the percent of the total body surface area that was burned (%TBSA) by 2-4 ml/kg (see steps 3 and 4).
 - (3) Example: A 30 kg dog has third degree burns covering 30% of the TBSA. This dog requires 1200-1800 ml of fluids per day for maintenance (30 kg X 40-60 ml/kg) and 1800-2400 ml per day to compensate for burn injury loss (30 kg X 2-4 ml/kg X 30), for a total daily requirement of 3000-4200 ml.
6. Monitor the patient's vital signs, pulse quality, pulse oximetry, arterial blood pressure, capillary refill time, and mucous membrane color to detect early signs of shock (see task 081-891-1007 and applicable parts of task 081-891-1068).
 - a. Treat the dog for hypovolemic shock, if clinical signs suggest shock is developing (see task 081-891-3013).
 - b. Adjust fluid therapy based on response to treatment and the underlying burn injury, based on directions from the veterinarian.
7. Administer analgesics for pain if second degree burns covering more than 15% of the body or third degree burns are present.
 - a. If the animal is conscious and alert and local SOP permits, administer a one-time dose of butorphanol tartrate at a dose of 0.2-0.4 mg/kg body weight by IM or SQ route or buprenorphine at a dose of 0.01-0.02 mg/kg body weight by IM or SQ route.
 - b. You are NOT authorized to give any other analgesic, sedative, or tranquilizer without direction from a veterinarian, nor are you authorized to give more than one dose of the prescribed analgesic without approval of the veterinarian, nor are you authorized to give any analgesic to an animal in shock or that is unconscious.
 - c. Be prepared to induce anesthesia if the dog is severely burned to alleviate pain and distress, but DO NOT induce anesthesia without the approval of the veterinarian.
 - d. Properly record the administration of any controlled drugs in the Controlled Substances Register (see task 081-891-1028).
8. Initiate appropriate burn treatment.
 - a. Thermal burn.
 - (1) Apply cold compresses made of sterile water- or saline-soaked towels, lap sponges, or gauze for a minimum of 30 minutes.
 - (2) Submerge the dog in a cold water bath if the burn covers a large surface area.
 - (3) DO NOT use ice, ice water, or iced saline on burned skin because this will likely cause hypothermia and may further compromise injured tissue.
 - (4) DO NOT attempt to clip hair from the burned skin, as this may cause further injury and pain.
 - (5) Carefully flush the burned surface with chlorhexidine surgical solution to remove surface debris and necrotic material, and flush with sterile saline solution afterwards.
 - (6) Apply a thin coating of silver sulfadiazine ointment to the burn surface using sterile gloves or sterile applicators.

Performance Steps

- (7) Apply a sterile nonadherent dressing (e.g., Telfa® pad) to all wounds and loosely bandage the affected area with a dry, sterile bandage material (see tasks 081-891-1501 and 081-891-1502).
- b. Chemical burn.
 - (1) Flush the burned area thoroughly for a minimum of 30 minutes with water or saline (preferably sterile) to remove residual chemical.
 - (2) DO NOT attempt to clip hair from the burned skin, as this may cause further injury and pain.
 - (3) Carefully flush the burned surface with chlorhexidine surgical solution to remove surface debris and necrotic material, and flush with sterile saline solution afterwards.
 - (4) Apply a thin coating of silver sulfadiazine ointment to the burn surface using sterile gloves or sterile applicators.
 - (5) Apply a sterile nonadherent dressing (e.g., Telfa® pad) to all wounds and loosely bandage the affected area with a dry, sterile bandage material (see tasks 081-891-1501 and 081-891-1502).
- 9. Inform the veterinarian of the extent and severity of the burn and the patient's status.
- 10. Monitor the patient's vital signs, pulse quality, pulse oximetry, arterial blood pressure, capillary refill time, and mucous membrane color until further direction is provided by the veterinarian (see task 081-891-1007 and applicable parts of task 081-891-1068).
- 11. Record all findings and treatment in the dog's health record (see task 081-891-1036).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Gathered pertinent history from the handler.	_____	_____
2. Performed primary and secondary surveys and took appropriate steps to provide care for airway obstruction, BCLS, or supplemental oxygen as necessary.	_____	_____
3. Determined the severity of the burn.	_____	_____
4. Estimated the %TBSA that was burned.	_____	_____
5. Initiated appropriate fluid therapy.	_____	_____
6. Monitored the patient to detect shock.	_____	_____
7. Administered analgesics if indicated and authorized.	_____	_____
8. Initiated appropriate burn therapy.	_____	_____
9. Informed the veterinarian of patient status and treatment.	_____	_____
10. Monitored the patient until further directions were provided by the veterinarian.	_____	_____
11. Recorded all findings and treatment in the dog's health record.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

None

Related

VETERINARY EMERGENCY

PERFORM A VENOUS CUTDOWN ON A MILITARY WORKING DOG

081-891-1061

Conditions: A venous cutdown is required for a military working dog because profound peripheral vascular collapse is present (usually due to shock), volume replacement is the overriding immediate need, and routine venous access is not likely or has not been successful. Immediate intervention is required, and unnecessary delay is not warranted. The veterinarian is not present, but has been notified and is en route. You have been authorized by the veterinarian to perform an emergency venous cutdown, place a large bore intravenous catheter, and initiate fluid therapy as directed. The dog has been muzzled, if necessary, and the dog handler is available to position and restrain the dog. Necessary materials and equipment include: sterile emergency venous cutdown kit (#10 and #11 scalpel blades, #3 scalpel handle, several curved mosquito hemostatic forceps, Brown-Adson and rat tooth tissue forceps, operating scissors, and needle holders), supplies for surgical skin preparation, large bore intravenous catheters (16 gauge or larger diameter), local anesthetic, 2-0 monofilament suture with cutting needle, sterile isotonic replacement crystalloid solution, fluid administration sets, and the dog's treatment record.

Standards: Performed a venous cutdown on a military working dog for initiation of fluids without causing further injury.

Performance Steps

1. Clip the hair from and surgically prepare the incision site over an external jugular vein, femoral vein, cephalic vein, or saphenous vein (see task 081-891-1087).

NOTE: In the emergency setting, central veins (e.g., external jugular vein and femoral vein) are preferred over peripheral veins because larger catheters can be placed, larger volumes of fluids can be given more rapidly, drugs can be administered into the central circulation more rapidly, and central venous pressure can be monitored. Central veins should be selected for venous cutdown whenever possible.

2. If the animal is conscious and aware of pain, infiltrate the proposed skin and subcutaneous incision site with 1-2 ml of a local anesthetic (2% lidocaine, bupivacaine, or mepivacaine).

3. Place a venous catheter using a facilitation incision, mini cutdown, or full cutdown.

NOTE: Which method to use depends on "the need for speed." The more severe the patient's shock, and thus the more immediate the need for large volumes of fluid rapidly, the more likely a full cutdown will be required. Conversely, patients that are conscious and in early shock can probably be managed with a facilitation incision or mini cutdown.

a. Facilitation incision

- (1) Make a small (<1 cm) full-thickness incision just through the skin overlying the vein to allow better visualization of the vein.

- (2) Do not attempt to isolate, dissect, or otherwise manipulate the vein.

NOTE: In this technique, the vein itself is not definitively identified visually, and this technique simply allows enhanced palpation of the vein and easier passage of the catheter into the vein.

- (3) Place a large bore catheter into the vein as you would percutaneously, except that you catheterize the vein directly without passing the catheter through the skin.

NOTE: Some subcutaneous fat and fascia may need to be mobilized to allow visualization or palpation of the vein.

- (4) Tape or suture the catheter in place and apply a sterile dressing and bandage.
- (5) Proceed to Step 4.

Performance Steps

b. Mini cutdown

- (1) Extend the facilitation incision so that the fat and fascia over the vein are cleared in more detail to allow direct visualization of the vessel.
- (2) Do not attempt to undermine or isolate the vein.
- (3) Catheterize the vein by directly visualizing the catheter entering the vein.
- (4) Suture the catheter in place, loosely appose the skin incision around the catheter, apply a sterile dressing, and bandage routinely.
- (5) Proceed to step 4.

c. Full cutdown

- (1) Make a full-thickness, 2-4 cm long skin incision either transversely (perpendicular) to the long axis of the vein or parallel with the long axis of the vein.

NOTE: Either method for making the skin incision is acceptable. There is less risk of injury to the adjacent artery and nerve if a parallel incision is made, so this method is preferred.

- (2) Bluntly dissect subcutaneous fat and connective tissues, if necessary, to expose the vein.

NOTE: Minimize excessive soft tissue dissection. The goal is to locate and isolate the vein as quickly as possible. Excessive dissection wastes time and promotes large hematoma formation.

- (3) Using the closed points of a pair of mosquito hemostatic forceps, firmly push downward on the tissues overlying the vein, and quickly open the jaws of the forceps to separate these tissues. Do this repeatedly until the vein is visible.
- (4) Press the closed points of the hemostatic forceps ventral to the vein and rapidly open them to create a "tunnel" under the vein.
- (5) Pass the closed tips of the hemostatic forceps beneath the vein to the opposite side.
- (6) Grasp a long loop of suture with the forceps and pull the suture beneath the vein to the opposite side.
- (7) Cut the loop of the suture to create two separate lengths of suture passed ventral to the vein.
- (8) Tie the suture loop most distant from the heart, completely ligating the vein.
- (9) Use the tied suture loop to place tension on the vessel during catheterization.
- (10) Catheterize the vein by either incising a part of the wall of the vein fully and passing a catheter directly into the vein using tissue forceps or a vein pick up to open the incision in the vein wall, or by piercing the vein and passing an over-the-needle or through-the-needle catheter into the vein.
- (11) Tie the second ligature around the vein and catheter to prevent venous bleeding from the catheterization site and prevent dislodgement of the catheter.
- (12) Suture the surrounding subcutaneous tissue and skin to loosely appose these tissues around the catheter.
- (13) Apply a sterile dressing and bandage the catheter to prevent dislodgement and reduce chances of infection.

NOTE: Do steps 3c(12) and 3c(13) only after the patient has been resuscitated. Do not waste valuable time closing this wound now. Cover the wound with a sterile dressing and continue emergency care of the patient. Once the patient has been resuscitated and is stable, come back and suture the wound and bandage appropriately.

NOTE: Clearly mark the bandage over any cutdown site in which a sutured catheter is in place to alert staff to its presence. Catheters placed using a cutdown technique will require careful surgical closure once the catheter is no longer required.

- (14) Proceed to step 4.

Performance Steps

- 4. Initiate an IV infusion to provide the volume directed by the veterinarian at the rate directed by the veterinarian (see task 081-891-1018).
- 5. Record the procedure and patient care in the dog's health record (see task 081-891-1036).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Clipped and surgically prepared the proposed skin incision site, selecting a central vein if possible.	—	—
2. Infiltrated the proposed skin incision site with local anesthetic, if necessary.	—	—
3. Properly placed a venous catheter using either a facilitation incision, mini cut-down, or full cut-down technique.	—	—
4. Initiated an intravenous infusion of fluid at the rate directed by the veterinarian.	—	—
5. Recorded the procedure and patient care in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM LIFE SAVING THERAPY ON A MILITARY WORKING DOG FOR HEAT STROKE 081-891-3005

Conditions: An MWD is exhibiting signs of heat stroke. You must perform life saving therapy on the animal. The dog handler is available to restrain the dog. Necessary materials and equipment: rectal thermometer, cool water bath or water hose, tap water, fluid administration set, sterile isotonic replacement crystalloid solution, assorted needles and syringes, assorted lab supplies, 30 cc syringe, and the dog's health record.

Standards: Initiated appropriate life saving therapy on a military working dog for heat stroke.

Performance Steps

1. Perform primary and secondary surveys (see tasks 081-891-1094 and 081-891-3304).
 2. Gather pertinent history from the handler. Does he know what happened?
 3. Recognize the signs of heatstroke:
 - a. Very high rectal temperature (>105° F).
 - b. Excessive panting.
 - c. Tachycardia.
 - d. Bright red mucous membranes.
 - e. Normal or decreased capillary refill time.
 - f. Vomiting.
 - g. Diarrhea.
 - h. Dehydration.
 - i. Weakness.
 - j. Uncoordinated.
 - k. Unconsciousness.
 4. Take immediate action to reduce the temperature of the dog by doing one or more of the following:
 - a. Immerse the dog in a cool water bath.
 - b. Spray the dog with cool water.
 - c. Administer cool (NOT cold) intravenous fluids (see step 6).
 - d. Use a fan directed on the dog, if available.
 - e. Apply alcohol to the footpads, axillary regions, and groin.
 - f. In case of extreme overheating (rectal temperature >107° F), a cool water enema may be given.
 - (1) Fill a 30 cc syringe with cool (room temperature) tap water.
 - (2) Infuse the water slowly into the dog's rectum.
- NOTE:* A rectal temperature will not be accurate for 15-20 minutes after the enema. If possible, use a tympanic thermometer.
5. Monitor the body temperature at least every 5 minutes to assess response to therapy and to detect rebound hypothermia that can result from aggressive cooling measures.
 6. Initiate intravenous fluid therapy.

Performance Steps

- a. If the dog does not appear to be in shock, place at least one large bore peripheral catheter (18 gauge or larger diameter, minimum of 1 1/2 inches in length; see task 081-891-1018) and initiate fluid therapy (see task 081-891-1018) at an hourly rate that provides twice the daily maintenance fluid requirement (assume you will be giving fluids over an 8-hour period; see task 081-891-1037, step 3).
 - b. If the dog appears to be in shock, place at least two intravenous catheters, with at least one being a central venous catheter (see task 081-891-3012, step 6b), and treat for hypovolemic shock IAW task 081-891-3013.
7. Discontinue cooling measures once the body temperature reaches 103° F or lower.
 8. Continue to monitor the dog's temperature at least every 10 minutes until the patient is stable.
 9. Keep the dog in a cool, quiet area and keep the dog's activity to a minimum.
 10. Continually monitor the dog for complications and response to therapy, as detailed in task 081-891-3013, step 9.
 11. Contact the veterinarian as soon as possible for further instructions.
 12. Record all findings and treatment in the dog's health record (see task 081-891-1036).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed primary and secondary surveys.	—	—
2. Gathered pertinent history from the handler.	—	—
3. Recognized the signs of heat stroke.	—	—
4. Took immediate action to reduce the temperature of the dog.	—	—
5. Continued to monitor the dog's temperature.	—	—
6. Initiated intravenous fluid therapy and treated the animal appropriately.	—	—
7. Discontinued cooling measures once the body temperature was less than 103° F.	—	—
8. Continued to monitor the patient's temperature.	—	—
9. Kept the dog cool, quiet, and inactive.	—	—
10. Continually monitored the dog appropriately until provided further instructions by the veterinarian.	—	—
11. Contacted the veterinarian ASAP for guidance.	—	—
12. Recorded all findings and treatment in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

None

Related

VETERINARY EMERGENCY

PERFORM LIFE SAVING THERAPY ON A MILITARY WORKING DOG FOR A COLD INJURY

081-891-3006

Conditions: You have been presented with a military working dog with cold-induced injury. You must perform life saving therapy on the animal. The dog is muzzled and a dog handler is available to position and restrain the dog. Necessary materials and equipment include: timepiece, thermometer, blankets or towels, warm water circulating heating pad or forced-air rewarming device, tepid water bath, hot water bottles or electric space heaters, warmed sterile isotonic replacement crystalloid solution, fluid administration set, assorted surgical preparation supplies, assorted lab supplies, and the dog's health record.

Standards: Correctly identified the type of cold injury and performed life saving therapy on the dog.

Performance Steps

1. Perform primary and secondary surveys (see tasks 081-891-1094 and 081-891-3304).
2. Gather pertinent history from the handler. Does he know what happened?
3. Take the vital signs of the dog (see task 081-891-1007).
4. Determine the type of cold injury from the following characteristics.
 - a. Hypothermia.
 - (1) Subnormal body temperature (less than 95° F rectal). The dog will be cold to touch.
 - (2) Dog may be unconscious or display signs of reduced consciousness.
 - (3) Decreased respirations.
 - (4) Decreased pulse rate.
 - (5) Weakness.
 - (6) Shock.
 - b. Frostbite.

NOTE: Peripheral tissues including ear tips, scrotum, tail, and distal limbs and toes are the most common areas affected by frostbite.

- (1) Tissues are very cold to the touch.
 - (2) The dog has a history of exposure to extreme cold.
 - (3) Ischemia due to frozen tissue.
5. Initiate appropriate action.
 - a. Mild hypothermia (body temperature >90° F).
 - (1) Passively rewarm the dog by minimizing further heat loss (drying the animal if wet, wrapping the animal in blankets, and moving the animal to a warm enclosure or room) with use of ancillary heat sources (hot water bottles in the axillary and groin regions, warm water circulating heating pads).
 - (2) Monitor for progressive drop in body temperature.
 - b. Moderate hypothermia (body temperature of 85-90° F).
 - (1) Rewarm actively but slowly with externally applied heat sources (immersion in a tepid water bath, warm water circulating heating pads, forced-air rewarming device, heat lamps, heated incubators, and warmed intravenous fluid therapy).
 - (2) Ensure devices used to provide active external warming do not cause thermal burns.

Performance Steps

- (a) If heat lamps are used, keep them at least 30 inches away from the patient at all times.
- (b) DO NOT use electric heating pads.
- (3) To maximize core body rewarming, focus the heat sources on the thorax and abdomen, and avoid the limbs.
- (4) Monitor for and treat shock if it develops (see task 081-891-3013) - active rewarming can cause "rewarming shock" due to vasodilation, hypotension, and hypovolemic shock.
- c. Profound hypothermia (body temperature <85° F).
 - (1) Provide active external rewarming as described in step 5b.
 - (2) Provide active core rewarming slowly.
 - (a) Initiate intravenous fluid therapy using sterile isotonic replacement crystalloid solutions warmed to no more than 110° F, given at twice daily maintenance rate (assume an 8-hour infusion period; see task 081-891-1037, step 3).
 - (b) Instill warmed water (no warmer than 110° F) into the rectum using a volume of no more than 10 ml/kg body weight. Let the water remain in the rectum for at least 10 minutes, then allow the water to passively drain from the rectum. Repeat this no more than three times.
 - (3) DO NOT attempt more aggressive measures to actively warm the core of the body (warmed peritoneal lavage, gastric and urinary bladder lavage with warm saline, and warmed humidified air) without the presence of a veterinarian.
 - (4) Continually monitor the dog for complications and response to therapy, as detailed in task 081-891-3013, step 9.
 - (5) Continually record an ECG (see task 081-891-1060) to monitor for cardiac arrhythmias that are common with profoundly hypothermic patients during rewarming.
 - (6) Monitor for and treat shock if it develops (see task 081-891-3013). Active rewarming can cause "rewarming shock" due to vasodilation, hypotension, and hypovolemic shock.
- 6. Contact the veterinarian as soon as possible and request further guidance.
- 7. Record all findings and treatment in the dog's health record (see task 081-891-1036).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed primary and secondary surveys.	_____	_____
2. Gathered pertinent history from the handler	_____	_____
3. Took the vital signs of the dog.	_____	_____
4. Determined the type of cold injury.	_____	_____
5. Initiated appropriate therapy with appropriate monitoring.	_____	_____
6. Contacted the veterinarian ASAP for further guidance.	_____	_____
7. Recorded all findings and treatment in the dog's health record.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

None

Related

QUICK LOOK: CRITICAL CARE

VETERINARY EMERGENCY

**PERFORM LIFE SAVING THERAPY ON A MILITARY WORKING DOG FOR DEHYDRATION
081-891-3012**

Conditions: You have been presented with an MWD exhibiting signs of dehydration. You must perform life saving therapy on the dog. The animal has been muzzled if necessary and the dog handler is available to position and restrain the dog. Necessary materials and equipment include: thermometer, sterile crystalloid fluids for IV infusion, IV administration sets, assorted surgical preparation supplies, adhesive tape, miscellaneous lab supplies, various sizes of needles and syringes, large bore peripheral and central venous catheters and catheter caps, and the dog's health record.

Standards: Determined the dehydration status of the MWD and performed life saving therapy.

Performance Steps

1. Perform a primary and secondary survey (see tasks 081-891-1094 and 081-891-3304).
2. Gather pertinent history from the handler.
3. Take the vital signs of the dog (see task 081-891-1007).
4. Determine that the dog is dehydrated by observing the following signs and performing rapid screening lab tests:
 - a. Dry, tacky mucous membranes.
 - b. Pale mucous membranes.
 - c. Prolonged capillary refill time.
 - d. "Sunken" eyes.
 - e. Acute weight loss (water loss of 500 ml equates to body weight loss of 1 pound).
 - f. Decreased skin elasticity, seen as prolonged skin "tenting".
 - g. Tachycardia.
 - h. Tachypnea.
 - i. Packed cell volume (PCV). (See task 081-891-1048.) A PCV >50% suggests dehydration, especially if the TPP and USG are increased.
 - j. Total plasma protein (TPP). (See task 081-891-1074.) A TPP >8.0 g/dL suggests dehydration, especially if the PCV and USG are increased.
 - k. Urine specific gravity (USG). (See task 081-891-1207.) A USG >1.030 suggests dehydration, especially if the PCV and TPP are increased.
5. Estimate the severity of dehydration based on clinical signs using the chart in Figure 3-19.

Performance Steps

Estimating Percent Dehydration Based on Clinical Signs	
Percent Dehydration	Clinical Signs
< 5%	- Clinical signs are not evident
5% – 6%	- Slightly prolonged skin “tenting” (1-2 seconds)
6% - 8%	- Definitely prolonged skin “tenting” (2-3 seconds) - Slight prolongation of CRT (2-3 seconds) - Slightly dry mucous membranes
10% - 12%	- Marked prolongation of skin “tenting” (>3 seconds) - Definite prolongation of CRT (>3 seconds) - Eyes sunken in orbits - Dry, tacky mucous membranes - Early signs of shock (see task 081-891-3013) -- Tachycardia, tachypnea, weak and thready pulses, cool extremities, decreased alertness
>12%	- Obvious shock (see task 081-891-3013) - Death will likely occur, even with treatment

Figure 3-19

6. Place at least one large bore intravenous catheter, preferably in a central vein (e.g., external jugular vein) to facilitate fluid therapy and monitoring.
 - a. If a peripheral vein is used, select a catheter that is at least 18 gauge diameter and at least 1 1/2 inches in length (see task 081-891-1038).
 - b. If a central vein is used, select a catheter that is at least 16 gauge (equivalent to size 5 French) diameter and at least 10 cm (4 inches) in length, and place the catheter using one of three common techniques:
 - (1) Through-the-needle (TTN) catheter technique.

NOTE: A TTN catheter has a needle that is used to pierce the skin and vein, and through which an enclosed catheter is passed into the lumen of the vein. Most commercially-available TTN catheters have a plastic sleeve around the catheter to keep it sterile while passing the catheter, and plastic "wings" that close around the needle once the catheter is passed. For most types of TTN catheters, the needle remains attached to the "wings" and is included in the bandaging that secures the catheter. Most TTN catheters also have a rigid stylet in the catheter that helps pass the catheter into the vein. This stylet must be removed after the catheter is placed to allow fluid administration.

- (a) Have the dog handler position the dog in lateral recumbency and restrain the dog with its head and neck extended to put tension on the skin over the desired external jugular vein.
- (b) Clip the hair over an external jugular vein and perform a surgical skin preparation (see task 081-891-1087) of the intended catheter site.

Performance Steps

- (c) Pierce the skin with the needle of the TTN catheter as you would when placing a peripheral catheter, ensuring the catheter is not extending from the distal tip of the needle.
- (d) While occluding the external jugular vein distally and applying tension on the skin over the vein in a caudoventral direction with one hand, hold the TTN catheter with the other hand and identify and pierce the external jugular vein with the needle. You should see blood coming into the catheter to verify proper venipuncture.
- (e) Release the occluding pressure on the vein and use that hand to stabilize the needle within the vein so the needle does not back out.
- (f) Slowly advance the catheter/stylet into the vein with the opposite hand until the hub of the catheter is securely fitted inside the needle guard.

NOTE: If resistance to passage of the catheter is encountered, retract the catheter slightly and re-attempt passage. If a second attempt is not successful, retract the catheter into the needle and attempt repositioning the needle within the vein, followed by another attempt to pass the catheter. If further attempts to pass the catheter fail, remove the entire TTN catheter assembly and attempt catheterization more distally or on the opposite external jugular vein.

- (g) Once the catheter is securely seated in the needle guard, remove the stylet and attach a catheter cap.
- (h) Flush the catheter with heparinized saline to verify proper venipuncture and catheter patency.
- (i) Secure the catheter in place with two or three suture loops passed through the skin adjacent to the catheter hub and around the TTN catheter or using adhesive tape passed around the catheter hub and the neck.
- (j) Wrap the neck, incorporating the catheter with roll gauze and wrap the roll gauze with adhesive tape or self-adhesive conforming wrap for protection. Be sure the catheter hub and cap are exposed for access to the catheter.

(2) Seldinger technique.

NOTE: Commercial kits are available that use the Seldinger technique to place large bore, long central venous catheters. These kits include the catheter, a hypodermic needle, a dilator, and a guide wire. Aseptic technique must be used when handling all components of the kit and when placing the catheter.

- (a) Position the dog and prepare the intended catheter placement site as described for placing a TTN catheter (step 7b(1)(a) and 7b(1)(b)).
- (b) Just before the final surgical skin scrub, aseptically locally anesthetize the skin over the intended catheterization site with approximately 1 ml of 2% lidocaine or bupivacaine.
- (c) Pierce the skin with the hypodermic needle included in the kit as you would when placing a peripheral catheter, placing the needle through the anesthetized skin area.
- (d) While occluding the external jugular vein distally and applying tension on the skin over the vein in a caudoventral direction with one hand, hold the needle with the other hand and identify and pierce the external jugular vein with the needle. You should see blood coming out of the needle to verify proper venipuncture. (See Figure 3-20.)

Performance Steps

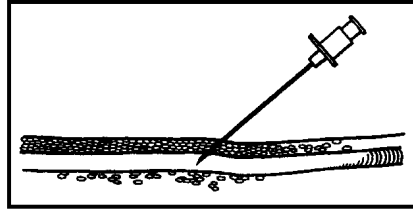


Figure 3-20

- (e) Release the occluding pressure on the vein and use that hand to stabilize the needle within the vein so the needle does not back out.
- (f) Immediately place the curved tip (straightened using the plastic adapter included in the kit) of the guide wire into the needle hub and begin to advance the wire into the vein through the needle. (See Figure 3-21.)

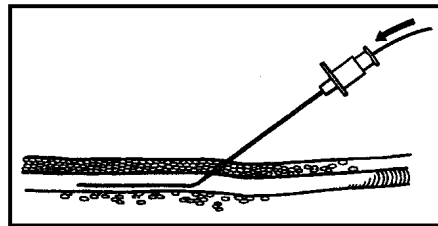


Figure 3-21

NOTE: The curved tip of the guide wire must be passed first to reduce the chance of perforating the wall of the vein. NEVER let the entire guide wire "disappear" in the needle, dilator, or catheter, because it could be "lost" in the patient's blood stream if it is passed too far into the vein - always keep the free end of the wire visible at all times.

- (g) Once about two-thirds of the length of the guide wire has been passed into the vein, release the needle, place pressure on the skin puncture site with one finger, and remove the needle from the dog, leaving the guide wire in place in the vein with about one-third of its length exposed. (See Figure 3-22.)

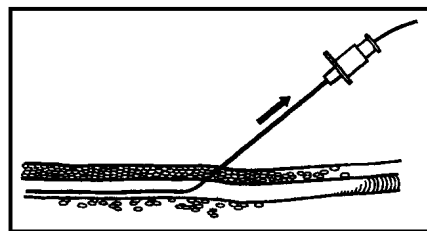


Figure 3-22

- (h) Make a small stab incision that is just smaller than the diameter of the dilator in the anesthetized skin, using a #11 scalpel blade, slide the dilator included in the kit over the guide wire, and advance it to the skin. (See Figure 3-23.)

Performance Steps

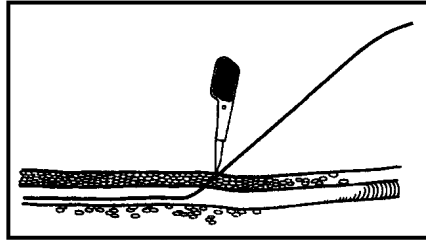


Figure 3-23

- (i) Grasp the dilator with one hand close to the tip near the skin, and advance the dilator through the skin into the vein using a firm, downward, twisting motion. (See Figure 3-24.)

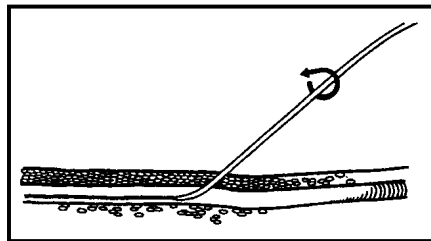


Figure 3-24

- (j) While maintaining pressure over the site with one finger, remove the dilator completely from the site and off the guide wire, leaving about one-third of the guide wire exposed.
- (k) Slide the central venous catheter included in the kit over the guide wire and advance the catheter down the wire toward the skin. **BE ABSOLUTELY CERTAIN** that you slowly back the guide wire out of the vein so that the free tip extends out of the catheter hub **BEFORE** you advance the catheter into the vein.
- (l) Slowly advance the catheter into the vein until the hub contacts the skin, then remove the guide wire completely, and place a catheter cap on the catheter hub. (See Figure 3-25.)

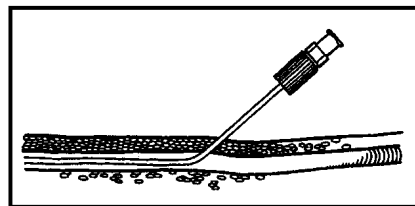


Figure 3-25

Performance Steps

- (m) Follow the procedure outlined in steps 7b(1)(h) through 7b(1)(j) to flush the catheter, secure the catheter to the skin, and wrap the neck to protect the catheter.

(3) Peel-away catheter sheath technique.

NOTE: Commercial kits are available that have a large bore needle that is covered with a plastic sheath. The needle is used to puncture the skin and vein, and then the needle is removed, leaving the sheath in the vein. A central venous catheter is passed through the sheath into the vein, after which the sheath is peeled away. This leaves just the catheter in place in the vein. Aseptic technique must be used when handling all components of the kit and when placing the catheter.

- (a) Position the dog and prepare the intended catheter placement site as described for placing a TTN catheter (step 7b(1)(a) and 7b(1)(b) locally anesthetize the intended catheterization site as described in step 7b(1)(c).
- (b) Pierce the skin with the sheath/needle assembly included in the kit as you would when placing a peripheral catheter, placing the needle through the anesthetized skin area.
- (c) While occluding the external jugular vein distally and applying tension on the skin over the vein in a caudoventral direction with one hand, hold the needle with the other hand and identify and pierce the external jugular vein with the needle. You should see blood coming out of the needle to verify proper venipuncture. (See Figure 3-26.)

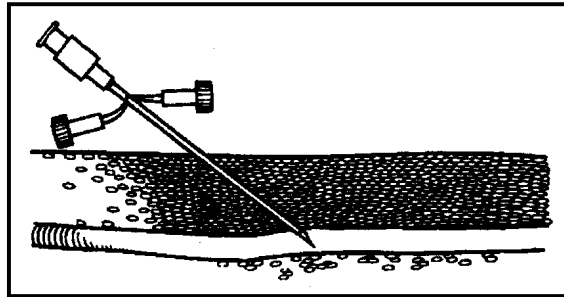


Figure 3-26

- (d) Release the occlusion on the vein and remove the needle from the sheath/needle assembly, leaving just the sheath in the vein. (See Figure 3-27.)

Performance Steps

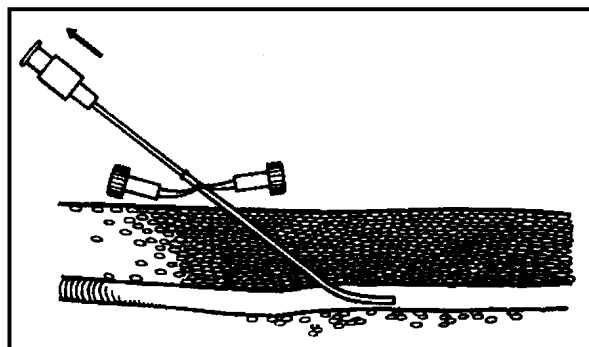


Figure 3-27

- (e) Pass the central venous catheter through the sheath into the vein until the catheter hub contacts the sheath. (See Figure 3-28.)

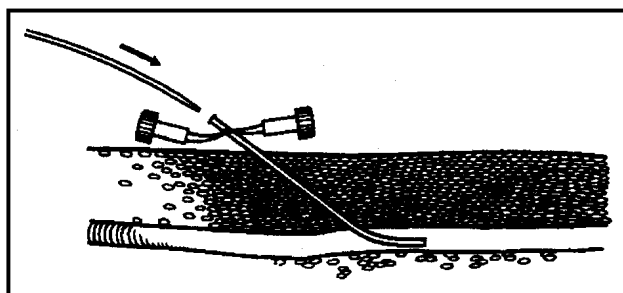


Figure 3-28

- (f) Grasp the "wings" of the sheath and slowly and firmly peel the "wings" laterally apart to split the sheath. This causes the sheath to completely come apart and out of the vein, and leaves the central venous catheter in place in the vein. (See Figure 3-29.)

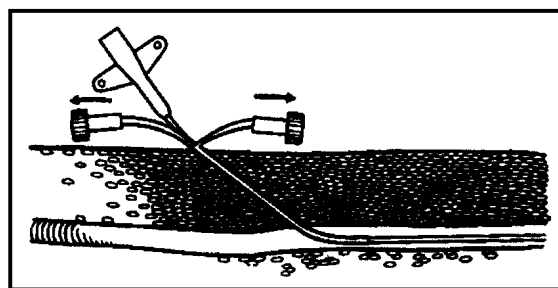


Figure 3-29

- (g) Follow the procedure outlined in steps 7b(1)(h) through 7b(1)(j) to flush the catheter, secure the catheter to the skin, and wrap the neck to protect the catheter.

Performance Steps

7. Calculate the fluid volume deficit due to dehydration (see task 081-891-1037, step 2).
8. Calculate the fluid volume requirements for daily maintenance needs (see task 081-891-1037, step 3).
9. Calculate the total volume of fluids required to replace deficits due to dehydration and provide maintenance needs in the first 24 hours (see task 081-891-1037, step 4).
10. Calculate the hourly rate of fluid administration, assuming you will provide the total amount of fluid (calculated in step 9) over a 12 hour period (see task 081-891-1018, step 8).
11. Initiate an IV infusion of isotonic replacement crystalloid fluid (e.g., lactated Ringer's solution, Plasmalyte-R, Normosol-R) at the calculated hourly rate using an infusion pump (see task 081-891-1018, step 9) or by monitoring the number of drops per second (see task 081-891-1018, step 10).
12. Monitor the dog as described in task 081-891-3013, step 9, to include measurement of central venous pressure (CVP) as described in task 081-891-1068, step 2f.
13. Advise the veterinarian of all findings and treatment as soon as possible and request further guidance.
14. Record all findings and treatment in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed primary and secondary surveys.	—	—
2. Gathered pertinent history from the handler.	—	—
3. Took the vital signs of the dog.	—	—
4. Determined that the dog is dehydrated based on the history, clinical signs, and results of rapid screening tests.	—	—
5. Estimated the severity of dehydration.	—	—
6. Placed at least one large bore IV catheter using appropriate technique.	—	—
7. Calculated the fluid volume deficit due to dehydration.	—	—
8. Calculated daily maintenance fluid requirements.	—	—
9. Calculated the total fluid requirement for the first 24 hours.	—	—
10. Calculated the hourly rate of fluid administration for a 12 hour period.	—	—
11. Initiated an IV infusion of isotonic replacement crystalloid fluid.	—	—
12. Monitored the dog appropriately.	—	—
13. Advised the veterinarian of all findings and treatment ASAP and requested further guidance.	—	—
14. Recorded all findings and treatment in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required

None

Related

FLUID THERAPY - ANIMAL

PERFORM LIFE SAVING THERAPY ON A MILITARY WORKING DOG FOR HYPOVOLEMIC SHOCK

081-891-3013

Conditions: A military working dog is presented and is exhibiting signs of hypovolemic shock. You must perform life saving therapy on the dog. The MWD is muzzled and the dog handler is available to position and restrain the dog. Necessary materials and equipment include: sterile intravenous crystalloid fluid for infusion, IV administration sets, peripheral and central venous catheters, CVP water manometer, arterial blood pressure monitor, pulse oximeter, anesthesia machine with 100% oxygen source, intravenous antibiotics, BUN and glucose dipsticks, refractometer, hematocrit tubes and centrifuge, activated clotting time tubes and heating block, and the dog's health record.

Standards: Identified the presence of hypovolemic shock and performed appropriate life saving therapy.

Performance Steps

1. Perform a primary and secondary survey on the dog (see tasks 081-891-1094 and 081-891-3304).
2. Gather pertinent history from the handler. Does he know what happened?
 - a. Trauma?
 - b. Blood loss?
 - c. Severe dehydration?
 - d. Other medical disorders that may have caused hypovolemia?
3. Take the vital signs of the dog (see task 081-891-1007).
4. Determine that the dog is in hypovolemic shock based on the history and the following signs.
 - a. Pale or cyanotic mucous membranes.
 - b. Prolonged capillary refill time.
 - c. Tachypnea.
 - d. Tachycardia.
 - e. Weak pulse and heartbeat.
 - f. Decreased body temperature.
 - g. Hypotension (systolic arterial blood pressure less than 100 mm Hg or mean arterial blood pressure less than 60 mm Hg).
 - h. Cold extremities.
5. Administer supplemental oxygen.
 - a. If the dog is unconscious, rapidly intubate the trachea (see task 081-891-1029) and attach the breathing circuit from an anesthesia machine to the tube and use oxygen at the standard flow rate (30 ml/kg body weight).
 - (1) Maintain the endotracheal tube until the patient regains consciousness.
 - (2) Ventilate for the animal if it is not breathing spontaneously (see task 081-891-1031).
 - b. If the animal is conscious, use a face mask attached to an anesthesia machine breathing circuit and a high oxygen flow rate (10 L/min).

Performance Steps

- c. If the animal is conscious but will not tolerate a face mask, simply hold the Y-piece of the breathing circuit near the patient's muzzle and nose and use high oxygen flow rates (10-15 L/min) to provide oxygen by "blow by" technique.
6. Take immediate action to restore circulatory volume.
- a. Rapidly place at least two intravenous catheters, with at least one in a central vein (e.g., external jugular vein) using a percutaneous approach (see task 081-891-3012) or by emergency venous cutdown (see task 081-891-1061) if percutaneous access is not possible or deemed not feasible.
 - b. Initiate an IV infusion (see task 081-891-1018) of an isotonic crystalloid solution (e.g., lactated Ringer's solution, Normosol-R) at a rate of 90 ml/kg or as rapidly as possible while monitoring the patient and patient parameters.
 - (1) Use the "10-20-10-20 Rule" to evaluate response to shock therapy and to direct fluid therapy. This approach is usually sufficient for treatment of most patients in hypovolemic shock. More aggressive fluid therapy for more profoundly affected dogs must be directed by the veterinarian.
 - (a) Collect baseline blood and urine (if possible) and perform a packed cell volume (PCV), total plasma protein (TPP), urine specific gravity, an activated clotting time (ACT), glucose by dipstick, and a blood urea nitrogen (BUN) by dipstick.
 - (b) Measure and record heart rate, respiratory rate, rectal temperature, hemoglobin saturation (SpO₂), arterial blood pressure (see task 081-891-1068), and central venous pressure (CVP; see task 081-891-1068).
 - (c) Rapidly administer one quarter of the calculated volume of shock fluid in the first 10 minutes (or as rapidly as possible). For example, if you calculated a 40 kg dog needs 4500 ml of fluid for shock (40 kg X 90 ml/kg body weight), then give 1125 ml as the quarter shock volume (4500 ml divided by 4).

NOTE: Use a pressure infuser device or aggressively squeeze the IV fluid bag to administer fluids as rapidly as possible.

- (d) Measure and record heart rate, respiratory rate, rectal temperature, hemoglobin saturation (SpO₂), arterial blood pressure, and CVP.
- (e) If the patient is still tachycardic, tachypneic, and hypotensive and the CVP is less than 10 cm H₂O, give a second quarter dose of the calculated shock volume over the next 20 minutes (or as rapidly as possible).
- (f) Repeat the measurements of PCV, TPP, heart rate, respiratory rate, arterial blood pressure, and CVP after the second quarter dose of fluids has been given.
- (g) If the patient is still in shock (tachycardia, tachypnea, hypotension), the CVP is less than 10 cm H₂O, and the PCV is above 30% and the TPP is above 3.5 g/dl, give a third quarter dose of shock fluids over the next 10 minutes (or as rapidly as possible).
- (h) Repeat the measurements of PCV, TPP, heart rate, respiratory rate, arterial blood pressure, and CVP after the third quarter dose of fluids has been given.
 - (i) If the patient is still in shock (tachycardia, tachypnea, hypotension), the CVP is less than 10 cm H₂O, and the PCV is above 30% and the TPP is above 3.5 g/dl, give the final quarter dose of shock fluids over the next 20 minutes (or as rapidly as possible).
- (2) Slow the rate of fluid administration and begin administration of maintenance fluid requirements (see task 081-891-1037, step 4) once the signs of shock have dissipated.

Performance Steps

- (3) If at any time during fluid therapy for shock the PCV goes below 30%, the TPP drops below 3.5 g/dl, or the CVP increases above 10 cm H₂O, slow the rate of crystalloid fluid therapy to maintenance requirements (see task 081-891-1037, step 4) and await further instructions from the veterinarian. Dogs that develop anemia, hypoproteinemia, and increased CVP due to hemodilution with crystalloid fluids will likely require colloid or hypertonic saline fluid therapy, a blood transfusion, or a hemoglobin-based oxygen carrier for further shock therapy to avoid development of peripheral and pulmonary edema and inadequate oxygen carrying capacity of the blood.
- 7. Administer ampicillin sodium (20 mg/kg IV, slowly), cefoxitin sodium (20 mg/kg IV, slowly), or cefazolin sodium (20 mg/kg IV, slowly).
- 8. Do not administer corticosteroids or other drugs for shock unless specifically directed to do so by the veterinarian.
- 9. Continually monitor the dog.
 - a. Measure and record heart rate, respiratory rate, and rectal temperature at least every 10 minutes.
 - b. Auscultate the lungs for development of pulmonary edema ("crackles") at least every 15 minutes.
 - c. Check peripheral tissue perfusion and blood volume status at least every 10 minutes.
 - (1) Mucous membrane color.
 - (2) Capillary refill time.
 - (3) Extremity temperature.
 - (4) SpO₂.
 - (5) Arterial blood pressure.
 - (6) CVP.
 - (7) Urine output.
 - d. Monitor lab data at least every hour until directed otherwise by the veterinarian.
 - (1) PCV.
 - (2) Total protein.
 - (3) ACT.
- 10. Warm the dog with blankets, warm water circulating heating pads, or a forced-air rewarming device if hypothermic.
- 11. Record all findings and treatments in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed a primary and secondary survey.	_____	_____
2. Gathered pertinent history from the handler.	_____	_____
3. Took the vital signs of the dog.	_____	_____
4. Determined that the dog is in hypovolemic shock.	_____	_____
5. Administered supplemental oxygen.	_____	_____
6. Took action to restore circulatory volume.	_____	_____

Performance Measures

GO NO
GO

- a. Placed at least two IV catheters, with at least one central venous catheter.
 - b. Initiated IV fluid therapy with crystalloid fluids at shock volumes (90 ml/kg) using the "10-20-10-20 Rule" while appropriately monitoring the patient.
 - c. Adjusted the rate of fluid administration based on patient status and changes in patient parameters.
7. Administered appropriate IV antibiotics slowly in the correct dose. _____ _____
8. Continually monitored the dog, patient parameters, and laboratory data. _____ _____
9. Warmed the dog, if necessary. _____ _____
10. Recorded all findings and treatment in the dog's health record. _____ _____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
None

Related

FLUID THERAPY - ANIMAL

PERFORM A NEEDLE THORACENTESIS ON A MILITARY WORKING DOG

081-891-3101

Conditions: A military working dog is presented in severe respiratory distress with a characteristic restrictive breathing pattern (rapid, shallow breathing with muffled or absent lung sounds over all or part of the chest). The veterinarian is not present, but has been notified and is en route. You have been authorized by the veterinarian to perform needle thoracentesis to confirm the presence of pleural fluid or pneumothorax and provide temporary relief of respiratory distress that is threatening this dog's life. The animal has been muzzled and the handler is available to position and restrain the animal. Necessary materials and equipment include: sterile emergency thoracentesis kit (pre-assembled 60 cc syringe, 3-way stopcock, IV extension tubing, 18 gauge X 1 inch needle), supplies necessary for surgical skin preparation, local anesthetic, and the dog's health record.

Standards: Performed a needle thoracentesis, determined the presence of air or fluid in the thoracic cavity, and alleviated respiratory distress of a military working dog without causing further injury.

Performance Steps

1. Provide supplemental oxygen by face mask (if the dog tolerates the face mask) or by "blow by" technique (if the dog does not tolerate the face mask) using a high oxygen flow rate of 10-15 liters per minute.
2. Position the dog in sternal recumbency or hold the dog in a standing position.
3. Clip the hair from and surgically prepare a 6 inch X 6 inch square area of skin on the lateral aspect of the thorax between the 6th to 8th ribs on both sides of the chest (see task 081-891-1087).
 - a. If pneumothorax is suspected, prepare the thoracentesis sites at the junctions of the upper 1/3rd and lower 2/3rds of the thoracic wall.
 - b. If pleural effusion is suspected, prepare the thoracentesis sites at the costochondral junctions.
 - c. If in doubt as to the type of abnormal accumulation in the pleural space, prepare these areas as for a suspected pneumothorax.
4. Infiltrate 1 ml of local anesthetic (2% lidocaine, bupivacaine, mepivacaine) in the skin at the proposed thoracentesis site, into the intercostal muscles, to the level of the parietal pleura.
5. Perform needle thoracentesis on one side of the thorax using aseptic technique.
 - a. Hold the needle with the thumb and index finger of your non-dominant hand and brace the hand on the lateral aspect of the thorax by firmly resting the "knife" of the hand on the thorax near the proposed thoracentesis site. Maintain firm contact with the hand against the body wall while performing the thoracentesis.
 - b. Hold the syringe in your dominant hand, or have an assistant manipulate the syringe and stopcock while you manipulate the needle. The syringe should be empty and the stopcock closed to room air.
 - c. While stabilizing the hand holding the needle, insert the needle at the proposed thoracentesis site through the skin, intercostal muscles, and parietal pleura until ½ the length of the needle has been inserted.
 - d. While stabilizing the depth of the needle with your nondominant hand, aspirate with the syringe plunger in an attempt to remove air or fluid.

Performance Steps

NOTE: It is not uncommon to aspirate small amounts of blood into the hub of the needle while performing a thoracentesis. However, if frank blood is aspirated, or more than the hub of the needle fills with blood, or if lung tissue can be felt rubbing against the needle tip, immediately remove the needle and proceed to steps 7a and 7b.

6. If you are successful in removing air or fluid, close the stopcock to the patient and expel the contents from the syringe through the stopcock without removing the needle from the pleural space or breaking aseptic technique.
 - a. Repeat steps 5d and 6 until no further air or fluid can be removed.
 - b. Once no further air or fluid can be removed, remove the needle and proceed to step 8.
7. If you are not successful in removing air or fluid, insert the needle to the hub while aspirating with the syringe, or redirect the needle cranially, caudally, dorsally and ventrally, or do both in an attempt to tap a pocket of air or fluid.
 - a. If you are still unsuccessful in removing air or fluid, completely remove the needle from the thorax and attempt thoracentesis in an intercostal space cranial or caudal to the initial site.
 - b. Attempt only one further thoracentesis on the initial side of the thorax.
 - (1) If the second tap is successful, follow step 6.
 - (2) If the second tap is not successful, remove the needle and proceed to step 8.
8. Perform needle thoracentesis on the opposite side of the thorax using aseptic technique as described in steps 5 through 7.
9. Monitor the patient for complications from the thoracentesis (pneumothorax) and for deterioration due to progression of the primary problem.
10. Save samples of any fluid removed in an EDTA blood collection tube and a serum collection tube for later analysis.
11. Record the procedure, volumes of air or fluid removed, and patient care in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Provided supplemental oxygen.	_____	_____
2. Positioned the dog in sternal recumbency or held in a standing position.	_____	_____
3. Clipped and surgically prepared appropriate sites on the lateral thorax on both sides of the chest.	_____	_____
4. Infiltrated the thoracentesis site with local anesthesia.	_____	_____
5. Performed thoracentesis using pre-assembled emergency thoracentesis set.	_____	_____
6. Properly managed the thoracentesis procedure if a positive tap was accomplished.	_____	_____
7. Properly managed the thoracentesis procedure if a negative tap was achieved.	_____	_____

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
8. Performed thoracentesis on the opposite side of the chest.	—	—
9. Monitored the patient for complications and further deterioration.	—	—
10. Saved samples of any fluid removed.	—	—
11. Recorded all procedures, volumes of air or fluid removed, and patient care.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM LIFE SAVING THERAPY ON A MILITARY WORKING DOG FOR NUCLEAR, BIOLOGICAL, AND CHEMICAL INJURIES

081-891-3201

Conditions: A military working dog has been exposed to a nuclear, biological, or chemical agent. The agent to which the animal was exposed has been determined, and appropriate decontamination has been performed IAW task 081-891-1404. You must perform life saving therapy on this animal. You are in MOPP Level 4. Necessary materials and equipment include: decontamination supplies, MARK I nerve agent antidote kits, convulsant antidote for nerve agent (CANA) injections, 3% sodium nitrite ampules, 25% sodium thiosulfate ampules, British anti-lewisite (BAL) ointment, physostigmine salicylate, first aid equipment and supplies, medical supplies to treat eye injuries and systemic infections, and the dog's health record.

Standards: Performed life saving therapy on a military working dog for nuclear, biological, or chemical injuries or illness IAW FM 8-10-18.

Performance Steps

1. Initiate life saving therapy for nuclear injury or illness, if exposure to nuclear detonation or release has occurred.

NOTE: Conventional injuries (blast and thermal injuries) must be treated first, since no immediate life threatening hazard exists for radiation casualties which can ultimately survive.

- a. Blast injury.
 - (1) Treat injuries caused by flying debris and crush injury (see tasks 081-891-1094 and 081-891-3304).
 - (2) Treat injury from blast overpressure based on clinical signs (usually lung, gastrointestinal, bone, and muscle injury) and as directed by the veterinarian (see tasks 081-891-1094 and 081-891-3304).
- b. Thermal burns (see task 081-891-1059).
- c. Acute radiation sickness, manifested as hematopoietic, gastrointestinal, and neurovascular syndromes.

NOTE: The hematopoietic syndrome would be the most commonly encountered syndrome in exposed military working dogs (low to midlethal dose ranges). Military working dogs exposed to higher doses of radiation would exhibit the gastrointestinal syndrome in addition to the hematopoietic syndrome. Animals exposed to supralethal doses of radiation would likely die from thermal and blast injury, but may survive and demonstrate the neurovascular syndrome in addition to the hematopoietic and gastrointestinal syndromes. Thus, immediate life saving therapy in the event of a nuclear detonation or release should be directed to patients with early manifestations of the hematopoietic syndrome, as these patients have the highest probability of survival. Patients exhibiting gastrointestinal or neurovascular syndromes should be classified as expectant casualties, and life saving efforts likely will not improve survival - the veterinarian will determine to what extent treatment should be provided to these patients.

- (1) Monitor the white blood cell count and platelet count (see task 081-891-1039) as directed by the veterinarian to detect leukopenia and thrombocytopenia that may predispose to infection and bleeding.
- (2) Manage infection.
 - (a) Administer antibiotics as directed by the veterinarian.
 - (b) Manage wounds, dressings, and invasive devices (e.g., intravenous catheters) as directed by the veterinarian to minimize potential for infection.
- (3) Manage bleeding.

Performance Steps

NOTE: Bleeding after radiation exposure is usually due to profound thrombocytopenia. Currently, it is not practical to provide platelet transfusions to military working dogs. Supportive care, to include blood and plasma transfusions may be directed by the veterinarian to help maintain oxygen delivery to tissues in light of bleeding, but does little to correct the thrombocytopenia. Supportive care attempts to "buy time" until the patient's bone marrow begins production of platelets again.

- (a) Provide fresh whole blood or fresh frozen plasma transfusions as directed by the veterinarian.
- (b) Monitor platelet count, activated partial thromboplastin time (APTT) and prothrombin time (PT) if available and as directed by the veterinarian.
- (4) Provide supportive care and specific care for gastrointestinal and neurovascular syndromes (e.g., fluid therapy, nutritional therapy, antiemetics) as directed by the veterinarian.

2. Initiate life saving therapy for biological warfare agent illness, if exposure to biological warfare agent is known or suspected to have occurred.

NOTE: Life saving therapy for biological warfare agent illness is based on prompt, correct diagnosis of the agent to which the animal was exposed. If therapy is initiated after exposure to a biological agent but before clinical signs of illness develop, active or passive immunization and the use of antibiotic or antiviral drugs may reduce or prevent illness and improve outcome. After clinical signs of illness develop in a patient exposed to a biological warfare agent, specific treatment against the causative agent is essentially the only medical treatment option available.

- a. Provide immediate life saving therapy for airway, breathing, or circulatory compromise (see task 081-891-1094), if required.
- b. Provide general supportive care (e.g., fluid therapy, nutritional therapy) as directed by the veterinarian.
- c. Provide specific treatment directed against the biological agent (e.g., antibiotic therapy, antiviral therapy) as directed by the veterinarian.

3. Perform life saving therapy for nerve agent poisoning, if exposure to nerve agent has occurred (tabun [GA], sarin [GB], soman [GD], V agent, others).

- a. Recognize the clinical signs of nerve agent poisoning.
 - (1) Inhalation and ocular exposure to nerve agent vapors. Effects are usually present within 5 minutes of exposure.
 - (a) Signs of mild exposure include constricted pupils (miosis), watery nasal discharge, and mild respiratory distress (coughing, rattling sounds in trachea, wheezing, and rapid shallow respiration).
 - (b) Signs of severe exposure include eye pain and visual impairment, respiratory distress from secretions and bronchoconstriction which may cause airway obstruction, cyanotic mucous membranes, slowing heart rate, excessive salivation, uncontrolled defecation and urination, abdominal pain, muscular weakness, twitching muscles, trembling (sometimes violent), loss of coordination, collapse, convulsions, flaccid paralysis, and death from asphyxiation.
 - (2) Cutaneous exposure to liquid nerve agents.
 - (a) Signs of mild exposure include watery nasal discharge and miosis.

NOTE: The transition from mild to severe symptoms is slower than with inhalation or ocular exposure.

Performance Steps

- (b) Severe exposure to liquid nerve agent can include all of the signs seen with inhalation exposure. Unique signs seen with cutaneous exposure include local twitching at the contamination site, less severe respiratory distress than with inhalational exposure, and an increased body temperature that may progress to heatstroke (this develops because the animal survives longer without treatment than do animals exposed by inhalation route, and the convulsions cause a severely increased body temperature).
- (3) The severity of clinical signs of nerve agent intoxication depends upon the route and degree of exposure to the nerve agent.
- b. Perform life saving therapy for nerve agent poisoning.
 - (1) Administer atropine from the MARK I nerve agent antidote kit into the muscles of the back of the thigh.
 - (a) Mild poisoning. Administer one atropine injection.
 - (b) Severe poisoning. Administer three atropine injections in rapid succession and one injection of convulsant antidote for nerve agent (CANA).
 - (c) Continue administering single atropine injections every 10-20 minutes until nerve agent effects subside or signs of atropinization appear (e.g., dry mouth and mucous membranes, increased heart rate, increased body temperature).

NOTE: Atropine may not overcome the ocular effects of nerve agent poisoning. This means that the presence of constricted pupils does not necessarily indicate the need for further atropine injections.

- (2) For any animal with signs of severe exposure, administer two injections of 2 PAM Cl (pralidoxime chloride) to the average military working dog. (The initial dose is 20 mg/kg, so usually only two injections are required.) If no significant improvement is noted after 1-2 hours, one additional injection may be given.
- (3) Maintain an open airway (see tasks 081-891-1031, 081-891-1029, and 081-891-3502).
 - (a) Remove secretions and saliva that are obstructing the airway.
 - (b) Emergency tracheotomy and assisted ventilation may be required in advanced, severe cases of intoxication.
- (4) Complete decontamination of the animal (see task 081-891-1404).
- (5) Provide supportive care as directed by the veterinarian.

4. Perform life saving therapy for incapacitating agents (BZ Type).

NOTE: BZ is an anticholinergic agent with pharmacological effects similar to those of atropine. The effects of BZ agent on the central nervous system are more profound than are the effects of atropine. In dogs, lethal exposure is not likely, and supportive care will permit recovery of most animals exposed to BZ type agent.

- a. Recognize the clinical signs of incapacitating agent poisoning.
 - (1) Signs of mild to moderate exposure include decreased endurance, dilated pupils (mydriasis), dry mucous membranes, increased heart rate, and central nervous system signs such as incoordination, behavioral changes, and lack of normal response to commands.
 - (2) Signs of overwhelming exposure include collapse and convulsions, with death occurring rapidly.
- b. Perform emergency therapy for BZ type incapacitating agent.
 - (1) Immediately limit activity.
 - (2) Complete decontamination (see task 081-891-1404).
 - (3) Ensure the animal has drinking water.

Performance Steps

- c. Provide additional therapy (physostigmine salicylate) only as directed by the veterinarian.
 - (1) Physostigmine salicylate is given in doses of 0.1 to 0.6 mg/kg by slow IV or IM injection.
 - (2) After the initial dose, repeated doses at intervals of 1 to 2 hours can be administered if signs of BZ agent intoxication persist or recur.

NOTE: Signs of physostigmine overdose are similar to nerve agent intoxication, and include miosis, muscle weakness, twitching, vomiting, diarrhea, respiratory distress, slowed heart rate, and convulsions. If signs of physostigmine overdose develop, discontinue physostigmine use and administer one atropine injection from the MARK 1 nerve agent antidote kit.

- d. Do not use anesthetics, tranquilizers, or sedatives to treat patients with BZ type incapacitating agent intoxication unless directed to do so by the veterinarian. These drugs can potentiate the effects of incapacitating agents and are contraindicated for use.
5. Perform life saving therapy for blister agents, if exposure to blister agents has occurred (mustard, arsenical agents, nitrogen mustard agents).
- a. Recognize the clinical signs of blister agent poisoning. Generally, arsenical agents cause more severe clinical signs than does mustard agent, and mustard agent causes more severe clinical signs than do nitrogen mustard agents.
 - (1) Skin exposure.
 - (a) Piloerection occurs between 1 and 2 hours after exposure and lasts about an hour.
 - (b) Redness and edema occurs 2 to 3 hours later.
 - (c) Exfoliation (sloughing) of skin may occur in mild cases.
 - (d) Ulcerated lesions may occur in severe poisoning.
 - (2) Ocular exposure. Clinical signs develop within 1 to 2 hours of exposure.
 - (a) Mild signs include conjunctivitis, conjunctival edema, corneal erosions, corneal opacity, corneal inflammation, corneal roughness, and ocular pain.
 - (b) Severe signs include necrosis of the conjunctiva, corneal erosions and ulcers, and deep ophthalmic inflammation.
 - (3) Gastrointestinal tract exposure. Exposure of the gastrointestinal tract occurs by ingestion of contaminated food and licking of contaminated body parts.
 - (a) Mucous membrane and mucosal ulcers.
 - (b) Abdominal pain.
 - (c) Vomiting.
 - (d) Bloody diarrhea.
 - (4) Respiratory tract exposure. Signs of exposure develop over several days.
 - (a) Sloughing and ulceration of the tracheobronchial mucosa.
 - (b) Respiratory distress caused by exudation and edema.
 - (c) Severe exposure can cause edema and alveolar emphysema in the lungs and will produce coughing, nasal discharge, respiratory difficulty, fever, and tracheal and pulmonary rales.
 - (5) Systemic absorption through the skin, respiratory tract, and alimentary tract can cause severe leukopenia and thrombocytopenia, excitability, excessive salivation, bradycardia, bloody diarrhea, and shock.
 - b. Perform emergency therapy for blister agent poisoning.
 - (1) Complete decontamination (see task 081-891-1404).
 - (2) Administer antibiotics as directed by the veterinarian.
 - (3) Maintain nutritive and fluid status.

Performance Steps

- (4) Determine extent of ocular damage and provide treatment.
 - (5) Provide supportive care as needed for leukopenia, lung damage, and sepsis.
 - (6) For localized lesions caused by arsenical agents, treat skin lesions with British anti-lewisite (BAL) ointment. Rub the ointment into the skin, leave on for 5 minutes, and then wash off any residual ointment. This ointment neutralizes any arsenical agent.
6. Perform life saving therapy for irritant agents (riot control agents), if exposure to irritant agents has occurred (bromobenzylcyanide [CA], chloroacetophene [CN], O-chlorobenzylidene malonitrile [CS]).
- a. Recognize the clinical signs of irritant poisoning.
 - (1) Generally, little effect on animals in field conditions is noted.
 - (2) Agents may cause increased respirations and hyperactivity. Direct contact with the skin or eyes may cause severe irritation.
 - b. Perform emergency therapy for irritant agent poisoning.
 - (1) For eye contact, flush the eyes with copious amounts of water or saline.
 - (2) For skin contact, bathe the animal with soap and water. If available, use a 0.25% solution of sodium sulfite to dissolve and neutralize the irritant agent.
7. Perform life saving therapy for blood agent (cyanogen) intoxication, if exposure to blood agent has occurred (hydrogen cyanide [AC] and cyanogen chloride [CK]).
- a. Recognize the clinical signs of blood agent poisoning.
 - (1) These agents cause tissue hypoxia, especially of the respiratory center of the central nervous system.
 - (a) Severe respiratory distress develops rapidly due to inadequate oxygen delivery to tissues.
 - (b) Immediate death may occur with hydrogen cyanide inhalation.
 - (c) Respiratory distress and choking due to pulmonary edema and airway irritation may develop with either agent, but is more profound with cyanogen chloride inhalation.
 - (2) Cyanogen chloride (CK) also causes marked local irritant effects on the respiratory system, causing pulmonary edema.
 - b. Perform emergency therapy for blood agent poisoning.
 - (1) Provide oxygen therapy under positive pressure ventilation.
 - (2) Administer one 10 ml ampule of 3% sodium nitrite (300 mg/ml) IV, followed by one 50 ml ampule of 25% sodium thiosulfate (12.5 g/50 ml) IV.
 - (3) If additional treatment is required give a second dose of the sodium thiosulfate only.
8. Perform life saving therapy for choking agent intoxication, if exposure to choking agents has occurred (phosgene [CG], diphosgene [DP], chlorine, chloropicrin).
- a. Recognize the clinical signs of choking agent intoxication.
 - (1) Choking agents cause irritation to the bronchi, trachea, larynx, pharynx, and nose, resulting in choking, coughing, and respiratory distress.
 - (2) Cyanosis is generally not obvious in animals affected by choking agents, as it is in people.
 - (3) Pulmonary edema may develop in some animals, manifested as crackles on lung auscultation and severe respiratory distress.
 - b. Perform emergency therapy for choking agent intoxication.
 - (1) Treat for shock (see task 081-891-1042).

Performance Steps

- (2) Provide oxygen and maintain an open airway (see tasks 081-891-1031, 081-891-1029, and 081-891-3502).
 - (3) Keep warm and inactive.
 - (4) Provide therapy for pulmonary edema, if directed by the veterinarian (e.g., steroids).
9. Perform life saving therapy for exposure to smokes, if exposure to smokes has occurred (white phosphorus, other agents).
- a. These agents are generally not life threatening.
 - b. Treatment includes inactivation of white phosphorus fragments in the skin (see task 081-891-1404) and treatment for thermal burns.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed life saving therapy for effects of nuclear detonation or release, if applicable.	—	—
2. Performed life saving therapy for biological warfare agent infection, if applicable.	—	—
3. Performed life saving therapy for nerve agent intoxication, if applicable.	—	—
4. Performed life saving therapy for incapacitating agent intoxication, if applicable.	—	—
5. Performed life saving therapy for blister agent intoxication, if applicable.	—	—
6. Performed life saving therapy for irritant agent exposure, if applicable.	—	—
7. Performed life saving therapy for blood agent intoxication, if applicable.	—	—
8. Performed life saving therapy for choking agent intoxication, if applicable.	—	—
9. Performed life saving therapy for exposure to smokes, if applicable.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
None

Related
FM 8-10-18

**PERFORM LIFE SAVING THERAPY FOR GASTRIC DILATATION-VOLVULUS (BLOAT)
081-891-3202**

Conditions: A military working dog has been presented for gastric dilatation-volvulus syndrome by its handler. Partial emergency first aid has been initiated IAW task 081-891-1302, to include supplemental oxygen administration and fluid therapy for shock. Gastric trocarization to decompress the stomach either was not performed, or was unsuccessful in reducing the stomach dilatation. Gastric decompression by orogastric intubation is required. The veterinarian has been contacted, and is en route to provide care. You are the most senior veterinary person present, and must evaluate the dog for adequacy of initial first aid, perform orogastric intubation for decompression, and provide further life saving therapy until the veterinarian arrives. The handler is available to position and restrain the dog, and one 91T10 soldier is available to assist you. Necessary materials and equipment include: orogastric (stomach) tube; 3" roll of adhesive tape or mouth gag; adhesive tape; 12 to 18 gauge trocar needle, IV catheter needle, or hypodermic needle; assorted surgical preparation supplies and equipment; stomach pump; emesis basin or pail; IV fluid infusion sets; isotonic crystalloid fluid for IV infusion; tap water for lavage; corticosteroids (if approved for use in local SOP); antibiotics; electrocardiography machine (if available); pulse oximeter (if available); laboratory supplies and equipment needed to perform minimal critical tests (packed cell volume (PCV), total serum protein (TSP), blood urea nitrogen (BUN), blood glucose, and coagulation tests (if available)); and the dog's health record.

Standards: Performed life saving therapy on a military working dog for gastric dilatation-volvulus.

Performance Steps

1. Quickly review the history and the clinical signs to ensure they are consistent with a dog with GDV.

NOTE: Time is critical when treating bloat. Do every step as quickly as possible.

- a. Compatible history.
 - (1) Dogs with GDV usually have been fed recently, usually drank excessive amounts of water around the time they ate, and usually were very active after eating and drinking.
 - (2) Signs of GDV usually develop quickly and progress rapidly - over the course of 1-2 hours.
- b. Compatible clinical signs.
 - (1) Early signs of GDV include abdominal distention; nonproductive retching, retching small amounts of saliva, or "dry heaves"; grunting, especially when the stomach is palpated; anxiety, seen as pacing, anxious stares, and inability to get comfortable when lying down; excessive salivation; panting; pale mucous membranes; prolonged capillary refill time; and tachycardia [rapid heart rate].
 - (2) Advanced signs of shock in a dog with GDV include a weak, thready, and rapid pulse; weakness; prolonged capillary refill time; and collapse.
- c. Dogs with this history and compatible clinical signs of GDV probably have GDV, and treatment should proceed. Dogs without this history and compatible signs may have GDV, but probably have some other condition. A more detailed patient evaluation is indicated before gastric decompression is attempted.

2. Quickly review the initial first aid to ensure the ABCs of resuscitation and the essential steps in the initial emergency care of a GDV patient have been taken.

Performance Steps

- a. The ABCs of resuscitation (see task 081-891-1094).
 - (1) Ensure the patient has a patent airway.
 - (2) Ensure the patient is breathing.
 - (3) Evaluate the circulatory system and ensure adequate tissue perfusion (i.e., treat for shock).
- b. Initial first aid for GDV (see task 081-891-1302).
 - (1) Provide supplemental oxygen.
 - (2) Begin treating shock.
 - (3) Decompress the stomach by trocarization.

NOTE: The decision as to which method to use to decompress the stomach must be based on the severity of clinical signs and the skill level of the veterinary personnel present. A dog in profound shock needs immediate decompression by trocarization, which is an approved task for Animal Care Specialists at all skill levels. A dog in less severe shock is usually better managed with orogastric decompression, which is a task limited to skill level 3 and 4 Animal Care Specialists. The senior veterinary person present must make this decision quickly, and proceed with appropriate care. When in doubt, trocarization should be performed immediately, as this affords the animal the most rapid relief of distention, and is a task that all military veterinary technicians can perform.

- (4) Perform critical initial blood tests.
 - c. If any of these steps were omitted, ensure they are completed immediately, before proceeding with any further treatment.
3. Take immediate action to decompress the stomach by orogastric intubation, if trocarization has not been performed or was unsuccessful.
 - a. Measure the stomach tube on the outside of the dog from the last rib to the nose to determine how far the tube needs to go to reach the stomach. Mark the distance on the tube with tape.
 - b. Place a roll of 3" adhesive tape or mouth gag in the dog's mouth to hold it open and allow passage of the orogastric tube. Tape the gag or tape roll in place by wrapping tape around the dog's muzzle so that the stomach tube can slide through the gag without the dog dislodging the gag.

NOTE: Choose a tape roll or mouth gag with an inner diameter that will allow passage of the stomach tube.

- c. Lubricate the tip of the stomach tube with sterile lubricant.
- d. Position the dog so that the front of the body is slightly elevated.
- e. Pass the tube through the tape roll or mouth gag and into the esophagus. Carefully continue to advance the tube into the esophagus and through the gastroesophageal stricture until the tape mark is reached. Gas, food, and liquid should start to escape from the stomach through the tube.

NOTE: Have an emesis basin or pail ready to catch the contents of the stomach.

- f. If the tube stops soon after entering the esophagus, try to blow some air into the esophagus through the tube to dilate the esophagus. This may allow further advance.
- g. If the tube cannot be passed into the stomach after one or two attempts, **DO NOT** attempt any further passage. Decompress using trocarization (see task 081-891-1302).
 - (1) The esophagus or stomach can be ruptured by the orogastric tube if excessive force is used or if repeated attempts are made to pass the tube through the volvulus.
 - (2) After decompressing with the trocar, attempt to pass an orogastric tube until gas, food, and liquid start to come out of the stomach.

Performance Steps

- h. Using a stomach pump, lavage the stomach repeatedly with small quantities of warm water until the return fluid is clear.
 - i. Remove the orogastric tube. Hold your thumb or finger tip over the tube opening as you remove the stomach tube to prevent any ingesta or fluid in the tube from being aspirated into the trachea as the tube is removed.
4. Administer ancillary medications.
- a. All dogs with GDV should receive intravenous antibiotics at the time of initial management.
 - (1) Ideally, a third generation cephalosporin or ampicillin should be used.
 - (2) Follow local SOP regarding the antibiotic choice and dose.
 - b. The use of glucocorticoids is controversial. No clear data are available to support their use. Follow local SOP regarding the use of steroids and the type and dose if used.
5. Monitor the patient.
- NOTE:* Once bloat has occurred, it can happen again very quickly. There are several critical problems that can develop in a GDV patient that must be anticipated (e.g., heart rate rhythm abnormalities, coagulation problems, cardiopulmonary arrest). Careful monitoring is required to detect impending problems early. All data collected must be recorded in the dog's health record.
- a. Monitor vital signs (see task 081-891-1007).
 - b. Monitor a continuous electrocardiogram (ECG), blood pressure, and pulse oximetry (SpO₂), if equipment is available.
 - c. Monitor capillary refill time, pulse quality and rate, and level of consciousness.
 - d. Monitor coagulation (activated clotting time [ACT], prothrombin time [PT], activated partial thromboplastin time [APTT]), if testing supplies and equipment are available.
 - e. Adjust the IV fluid therapy infusion rate, depending on local SOP and the patient's response to therapy (see task 081-891-1042).
 - f. Continue supplemental oxygen therapy.
6. Prepare the dog for surgery (see task 081-891-1087).
7. Prepare the operating room for surgery (see task 081-891-1601).
8. Record all findings and treatment in the dog's health record (see task 081-891-1036).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the history and clinical signs.	_____	_____
2. Reviewed the initial first aid, and took corrective measures to ensure the ABCs of resuscitation and initial first aid for GDV were taken.	_____	_____
3. Decompressed the stomach using an orogastric tube or trocar.	_____	_____
4. Administered ancillary medications.	_____	_____
5. Monitored the patient.	_____	_____
6. Prepared the dog for surgery.	_____	_____
7. Prepared the operating room for surgery.	_____	_____

Performance Measures

<u>GO</u>	<u>NO</u>
	<u>GO</u>

8. Recorded the treatment in the dog's health record.

_____	_____
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Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM LIFE SAVING THERAPY ON AN ANIMAL FOR ANAPHYLAXIS
081-891-3203

Conditions: A military working dog exhibiting signs of shock is brought to your veterinary facility. The veterinarian has been notified and is en route. The veterinarian has authorized you to provide emergency care for this dog until he arrives. The dog handler is available to assist you. Necessary materials and equipment include: appropriately sized syringes and needles, intravenous fluids and catheters, epinephrine hydrochloride, endotracheal tube and supplies required to intubate the dog, ventilatory assist device (Ambu bag), emergency drug dosage chart, stethoscope, and the dog's health record.

Standards: Initiated life saving on a military working dog for anaphylaxis.

Performance Steps

1. Perform primary and secondary surveys of the patient (see tasks 081-891-1094 and 081-891-3304).
 - a. Establish a patent airway by intubating the dog (see task 081-891-1029) if airway obstruction (e.g., from edema) is present or the animal is unconscious.
 - b. Begin basic cardiac life support (BCLS) if cardiac, respiratory, or cardiopulmonary arrest have occurred (see tasks 081-891-1602 and 081-891-1031).
2. Gather pertinent history from the handler. Does he know what happened?
3. Recognize the clinical signs of anaphylactic shock.
 - a. Sudden collapse or unconsciousness after exposure to an agent known to cause anaphylaxis (e.g., vaccines, venomous insect stings, snake envenomations, antibiotics, blood products, anesthetic agents, parasiticides, iodinated radiocontrast agents, narcotic drugs, mannitol, dextrans).
 - b. Respiratory distress.
 - c. Pale mucous membranes.
 - d. Diarrhea.
 - e. Vomiting.
 - f. Circulatory collapse.
 - g. Weakness.
 - h. Seizures.
 - i. Coma.
4. Call for help and locate emergency supplies and equipment.
5. Provide supplemental oxygen.
 - a. If an endotracheal tube is in place, attach the breathing circuit from an anesthesia machine to the tube and use the standard oxygen flow rate (30 ml/kg).
 - b. If an endotracheal tube is not in place, use a face mask attached to the anesthesia machine breathing circuit and a high oxygen flow rate (10 L/min). If the animal is conscious and will not tolerate a face mask, simply hold the Y-piece of the breathing circuit near the patient's muzzle and nose and use high oxygen flow rates (10-15 L/min) to provide oxygen by "blow-by" technique.
6. Evaluate for shock (see task 081-891-3013) and take immediate action to reverse anaphylactic shock if present.

Performance Steps

- a. Rapidly place at least two intravenous catheters, with at least one in a central vein (e.g., external jugular vein) using a percutaneous approach (see task 081-891-3012) or by emergency venous cutdown (see task 081-891-1061) if percutaneous access is not possible or deemed not feasible.
- b. Initiate an IV infusion (see task 081-891-1018) of an isotonic crystalloid solution (e.g., lactated Ringer's solution, Normosol-R®, Plasmalyte-R®) at a rate of 90 ml/kg or as rapidly as possible while monitoring the patient and patient parameters.
 - (1) Use the "10-20-10-20 Rule" to evaluate response to shock therapy and to direct fluid therapy IAW task 081-891-3013.
 - (2) Slow the rate of fluid administration and begin administration of maintenance fluid requirements (see task 081-891-1037, step 4) once the signs of shock have dissipated.
 - (3) If at any time during fluid therapy for shock the PCV goes below 30% or the TPP drops below 3.5 g/dl, or the CVP increases above 10 cm H₂O, slow the rate of crystalloid fluid therapy to maintenance requirements (see task 081-891-1037, step 4) and await further instructions from the veterinarian - the dog will likely require colloid or hypertonic saline fluid therapy, a blood transfusion, or a hemoglobin-based oxygen carrier for further shock therapy.
- c. Administer an emergency dose of epinephrine hydrochloride.

NOTE: Epinephrine is available in concentrations of 0.1 mg/ml (a dilution of 1:10,000) and 1 mg/ml (a dilution of 1:1,000). BE CERTAIN you know which form of this drug you are using when calculating dosages.

- (1) Use an emergency drug chart or local clinical SOP to determine the dose for the dog.
- (2) If an emergency drug chart is not available and the local SOP does not provide a dose, use a dose of 0.01-0.02 mg/kg body weight.
- (3) For best results, epinephrine should be given intravenously in a central vein. If a central vein is not available, use a peripheral vein.
- (4) If an intravenous injection cannot be obtained, double the dose of epinephrine and give the drug in the endotracheal tube if an endotracheal tube is in place.
 - (a) Use either a male feline ("tom cat") or male canine urinary catheter attached to the syringe with the epinephrine in it passed down the inside of the endotracheal tube to a point just past the end of the tube to ensure the drug is administered to the patient and doesn't simply coat the inside of the tube.
 - (b) Flush the catheter with 5-10 ml of saline after injecting the epinephrine to ensure all the drug is administered.

- 7. Notify the veterinarian as soon as possible and request further guidance.
- 8. Continually monitor the dog IAW task 081-891-3013, step 9.
- 9. Record all findings and treatment in the dog's health record (see task 081-891-1036).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed primary and secondary surveys and took appropriate action to establish an airway and perform BCLS, if indicated.	—	—
2. Gathered pertinent history from the handler.	—	—

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
3. Recognized the signs of anaphylaxis.	—	—
4. Called for help and located emergency drugs and supplies.	—	—
5. Provided supplemental oxygen.	—	—
6. Evaluated for shock and took immediate action to reverse anaphylactic shock if present IAW task 081-891-3013.	—	—
7. Notified the veterinarian ASAP for further guidance.	—	—
8. Monitored the dog continually IAW task 081-891-3013, step 9.	—	—
9. Recorded all findings and treatment in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM A SECONDARY SURVEY ON A MILITARY WORKING DOG

081-891-3304

Conditions: A military working dog has been presented for emergency medical care after trauma. A primary survey has been performed IAW task 081-891-1094, and life threatening problems are being treated. You must now perform a secondary survey to determine the full type and extent of any other injuries or medical problems that may be present. If necessary, the dog has been muzzled. The handler is available to position and restrain the animal. Necessary materials and equipment include: stethoscope, miscellaneous surgical and surgical preparation supplies, ancillary supplies and equipment with which to manage the patient, local anesthetic, exam gloves, and the dog's health record.

Standards: Performed secondary triage on a traumatized military working dog and detected significant medical problems without causing further trauma to the dog or unnecessary delay in treatment.

Performance Steps

1. Reassess vital signs evaluated during primary triage (see task 081-891-1007).
 - a. If the vital signs are improving, the patient has an open airway, and the patient's breathing and circulation are stable or improving, then perform a secondary survey.
 - b. If the vital signs are not improving, the patient does not have an open airway, or the patient's breathing and circulation are not stable, continue to perform emergency therapy as directed by the veterinarian until the patient is stable enough to perform a secondary survey.

2. Perform the secondary survey, using the mnemonic, "A CRASH PLAN" to remember the steps used to perform the exam.

NOTE: A secondary survey is a detailed examination of the patient for any problems that are affecting the patient's health. Every major body system is evaluated as thoroughly as possible, but quickly, to detect all problems that the patient may have, especially those due to trauma or major illness.

- a. A--Airway.
 - (1) Ensure the airway is open and airflow is adequate for the patient.
 - (2) Observe, palpate, and auscultate the nose, muzzle and face, mouth, external laryngeal area, and trachea for deformities, traumatic wounds, or other abnormalities.
- b. C--Cardiovascular.
 - (1) Examine the mucous membrane color and capillary refill time for evidence of poor tissue perfusion (pale or bluish mucous membranes, prolonged capillary refill time).
 - (2) Auscultate the heart and palpate the peripheral pulse for evidence of decreased or inadequate cardiac output (e.g., rapid heart rate; weak, thready, rapid pulse) or heart rate rhythm problems (e.g., pulse deficits, bradycardia, irregular rhythm).
- c. R--Respiratory.
 - (1) Observe the chest wall and abdominal wall movements, and assess the breathing effort as normal or abnormal (e.g., labored, noisy).
 - (2) Assess the pattern of breathing (e.g., rapid and shallow, deep and labored, major effort on inspiration or expiration, presence of abnormal noises).
 - (3) Auscultate the chest bilaterally and note absent or decreased heart and lung sounds over the entire lung field on both sides of the chest.

Performance Steps

- (4) Examine the chest wall for traumatic wounds, rib fractures, flail chest segments, or other deformities.
 - d. A--Abdomen and inguinal area.
 - (1) Evaluate the skin for evidence of trauma (e.g., bruising, lacerations, abrasions, defects in the body wall, wounds).
 - (2) Evaluate both inguinal areas for wounds, bruises, punctures, or herniations.
 - (3) Palpate and evaluate for pain, increased sensitivity, enlargement, or presence of other abnormalities.
 - (4) Palpate the inguinal lymph nodes.
 - (5) Auscultate bowel sounds and note whether these sounds are increased or decreased.
 - e. S--Spine.
 - (1) Carefully palpate the spine systematically one vertebrae at a time from the first cervical vertebrae (atlas) to the last coccygeal vertebra.
 - (2) Palpate for fractures, luxations, crepitation, increased muscle tone (muscle spasm or "guarding" by the patient due to pain), and asymmetry.
 - (3) Minimize patient movement, especially rolling and lateral or dorsoventral bending of the spinal column, until a full spinal exam has been performed. This may reduce further spinal cord injury if trauma is present.
- NOTE:* If there is any suspicion of spinal cord injury, do not move the patient unless absolutely necessary, and immobilize the patient as directed by the veterinarian to minimize further cord injury.
- f. H--Head.
 - (1) Assess the level of consciousness and mental alertness (i.e., depressed, unconscious, agitated, slow to respond, or normal).
 - (2) Evaluate the skull and head for asymmetry, wounds, fractures, depressed areas, or other trauma.
 - (3) Evaluate the eyes for globe size, pupil size, cornea injury or abnormality, pupil response to light, palpebral reflexes, and presence of blood in the eye or around the eye.
 - (4) Evaluate the ears for blood in the vertical or horizontal canals, evidence of functionality, and intact tympanic membranes.
 - (5) Observe the nostrils for the presence of blood or exudate.
 - (6) Carefully evaluate the oral cavity, teeth, hard palate, tongue, tonsils, and pharynx for evidence of trauma.
 - g. P--Pelvis.
 - (1) Evaluate for external evidence of trauma or deformity.
 - (2) Palpate major prominences for pain, swelling, or deformity that suggests fractures or dislocations.
 - (3) Evaluate the inguinal area for evidence of pelvic floor trauma.
 - (4) Evaluate anal tone.
 - (5) Evaluate the external genitals.
 - (6) Perform a digital rectal exam for the presence of blood in the rectum and injury to genitourinary structures in the pelvic canal, and palpate the floor of the pelvis for fractures or separation.
 - h. L--Limbs.
 - (1) Evaluate each limb completely for pain perception, reflexes, swelling, inflammation, joint motion, integrity of ligaments, fractures or luxations, or wounds.
 - (2) If possible, assess the patient's ability to stand and bear weight and ambulate. Note any abnormalities.

Performance Steps

- i. A--Arteries and veins.
 - (1) Evaluate the patient carefully for any vascular injury.
 - (2) Ensure hemostasis of injured vessels is adequate until definitive repair.
- j. N--Nerves (peripheral).
 - (1) Evaluate motor and sensory innervation to all four limbs and the tail by response to a "pinch" test.
 - (2) Evaluate muscle tone, posture, mobility, and coordination.

3. Take a history from the dog handler. Use the mnemonic, "AMPEL" to assist with remembering what information is required.

NOTE: Ideally, the history is taken by one person while the secondary survey is being performed by another. If sufficient personnel are not present to do this, the survey has priority, and the history is taken after the survey is finished.

- a. A--Allergies. Are there known allergies to food, drugs, or any other agent?
- b. M--Medications.
 - (1) What medications is the dog currently receiving (to include heartworm preventative and other routine medications)?
 - (2) What type of medication is the dog receiving, in what amount, and how frequently?
- c. P--Past history. What are the dog's significant past medical problems?
- d. E--Events.
 - (1) What happened?
 - (2) What has occurred between the time of the trauma and the dog's arrival at the medical facility (e.g., what first aid has been given, what abnormalities were noticed)?
 - (3) What is the problem now?
- e. L--Lasts. When was the dog's last _____?
 - (1) When was the dog last normal?
 - (2) When was the dog's last:
 - (a) Meal?
 - (b) Bowel movement?
 - (c) Urination?
 - (d) Medication dose (if applicable)?

- 4. Assist with identifying medical problems, based on the results of the secondary survey.
- 5. Treat medical problems as directed.
- 6. Record findings and treatment in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Assessed patient stability based on the results of primary triage, and proceeded with secondary triage only if the patient was stable or improving clinically.	—	—
2. Performed secondary triage.	—	—
3. Obtained an adequate history from the dog handler.	—	—

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
4. Assisted with identifying medical problems based on the results of the secondary triage.	—	—
5. Treated medical problems as directed.	—	—
6. Recorded exam findings and treatments in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

INSERT A CHEST TUBE ON A MILITARY WORKING DOG

081-891-3501

Conditions: A military working dog is presented in severe respiratory distress with a characteristic restrictive breathing pattern (rapid, shallow breathing with muffled or absent lung sounds over all or part of the chest). A needle thoracentesis is performed and confirms the presence of air or fluid in the pleural space. However, the needle thoracentesis did not alleviate the patient's respiratory distress, which is worsening. The veterinarian is not present, but has been notified and is en route. You have been authorized by the veterinarian to perform thoracostomy tube placement to remove air or fluid that is threatening this patient's life. The animal has been muzzled and the handler is available to position and restrain the animal. Necessary materials and equipment include: a sterile emergency thoracostomy kit (various sizes of fenestrated thoracostomy tubes with or without trocar/stylet, 7" curved Rochester-Carmalt or similar forceps, rat-tooth and Brown-Adson tissue forceps, mosquito hemostatic forceps, bandage scissors, #10 scalpel blades and #3 scalpel handle, Heimlich valves of various sizes or tubing adapters and stopcocks to seal the thoracostomy tube, surgical scissors, needle holders, and several packs of 2-0 and 0 monofilament suture with cutting needle), supplies necessary for surgical skin preparation, triple antibiotic ointment, assorted bandage material, local anesthetic (2% lidocaine, mepivacaine, or bupivacaine), and the dog's health record.

Standards: Inserted a thoracostomy tube and removed the air or fluid in the thoracic cavity without causing further trauma to the dog.

Performance Steps

1. Provide supplemental oxygen by face mask (if the dog will tolerate it) or "blow by" technique (if the dog will not tolerate a face mask) with a high oxygen flow rate of 10-15 liters per minute.
2. Select the largest thoracostomy tube that will easily fit in the intercostal space at the intended site of insertion.

NOTE: For most military working dogs, thoracostomy tubes that are between 28 to 36 French in diameter are adequate. Thoracostomy tubes should have at least three fenestrations and should have a radiopaque line on the side of the tube that is interrupted by the last hole to facilitate radiographic evaluation of successful tube placement.

3. Position the dog in lateral recumbency with the affected side up (if only one side is abnormal) or the most severely affected side up (if both sides are affected).
4. Clip the hair from and surgically prepare an area of skin from the 4th to the 12th rib (see task 081-891-1087).
5. Locate the landmarks for thoracostomy tube placement on the lateral thoracic wall.
 - a. The skin incision site is between the 9th and 11th ribs, at the approximate junction of the upper 1/3rd and lower 2/3rds of the lateral wall of the thorax.
 - b. The site for penetration of the thoracostomy tube through the thoracic wall is between the 6th to 8th intercostal space, 2-3 cm lower on the lateral wall of the thorax than the skin incision.

Performance Steps

- c. The interval between the skin incision and intercostal space where the tube penetrates the thorax must at least two intercostal spaces in width to allow sufficient creation of a subcutaneous tunnel. This tunnel is important in reducing risks of pneumothorax and fluid leakage.

6. Infiltrate approximately 5 ml of local anesthetic at the proposed skin incision site, subcutaneously to the intercostal space at the intended site of penetration of the thoracic wall, and in the muscle at the intended intercostal space to the level of the parietal pleura.

7. Make a skin incision with a #10 scalpel blade that is the same diameter as the thoracostomy tube.

NOTE: A skin incision that is too large increases the risk of pneumothorax and fluid leakage when thoracostomy tubes are in place. Minimize the size of this incision as much as possible to reduce these complications.

8. Place a thoracostomy tube using one of two techniques - thoracostomy tube without a rigid stylet (trocar), or thoracostomy tube with a rigid stylet (trocar).

- a. Thoracostomy tube without a rigid internal stylet or trocar.

- (1) Create a subcutaneous tunnel by bluntly advancing a 7" curved Rochester-Carmalt forceps or similar forceps cranioventrally from the skin incision site to the proposed intercostal space where the thoracostomy tube will penetrate the thorax.
- (2) Forcefully drive the tip of the forceps through the intercostal muscles and parietal pleura using a firm, quick thrusting motion.
- (3) While the tip of the forceps are inserted through the intercostal muscles and pleura, firmly open the jaws of the forceps to dilate the penetration site in the thoracic wall.
- (4) Remove the forceps and grasp the distal end of the thoracostomy tube with the jaws of the forceps such that the length of the tube is lying over the handles of the forceps. Just a small part of the tip of the tube should extend beyond the tip of the forceps.
- (5) Attach a Heimlich valve or clamp the thoracostomy tube before placing the tube into the pleural space to prevent pneumothorax.
- (6) Insert the forceps holding the tube through the skin incision and advance the tube and forceps cranioventrally through the subcutaneous tunnel to and through the intercostal opening.
- (7) Without removing the forceps, open the jaws of the forceps to release the thoracostomy tube. Advance the thoracostomy tube into the pleural space in a cranioventral direction toward the point of the elbow.
- (8) As the thoracostomy tube is advanced into the pleural space, slowly remove the forceps completely.
- (9) Continue to advance the thoracostomy tube until you are absolutely certain the most proximal fenestration is well within the pleural space, and is not in the subcutaneous tunnel or outside the skin.

- b. Thoracostomy tube with rigid internal stylet or trocar.

- (1) Advance the thoracostomy tube with stylet in place from the skin incision, subcutaneously in a cranioventral direction to the intercostal space where the thoracostomy tube will penetrate the thorax.
- (2) Firmly drive the tip of the stylet into the intercostal musculature as you raise the thoracostomy tube vertically so that the tube is almost perpendicular to the thorax. This movement will cause the skin to bunch over the intercostal space and will expose the distal part of the tube that was in the skin tunnel.

Performance Steps

- (3) Firmly grasp the distal-most part of the thoracostomy tube with one hand approximately 2 cm from the tip to prevent inadvertent over insertion of the trocar when advancing the tube in the next step. This step is vital - this hand acts as a brake to prevent lung and heart trauma from the tube; this hand must be firmly held around the tube.
 - (4) Using either a single, sharp blow to the proximal blunt end of the stylet or firm continuous downward pressure on the proximal blunt end of the stylet, penetrate the intercostal muscles and pleura to advance the tube into the pleural space approximately 2 cm.
 - (5) Once the tip of the thoracostomy tube has been inserted approximately 2 cm into the pleural space, lay the tube flat against the body wall as you begin to advance the tube in the pleural space cranioventrally toward the point of the elbow.
 - (6) As the tube is advanced, begin to slide the stylet out of the tube.
 - (7) Clamp the thoracostomy tube using the box lock of the Rochester-Carmalt or similar forceps as the stylet is removed to prevent pneumothorax.
 - (8) Continue to advance the thoracostomy tube until you are absolutely certain the most proximal fenestration is well within the pleural space, and is not in the subcutaneous tunnel or outside the skin.
- c. With either technique, modify the placement of the thoracostomy tube in animals with sufficient loose skin that allows the skin incision to be pulled cranioventrally such that the incision is directly over the intercostal space where the thoracostomy tube will penetrate the thorax. Place the thoracostomy tube as described above, except that tunneling is not required - the tunnel will be created when the tube has been placed and the skin is allowed to return to its normal position. This modification allows more rapid tube placement with less dissection of subcutaneous tissues.
9. Close the proximal (outer) opening of the thoracostomy tube using either a Heimlich valve or tubing adapter and stopcock so that air does not enter the pleural space.
 10. As additional protection against inadvertent pneumothorax, clamp a large hemostat over the thoracostomy tube between the proximal opening and the point where the tube enters the skin incision. Use the box lock side of the hemostat to prevent the teeth of the hemostat from puncturing the tube. Include this hemostat in the protective bandage overwrap.
 11. Secure the chest tube to the skin using a horizontal mattress suture through the skin ventral to the skin tunnel, a purse string suture at the skin incision site that surrounds the tube where it enters the skin, and with a "Chinese finger trap" suture around the tube anchored to the skin.
 12. Apply triple antibiotic ointment to the skin incision site to help seal the site from air leakage and reduce the chances of infection.
 13. Apply a sterile dressing to the insertion site (see task 081-891-1045).
 14. Bandage the trunk to secure the tube in place (see task 081-891-1045).
 15. Monitor the patient for complications from thoracostomy tube placement and for further deterioration, and evacuate the pleural space at least every 2 hours or as needed to alleviate respiratory distress. Use aseptic technique when handling all connections to the thoracostomy tube.
 16. Record the procedure and patient care in the dog's health record.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Provided supplemental oxygen by face mask or "blow by" technique.	—	—
2. Selected the largest thoracostomy tube that would easily fit the proposed insertion site.	—	—
3. Positioned the dog in lateral recumbency with the affected or most severely affected side dorsal.	—	—
4. Clipped and surgically prepared an area of skin on the lateral thoracic wall from the level of the 4th rib to the level of the 12th rib.	—	—
5. Located the landmarks for thoracostomy tube insertion.	—	—
6. Infiltrated local anesthetic from the site of the skin incision, subcutaneously to the proposed intercostal space to the level of the pleura.	—	—
7. Made an appropriately sized skin incision at the correct site.	—	—
8. Placed a thoracostomy tube using either a tube without rigid stylet or with rigid stylet using the correct procedures.	—	—
9. Took appropriate measures during and immediately after placement of the thoracostomy tube to prevent inadvertent pneumothorax.	—	—
10. Placed a hemostat over the thoracostomy tube using the box lock side as an additional safeguard against pneumothorax.	—	—
11. Secured the thoracostomy tube to the skin with suture.	—	—
12. Sealed the insertion site with triple antibiotic ointment.	—	—
13. Applied a sterile dressing to the insertion site.	—	—
14. Monitored the patient for complications from thoracostomy tube placement and for further deterioration, and evacuated the pleural space at least every 2 hours or as needed to alleviate respiratory distress.	—	—
15. Bandaged the trunk to secure the tube in place.	—	—
16. Recorded the procedure and patient care in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM A TRACHEOTOMY ON A MILITARY WORKING DOG

081-891-3502

Conditions: A military working dog requires immediate relief of life-threatening upper airway compromise that is not treatable with supplemental oxygen and orotracheal intubation (e.g., foreign body obstruction, severe laryngeal paralysis, laryngeal or tracheal crush injuries, facial and peri-tracheal edema or trauma). An emergency tracheostomy is required. The veterinarian is not present, but has been notified and is en route. You have been authorized by the veterinarian to perform an emergency tracheostomy. The dog's handler is available to assist. Necessary materials and equipment include: sterile emergency tracheostomy kit (various sizes of tracheostomy tubes, #10 scalpel blade, #3 scalpel handle, 2-0 monofilament suture on a cutting needle, needle holders, Gelpi or Weitlaner retractor, operating scissors, Brown-Adson and rat tooth tissue forceps, mosquito hemostatic forceps), bandage material, oxygen source (e.g., anesthesia machine), umbilical tape or similar material to secure tracheostomy tube to patient, and the dog's health record.

Standards: Performed an emergency tracheostomy on a military working dog to relieve respiratory distress from upper airway obstruction.

Performance Steps

1. Position the dog in dorsal recumbency.
2. Extend the neck and place a rolled towel or sandbag under the neck to force the trachea upwards and facilitate the procedure.
3. Rapidly make a single pass with hair clippers to clip the hair over the center of the ventral neck from the larynx to approximately the center of the neck.

NOTE: There is no time to perform a surgical skin preparation or closely clip the area of hair. Rapid sequence tracheostomy is absolutely essential for patient survival. Do not waste time trying to fully clip or prep the area. These steps can be done after the tracheostomy has been performed and the patient is stable.

4. Make a full-thickness ventral midline skin incision 2-3 finger widths below the larynx (ideally over the 3rd to 5th cartilage rings) parallel with the long axis of the trachea.

NOTE: If a tracheal obstruction is present, a site below the obstruction is chosen. Otherwise, the landmarks above should be used.

NOTE: A transverse skin incision can be made perpendicular to the long axis of the trachea, but this increases the risk of injury to the carotid arteries, external jugular veins, and vagosympathetic nerve trunks.

5. Separate the sternohyoid muscles using sharp or blunt dissection.
6. Place a Gelpi or Weitlaner retractor to spread the muscle bellies and allow visualization of the trachea.
7. Stabilize the trachea with the non-dominant hand.
8. Make a transverse incision completely through the annular ligament between the 3rd and 4th or 4th and 5th tracheal cartilages to create the tracheostomy.

NOTE: Do not extend the incision more than 2/3 the circumference of the trachea (no more than 40% of the diameter of the trachea).

Performance Steps

9. Remove blood and mucus, if present, with blotting or suction.
10. Insert the tracheostomy tube through the incision and direct the distal opening down the trachea.
NOTE: Most tracheostomy tubes have an obturator that is inserted into the tube during placement to prevent the tube from being plugged with blood or mucus. Be sure to use this obturator if it is available, and to remove it immediately after placement of the tube to allow air passage.
NOTE: If placement of the tracheostomy tube is difficult, use a smaller tube, place stay sutures as described in step 12 to help open the incision, or depress the dorsal cartilage rings to flatten this portion of the trachea to allow passage of the tube. If these techniques do not allow tube insertion, resect a small elliptical piece of the distal cartilage ring to make the tracheostomy larger.
11. Immediately provide supplemental oxygen by attaching the breathing circuit of an anesthesia machine with oxygen on (if the animal is unconscious) or by holding the end of the circuit near the opening of the tracheostomy tube - the "blow by" technique (if the animal is conscious and moving). If the "blow by" technique is used, a high oxygen flow rate (10-15 liters per minute) is used. If the breathing circuit is attached directly to the tracheostomy tube, the standard oxygen flow rate is used (30 ml/kg body weight).
12. Once the airway has been opened, place long stay sutures around the cartilage rings above and below the tracheostomy to facilitate tube removal and insertion and airway management.
13. Secure the tracheostomy tube to the patient using umbilical tape or similar material tied to the wings of the tube and passed around the neck and tied.
14. Insert the inner cannula in the tracheostomy tube, which facilitates management of the airway and attachment of breathing circuits, if necessary.
NOTE: This cannula traps mucus and blood, which are removed when the cannula is taken out for cleaning. When cleaning a tracheostomy tube, leave the tube itself in place unless it is obstructed, and only remove the cannula.
15. Inflate the cuff of the tracheostomy tube.
16. Proceed with any additional emergency patient management steps that may be required.
17. When time permits and the patient is stable, loosely appose the skin above and below the tracheostomy with sutures to close excessive wound margins. Do not restrict your ability to remove the cannula or tube if necessary for cleaning by closing this skin to tightly or too closely to the tube.
18. Monitor the patient for complications from the tracheostomy (tube obstruction or dislodgement) or other complications related to the primary problem.
19. Record the procedures and patient care in the dog's health record.

Performance Measures

<u>GO</u>	<u>NO</u>
<u>GO</u>	<u>GO</u>

1. Positioned the dog in dorsal recumbency.

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Performance Measures	<u>GO</u>	<u>NO GO</u>
2. Extended and propped the neck.	—	—
3. Rapidly clipped the hair of the ventral neck using a single pass of clippers.	—	—
4. Made a full-thickness ventral midline skin incision at the appropriate site.	—	—
5. Separated the sternohyoid muscles using dissection and retracted the muscles using retractors.	—	—
6. Stabilized the trachea and made a transverse tracheostomy in the annular ligament between the appropriate tracheal cartilages, ensuring the incision was no more than 2/3rds the circumference of the trachea.	—	—
7. Removed blood or mucus, if necessary.	—	—
8. Inserted the tracheostomy tube, using facilitating techniques as necessary.	—	—
9. Immediately provided supplemental oxygen.	—	—
10. Placed stay sutures around tracheal cartilages to facilitate airway management.	—	—
11. Secured the tracheostomy tube to the patient.	—	—
12. Inserted the inner cannula of the tracheostomy tube.	—	—
13. Inflated the tracheostomy tube cuff.	—	—
14. Proceeded with additional emergency patient management as needed.	—	—
15. Sutured excessive wound margins as necessary when time and patient condition permitted.	—	—
16. Monitored the patient appropriately for complications from tube placement and the primary problems.	—	—
17. Recorded the procedures and patient care in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

PERFORM A BLOOD TRANSFUSION ON A MILITARY WORKING DOG

081-891-3503

Conditions: You have been directed to provide a blood transfusion to a military working dog. The volume to be given will be directed by the veterinarian. Donor dogs, stored whole blood, or stored packed red blood cells are available for use and to test for compatibility. Necessary materials and equipment include: microhematocrit capillary tubes and sealing putty, microhematocrit centrifuge with manufacturer's instructions, microhematocrit reader with manufacturer's instructions, microscope with immersion oil objective, ancillary laboratory supplies and equipment, 3 ml test tubes (sterility not required), pipettes, normal saline (0.9% sodium chloride), a laboratory for blood typing or a canine blood typing kit with manufacturer's instructions, blood collection bags with anticoagulant, hemostats or tube crimping instrument, diphenhydramine HCl or dexamethasone if directed by the veterinarian, blood administration set, and the dog's health record.

Standards: Chose a donor dog or stored blood product, performed blood typing and a major crossmatch, and performed a blood transfusion on a military working dog without causing harm to the dog.

Performance Steps

1. Perform blood typing on the recipient dog if its blood type is not known (see step 3b).
2. If stored whole blood or stored packed red blood cells of a known blood type are to be used for the transfusion--
 - a. Skip steps 3 and 5.
 - b. Complete steps 4 and 6 through 9.
3. If a donor dog is used--
 - a. Choose a donor dog based on the following requirements and guidance:
 - (1) Weighs at least 50 pounds (23 kg), has readily accessible jugular veins, and is in good health and physical condition.
 - (2) Packed cell volume (PCV) is at least 40% (see task 081-891-1048).
 - (3) Between one and six years of age.
 - (4) Either sex is acceptable.
 - (5) The dog should not have received a blood transfusion at any time in the past.
 - (6) Negative for blood parasites (see task 081-891-1201).
 - (7) Negative for intestinal parasites (see task 081-891-1051 or 081-891-1052).

NOTE: A complete blood cell count, biochemistry panel, and urinalysis are not required, but are strongly recommended in assessing the health of the donor dog.

- b. Perform blood typing on the donor dog to ensure compatibility with the recipient dog using one of the following methods:
 - (1) Send a sample to a veterinary laboratory IAW unit SOP.
 - (2) Use a canine blood typing kit and follow the manufacturer's instructions.

Performance Steps

NOTE: Blood that is DEA 1.1 negative and DEA 1.2 negative can safely be used for transfusions to any dog, provided the major crossmatch is negative. That is, DEA 1.1 negative and DEA 1.2 negative blood is considered "universal" for donation. Recipient dogs that are DEA 1.1 negative and DEA 1.2 negative can safely receive blood from DEA 1.1 negative and DEA 1.2 negative donors. Recipients that are DEA 1.1 negative or DEA 1.2 negative should NOT receive blood from donor dogs or stored units that are positive for these blood types. Recipient dogs that are positive for DEA 1.1 and DEA 1.2 can safely receive blood from donor dogs or stored blood units that are positive for these blood types, as well as from negative donors.

4. Perform a major crossmatch. This detects preformed antibodies that may be present in the recipient dog's plasma to antigens on the red blood cells of the donor dog. If red blood cells are infused to a dog with preformed antibodies, an acute hemolytic reaction may occur with the red cells being destroyed in the recipient dog.

NOTE: Always perform a major crossmatch, even if the blood type of the donor blood and the blood type of the recipient dog are the same. Adverse reactions are possible even if the blood is of the same type.

NOTE: It is not necessary to perform a minor crossmatch.

- a. Collect EDTA-anticoagulated blood (purple top tube) from the recipient dog and donor dog or stored blood product (see task 081-891-1023).
- b. Separate the supernatant serum or plasma from red blood cells by centrifugation for 10 minutes at 2000-3000 rpm, or by allowing the samples to coagulate for 30 minutes.
- c. Remove the serum or plasma using pipettes and save in separate, labeled 3 ml test tubes.
- d. Wash the red blood cells that remain by adding normal saline (0.9% sodium chloride) to fill the tubes. Resuspend the red cells in the saline by tapping the bottom of the tubes with a finger.
- e. Centrifuge the red cells and saline for 5 to 10 minutes at 1000 rpm. Remove the saline by pipette and discard, saving the red cells.
- f. Repeat the red cell washing (steps 4d and 4e) two more times (total of three washings).
- g. Prepare a 3% red cell suspension from each dog's sample by following these guidelines:
 - (1) Place one drop of red cells from each sample into a separately labeled 3 ml test tube.
 - (2) Add approximately 3 ml of normal saline (0.9% sodium chloride solution) to each tube.
- h. Gently mix two drops of the recipient's serum or plasma (saved from step 4c) with one drop of the donor's washed red blood cell suspension in a clean 3 ml test tube.
- i. Incubate the tubes from step 3h at room temperature for 15 minutes.
- j. Centrifuge the tubes for 15 seconds at 1000 rpm IAW the centrifuge manufacturer's instructions.
- k. Examine the tube for hemolysis.
 - (1) If the supernatant is red, hemolysis has occurred.
 - (2) The presence of hemolysis indicates that the donor's blood or blood product is incompatible with the recipient's blood and cannot be used for a transfusion.
- l. Observe for agglutination.

NOTE: Clumping or adhesion of red blood cells to each other indicates agglutination.

- (1) Gently tap the tubes.
- (2) If agglutination is not visible grossly, perform the following:

Performance Steps

- (a) Transfer two drops of the mixture to a microscope slide and cover with a cover slip.
- (b) Observe for agglutination under a 10X objective on a microscope.
- (3) The presence of any agglutination indicates that the donor's blood is incompatible with the recipient's blood and cannot be used for a transfusion.

5. Collect blood from the donor dog.

- a. Calculate the maximum amount of blood to be collected, using the formula of 20 ml/kg body weight as the maximum collection amount.

NOTE: Generally, one unit of blood (454 ml) is collected from a donor. If the donor dog meets all the criteria stated in step 2, then it can donate a full unit and it is not necessary to calculate the maximum amount of blood that can be donated.

- b. Sedate the dog, if directed by the veterinarian.
- c. Select either jugular vein for use, and prepare the venipuncture site (see task 081-891-1087).
- d. Perform venipuncture (see task 081-891-1023) using the needle attached to the blood collection set.
- e. Collect the unit of blood from the donor, or the maximal amount as determined in step 5a.
- f. Remove the collection needle and apply direct pressure to the venipuncture site for 5 to 10 minutes.

6. Administer the blood to the recipient dog.

NOTE: Only administer compatible blood to a patient to avoid transfusion reactions. That is, the blood types must be compatible, and the major crossmatch must be negative.

- a. Pretreat the recipient dog with diphenhydramine or dexamethasone if directed by the veterinarian.
- b. Place an IV catheter (see task 081-891-1038).

NOTE: The usual administration sites are the jugular vein or cephalic vein.

- c. Insert the blood administration set spike into the set port of the blood collection device and fill the tubing with blood.

NOTE: The blood set has a filter in the drip chamber. Ensure the fluid level inside the drip chamber is maintained above the filter.

- d. Transfuse the blood at the rate of 4 to 5 ml/min.
- e. Carefully monitor the transfusion, especially during the first few minutes, as this is when most serious transfusion reactions develop.
- f. Stop the transfusion and notify the veterinarian immediately if any abnormal reactions are noted.
 - (1) Tremors.
 - (2) Vomiting.
 - (3) Urinary or fecal incontinence.
 - (4) Fever.
 - (5) Collapse.
 - (6) Respiratory distress.
 - (7) Cough.
 - (8) Hemoglobinuria.
 - (9) Urticaria.

7. Notify the veterinarian when the procedure is completed.

Performance Steps

- 8. Obtain a packed cell volume (PCV) from the recipient dog no sooner than 1 hour after the transfusion to assess the response to the transfusion. Advise the veterinarian of the PCV value.
- 9. Record the procedure in the dog's health record (see task 081-891-1036).

NOTE: It is absolutely essential to record the donor dog's blood type, the recipient dog's blood type, and crossmatch findings in the record of the recipient dog.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Chose a donor dog or stored blood product based on specific criteria.	—	—
2. Performed blood typing on the donor and recipient dogs.	—	—
3. Performed a major crossmatch.	—	—
4. Collected blood from a donor dog, if stored blood product was not used.	—	—
5. Administered the blood to the recipient dog.	—	—
6. Monitored the recipient dog for adverse reactions to the transfusion, and immediately notified the veterinarian if any were noted.	—	—
7. Notified the veterinarian when the transfusion was completed.	—	—
8. Performed a packed cell volume on the recipient dog no sooner than 1 hour after the transfusion.	—	—
9. Recorded the procedure in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

Subject Area 14: Clinical (SL 3)

**APPLY A BANDAGE TO THE HEAD, NECK, OR TRUNK OF A MILITARY WORKING DOG
081-891-1045**

Conditions: You have been presented with a dog with a wound on which wound management has been completed. The affected area now has to be bandaged. The dog is muzzled and the dog handler is available to position and restrain the dog. Necessary materials and equipment include: adhesive tape of assorted sizes, roller gauze, gauze sponges, nonadherent pads, roll cotton, lift and store bandages, adhesive elastic wrap, tongue depressors, topical ointment as prescribed by the veterinarian, Elizabethan collar, bandage scissors, talcum powder, medicated powder or baking soda, and the dog's health record.

Standards: Applied a bandage to the head, neck, or trunk of a military working dog without causing further trauma to the animal.

Performance Steps

1. Direct the dog handler to position and restrain the dog so that the area to be bandaged is accessible.
2. Apply a topical ointment to the affected area if prescribed by the veterinarian.
3. Apply an initial contact layer.

CAUTION: If you are applying a bandage to the abdominal area of a male dog, do not include the prepuce.

- a. Apply a lift and store type dressing, such as an abdominal pad, to areas where drainage is expected.
 - b. Place nonadherent pads over beds of granulation tissue forming over open wounds.
 - c. Place gauze sponges over closed wounds where drainage is not expected.
4. Apply an intermediate bandage layer.
 - a. Apply so that the bandage remains in contact with the contact layer but does not cause excess pressure on the affected area.
 - b. Wrap roller gauze around the affected area.
 5. Apply an outer bandage layer.
 - a. Head and neck. Apply after aural hematoma surgery, ocular surgery, or to secure jugular catheters or nasogastric tubes.
 - (1) Hold the other layers in place.
 - (2) Pull the elastic adhesive wrap, the elastic tape, or the nonstretch gauze off the roll and apply without tension.
 - (3) Ensure that the bandage does not restrict respirations, swallowing, eating, or vision.

NOTE: Vision restriction is sometimes unavoidable in order to properly secure the bandage.

- (4) Apply talcum powder, medicated powder, or baking soda to the axillary area where the bandage will rub if the neck bandage is anchored around the front legs.
- (5) Ensure that the bandage is loose enough to allow two fingers to slip under each end of the bandage.
- (6) Observe the dog and monitor for signs of choking or discomfort.

Performance Steps

- (7) If the bandage is too tight the dog will scratch at it or show signs of dyspnea. Cut the bandage and then tape it together without tension.
- (8) If the dog scratches at the bandages, apply an Elizabethan collar.
- b. Thorax. Apply to secure a chest drain, stabilize fractured ribs, or protect large thoracic wounds.
 - (1) Hold the other layers in place.
 - (2) Pull the elastic adhesive wrap, the elastic tape, or the nonstretch gauze off the roll and apply without tension.
 - (3) Ensure that the bandage is loose enough to allow two fingers to slip under each end of it.
 - (4) If the dog shows signs of dyspnea, remove the bandage immediately, locate the cause, and correct it. Reapply the bandage.
 - (5) Secure the bandage by taping it to 1 to 1 1/2 inches of hair at the cranial and caudal edges.
- c. Abdomen. Apply to secure a laparotomy site, hernia repair, abdominal drains, or similar wounds.
 - (1) Hold the other layers in place.
 - (2) Pull the elastic adhesive wrap, the elastic tape, or the nonstretch gauze off the roll and apply without tension.
 - (3) Ensure that the bandage is loose enough to allow two fingers to slip under each end of it.
 - (4) If the dog shows signs of dyspnea, remove the bandage immediately, locate the cause, and correct it. Reapply the bandage.
 - (5) Secure the bandage by taping it to 1 to 1 1/2 inches of hair at the cranial edge.
 - (6) If a bandage becomes soiled with feces or urine it must be changed immediately.
 - (7) Apply hobbles to the dog if it scratches at the bandage.
 - (a) Tie roller gauze or soft cotton rope loosely around the tarsus.
 - (b) Leave about 6 inches of slack between the legs.
 - (c) Direct the dog handler to check the hobbles at least twice daily to ensure that the hobbles do not become constricting bands.

NOTE: Patients with these types of bandages will initially stay in the veterinary treatment facility (VTF)

- 6. Instruct the dog handler on how to assist in monitoring the dog.
 - a. Ensure that the bandage is clean and dry.
 - b. Check for signs of impaired venous return.
 - (1) Cyanosis.
 - (2) Edema.
 - c. Observe for increased discomfort and pain.
 - d. Check for signs of impaired breathing.
- 7. Instruct the dog handler on post treatment care prescribed by the veterinarian when the patient is discharged from the VTF.
- 8. Direct the dog handler to present the dog for reevaluation and bandage change as instructed by the veterinarian.
- 9. Record the procedure in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Directed the dog handler to position and restrain the dog.	—	—
2. Applied a topical ointment to the affected area if prescribed by the veterinarian.	—	—
3. Applied an initial contact layer.	—	—
4. Applied an intermediate bandage layer.	—	—
5. Applied an outer bandage layer.	—	—
6. Instructed the dog handler to monitor the dog.	—	—
7. Instructed the dog handler on post treatment care prescribed by the veterinarian.	—	—
8. Directed the dog handler to present the dog for reevaluation and bandage change as necessary.	—	—
9. Recorded the procedure in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

APPLY A BANDAGE TO THE LEG OR PAW OF A MILITARY WORKING DOG

081-891-1046

Conditions: You have been presented with a dog on which wound management has been completed. The affected area now has to be bandaged. The dog is muzzled and the dog handler is available to position and restrain the dog. Necessary materials and equipment: adhesive tape of assorted sizes, roller gauze, gauze sponges, roll cotton, nonadherent sponges, lift and store bandages, adhesive elastic wrap, tongue depressors, topical ointment as prescribed by the veterinarian, bandage scissors, Elizabethan collar, and the dog's health record.

Standards: Applied a dressing to the specified area to protect the wound without compromising circulation.

Performance Steps

1. Direct the dog handler to position and restrain the dog so that the area to be bandaged is accessible.
2. Apply a topical ointment if prescribed by the veterinarian.
3. Apply a bandage to the paw, if necessary.
 - a. Place a small piece of cotton under the accessory pad.
 - b. Place nonadherent sponges over the wound.
 - c. Apply roller gauze starting at the distal end of the paw and work proximally in a spiral fashion. Include the accessory pad.
 - d. Check for adequate venous return by slipping one finger under the proximal end of the bandage. Loosen the bandage if necessary.
 - e. Secure the bandage in place with tape.
 - (1) Start the tape where the roller gauze ends.
 - (2) Wrap the tape in a spiral fashion around the paw, ensuring that it is attached to the dog's hair.
4. Apply a bandage to the leg, if necessary.
 - a. Postoperative.
 - (1) Apply an initial contact bandage layer.
 - (a) Apply a lift and store type dressing, such as an abdominal pad, to areas where drainage is expected.
 - (b) Place nonadherent pads over beds of granulation tissue forming over open wounds.
 - (c) Place gauze sponges over closed wounds where drainage is not expected.
 - (2) Apply an intermediate bandage layer by wrapping roller gauze around the affected area.
 - (a) The intermediate bandage layer will absorb and store drainage, provide padding, and provide some immobilization.
 - (b) Apply so that the bandage remains in contact with the contact layer but does not cause excess pressure on the affected area.
 - (3) Apply an outer bandage layer.
 - (a) Hold the other layers in place.
 - (b) Pull the elastic adhesive wrap, the elastic tape, or the nonstretch gauze off the roll and apply.

Performance Steps

- (c) Apply the bandage material starting at the paw and continue proximally in a spiral fashion.
- (d) Wrap the entire limb if the thigh, knee, upper forelimb, or elbow is the injury site.

CAUTION: Application of the bandage in a circular manner can reduce circulation and hinder healing.

b. Simple padded bandage.

- (1) Apply 1 inch wide tape stirrups to the medial and lateral sides of the limb extending 4 to 6 inches below the foot. Fold the tape back on itself 1/2 to 1 inch at the distal end.
- (2) Place a tongue depressor between the two tapes where they extend beyond the foot. This will make it easier to handle the tape and to separate the tape later when the tape is incorporated into the bandage.
- (3) Apply an initial contact bandage layer.
 - (a) Apply a lift and store type dressing, such as an abdominal pad, to areas where drainage is expected.
 - (b) Place nonadherent pads over beds of granulation tissue forming over open wounds.
 - (c) Place gauze sponges over closed wounds where drainage is not expected.
- (4) Wrap the leg with conforming gauze, in a spiral manner, starting at the distal end of the leg.
- (5) Remove the tape stirrups from the tongue depressor, twist 1/2 turn, and apply to the gauze on both sides of the leg.
- (6) Wrap roller gauze around the leg in a spiral manner.
- (7) Secure the bandage in place with 1" tape.
 - (a) Start the tape where the roller gauze ends.
 - (b) Wrap the tape in a spiral fashion around the leg, ensuring that it is attached to the dog's hair.

c. Robert Jones bandage.

- (1) Apply tape stirrups. (See step 4b(1).)
- (2) Apply roll cotton to the limb, starting at the distal end and working proximally.
- (3) Apply conforming gauze to compress the cotton, starting at the distal end and working proximally in a spiral manner.
- (4) Secure the tape stirrups. (See step 4b(5).)
- (5) Apply a layer of self-adhesive elastic wrap distally to proximally in a spiral manner.
- (6) Secure the elastic wrap with adhesive tape.
- (7) Test the bandage for firmness by thumping it with a finger. It should sound like a ripe watermelon.
- (8) Ensure that the bandage is not too tight.
 - (a) Slip two fingers under the proximal end of the bandage and loosen as necessary.
 - (b) Check the toes twice daily for signs of impaired venous return such as edema, coldness, or abnormal odor.
- (9) Direct the dog handler to tape a plastic bag around the bandaged limb when the dog is exercised outdoors and to remove the bag when the dog is in the kennel.
- (10) The bandage must be replaced immediately if it becomes wet.
- (11) Direct the dog handler to put an Elizabethan collar around the dog's neck if the dog tries to bite or lick the bandaged leg or paw.

5. Instruct the dog handler to monitor the dog.

Performance Steps

- a. The dog should be kept on a leash when exercising.
 - b. Ensure that the bandage is clean and dry.
 - c. Check for signs of impaired venous return.
 - (1) Cyanosis.
 - (2) Edema.
 - d. Observe for increased discomfort and pain.
6. Direct the dog handler to present the dog for reevaluation and bandage change, as instructed by the veterinarian.
 7. Instruct the dog handler on post treatment care as prescribed by the veterinarian.
 8. Record the procedure in the dog's health record.
 9. Release the dog to the dog handler.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Directed the dog handler to position and restrain the dog so that the area to be bandaged is easily accessible.	—	—
2. Applied a topical ointment, as prescribed.	—	—
3. Applied a bandage to the paw, if necessary.	—	—
4. Applied a bandage to the leg, if necessary.	—	—
5. Instructed the dog handler to monitor the dog.	—	—
6. Directed the dog handler to present the dog for reevaluation and bandage change, as instructed by the veterinarian.	—	—
7. Instructed the dog handler on post treatment care as prescribed by the veterinarian.	—	—
8. Recorded the procedure in the dog's health record.	—	—
9. Released the dog to the dog handler.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

COLLECT A URINE SAMPLE FROM A MILITARY WORKING DOG BY CYSTOCENTESIS OR USING A URETHRAL CATHETER

081-891-1053

Conditions: The veterinarian has directed you to collect a urine sample using either cystocentesis or urethral catheterization. The dog has been muzzled and sedated, if necessary, and the dog handler is available to position and restrain the dog. Necessary materials and equipment include: 22 gauge X 1 1/2 inch hypodermic needle, sterile flexible male canine urinary catheter (size 4 to 10 French), sterile stainless steel female canine urinary catheter or sterile Foley urinary catheter (size 4 to 10 French), sterile gloves, sterile water-soluble lubricant, sterile vaginal speculum and penlight or otoscope with a large sterile cone, chlorhexidine or povidone-iodine solution, chlorhexidine or povidone-iodine scrub, sterile saline, 20 ml syringe, and the dog's health record.

Standards: Collected a urine sample from a military working dog using cystocentesis or urethral catheterization while maintaining asepsis and not harming the dog.

Performance Steps

1. Perform cystocentesis.

NOTE: Cystocentesis is the percutaneous aspiration of urine directly from the urinary bladder by passing a needle through the body wall into the bladder. Cystocentesis allows the collection of urine without possible contamination from the reproductive tract or urethra.

- a. Direct the dog handler to position and restrain the dog.
 - (1) Dogs of either gender can be placed in lateral or dorsal recumbency, or can be standing.
 - (2) Determine the technique that works best for you and use that position.
- b. Aseptically attach a 22 gauge X 1 1/2 inch hypodermic needle to a 10 or 20 ml syringe.
- c. Using the nondominant hand, locate the urinary bladder by palpating the caudal abdomen, and isolate the bladder by compressing the bladder on either side and pulling it toward the ventral midline (if the dog is in dorsal recumbency or standing) or the lateral abdominal wall (if the dog is in lateral recumbency).

NOTE: DO NOT attempt cystocentesis if the urinary bladder is not palpable and distended with urine.

- d. Wipe the skin over the intended cystocentesis site with 70% alcohol.
- e. While immobilizing the urinary bladder, insert the needle through the abdominal wall and into the urinary bladder at a 45- to 75-degree angle at the point on the abdominal wall where the urinary bladder is most easily palpated.
- f. Aspirate with the syringe plunger to fill the syringe with urine.
- g. Stop aspirating urine, quickly remove the needle from the urinary bladder and abdominal wall, and release pressure on the bladder.
- h. If urine is not aspirated on the first attempt, DO NOT redirect the needle while the needle is inserted in the dog because trauma to the bladder wall or perforation of abdominal viscera may occur.
 - (1) If urine is not aspirated on the first attempt, completely remove the needle from the animal and attempt one further cystocentesis with a new needle and syringe at a different site on the dog.
 - (2) Consider placing the dog in a different position to facilitate cystocentesis.

Performance Steps

- (3) If a second attempt to perform cystocentesis is not successful, discontinue attempts and advise the veterinarian that you were not able to collect urine by this method.
 - i. If blood enters the needle during aspiration of urine, discontinue collecting that sample, remove the needle from the animal, and perform cystocentesis with a new needle and syringe at a different site on the dog.
2. Perform urethral catheterization of a male dog. (Go to step 3 if the dog is a female.)
 - a. Direct the dog handler to position and restrain the dog.
 - (1) Lateral recumbency.
 - (2) Upper hind leg should be pulled caudally to expose the prepuce, or gently abducted away from the abdomen while flexing the hock, stifle, and hip joints.
 - b. Prepare the catheter, maintaining sterility of the catheter at all times.
 - (1) Use a sterile male canine urinary catheter of a size directed by the veterinarian.
 - (2) Open the catheter package, exposing only the tip.
 - (3) Leave the packaging material on the catheter throughout the procedure to maintain sterility, and advance the catheter through the packaging.
 - (4) Apply a sterile, water soluble lubricant to the tip of the catheter.
 - (5) Set the catheter on a sterile field and DO NOT allow the tip to become contaminated.
 - c. Put on two pair of sterile gloves, one pair over the other pair.
 - d. Prepare the catheter insertion area.
 - (1) Retract the prepuce until the end of the penis and urethral opening protrudes and keep the penis exposed by maintaining caudal traction on the prepuce.
 - (2) Cleanse the glans penis using cotton balls or gauze and chlorhexidine or povidone-iodine solution, and rinse with sterile saline.
 - e. Remove the outer pair of sterile gloves one at a time while holding the penis outside of the prepuce.
 - f. Pass the urinary catheter into the urethra and into the bladder, maintaining aseptic technique at all times.
 - (1) Insert the tip of the catheter into the urethral opening.
 - (2) Advance the catheter into the bladder using steady, gentle pressure; DO NOT use force or thrusts.
 - (3) Expect some resistance as the catheter passes the ischial arch in the caudal pelvis.
 - g. Once urine begins to flow from the end of the catheter, attach a 10-20 ml syringe to the end of the catheter.
 - h. Pull back on the plunger of the syringe gently and collect the urine sample.
 - i. Gently remove the catheter from the dog by retracting it slowly until the tip of the catheter clears the penis, and then release the prepuce.
 - j. Instruct the handler to place the dog on the floor.
3. Perform urethral catheterization of a female dog.
 - a. Request the veterinarian sedate or tranquilize the dog, or induce anesthesia if required, to facilitate catheterization.

NOTE: Some female dogs will allow urethral catheterization without sedation or tranquilization. In many cases, however, female dogs will not tolerate urinary catheterization without sedation or tranquilization, and some will not allow it unless anesthetized.

- b. Direct the dog handler to position and restrain the dog.
 - (1) Ventral recumbency.

Performance Steps

- (2) Suspend the hind legs off the end of the exam table or prep table.
 - (3) Place a rolled towel or sheet beneath the caudal aspect of the dog's abdomen to stabilize the dog and slightly lift the pelvis off the table.
 - c. Prepare the catheter insertion area.
 - (1) Clip hair from the perivulvar area if the hair is excessively long.
 - (2) Perform a surgical preparation of the perivulvar skin and vulvar folds (see task 081-891-1087).
 - d. Prepare the catheter, maintaining sterility of the catheter at all times.
 - (1) Remove the stainless steel female canine urethral catheter from its wrapping and set it on a sterile field, or open the packaging of the Foley catheter and lay the catheter on a sterile field.
 - (2) Apply a generous amount of sterile water-soluble lubricant to the tip and body of the catheter.
 - (3) DO NOT contaminate the catheter at any time.
 - e. Insert a sterile vaginal speculum or sterile otoscope cone into the vagina to visualize the urethral opening.
 - (1) Lubricate the outer side of the speculum or cone with a generous amount of water-soluble lubricant.
 - (2) Proceed slowly.
 - (3) Avoid the clitoral fossa on the floor of the vulva.
 - (4) Advance the speculum or otoscope cone into the vaginal vault.
 - (5) Visualize the urethral opening on the ventral floor of the vagina as a small pink circular elevation.
 - f. Insert the catheter tip through the speculum into the vagina.
 - g. Advance the catheter into the urethral opening.
 - h. Continue to advance the catheter into the bladder until urine begins to flow from the end of the catheter.
- NOTE:* If using a Foley catheter with an inner stylet, you will need to remove the stylet once you are confident the tip of the catheter is in the bladder before urine will flow.
- i. Attach a 10-20 ml syringe to the end of the catheter.
 - j. Collect the urine sample by pulling back on the plunger of the syringe gently.
 - k. Gently remove the catheter from the dog by retracting it slowly until the tip of the catheter clears the vulva.
 - l. Instruct the handler to place the dog on the floor.
 - m. Monitor the patient during her recovery from sedation, tranquilization, or anesthesia, if used.

4. Label the urine specimen container with the following:
 - a. Dog's name.
 - b. Tattoo number.
 - c. Date.
 - d. Time sample was collected.
 - e. Method of collection (cystocentesis or catheterization).

5. Record the procedure in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed cystocentesis using appropriate technique.	_____	_____
2. Catheterized the urethra of the dog using appropriate technique.	_____	_____
3. Collected urine using aseptic technique.	_____	_____
4. Properly removed the urethral catheter.	_____	_____
5. Monitored the patient, if necessary, during recovery from sedation, tranquilization, or anesthesia.	_____	_____
6. Properly labeled the urine specimen container.	_____	_____
7. Recorded the procedure in the dog's health record.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

OBTAIN AN ECG TRACING FROM A MILITARY WORKING DOG
081-891-1060

Conditions: The veterinarian has directed you to obtain an electrocardiography (ECG) tracing on a military working dog. The dog has been muzzled and the dog handler is available to position and restrain the animal. Necessary materials and equipment include: exam table, electrocardiography machine with manufacturer's instructions and ECG paper, large sheet, blanket, or rubber sheet, 70% isopropyl alcohol or electrode gel, OF 520, and the dog's health record.

Standards: Obtained a readable ECG tracing from a military working dog from Leads I, II, III, aVF, aVL, and aVR at a paper speed of either 25 mm/sec or 50 mm/sec.

Performance Steps

1. Ensure an adequate supply of ECG paper before positioning the dog.
2. Spread a large sheet, blanket, or rubber sheet on an exam table top to reduce interference that may be caused by the ECG electrodes contacting the steel table.
3. Direct the dog handler to position and restrain the dog in right lateral recumbency on the exam table.
 - a. Allow the dog to stand if it is sick and cannot tolerate lateral recumbency.
 - b. Direct the dog handler to grasp the front legs at the carpal joints and the rear legs at the tarsal joints.
 - c. Direct the dog handler to place two fingers between the legs held by each hand and ensure that the legs do not touch each other.
 - d. Ensure that the dog handler holds the dog's legs perpendicular to the dog's body.
4. Attach the ECG electrodes and leads to the patient.
 - a. Using alligator clips.
 - (1) Modify the alligator clips (file down the points, slightly over-extend the clips to reduce tension) to ensure skin trauma is prevented and the dog is comfortable with the clips attached to the skin.
 - (2) Attach the clips to the skin at the points of each elbow and at the cranial aspect of each stifle joint.
 - (3) Moisten each clip and skin with alcohol or electrode gel.
 - b. Using adhesive electrode disks.
 - (1) Clip a small square (1 cm X 1 cm) of hair on either side of the lateral thorax just caudal to the point of the elbow, the ventral sternum, and on the lateral aspect of each stifle joint.
 - (2) Gently clean the clipped areas with alcohol to degrease the skin.
 - (3) Allow the alcohol to thoroughly dry before attaching the electrode disks or else the disks will not adhere to the skin.
 - (4) Remove the protective plastic coating from the electrode disk to expose the adhesive, and apply the disks to the clipped areas. Hold the disks firmly in place for several seconds to ensure adequate adhesion to the skin.
 - c. Attach the standard lead configurations to the electrodes as follows:
 - (1) Brown lead (ground) is attached to the sternum at the mid chest area.
 - (2) White lead is attached to the right front leg.
 - (3) Red lead is attached to left rear leg.
 - (4) Green lead is attached to the right rear leg.

Performance Steps

(5) Black lead is attached to the left front leg.

5. Prepare the electrocardiography machine for use.

NOTE: There are several types of electrocardiography machines available and there are several types of patient monitors that have ECG capability. Follow the manufacturer's operating instructions for the specific monitor you are using to record ECG tracings.

- a. Turn the machine ON.
- b. Follow manufacturer's instructions to activate the ECG menu.
- c. Following the manufacturer's instructions, adjust the tracings to ensure adequate recording of the ECG.
 - (1) Adjust the settings so all the peaks and valleys of all complexes are visible on the tracing.
 - (2) Adjust the settings so the complexes are large enough to see clearly.
- d. Record a test strip using Lead II at a paper speed of either 25 mm/sec or 50 mm/sec for about 20 seconds.
- e. Evaluate the tracing for artifacts and interference.
 - (1) If the tracing is fuzzy or not clear, evaluate for possible artifact.
 - (2) The following are some common causes of artifacts and interference that must be eliminated before continuing.
 - (a) Alligator clips not attached.
 - (b) Alligator clips not clean.
 - (c) Alligator clips not moistened with electrode gel or alcohol.
 - (d) Alligator clips in contact with each other.
 - (e) Nearby electrical appliances interfering.
- f. Make any additional adjustments to record a clear tracing.
- g. Repeat a 15 second test strip to ensure proper quality if adjustments were made.

6. Obtain a standardized ECG tracing.

- a. The standard ECG evaluation includes recording tracings from each of Leads I, II, III, aVR, aVL, and aVF.
- b. Each recording should include at least 10 to 15 seconds for each lead setting.
- c. Activate the printer by pushing the printer button.
- d. Following the manufacturer's instructions, record a 10 to 15 second strip for each lead until all 6 leads are completed.
- e. Separate the completed tracing from the printer.
- f. Identify each portion of the tracing with the corresponding lead setting, if the machine does not automatically do that.
- g. Record the paper speed at which the recordings were taken, if the machine does not automatically do that.
- h. Identify the tracing with the patient's name, identification number, date, and facility identification.

7. Request the veterinarian review the tracings before disconnecting the patient.

8. Disconnect the ECG leads from the patient when instructed to do so, and gently remove the adhesive disks, if they were used.

9. Instruct the dog handler to transfer the patient to the floor.

10. Record the procedure in the dog's health record.

Performance Steps

11. Place the ECG recordings in the dog's health record using OF 520 or locally approved method.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Checked the ECG paper.	_____	_____
2. Spread a large sheet, blanket, or rubber sheet on the table surface.	_____	_____
3. Directed the dog handler to position and restrain the dog in right lateral recumbency on the exam table.	_____	_____
4. Attached the electrodes to the patient.	_____	_____
5. Moistened the clips with alcohol or electrode gel, if alligator clips were used.	_____	_____
6. Prepared the ECG machine for use.	_____	_____
7. Obtained clear ECG tracings from all 6 standard leads at either 25 mm/sec or 50 mm/sec paper speed.	_____	_____
8. Presented the tracing to the veterinarian and awaited further instructions.	_____	_____
9. Disconnected the ECG leads from the patient when instructed to do so.	_____	_____
10. Instructed the dog handler to transfer the patient to the floor.	_____	_____
11. Annotated the tracings with lead identification, paper speed, patient identification, facility identification, and date.	_____	_____
12. Recorded the procedure in the dog's health record.	_____	_____
13. Placed the ECG strip in the dog's health record using OF 520 or locally approved method.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

Subject Area 15: Laboratory (SL 3)

PERFORM A MICROSCOPIC EXAMINATION TO IDENTIFY COMMON INTRACELLULAR BLOOD PARASITES IN THE BLOOD OF A MILITARY WORKING DOG**081-891-1201**

Conditions: The veterinarian has instructed you to perform a microscopic examination to identify intracellular blood parasites in a sample from a military working dog. A stained blood smear slide has been prepared and is on the microscope under oil immersion. Necessary materials and equipment include: microscope with immersion oil objective, SF 552, and the dog's health record.

Standards: Located and identified intracellular blood parasites in a blood specimen from a military working dog.

Performance Steps

1. Using the "fine" focus adjustment on the microscope, search the surface and interior cytoplasm of the cells for parasites.
2. Identify intracellular blood parasites.
 - a. Ehrlichia spp.
 - (1) Located in the cytoplasm of mononuclear and/or granulocytic white blood cells.
 - (2) Look for round or oval inclusions.
 - b. Babesia spp.
 - (1) Look for large, piriform (pear-shaped) organisms.
 - (2) May be single or paired.
 - c. Haemobartonella spp.
 - (1) Attached to the surface of erythrocytes.
 - (2) Appear as chains that extend across the surface of the erythrocytes.
 - (3) Look for small cocci, rings, and rods.
3. Record the results on SF 552.
 - a. "Patient Identification" box:
 - (1) Place the animal's name, tattoo number, and species on the first line.
 - (2) Place the treating facility on the second line.
 - (3) Place the point of contact and phone number on the third line.
 - b. Check the appropriate block in the "Urgency" box.
 - c. Check the appropriate block in the "Patient Status" box.
 - d. Check the "blood" box in the "Specimen Source" block.
 - e. Place the technician's name in the "Reported By" block and circle "Tech".
 - f. Place the date of the examination in the "Date" box.
 - g. "Specimen Taken" block.
 - (1) Fill in the date the specimen was taken.
 - (2) Fill in the time the specimen was taken.
 - h. Check the "Other" box.
 - (1) In the empty box below, write the words "Intracellular Parasites Results:"
 - (2) Write the results of the examination.
4. Report the results to the veterinarian.

Performance Steps

5. File the SF 552 in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Used the "fine" focus adjustment on the microscope to search the surface and interior cytoplasm of the cells for parasites.	—	—
2. Identified the intracellular blood parasites.	—	—
3. Recorded the results on SF 552.	—	—
4. Reported the results to the veterinarian.	—	—
5. Filed the SF 552 in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

**PERFORM CYTOLOGICAL EXAMINATION ON VARIOUS LABORATORY SAMPLES AT A
VETERINARY TREATMENT FACILITY**

081-891-3103

Conditions: The veterinarian has requested that you perform a cytological exam on a liquid specimen and a tissue aspirate. The specimens have been collected and remain in a syringe with the needle still attached. The specimens are labeled. Necessary materials and equipment include: frosted microscope slides, microscope slide holder (dryer), Diff-Quik staining kit, microscope, immersion oil, scratch paper, pencil, SF 557, and the dog's health record.

Standards: Performed cytological examinations on a liquid specimen and a tissue aspirate and reported the findings on SF 557.

Performance Steps

1. Prepare the slides.
 - a. Choose new, high quality, slides.
 - b. Ensure that the frosted side of the slide is "up", as it will be written on.
 - c. Handle only the sides or frosted end of the slides.
 - d. Write the patient's name on the frosted end of two slides per specimen.

2. Prepare the specimens for staining. All specimens are prepared in a similar fashion.
 - a. Liquid specimens.
 - (1) Select two labeled slides.
 - (2) Grasp the frosted end of one slide and pick it up.
 - (3) Pick up the liquid aspirate-filled syringe.
 - (4) Gently press on the plunger of the syringe to expel one drop of liquid aspirate onto the center of the slide in the other hand.
 - (5) Place the syringe back on the counter top and pick up a second clean slide using the same technique.
 - (6) Turn the second slide over so that the frosted "up" side faces down. The "up" sides of each slide will be facing each other.
 - (7) Place the slides together so that they overlap each by approximately 75%.
 - (8) Squeeze the liquid between the slides.
 - (9) Pull the slides in opposite directions so that the specimen is spread the length of each slide.
 - (10) Place the two prepared slides in a slide holder to air dry for approximately 5 to 10 minutes.
 - (11) Do not discard the syringe containing the specimen.
 - b. Tissue aspirate (needle biopsy).
 - (1) Select two labeled slides.
 - (2) Position one slide on a flat work surface with the "up" side facing up.
 - (3) Remove the needle from the specimen syringe and set it aside. Do not discard the needle.
 - (4) Draw back the syringe plunger to fill the syringe with air.
 - (5) Reattach the needle to the syringe.
 - (6) Position the syringe at a 45 degree angle with the tip of the needle 1 to 2 mm above the slide and centered.
 - (7) Forcefully depress the plunger to expel the contents of the needle onto the surface of the slide.
 - (8) Perform steps 2a(5) through 2a(11).

Performance Steps

3. Stain the specimen slides with Diff-Quik stain.

NOTE: Handle only the frosted end of the slides.

- a. Immerse the slides 10 consecutive times in each of the three solutions.
 - (1) Fixative solution (light blue color).
 - (2) Solution I (red color).
 - (3) Solution II (dark blue/dark purple).
 - b. Tap excess solution off the slide onto a paper towel.
 - c. Rinse the slide with distilled water.
 - d. Allow the slide to air dry completely.
4. Evaluate the prepared slides. Evaluate one slide per type of specimen.
- a. Place a prepared slide on the microscope stage with the "up" side facing up.
 - b. Scan under low power.
 - (1) Avoid areas with clumps.
 - (2) Seek areas with dispersed cells .
 - c. Observe under high-dry power.
 - (1) Seek areas where cells are spread apart and typically stained.
 - (2) Evaluate for the presence of microorganisms.
 - (a) Microorganisms will present as cocci, rods, chain and clump arrangements; fungi as filaments or ovoid cysts; yeast as oval objects.
 - (b) Focus on individual cells using the course and fine adjustments.
 - (c) Increase structure contrast using a combination of the following: if there is a rheostat on the microscope light, turn it down; lower the condenser; or partially close the diaphragm.
 - (d) Focus up and down through the cellular structures or fluid layer using the "fine" focus adjustment.
 - (e) By observation of several high power fields, determine if the microorganisms are intracellular, extracellular, or both.
 - (3) Identify cell types and quantities.
 - (a) Common cell types are red blood cells, lymphocytes, neutrophils, monocytes, and tissue macrophages.
 - (b) Each cell type has unique distinguishing features.
 - (c) With fluid samples, cells observed are reported as the number counted per high-power field observed (3 per HPF, 0-5 per HPF, etc.)
 - d. Observe under oil immersion power using the same technique as in 4c(2)(b) through 4c(2)(d).
 - (1) Confirm cell types identified.
 - (2) Take a closer look at microorganisms.
 - (3) Intracellular examination.
 - (a) Mitotic changes to the nucleus.
 - (b) Inclusions within the cytoplasm typical of some fungal infections.
5. Keep preliminary notes.
- a. Ensure that notes for each patient are kept separate.
 - b. Record findings.
 - c. Pencil drawings and approximate location of objects on the slide may be helpful.
 - d. Remove the slide from the microscope and place it on the notes from that slide.
6. Provide specimen evaluations to the requesting veterinarian. Provide the specimen slide, if requested.

Performance Steps

- 7. Complete SF 557.
 - a. "Specimen Source" block. Annotate anatomically where on the animal the specimen was obtained.
 - b. "Requested" block. Fill in with the word "Cytology".
 - c. "Results" block. Fill in with the detailed evaluation.
 - d. "Reported By" block. Sign your name.
 - e. "Date" block. Fill in the date the test was performed.
 - f. File the SF 557 in the dog's health record.
- 8. Follow local SOP for updating the Laboratory Log Book.
- 9. Follow local SOP for disposal of specimens.
- 10. Follow additional instructions provided by the veterinarian.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Prepared the slides.	_____	_____
2. Prepared the specimens for staining.	_____	_____
3. Stained the specimen slides with Diff-Quik stain.	_____	_____
4. Evaluated the prepared slides.	_____	_____
5. Kept preliminary notes.	_____	_____
6. Provided specimen evaluations to the requesting veterinarian.	_____	_____
7. Completed SF 557.	_____	_____
8. Followed local SOP for updating the Laboratory Log Book.	_____	_____
9. Followed local SOP for disposal of specimens.	_____	_____
10. Followed additional instructions provided by the veterinarian.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

Subject Area 16: Anesthesia (SL 3)

INDUCE ANESTHESIA IN A MILITARY WORKING DOG

081-891-1030

Conditions: The veterinarian has instructed you to induce anesthesia in a military working dog. The dog has been muzzled and the dog handler is available to position and restrain the dog. The veterinarian has prescribed the route and rate of any preanesthetic medications and the rate for intravenous induction anesthetics to be administered. Necessary materials and equipment include: exam table, materials for required lab tests, laryngoscope, fully functional gas inhalation anesthesia machine with manufacturer's instructions, oxygen cylinders, inhalant anesthetic solution, watch or clock, various sizes of needles and syringes, 70% isopropyl alcohol, gauze sponges, roll gauze, clippers with a #40 blade, prescribed preanesthetic agents, induction anesthetic, intravenous catheter, intravenous fluids, assorted sizes of endotracheal tubes, sterile water-soluble lubricant, administration set, bland ophthalmic ointment, DA Form 7389, and the dog's health record.

Standards: Induced anesthesia in a military working dog without causing harm to the dog.

Performance Steps

1. Assist the veterinarian with a physical examination of the patient (see task 081-891-1063). Record the results on SF 600 and the Anesthesia Report.
2. Perform laboratory tests.
 - a. Packed cell volume (see task 081-891-1048).
 - b. Plasma total protein (see task 081-891-1074).
 - c. Urine specific gravity (see task 081-891-1017).
 - d. Follow the veterinarian's instructions if further tests are required.
3. Discuss with the handler to ensure that the dog has not eaten for 12 hours or had water for 2 hours.
 - a. Reschedule the surgery if the dog has eaten or had water.
 - b. If emergency surgery is to be performed and the dog has had food or water, inform the veterinarian and await further instructions.
4. Calculate the dose required of the preanesthetic agents prescribed by the veterinarian (see task 081-891-1503).
5. Administer the preanesthetic agents prescribed by the veterinarian.
 - a. Administer the preanesthetic agents IV, IM, or SQ as directed by the veterinarian (see task 081-891-1015, 081-891-1016, or 081-891-1017).
 - b. Record the preanesthetic medications on DA Form 7389 by generic name, quantity administered (in milligrams), route of administration, and location of administration.
6. Perform a functions check of the anesthesia machine.
 - a. Refer to the manufacturer's instructions.
 - b. Ensure there is sufficient oxygen for the length of the procedure. Any tank that has less than 500 psi of oxygen must be replaced.
 - c. Ensure there is sufficient inhalant anesthetic in the vaporizer, and add more if necessary.
 - d. Check the soda lime canister to ensure that the crystals are fresh and it is full.

Performance Steps

- (1) Loose soda lime crystals.
 - (a) Take a pinch of crystals off the top of the soda lime container.
 - (b) Roll the crystals between your finger and thumb.
 - (c) If the crystals are soft and crumbly, they are usable.
 - (d) If the crystals are brittle, pour them out and replace them with fresh crystals.
- (2) Sealed soda lime canisters.
 - (a) Check the anesthesia log to determine how many hours of use the canister has had.
 - (b) Canisters should be changed after 6 to 8 hours of use or as stated in the manufacturer's instructions.
- (3) If over one half of the soda lime crystals turn blue during anesthesia, replace the crystals before using the anesthesia machine again.
- e. Check the operation of the flow meter.
 - (1) Turn on the oxygen tank.
 - (2) Turn on the flow meter.
 - (3) Ensure that the flow indicator rises in the column.
 - (4) Turn off the flow meter.
 - (5) Ensure that the flow indicator drops.
- f. Check the operation of the one-way valves if the machine has them.
 - (1) Tap the palm of your hand against the opening of the "Y" connector.
 - (2) Pressure should make the valves rise.
- g. Check the machine to ensure that all hoses are attached snugly.
- h. Place a 3 liter rebreathing bag on the anesthesia machine. This is the standard size for a 60 to 90 pound military working dog.
- i. Check the system for leaks.
 - (1) Close the pop off (exhaust) valve.
 - (2) Hold a finger or thumb over the opening of the "Y" connector where the endotracheal tube will be attached.
 - (3) Fill the system with oxygen by pressing the oxygen flush valve until the rebreathing bag is fully expanded and the manometer reaches 30 cm of water.
 - (4) Observe for leaks while maintaining pressure in the system for 10 seconds. If the manometer needle drops showing a pressure loss, check for loose connections and/or leaks by listening or by spraying soapy water over the connections.
 - (5) Open the pop off valve and the manometer should drop to approximately zero. If the manometer does not drop, the pop off valve is broken and must be replaced before the anesthetic machine can be used.
- j. Set up the waste gas scavenging system IAW local SOP.

7. Assemble the equipment.

- a. 10 to 12 cc syringe.
- b. Endotracheal tube.

(1) The tube should be approximately 75% of the internal diameter of the trachea.

NOTE: Tubes of various sizes should be available and ready for use because the right size of tube is not actually known until the trachea is observed (usually sizes 7 mm to 9 mm are necessary).

- (2) Check the endotracheal tube cuff for leaks by inflating the cuff with a 10 to 12 cc syringe and observing for air loss. Deflate the cuff.
 - (3) Lubricate the endotracheal tube cuff sparingly with sterile water soluble surgical lubricant.
- c. Roll gauze. Cut a strip 18 to 24 inches long.

Performance Steps

- d. Intravenous catheter with cap.
- e. 3 to 5 cc syringe with heparinized saline.
- f. Label all syringes containing medication with the contents.
- g. Bland ophthalmic ointment.
- h. Intravenous fluids as prescribed by the veterinarian.
- i. Fluid administration set.
- j. Induction anesthetic.
 - (1) Calculate the correct dose (see task 081-891-1503).

$$\frac{\text{Dog's weight (lbs)} \times \text{Prescribed rate (mg/lb)}}{\text{Concentration (mg/cc)}} = \text{Quantity (cc)}$$

- (2) Determine the quarter dose.
Calculated dose divided by 4 = Quarter Dose
- (3) Determine the draw up dose.
Calculated dose x 1.20 = Draw up dose
- (4) Draw up the draw up dose in a properly labeled needle and syringe.

CAUTION: Place the label on the syringe so the unit markings are not covered and the amount of anesthetic agent being pushed can be determined.

- (5) Record the quantity drawn up in the appropriate controlled drug log (see task 081-891-1028).

8. Induce anesthesia.

- a. Insert the intravenous catheter (see task 081-891-1038).
- b. Initiate an intravenous infusion of fluids (see task 081-891-1068).
- c. Apply ophthalmic ointment (see task 081-891-1014).
 - (1) This can be applied after induction.
 - (2) During long surgeries the ophthalmic ointment may have to be reapplied to prevent the dog's eyes from drying out.
- d. Direct the dog handler to position the dog in sternal recumbency and remove the muzzle.

CAUTION: If the dog is overly aggressive, the muzzle is not removed until the induction anesthetic starts to take effect.

- e. Insert the needle of the syringe with the induction anesthetic into the cap of the catheter.

NOTE: When intravenous fluids are being administered, insert the needle into the injection port of the intravenous line.

- f. Inject the quarter dose as an IV push.
 - (1) If intravenous fluids are being administered through the catheter, pinch off the flow of intravenous fluids between the injection port and the fluid container.
 - (2) Upon completion of the IV push, the flow of intravenous fluids is immediately restored to flush the anesthesia from the intravenous line. This must be repeated for each subsequent injection.
- g. Wait 15 seconds.
- h. Check for the presence of the swallow reflex.
 - (1) Pull the dog's jaws apart with the fingers or finger and thumb of the hand not stabilizing the induction anesthetic syringe.

Performance Steps

- (2) If the dog resists spreading of his jaws, administer an additional quarter dose of induction anesthetic.
 - (3) If there is no resistance, proceed to step 9, Intubate the dog.
 - (4) Wait 15 seconds.
 - (5) Recheck for the presence of jaw tone.
 - (6) If resistance is present, inject 1/4 dose of the induction anesthetic agent. If resistance is not present, intubate the dog.
 - (7) Wait 15 seconds.
 - (8) Recheck for the presence of jaw tone.
 - (9) If resistance is present, repeat steps 8h(6) through 8h(8) until resistance is gone.
9. Intubate the dog (see task 081-891-1029).
 10. Open the oxygen flow meter and set it at the rate of 30 ml of oxygen per kilogram per minute.
 11. Connect the Y-piece of the rebreathing tubing to the endotracheal tube.
 12. Maintain the rebreathing bag at 1/2 to 2/3 full by adjusting the pop off (exhaust) valve as needed.
 13. Measure pulse and the respirations (see task 081-891-1007).
 - a. If not present, immediately inform the veterinarian and take first aid measures (see task 081-891-1602).
 - b. If present, open the inhalant anesthesia vaporizer to the setting predetermined IAW local SOP.
 14. Monitor the dog and maintain the proper plane of anesthesia as prescribed by the veterinarian.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Assisted the veterinarian with a physical examination of the patient and recorded results on SF 600 and the Anesthesia Report.	—	—
2. Performed laboratory tests.	—	—
3. Discussed with the handler to ensure that the dog did not eat within 12 hours or had water for 2 hours.	—	—
4. Calculated the dose required of the preanesthetic agents prescribed by the veterinarian.	—	—
5. Administered the preanesthetic agents prescribed by the veterinarian.	—	—
6. Performed a functions check of the anesthesia machine.	—	—
7. Assembled the equipment.	—	—
8. Induced anesthesia.	—	—
9. Intubated the dog.	—	—

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
10. Opened the oxygen flow meter and set it at the rate of 20 to 30 ml per kilogram of oxygen per minute.	—	—
11. Connected the "Y" connector to the endotracheal tube.	—	—
12. Maintained the rebreathing bag at 1/2 to 2/3 full by adjusting the pop off valve as needed.	—	—
13. Measured the pulse and respirations.	—	—
14. Monitored the dog and maintained the proper plane of anesthesia as prescribed by the veterinarian.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

Subject Area 17: Surgical (SL 3)

DEBRIDE A WOUND ON A MILITARY WORKING DOG**081-891-1043**

Conditions: You have been presented with a dog with a serious wound. The dog is sedated and analgesia has been provided. The veterinarian has instructed you to debride the wound. The dog handler is available to position the animal. Necessary materials and equipment include: clippers with a #40 blade, fluid administration set, forceps, scalpel blade or surgical scissors, materials needed to obtain a specimen for a culture and sensitivity test IAW local SOP, sterile 0.9% saline, 3-way stopcock, various sizes of needles and syringes, local anesthetic, surgical scrub, sterile water-soluble lubricant, lavage solution, gauze sponges, sterile gloves, sterile bland ophthalmic ointment, and the dog's health record.

Standards: Cleaned and debrided the wound without causing further trauma to the dog or damage to viable tissue.

Performance Steps

1. Direct the dog handler to position and restrain the dog so that the wound is easily accessible.
2. Remove foreign bodies and gross contamination from the wound.
3. Culture the wound if directed to do so by the veterinarian.
 - a. Obtain and submit one sample for a culture and sensitivity test IAW local SOP.
 - b. Gram stain a second sample to determine the predominant organism (see task 081-891-1206).
 - c. Report the results to the veterinarian to determine initial antibiotic treatment.
4. Clip the hair around the wound.
 - a. Cover or pack the wound with sterile water-soluble lubricant or sterile gauze moistened with saline to prevent loose or clipped hair from further contaminating the wound.
 - b. Clip the hair at least 2 inches wider than the wound and the area involved.
5. Perform a surgical scrub on the clipped area (see task 081-891-1087), but DO NOT scrub the wound.
6. Lavage the wound.
 - a. Flush gross dirt, filth, and foreign matter with slowly running warm tap water.
 - b. Prepare a lavage solution.
 - (1) Mix one of the following solutions with 1000 ml of 0.9% sodium chloride in an intravenous solution bag.
 - (a) 10 ml of 10% povidone-iodine solution.
 - (b) 25 ml of 2% chlorhexidine.
 - (2) Prepare the solution for administration using one of the following methods:
 - (a) Place the solution in a 30 cc or larger syringe with an 18 gauge needle.
 - (b) Pour the fluid into a plastic squeeze bottle with a fine jet spray nozzle.

Performance Steps

- (c) Attach an intravenous administration set to the bag that the lavage solution was prepared in by placing a 3-way stopcock at the distal end of the line and attaching a 30 cc syringe and an 18 gauge needle to the 3-way stopcock. By manipulation of the stopcock, the wound can be flushed without having to repeatedly draw fluids out of the intravenous solution bag.
 - c. Remove any sterile gauze sponges used to protect the wound.
 - d. Lavage the wound with liberal volumes of the lavage solution.
 - e. If a head wound is to be lavaged, apply a sterile bland ophthalmic ointment to the eyes for protection of the cornea (see task 081-891-1014).
 - f. Rinse the wound with saline.
7. Debride dead tissue as necessary.
 - a. Grasp loose tissue from the wound with forceps.
 - b. Sharply excise the skin edges and deeper tissues that are necrotic.
 - (1) Live tissue has a normal color and texture and bleeds from a cut surface.
 - (2) Necrotic tissue has a grayish blue hue, a loss of texture, and does not bleed when cut.
 - (3) Use a scalpel blade and/or scissors.
 - c. Ensure hemostasis, as necessary, by blotting gently with sterile gauze.
 - d. Rinse the wound with normal saline.
 8. Inform the veterinarian of the completion of the procedure and await further instructions.
 9. Record the procedure in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Directed the dog handler to position and restrain the dog so that the wound is easily accessible.	—	—
2. Removed foreign bodies and gross contamination from the wound.	—	—
3. Cultured the wound and made a Gram stain of the wound exudate, if directed.	—	—
4. Clipped the hair around the wound.	—	—
5. Performed a surgical scrub on the clipped area.	—	—
6. Lavaged the wound.	—	—
7. Debrided dead tissue as necessary.	—	—
8. Informed the veterinarian of the completion of the procedure and awaited further instructions.	—	—
9. Recorded the procedure in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

CLOSE A WOUND ON A MILITARY WORKING DOG

081-891-1044

Conditions: A military working dog needing wound closure has been anesthetized and intubated. Lavage of the wound, surgical scrub of the area, and initial debridement has been completed. The veterinarian has directed you to close the wound using simple interrupted sutures. Necessary materials and equipment include: sterile gloves, mask, cap, minor surgical pack, sterile drapes, assorted suture materials, exam table, exam light, and the dog's health record.

Standards: Closed the wound without violating aseptic technique. The edges of the skin touch without any wrinkles or gaps.

Performance Steps

1. Don a surgical mask and cap.
2. Open a surgical pack to create a sterile field (see task 081-891-3402)
 - a. Add sterile items to the sterile field.
 - (1) Sutures. Peel back the outer wrap without touching the inner package and allow the sutures to drop into the sterile field at least 1 inch from the edge.
 - (2) Scalpel blades. Peel back the outer wrap without touching the scalpel blade and allow the scalpel blade to drop into the sterile field at least 1 inch from the edge.
3. Perform a surgical scrub on your hands and arms (see task 081-891-1090).
4. Put on sterile gloves (see task 081-891-1089).
5. Isolate the surgical site with sterile draping material.
 - a. An "eye drape" may be used for a small area.
 - b. Use four quadrant draping for larger areas. Four hand towels are included in a surgical pack for draping a surgical site.
 - (1) Pick up a single drape and unfold it, taking care not to let it touch anything.
 - (2) Fold one edge back 4 to 6 inches.
 - (3) Place the drape as close to the site as possible so that gravity will not pull it off the dog.
 - (4) Drapes, once placed on the patient, can be moved away from the wound (site), but never moved closer.
 - (5) Pick up the next drape, fold the edge back 4 to 6 inches, and place it 90 degrees to the previous drape.
 - (6) Clamp the two drapes together at the corner with a Backhaus towel clamp making sure that the clamp grasps the dog's skin.
 - (7) Repeat steps 5b(5) and 5b(6) until the four drapes have been placed in a clockwise or counterclockwise manner around the site.
6. Suture the wound using a simple interrupted suturing technique.
 - a. Ensure hemostasis throughout the procedure.
 - b. Place the first suture at the center of the incision. Place the remaining sutures approximately 3 to 5 mm apart.
 - c. Place the sutures approximately 1/8 to 1/4 inch from the edge of the incision.
 - d. Grasp the middle of the suture needle with the tip of the needle holder.
 - e. Lift up the edge of the skin using tissue forceps.

Performance Steps

- f. Drive the needle through the skin with a rotation of the wrist.
- g. Pick up the skin on the other side of the incision using tissue forceps.
- h. Drive the needle out of the skin with a rotation of the wrist.
- i. Place the needle holder parallel to the wound between the ends of the suture. (See Figure 3-30.)

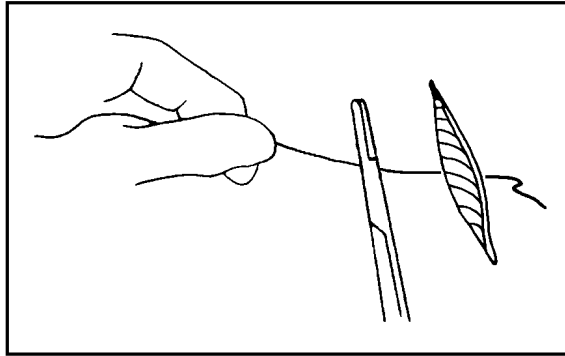


Figure 3-30

- j. Perform an instrument tie to secure the suture
 - (1) Wrap the long end of the suture once or twice around the needle holder. (See Figure 3-31.)

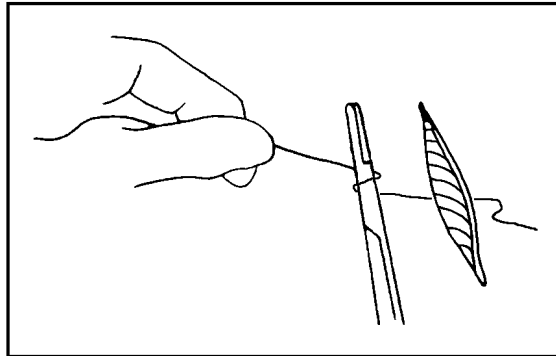


Figure 3-31

- (2) Rotate the needle holder toward the short end. (See Figure 3-32.)

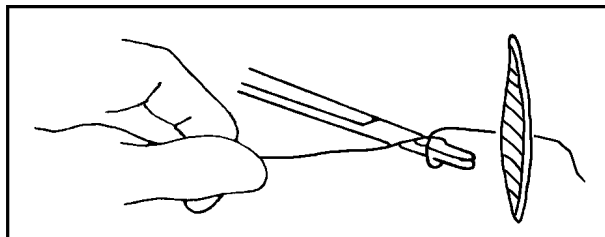


Figure 3-32

Performance Steps

- (3) Grasp the end of the short suture with the needle holder. (See Figure 3-33.)

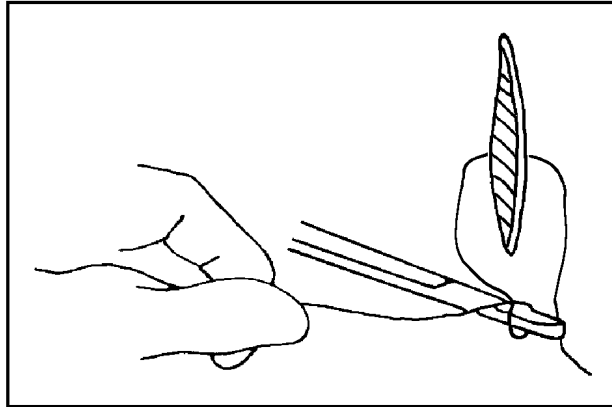


Figure 3-33

- (4) Pull the short end through the loop with even tension on both sides of the knot. (See Figure 3-34.)

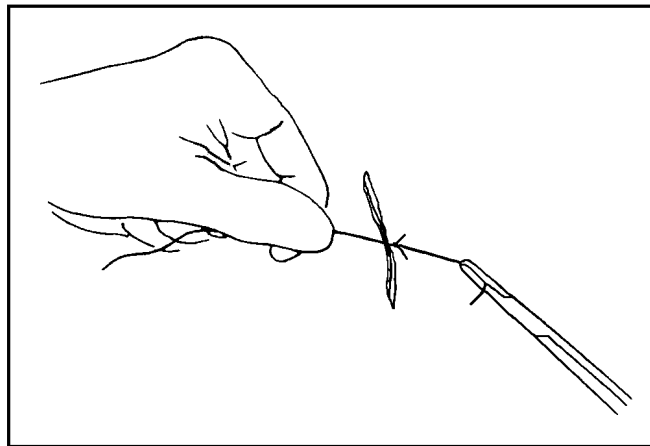


Figure 3-34

- (5) Pull with the suture material as close as possible to parallel with the skin. You will need to cross your hands as you pull down so the knot will pull evenly and lay flat on the skin.
- (6) Place the needle holder between the ends of the suture, parallel to the incision. (See Figure 3-35.)

Performance Steps

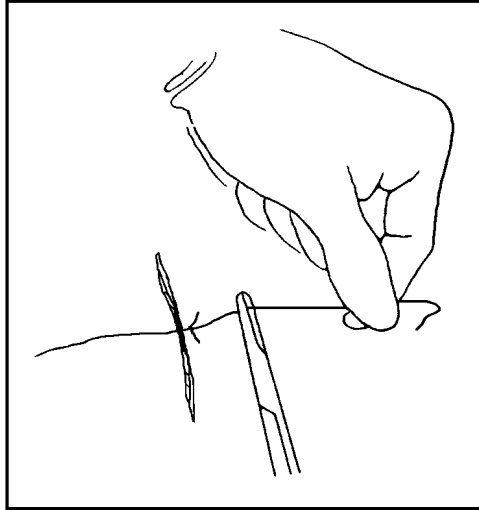


Figure 3-35

- (7) Loop the long end of the suture material around the tip of the needle holder. (See Figure 3-36.)

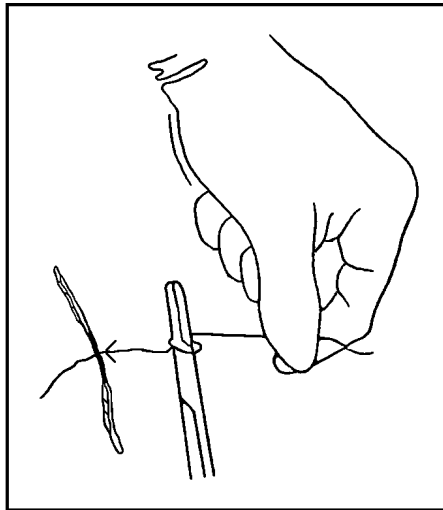


Figure 3-36

- (8) Rotate the tip of the needle holder toward the short end of the suture. (See Figure 3-37.)

Performance Steps

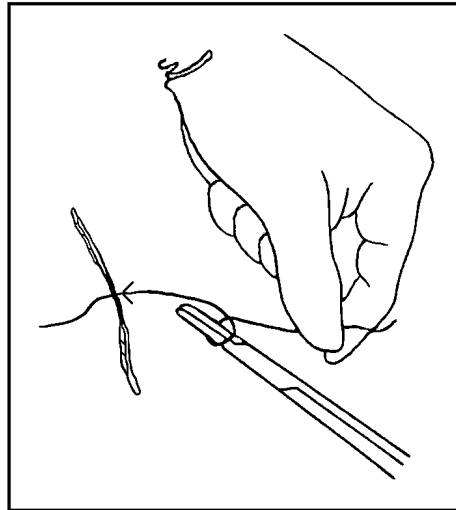


Figure 3-37

- (9) Grasp the short end of the suture, pulling it through the loop. (See Figure 3-38.) Pull down with equal pressure, keeping the suture material parallel to the skin.

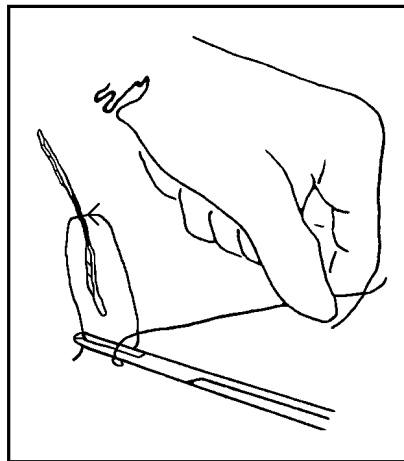


Figure 3-38

- (10) This completes the square knot. Add one or two more throws (steps 6j(1) through 6j(4)) to secure the knot and prevent it from untying. Some types of sutures may need multiple knots to prevent untying.
- k. Cut the ends of the suture so that about 1/4 inch of material is left on each end.
7. Continue placing sutures until the wound is closed.
8. Remove and replace the suture(s) if there are wrinkles or gaps in the closed wound. The edges of the skin should just touch.
9. Remove the drapes.
10. Consult with the veterinarian for further instructions.

Performance Steps

11. Record the procedure in the dog's health record (see task 081-891-1036).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Donned a surgical mask and cap.	_____	_____
2. Opened a surgical pack to create a sterile field.	_____	_____
3. Performed a surgical scrub on hands and arms.	_____	_____
4. Put on sterile gloves.	_____	_____
5. Isolated the surgical site with sterile draping material.	_____	_____
6. Sutured the wound using a simple interrupted suturing technique.	_____	_____
7. Continued placing sutures until the wound was closed.	_____	_____
8. Removed and replaced the suture(s) if there were any wrinkles or gaps in the closed wound.	_____	_____
9. Removed the drapes.	_____	_____
10. Consulted with the veterinarian for further instructions.	_____	_____
11. Recorded the procedure in the dog's health record (see task 081-891-1036).	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

Subject Area 18: Radiology (SL 3)

ASSIST IN PERFORMING AN UPPER GASTROINTESTINAL CONTRAST RADIOGRAPHY STUDY ON A MILITARY WORKING DOG

081-891-3104

Conditions: You are to assist the veterinarian in performing an upper gastrointestinal contrast radiography study on a military working dog. Anesthesia and sedation will not be used because they cause interference with study interpretation. The procedure will not be done unless the dog tolerates oral administration of contrast or the veterinarian can safely and competently perform orogastric intubation and contrast administration to an awake dog. The veterinarian is solely responsible for the physical administration of the contrast agent because of the risk of inadvertent administration of contrast into the respiratory system. At no time will any Animal Care Specialist or civilian veterinary technician administer contrast agent to a military working dog for this reason. The dog handler is available to position and restrain the dog. The dog has been fasted for 12 to 24 hours and an enema was performed 2 to 4 hours before the study. Necessary materials and equipment include: radiography machine with manufacturer's instructions, technique chart, several cassettes with unexposed film, measuring calipers, personal radiation safety equipment and dosimeter, fully equipped darkroom to include film processor, contrast agent as directed by the veterinarian with manufacturer's instructions, infusion device (bucket or bag) or syringe, 60 ml catheter-tip dosing syringe, clamp or hemostat, and the dog's health record.

Standards: Assisted the veterinarian in performing an upper gastrointestinal contrast radiography study on a military working dog and produced radiographs of diagnostic quality.

Performance Steps

1. Perform upper gastrointestinal survey radiographs to establish the radiographic technique and assess for radiographic evidence of disease.

NOTE: Contrast radiography should not be performed if the survey radiographs are diagnostic for abdominal disease or show the need for immediate surgery. This decision is made by the veterinarian.

- a. Radiograph the abdomen of the dog (see task 081-891-1055).
 - b. Develop the radiographs (see task 081-891-1073).
2. Assist the veterinarian in performing an upper gastrointestinal contrast radiography study.
 - a. Prepare the contrast medium by following manufacturer's instructions and as directed by the veterinarian.
 - b. Assist the veterinarian with administration of the contrast medium.
 - (1) Draw the contrast medium into a dosing syringe.
 - (2) Provide assistance as the veterinarian and the dog's handler administer the contrast medium by mouth or by orogastric tube.

NOTE: In some cases, it may be necessary to use an orogastric (stomach) tube to administer the amount of contrast agent required. The veterinarian is responsible for determining the route of contrast administration and for actually administering the contrast agent. AT NO TIME will any other person administer the contrast agent orally or perform orogastric intubation because of the significant risk of incorrectly administering contrast agent into the lungs.

Performance Steps

- c. Immediately following administration of the contrast medium, take ventrodorsal (VD), dorsoventral (DV), right lateral, and left lateral radiographic exposures (see task 081-891-1055).
- d. Develop the radiographs (see task 081-891-1073).
- e. Continue to radiograph the abdomen and develop the radiographs using right lateral and ventrodorsal (VD) positions until directed to stop by the veterinarian.

NOTE: Suggested times for radiographs after contrast administration vary, and are based on the type of contrast agent used and the transit time of contrast through the dog's gastrointestinal tract. The veterinarian is responsible for directing the frequency of subsequent radiographs. Consult with the veterinarian after each set of radiographs are developed to see if other views are required.

- 4. Record the procedures in the dog's health record (see task 081-891-1036).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Performed upper gastrointestinal survey radiographs and produced radiographs of diagnostic quality.	—	—
2. Assisted the veterinarian in performing an upper gastrointestinal contrast radiography study and produced radiographs of diagnostic quality.	—	—
3. Recorded the procedures in the dog's health record.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

DEVELOP A RADIOGRAPH TECHNIQUE CHART FOR A VETERINARY TREATMENT FACILITY

081-891-3106

Conditions: The veterinarian has instructed you to develop a radiograph technique chart for the veterinary treatment facility. An average-sized military working dog is required to accomplish this task, and a dog handler is available to position and restrain the animal. Necessary materials and equipment include: blank charts (thorax, abdomen, spine, skull, and pelvis) (see diagrams), ideal parameters chart, KVP per cm increments chart, appreciable difference chart, chart factors chart, X-Ray machine with manufacturer's instructions for use, several cassettes with unexposed film, measuring calipers, personal radiation safety equipment, and a fully-equipped darkroom.

Standards: Developed a usable radiographic technique chart for a veterinary treatment facility.

Performance Steps

1. Choose a military working dog for measurements. Use a dog of average build (not too fat or thin).
2. Take measurements (see Figure 3-39).

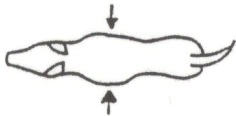
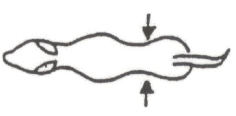


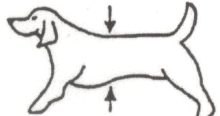
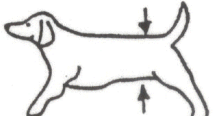

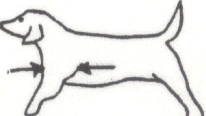
Thorax, Abdomen, and Thoraco-lumbar Spine	Pelvis	Femur	Humerus
Lateral 	Lateral 	Lateral 	Lateral 
DV or VD 	VD 	AP 	AP 

Figure 3-39

- a. Thorax, abdomen, and thoraco-lumbar spine.
 - (1) Observe the dog from above.
 - (2) Look for the widest point across the ribs and take a lateral measurement.
 - (3) Take a dorso-ventral or ventro-dorsal measurement at the same point.
- b. Pelvis.
 - (1) Measure across the wings of the ilium.
 - (2) Take a lateral measurement at the same point.
 - (3) Take a ventro-dorsal measurement at the same point.

Performance Steps

- c. Extremities.
 - (1) Measure at the widest point.
 - (2) Take lateral measurements.
 - (3) Take anterior-posterior or posterior-anterior measurements at the same point.
- 3. Make a grid-thorax chart (bucky).
 - a. Find the numeric result from step 2a(2) on the technique chart in the CM column (see Figure 3-40).

THORAX												
10	11	12	13	14	15	16	17	18	19	20	21	CM
						95	98	101	104	107	110	kVp
												mAs

Figure 3-40

- b. In the empty kVp box below the result from step 2a(2), place the number 95 (the value in the middle of the ideal kVp parameters for thorax). (See Figure 3-41.)

IDEAL PARAMETERS	
Thorax	90 to 100 kVp
Abdomen	80 to 90 kVp
Spine	60 to 80 kVp
Skull	60 to 80 kVp
Pelvis	60 to 80 kVp
Extremities	50 to 70 kVp

Figure 3-41

- c. Per the "kVp per cm increments" chart, fill in the rest of the empty kVp boxes (e.g., 3 kVp per cm). (See Figure 3-42.)

kVp per cm INCREMENTS	
40 to 80 kVp range	= 2 kVp per cm
80 to 100 kVp range	= 3 kVp per cm
100+ kVp range	= 4 kVp per cm

Figure 3-42

Performance Steps

d. Shoot three chest films at three different mAs values.

NOTE: Ensure all exposed personnel don personal radiation protective equipment (e.g., lead apron, gloves) prior to shooting radiographs. Follow manufacturer's instructions for using the x-ray machine.

- (1) Some good mAs values to start with are .8, 1.6, and 3.2.
- (2) Select the best film to determine correct mAs.
- (3) If all films come out overexposed, cut mAs values in half and repeat the films.
- (4) If all films come out underexposed, double mAs values and repeat the films.
- (5) Continue until a correct exposure is found.

e. In the empty mAs boxes, place the numeric value found in step 3d(2) or 3d(5).

4. Make a grid-abdomen chart (bucky).

a. Find the numeric result from step 2a(2) on the technique chart in the CM column (see Figure 3-43).

ABDOMEN												
10	11	12	13	14	15	16	17	18	19	20	21	CM
						85	88	91	94	97	100	kVp
												mAs

Figure 3-43

b. In the empty kVp box below the result from step 2a(2), place the number 85 (the value in the middle of the ideal kVp parameters for abdomen). (See Figure 3-41.)

c. Per the "kVp per cm increments" chart, fill in the rest of the empty kVp boxes (e.g., 3 kVp per cm). (See Figure 3-42.)

d. Double the mAs value found in step 3d(2) or 3d(5).

e. In the empty mAs boxes, place the numeric value found in step 4d.

5. Make an extremity chart (table top).

a. Measure an average-sized dog carpus.

b. Underneath that measurement, set the kVp at 60 kVp (see Figure 3-44).

EXTREMITIES									
1	2	3	4	5	6	7	8	9	CM
				60	62	64	66	68	kVp
									mAs

Figure 3-44

c. Fill out the chart according to the kVp per cm increments shown in Figure 3-42.

d. Shoot three extremity films at three different mAs values.

- (1) Some good mAs values to start with are .2, .4, and .8.
- (2) Select the best film to determine correct mAs.

Performance Steps

- (3) If all films come out overexposed, cut mAs values in half and repeat the films.
 - (4) If all films come out underexposed, double mAs values and repeat the films.
 - (5) Continue until a correct exposure is found.
 - e. In the empty mAs boxes, place the numeric values found in step 5d(5).
6. Make a grid-spine chart (bucky).
 - a. Find the numeric result from step 2a(2) on the technique chart in the CM column (see Figure 3-41).
 - b. In the empty kVp box below the result from step 2a(2), place the number 65 (see Figure 3-45).

SPINE, SKULL, PELVIS												
10	11	12	13	14	15	16	17	18	19	20	21	CM
						65	67	69	71	73	75	kVp
												mAs

Figure 3-45

- c. Per the "kVp per cm increments" chart, fill in the rest of the empty kVp boxes (e.g., 2 kVp per cm). (See figure 3-42.)
 - d. The mAs value is four times the value used for the abdomen.
 - e. In the empty mAs boxes, place the numeric value found in 6d.
7. Note special considerations to the technique chart.
 - a. The chart is set up for an average-sized dog. Very thin or very obese dogs may need to have corrections made to the technique.
 - b. Increase technique for the following reasons:
 - (1) Obese animals.
 - (2) Ascites in the abdomen.
 - (3) Pleural effusion.
 - (4) Some disease processes (e.g., pneumonia).
 - (5) Atelectic lung.
 - (6) Contrast studies.
 - c. Decrease technique for the following reasons:
 - (1) Thin animals.
 - (2) Pneumothorax.
 - (3) Demineralization of bones.
 - (4) Gastric dilation or ileus.
 - (5) Post surgical cases.
 - (6) Emphysematous lung.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Chose a military working dog for measurements.	_____	_____
2. Took measurements of thorax, pelvis, and extremities.	_____	_____
3. Made a grid-thorax chart (bucky).	_____	_____
4. Made a grid-abdomen chart (bucky).	_____	_____
5. Made an extremity chart (table top).	_____	_____
6. Made a grid-spine chart (bucky).	_____	_____
7. Noted special considerations to the technique chart.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ASSIST IN PERFORMING A DOUBLE CONTRAST CYSTOGRAM ON A MILITARY WORKING DOG

081-891-3107

Conditions: You are to assist the veterinarian in performing a double contrast cystogram on a military working dog. The veterinarian is solely responsible for determining the dose of negative and positive contrast agent and for physically administering the contrast agents. AT NO TIME will any Animal Care Specialist or civilian veterinary technician administer any contrast agent to a military working dog because of the risk of rupturing the urinary bladder. The dog handler is available to position and restrain the dog. The dog has been fasted for 12 to 24 hours and a cleansing enema was performed 4 hours before the study. The dog has been sedated or anesthetized as directed by the veterinarian, and is stable for the procedure. Necessary materials and equipment include: radiography machine with manufacturer's instructions, technique chart, several cassettes with unexposed film, measuring calipers, personal radiation safety equipment and dosimeter, fully equipped darkroom to include film processor, sterile flexible urinary catheter (4 to 10 French), several pair of sterile gloves, sterile water soluble lubricant, a female speculum, penlight or otoscope, antiseptic solution, sterile saline, 20 ml syringe, 2% lidocaine injection or aqueous solution, contrast medium as directed by the veterinarian, and the dog's health record.

Standards: Assisted in performing a double contrast cystogram on a military working dog and produced radiographs of diagnostic quality.

Performance Steps

1. Radiograph the urinary bladder (see task 081-891-1055).

NOTE: The survey radiographs establish the proper radiographic technique and verify adequacy of abdomen preparation. For subsequent radiographs, the kVp may need to be increased (when positive contrast is administered) or decreased (when negative contrast is administered).

2. Develop the radiographs (see task 081-891-1073).
3. Assist the veterinarian in placing a urinary catheter (see task 081-891-1053) and removing residual urine from the patient's bladder.
4. Prepare the positive and negative contrast agents as directed by the veterinarian and following the manufacturer's instructions (positive contrast agent).
5. Assist the veterinarian in infusing the negative contrast agent (air) into the bladder through the urinary catheter.

NOTE: The veterinarian is the only person authorized to physically infuse any contrast agent into the urinary bladder of a military working dog. Animal Care Specialists or civilian veterinary technicians will provide assistance, but will not administer the agents at any time.

6. Assist the veterinarian in infusing the positive contrast medium into the bladder through the urinary catheter.

NOTE: The veterinarian is the only person authorized to physically infuse any contrast agent into the urinary bladder of a military working dog. Animal Care Specialists or civilian veterinary technicians will provide assistance, but will not administer the agents at any time.

7. Radiograph lateral and ventrodorsal oblique views of the caudal abdomen (see task 081-891-1055).

Performance Steps

8. Develop the radiographs (081-891-1073).
9. Record the procedure in the dog's health record (see task 081-891-1036).

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Radiographed the urinary bladder.	_____	_____
2. Developed the radiographs.	_____	_____
3. Assisted the veterinarian in placing a urinary catheter and removing residual urine from the patient's bladder.	_____	_____
4. Calculated the dosage of negative contrast agent (air) required based on the dose provided by the veterinarian.	_____	_____
5. Assisted the veterinarian in infusing the calculated dose of negative contrast agent found in step 6 into the bladder through the urinary catheter.	_____	_____
6. Assisted the veterinarian in infusing the positive contrast medium into the bladder through the urinary catheter.	_____	_____
7. Radiographed lateral and ventrodorsal oblique views of the caudal abdomen.	_____	_____
8. Developed the radiographs.	_____	_____
9. Recorded the procedure in the dog's health record.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ASSIST IN PERFORMING AN INTRAVENOUS UROGRAM ON A MILITARY WORKING DOG 081-891-3108

Conditions: You are to assist the veterinarian in performing an intravenous urogram on a military working dog. The veterinarian is solely responsible for determining the dose of contrast agent and for physically infusing the contrast agent. **AT NO TIME** will any Animal Care Specialist or civilian veterinary technician infuse any contrast agent into a military working dog because of the risk of anaphylactic reaction. The veterinarian must physically be present during the entire procedure to provide appropriate emergency management for any adverse reaction to contrast agent administration. The dog handler is available to position and restrain the dog. The dog has been fasted for 12 to 24 hours and has had a cleansing enema 4 hours before the study. The dog has been sedated or anesthetized as directed by the veterinarian, and is stable for the procedure. Necessary materials and equipment include: radiography machine with manufacturer's instructions, technique chart, several cassettes with unexposed film, measuring calipers, personal radiation safety equipment and dosimeter, fully equipped darkroom to include film processor, indwelling catheter with cap, needles and syringes, ancillary supplies to place a catheter, injectable contrast medium with manufacturer's instructions as directed by the veterinarian, and the dog's health record.

Standards: Assisted in performing an intravenous urogram on a military working dog and produced radiographs of diagnostic quality.

Performance Steps

1. Place an indwelling intravenous catheter in a peripheral vein (see task 081-891-1038).
NOTE: Perivascular injection of contrast agent can result in an intense inflammatory reaction. It is essential that the catheter be placed properly to ensure no leakage of contrast agent. If there is any doubt about the catheter placement, another peripheral site should be selected for catheter placement.
2. Prepare the contrast medium IAW manufacturer's instructions and as directed by the veterinarian.
3. Radiograph the abdomen (see task 081-891-1055).
4. Develop the radiographs (see task 081-891-1073).
5. Assist the veterinarian in performing the contrast injection.
NOTE: Vomition, renal failure, and anaphylaxis have been reported in animals after injection of contrast medium intravenously. These reactions can occur immediately or within 10 minutes of injection. The veterinarian is the only person authorized to infuse contrast agent into a military working dog. Animal Care Specialists or civilian veterinary technicians will provide assistance, but will not infuse contrast agent at any time. **BEFORE** the veterinarian injects the contrast medium, ensure you are prepared to provide emergency therapy for these complications (see tasks 081-891-1041, 081-891-1042, 081-891-1094, 081-891-3013, and 081-891-3203). *NOTE:* The major risk factor for complications from an intravenous urogram is dehydration. Dehydrated patients should be adequately rehydrated as directed by the veterinarian before performing this procedure.
6. Radiograph a ventrodorsal (VD) view of the abdomen immediately following the injection (see task 081-891-1055).
7. Develop the radiograph (see task 081-891-1073).

Performance Steps

8. Radiograph the abdomen using both lateral and ventrodorsal views at 5, 10, and 20 minutes, or as directed by the veterinarian.
9. Develop the radiographs (see task 081-891-1073).
10. Monitor the patient for complications and provide supportive care as directed by the veterinarian after the procedure has been performed.
11. Record the procedures in the dog's health record.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Placed an intravenous indwelling catheter in a peripheral vein.	_____	_____
2. Prepared the contrast medium IAW manufacturer's instructions and the veterinarian's direction.	_____	_____
3. Radiographed the abdomen.	_____	_____
4. Developed the radiographs.	_____	_____
5. Assisted the veterinarian as the veterinarian performed the contrast injection.	_____	_____
6. Radiographed a ventrodorsal view of the abdomen immediately following the injection.	_____	_____
7. Developed the radiograph.	_____	_____
8. Radiographed the abdomen using lateral and ventrodorsal views at 5, 10, and 20 minutes, or as directed by the veterinarian.	_____	_____
9. Developed the radiographs.	_____	_____
10. Monitored the patient and provided supportive care as directed by the veterinarian after the procedure.	_____	_____
11. Recorded the procedure in the dog's health record.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

Subject Area 19: Large Animal (SL 3)

PERFORM AN INSPECTION OF AGRICULTURAL ANIMAL FEED**081-891-3403**

Conditions: You are instructed to inspect agricultural animal feed. The feeds that require inspection are grains, sweet feed, pelleted rations, and hay.

Standards: Inspected agricultural animal feed for quality and edibility and reported findings to the veterinarian.

Performance Steps

1. Evaluate grains.

NOTE: Evaluate every type of grain and its container in the facility.

- a. Open the grain container.
- b. Scoop up a handful of feed with both hands cupped together.
- c. Raise the filled hands up to within one inch of the nose.
- d. Smell the grain. The grain should smell fresh and not musty, moldy, sour, or rancid.
- e. Allow the grain to slip through the fingers back into the container.
 - (1) The grains should fall singularly (not clumped together).
 - (2) The grain should be dust free.
- f. Repeat steps 1a through 1e a minimum of three times, obtaining grain from different areas in the storage container each time.

2. Evaluate sweet feed.

NOTE: Sweet feed is evaluated in almost the same way as grains, but sweet feed tends to be clumpy due to its molasses content. Evaluate every type of sweet feed and its container in the facility.

- a. Open the sweet feed container.
- b. Scoop up a handful of sweet feed with both hands cupped together.
- c. Raise the filled hands up to within one inch of the nose.
- d. Smell the sweet feed. The sweet feed should smell sweet with a fresh aroma, not rancid, moldy, or sour.
- e. Break up the clumps of sweet feed and allow it to fall back into the container. Clumps should fall apart easily.
- f. Repeat steps 2a through 2e a minimum of three times, obtaining sweet feed from different areas in the storage container each time.

3. Evaluate pelleted formulated rations.

NOTE: Pelleted rations are composed of ground grains, finely chopped hay, vitamins, and minerals that are mixed uniformly before being pelleted under pressure. Evaluate every type of pelleted ration and its container in the facility.

- a. Open the pelleted rations container.
- b. Scoop up a handful of pelleted rations with both hands cupped together.
- c. Raise the filled hands up to within one inch of the nose.
- d. Smell the pelleted rations. The pellets should have a fresh "hay" aroma and should not smell musty, moldy, or sour.
- e. Allow the pellets to slip through the fingers back into the container.
 - (1) The pellets should fall singularly (not clumped together).
 - (2) The ration should be dust free.

Performance Steps

- f. Repeat steps 3a through 3e a minimum of three times, obtaining pelleted rations from different areas in the storage container each time.

4. Evaluate baled grass hay.

- a. Cut the baling wire or twine on several bales of hay.
- b. Divide each bale into separate "flakes".
- c. Select three flakes from each bale for evaluation.

NOTE: Do not use end flakes for evaluation.

- d. Pick up each flake, one at a time, with one hand. Gently separate the hay with the other hand and evaluate for the following:

- (1) Maturity.
 - (a) Plant stems should be short.
 - (b) The blades or leaves of the plant should be narrow.
 - (c) There should be no seed heads present.
- (2) Texture. Plant stems should be pliable, not brittle.
- (3) Condition.
 - (a) Should be free of manure, mold, weeds, and foreign material such as paper or plastic.
 - (b) Should be dust free.
 - (c) Should have a fresh grass aroma.
- (4) Color. The hay should be green (the brighter, the better).

5. Evaluate baled alfalfa hay.

- a. Cut the baling wire or twine on several bales of hay.
- b. Divide each bale into separate "flakes".
- c. Select three flakes from each bale for evaluation.

NOTE: Do not use end flakes for evaluation.

- d. Pick up each flake, one at a time, with one hand. Gently separate the hay with the other hand and evaluate for the following:

- (1) Maturity.
 - (a) Plant stems should be short.
 - (b) The blades or leaves of the plant should be narrow.
 - (c) There should be no seed heads present.
 - (d) There should be no blooms on the plants.
- (2) Texture. Plant stems should be pliable, not brittle.
- (3) Condition.
 - (a) Should be free of manure, mold, weeds, and foreign material such as paper or plastic.
 - (b) Should be dust free.
 - (c) Should have a fresh grass aroma.
- (4) Color. The hay should be green (the brighter, the better).
- (5) Leafiness. There should be an abundance of leaves, firmly attached to the plant.

6. Report findings to the veterinarian.

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
1. Evaluated grains.	_____	_____
2. Evaluated sweet feed.	_____	_____

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
3. Evaluated pelleted formulated rations.	—	—
4. Evaluated baled grass hay.	—	—
5. Evaluated baled alfalfa hay.	—	—
6. Reported findings to the veterinarian.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

Subject Area 20: Laboratory Animal (SL 3)

PERFORM A NECROPSY ON A LABORATORY ANIMAL

081-891-3105

Conditions: You have been presented with a laboratory animal for euthanasia and necropsy. You must perform the euthanasia, necropsy, and tissue and organ sample collection IAW the research protocol. Necessary materials and equipment include: protocol, formalin (if required), materials required for euthanasia as stated in the protocol, miscellaneous necropsy instruments, assorted needles and syringes, exam gloves, mask, sample vials, containers, or bags as required by the protocol, necropsy table, and administrative forms required by protocol.

Standards: Performed euthanasia and necropsy and collected organ and tissue samples IAW the research protocol.

Performance Steps

1. Review the protocol to which the animal is assigned:
 - a. Determine the specific euthanasia procedure required.
 - b. Determine the specific tissue/organ samples to be collected
 - (1) Does the procedure need to be sterile or not?
 - (2) What type of tissue preservation is required?
 - (a) Freezing.
 - (b) Formalin.
 - (c) Fresh.
2. Discuss the procedure with the principle investigator.
 - a. Ensure correct animal.
 - b. Ensure correct procedures.
 - c. Ensure correct samples to be obtained. Find out if the investigator wants a terminal blood draw at the time of euthanasia or necropsy.
 - d. Specific safety precautions to be followed.
3. Coordinate with the staff veterinarian regarding questions for deviations from the protocol, if necessary.
4. Assemble supplies required for the procedure.
 - a. Drugs.
 - b. Instruments.
 - c. Gloves.
 - d. Tissue sample vials.
 - e. Labels.
 - f. Marking instruments.
 - g. Mask.
 - h. Syringes.
 - i. Needles.
5. Position the animal and supplies on a work surface appropriate to the procedure to be performed.
 - a. Downdraft necropsy table.
 - b. Conventional necropsy table.

Performance Steps

- c. Negative pressure hood.
- 6. Perform the euthanasia procedure required by protocol.
- 7. Ensure the animal is expired by observing the following:
 - a. Fixed pupils.
 - b. Absence of pulse.
 - c. Absence of cardiac function.
 - d. Miscellaneous criteria stated in the protocol.
- 8. Expose the organs and tissues to be collected.
 - a. Use the provided instruments.
 - b. Open the required body cavity or area.
 - (1) Abdomen.
 - (2) Chest.
 - (3) Cranium.
 - (4) Other specified areas.
 - c. Isolate and identify required organs and tissues.
- 9. Collect the required samples of the organs and tissues.
 - a. Use the provided instruments.
 - b. Place each sample in an appropriate container such as:
 - (1) All samples in one vial.
 - (2) Individual samples in separate containers.
 - c. Label all containers with the following:
 - (1) Protocol number.
 - (2) Principle investigator's name.
 - (3) Animal's id number.
- 10. Follow up with the principle investigator when the necropsy is complete.
 - a. Observations made and abnormalities noted.
 - b. Coordinate transfer of tissue and organ samples to a support laboratory.
 - (1) Pathology.
 - (2) Virology.
 - (3) Bacteriology.
 - (4) Toxicology.
- 11. Dispose of the carcass as required by the protocol or facility SOP.
- 12. Store samples as required by the protocol.
- 13. Clean up the necropsy work area.
 - a. Follow protocol requirements.
 - b. Follow facility SOP.
- 14. Complete administrative forms as directed.

Performance Measures

<u>GO</u>	<u>NO</u>
<u>GO</u>	<u>GO</u>

- | | | | |
|-------------------------------------------------------------|---|---|--|
| 1. Reviewed the protocol to which the animal is assigned. | — | — | |
| 2. Discussed the procedure with the principle investigator. | — | — | |

Performance Measures	<u>GO</u>	<u>NO GO</u>
3. Coordinated with the staff veterinarian regarding questions for deviations from the protocol, if necessary.	—	—
4. Assembled supplies required for the procedure.	—	—
5. Positioned the animal and supplies on a work surface appropriate to the procedure to be performed.	—	—
6. Performed the euthanasia procedure required by protocol.	—	—
7. Ensured the animal is expired.	—	—
8. Exposed the organs and tissues to be collected.	—	—
9. Collected required samples of the organs and tissues.	—	—
10. Followed up with the principle investigator after completing the necropsy.	—	—
11. Disposed of the carcass as required by the protocol or facility SOP.	—	—
12. Stored samples as required by the protocol.	—	—
13. Cleaned the necropsy work area.	—	—
14. Completed administrative forms as directed.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ANESTHETIZE A LABORATORY ANIMAL

081-891-3302

Conditions: The veterinarian or primary investigator has instructed you to anesthetize several laboratory animals. The animals have been transported to the treatment room. The anesthesia machine has been set up (including the anesthesia) and is functioning properly. The connection between the anesthesia machine and the induction chamber is adequate. Necessary materials and equipment include: needles and syringes of appropriate size, examination gloves, face mask, protective clothing (e.g., lab coat, scrubs), restraint devices, approved anesthetic agents, approved research protocol, gram scale, dose weight chart for each species to be anesthetized, fully-equipped inhalant anesthetic machine, induction and maintenance charts, observation or holding chamber, and paperwork required by local SOP.

Standards: Properly and safely anesthetized a laboratory animal without causing harm to the animal.

Performance Steps

1. Review the research protocol for the following:
 - a. Approved anesthetic regimen.
 - b. Route of administration for injectables.
2. Confirm the anesthetic regimen with the veterinarian or primary investigator.
3. Gather supplies and equipment.
 - a. Gram scale.
 - b. Approved anesthetic agents.
 - c. Dose-weight chart.

NOTE: Dose-weight charts are species-specific. Choose the chart appropriate for the species of animal being anesthetized.

- d. 1 cc syringes.
- e. 25 gauge, 5/8" needles.
- f. Fully-equipped inhalant anesthesia machine.
- g. Inhalant anesthetic agent.
- h. Induction and maintenance charts.

NOTE: Induction and maintenance charts are species-specific. Choose the chart appropriate for the species of animal being anesthetized.

- i. Anesthesia induction chamber.
 - j. Observation or holding chamber.
4. Weigh the animal on the gram scale IAW local SOP.
 5. Anesthetize the laboratory animal with injectable agents (if applicable).
 - a. Assemble the needle and syringe.
 - b. Using the dose-weight chart, determine the required dose of anesthetic agent.
 - c. Draw up the required dose of anesthetic agent.
 - d. Restrain the animal with the prescribed injection site easily accessible (see task 081-891-1405).
 - e. Administer the anesthetic agent by the prescribed route detailed in the protocol (see tasks 081-891-3308, 081-891-3309, 081-891-3310, 081-891-3311, and 081-891-3312).
 - f. Place the animal in the observation or holding chamber.

Performance Steps

6. Anesthetize the laboratory animal with an inhalant agent using an induction chamber (if applicable).
 - a. Using the induction and maintenance chart, set the inhalant anesthesia vaporizer to the number indicated on the chart.
 - b. Set the oxygen flow rate at 4 liters per minute.
 - c. Allow the induction chamber to fill with anesthetic vapor.
 - d. Place the animal in the chamber.
 - e. Reduce the oxygen flow rate to 1/2 liter per minute.
7. Observe the animal for onset of anesthesia.
8. Inform the veterinarian or primary investigator when the animal is anesthetized. Be prepared to reduce the inhalant anesthesia concentration, remove the animal from the induction chamber, and proceed with the procedure for which the animal was anesthetized.
9. Record the procedure on the paperwork required by local SOP or protocol.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed the research protocol to determine the approved anesthetic regimen and administration route for any injectable agents to be used.	—	—
2. Confirmed the anesthetic regimen with the veterinarian or primary investigator.	—	—
3. Gathered supplies and equipment.	—	—
4. Weighed the animal on the gram scale.	—	—
5. Anesthetized a laboratory animal with injectable agents (if applicable).	—	—
6. Anesthetized a laboratory animal with inhalant agent (if applicable).	—	—
7. Observed the animal for onset of anesthesia.	—	—
8. Informed the veterinarian or primary investigator when the animal was anesthetized.	—	—
9. Recorded the procedure on the paperwork required by local SOP or protocol.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

OBTAIN A BLOOD SPECIMEN FROM A LABORATORY ANIMAL

081-891-3305

Conditions: You are directed to obtain blood samples from a mouse, rat, hamster, gerbil, guinea pig, or rabbit. The veterinarian has told you how much blood to collect. The animals are anesthetized and stabilized. A laboratory animal handler is available to position and restrain the animals if a restraint device is not used. Necessary materials and equipment include: microhematocrit tubes, blood collection tubes, 4X4 gauze sponges, alcohol, surgical blade or sharp scissors, appropriately-sized needles, syringes, and butterfly infusion sets, restraint devices, hair clippers with a #40 blade, and records required by local SOP or protocol.

Standards: Obtained a specified amount of blood from a mouse, rat, hamster, gerbil, guinea pig, or rabbit without harming the animal. Recorded all procedures where required by local SOP.

Performance Steps

1. Gather supplies.
 - a. Mouse, rat, or hamster.
 - (1) Microhematocrit tubes.
 - (2) 4X4 gauze sponges.
 - (3) Alcohol.
 - (4) Surgical blade or sharp pair of scissors.
 - (5) 25 gauge or 27 gauge, 5/8" needles.
 - (6) 1 cc syringes.
 - (7) Blood collection tubes.
 - b. Guinea pig.
 - (1) 4X4 gauze sponges.
 - (2) Alcohol.
 - (3) Microhematocrit tubes.
 - (4) 23 gauge, 1" needles.
 - (5) 1 cc or 3 cc syringes.
 - c. Rabbit.
 - (1) Clippers (optional).
 - (2) 4X4 gauze sponges.
 - (3) Alcohol.
 - (4) Tourniquet (optional).
 - (5) 21 gauge or 22 gauge, 1" needles or 21 gauge or 22 gauge butterfly infusion set.
 - (6) 5 cc or 6 cc syringes.
2. Restrain the animal (see task 081-891-1405).
3. Collect blood from appropriate sites as directed.
 - a. Orbital sinus.

NOTE: This procedure is used to collect blood from mice, hamsters, rats, gerbils, and guinea pigs.

- (1) Position the animal in lateral recumbency.
- (2) Secure the head between the thumb and the forefinger.
- (3) Place the microhematocrit tube at the medial canthus of the eye.
- (4) Apply gentle pressure to the microhematocrit tube using a rotating motion. The tube will go through the membrane.

Performance Steps

- (5) Direct the tube towards the back of the orbit.
 - (6) Continue to rotate the tube until blood flows into the microhematocrit tube, then stop rotating the tube.
 - (7) Remove the tube when the blood has been collected.
 - (8) Plug the microhematocrit tube with sealing clay.
 - (9) Wipe excess blood from the eye with a 4X4 gauze sponge.
- b. Distal tail vein.

NOTE: This procedure is used to collect blood from mice, hamsters, rats, gerbils, and guinea pigs.

- (1) Clean the distal end of the tail with 4X4 gauze sponges and alcohol.
- (2) Amputate (completely sever or cut) the distal tip of the tail with a surgical blade or sharp pair of scissors.
- (3) Position the blood collection tube or microhematocrit tube under the clipped part of the tail.

NOTE: Stroking the tail or squeezing the tail from the base to the distal end will help increase blood flow. Warming the tail with a warm wash cloth may increase blood flow.

- (4) Once sufficient blood has been collected, apply direct pressure to the tip of the tail for 20-30 seconds until bleeding stops using a 4X4 gauze sponge.

c. Lateral tail vein.

NOTE: This procedure is used to collect blood from mice, rats, and gerbils.

- (1) Place gentle tension on the tail by grasping it at the distal end. Hold the tail between the thumb and index finger of your nondominant hand.
- (2) Gently pull the tail towards you.
- (3) Clean the tail with 4X4 gauze sponges and alcohol.
- (4) Pierce the skin with the needle and enter the vein at a shallow angle, parallel to the tail.
- (5) Observe for a "flash" of blood in the hub of the needle. Stop advancing the needle when the flash is observed.
- (6) Aspirate the blood slowly until the sample has been collected.
- (7) Remove the needle.
- (8) Apply direct pressure over the venipuncture site for 20-30 seconds until bleeding stops using a 4X4 gauze sponge.

d. Intracardiac puncture.

NOTE: This procedure is used to collect blood from mice, rats, hamsters, gerbils, and rabbits. Animals from which blood is collected using an intracardiac puncture will be euthanized as directed by the veterinarian or primary investigator after the procedure is completed.

- (1) Place the animal in dorsal recumbency.
- (2) Locate the manubrium (base) of the sternum; this is the puncture site.
- (3) Swab the puncture site with 4X4 gauze sponges and alcohol.
- (4) Insert the needle at the manubrium, lateral to the midline, and at a 15-20 degree angle.
- (5) Advance the needle and direct it toward the left while aspirating the plunger at the same time.
- (6) Observe for a "flash" of blood in the hub of the needle. Stop advancing the needle when the flash is observed.
- (7) Aspirate the blood slowly until the sample has been collected.
- (8) Remove the needle.

e. Lateral saphenous or cephalic vein.

NOTE: This procedure is used to collect blood from guinea pigs and rabbits.

- (1) Guinea pig.

Performance Steps

- (a) Shave the area over the chosen vein.
 - (b) Clean the venipuncture site with 4X4 gauze sponges and alcohol.
 - (c) Occlude the vein just above the venipuncture site.
 - (d) Insert the needle in the vein at a 30 degree angle.
 - (e) Aspirate the syringe while advancing the needle.
 - (f) Observe for a "flash" of blood in the hub of the needle. Stop advancing the needle when the flash is observed.
 - (g) Aspirate the blood slowly until the sample has been collected.
 - (h) Remove the needle from the vein.
 - (i) Apply gentle direct pressure to the venipuncture site until the bleeding stops.
- (2) Rabbits.
- (a) Position the rabbit in lateral recumbency.
 - (b) Shave the venipuncture site.
 - (c) Apply a tourniquet to the saphenous vein above the knee or have an assistant hold off the vein just above the hock joint.
 - (d) Clean the venipuncture site with 4X4 gauze sponges and alcohol.
 - (e) Insert the needle into the vein at a 20 degree angle.
 - (f) Observe for a "flash" of blood in the hub of the needle. Stop advancing the needle when the flash is observed.
 - (g) Release the tourniquet.
 - (h) Aspirate the blood slowly until the sample has been collected.
 - (i) Remove the needle.
 - (j) Apply gentle direct pressure to the venipuncture site until the bleeding stops.

f. Anterior vena cava.

NOTE: This procedure is used to collect blood from guinea pigs.

- (1) Position the guinea pig in dorsal recumbency.
- (2) Shave an area on the side of the neck from just caudal to the mandible to just cranial to the thoracic inlet.
- (3) Clean the thoracic inlet area (where the first rib joins the sternum) with 4X4 gauze sponges and alcohol.
- (4) Insert the needle at the junction of the uppermost position of the sternum and first rib, on the right side of the animal.
- (5) Advance the needle while aspirating and maintaining a 30 degree angle. The needle should be directed toward the midline at a depth less than 10 mm.
- (6) Observe for a "flash" of blood in the hub of the needle. Stop advancing the needle when the flash is observed.
- (7) Aspirate the blood slowly until the sample has been collected.
- (8) Remove the needle.
- (9) Apply gentle direct pressure to the venipuncture site until the bleeding stops.

g. Auricular artery or ear vein.

NOTE: This procedure is used to collect blood from rabbits. The ear vein is used to collect small volumes of blood. The auricular artery is used to collect large volumes of blood.

- (1) Shave or gently pluck the fur over the ear vessel on one ear.
- (2) Rub or tap the vessel to dilate it.

NOTE: If the vessel does not immediately dilate, wrap the ear with a warm cloth or hold the ear flap in your hand for a few minutes.

- (3) Clean the puncture site with 4X4 gauze sponges and alcohol.
- (4) Insert the needle or butterfly infusion set into the artery or vein.

NOTE: If using an infusion set, a blood collection container must be positioned under the end of the hub of the tubing.

Performance Steps

- (5) Observe for a "flash" of blood in the hub of the needle (or blood in the infusion set). Stop advancing the needle when the flash is observed.
 - (6) Aspirate the blood slowly or allow it to drip into the collection container until the sample has been collected.
 - (7) Remove the needle or infusion set.
 - (8) Apply gentle pressure to the puncture site until the bleeding stops.
4. Return the animal to its cage or continue with other procedures as directed.
5. Record all procedures IAW local SOP and protocol.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Gathered supplies.	_____	_____
2. Restrained the animal.	_____	_____
3. Collected blood from the appropriate site as directed.	_____	_____
4. Returned the animal to its cage or continued with other procedures.	_____	_____
5. Recorded all procedures IAW local SOP and protocol.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ADMINISTER AN INTRAMUSCULAR INJECTION TO A LABORATORY ANIMAL
081-891-3308

Conditions: You are instructed to administer intramuscular injections to laboratory animals. Necessary materials and equipment include: needles and syringes of appropriate size, examination gloves, face mask, protective clothing (e.g., lab coat or scrubs), restraint devices, prescribed medication, and paperwork required by local SOP or protocol.

Standards: Administered the prescribed amount of medication intramuscularly without causing harm to the animal.

Performance Steps

1. Select the appropriate needle and syringe sizes for the species.
 - a. Mouse, gerbil, or hamster.
 - (1) 23 gauge needle.
 - (2) 1cc syringe.
 - b. Rat.
 - (1) 22 gauge needle.
 - (2) 1 cc syringe.
 - c. Rabbit.
 - (1) 22-25 gauge needle.
 - (2) 1-3 cc syringe.
2. Draw up the prescribed medication.
3. Put on personal protective equipment.
 - a. Examination gloves.
 - b. Face mask.
 - c. Protective clothing (e.g., lab coat or scrubs).
4. Restrain the lab animal (see task 081-891-1405) with the injection site easily accessible.

NOTE: Use of a restraint device is recommended. Rats, mice, gerbils, or hamsters are injected in the cranial aspect of the thigh. Rabbits are injected in the quadriceps muscle or the large lumbar muscles on either side of the spine, just cranial to the pelvis.
5. Clean the injection site with 4X4 gauze sponges and alcohol.
6. Inject the medication.

NOTE: Inject no more than 0.03 cc per site for a mouse, 0.3 cc per site for a rat, and 0.10 cc per site for a gerbil or hamster.

 - a. Expose the area to be injected.
 - b. Insert the needle quickly and firmly.
 - c. Aspirate the syringe to ensure that the needle is not in a blood vessel. If blood appears in the hub or medication, immediately stop the injection and select another site.
 - d. Press the plunger forward while holding the syringe barrel steady.
 - e. Monitor the injection site for swelling that would suggest hematoma formation.
7. Withdraw the needle when the injection is complete.
8. Dispose of the needle and syringe IAW local SOP.

Performance Steps

9. Return the animal to its cage.
10. Observe the animal and report any unusual signs to the veterinarian.
11. Record the injection on the paperwork required by local SOP or protocol.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Selected the appropriate needle and syringe for the species.	—	—
2. Drew up the prescribed medication.	—	—
3. Donned PPE.	—	—
4. Restrained the lab animal with the injection site easily accessible.	—	—
5. Prepared the injection site.	—	—
6. Injected the medication.	—	—
7. Withdrew the needle when the injection was complete.	—	—
8. Disposed of the needle and syringe IAW local SOP.	—	—
9. Returned the animal to its cage.	—	—
10. Observed the animal and reported any unusual signs.	—	—
11. Recorded the injection on the paperwork required by local SOP or protocol.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ADMINISTER A SUBCUTANEOUS INJECTION TO A LABORATORY ANIMAL
081-891-3309

Conditions: You are instructed to administer a subcutaneous injection to laboratory animals. Necessary materials and equipment include: needles and syringes of appropriate size, examination gloves, face mask, protective clothing (e.g., lab coat or scrubs), restraint devices, prescribed medication, and paperwork required by local SOP or protocol.

Standards: Administered the prescribed amount of medication subcutaneously without harming the animal.

Performance Steps

1. Select the appropriate needle and syringe sizes for the species.
 - a. Mouse or gerbil.
 - (1) 22-25 gauge needle.
 - (2) 1-3 cc syringe.
 - b. Hamster.
 - (1) 21-25 gauge needle.
 - (2) 1-5 cc syringe.
 - c. Rat.
 - (1) 21-25 gauge needle.
 - (2) 1-5 cc syringe.
 - d. Rabbit.
 - (1) 22-25 gauge needle.
 - (2) 1-5 cc syringe.
2. Draw up the prescribed medication.
3. Put on personal protective equipment.
 - a. Examination gloves.
 - b. Face mask.
 - c. Protective clothing (e.g., lab coat or scrubs).
4. Restrain the lab animal (see task 081-891-1405).
5. Prepare the injection site.
 - a. Clean the injection site with 4X4 gauze sponges and alcohol.
 - b. Create a skin "tent" by pulling the skin up gently at the proposed injection site using the thumb, index finger, and middle finger of your nondominant hand.
6. Inject the medication.

NOTE: Inject no more than 2-3 cc per site for a mouse or gerbil and no more than 3-5 cc per site for a hamster, rat or rabbit.

 - a. Expose the area to be injected.
 - b. Insert the needle quickly and firmly.
 - c. Aspirate the syringe to ensure that the needle is not in a blood vessel.
 - d. Press the plunger forward while holding the syringe barrel steady.
 - e. Monitor the injection site for swelling.
7. Withdraw the needle when the injection is complete.
8. Dispose of the needle and syringe IAW local SOP.

Performance Steps

9. Return the animal to its cage.
10. Observe the animal for any evidence of unusual reaction. If noted, immediately advise the veterinarian.
11. Record the injection on the paperwork required by local SOP or protocol.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Selected the appropriate needle and syringe for the species.	—	—
2. Drew up the prescribed medication.	—	—
3. Donned PPE.	—	—
4. Restrained the animal.	—	—
5. Prepared the injection site.	—	—
6. Injected the medication.	—	—
7. Withdrew the needle when the injection was complete.	—	—
8. Disposed of the needle and syringe IAW local SOP.	—	—
9. Returned the animal to its cage.	—	—
10. Observed the animal for unusual reactions and advised the veterinarian if any were noted.	—	—
11. Recorded the injection on the paperwork required by local SOP or protocol.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ADMINISTER AN INTRAVENOUS INJECTION TO A LABORATORY ANIMAL
081-891-3310

Conditions: You are instructed to administer an intravenous injection to a laboratory animal. Necessary materials and equipment include: needles and syringes of appropriate size, examination gloves, face mask, protective clothing (e.g., lab coat or scrubs), restraint devices, prescribed medication, and paperwork required by local SOP or protocol.

Standards: Administered the prescribed amount of medication intravenously without harming the animals.

Performance Steps

1. Select the appropriately sized needle and syringe for the animal.
 - a. Rat.
 - (1) 22 gauge or smaller needle.
 - (2) 1-3 cc syringe.
 - b. Mouse.
 - (1) 23 gauge or smaller needle.
 - (2) 1 cc syringe.
 - c. Gerbil.
 - (1) 21 gauge or smaller needle.
 - (2) 1 cc syringe.
 - d. Rabbit.
 - (1) 22-30 gauge needle.
 - (2) 1-3 cc syringe.
 2. Draw up the prescribed medication.
 3. Put on PPE.
 - a. Examination gloves.
 - b. Face mask.
 - c. Protective clothing (e.g., lab coat or scrubs).
 4. Restrain the lab animal (see task 081-891-1405) and ensure the injection site is readily accessible.
- NOTE:* Use of a restraint device is recommended.
5. Prepare the injection site.
 - a. Rodents - tail vein.
 - (1) Dilate the tail vein by wrapping the tail in a warm towel or placing the tail in warm water.
 - (2) Occlude the vein.
 - (a) Wrap a rubber band or tourniquet around the base of the tail.
 - (b) Hold the rubber band or tourniquet in place with mosquito hemostats.
 - (3) Clean the injection site with 4X4 gauze sponges and alcohol.
 - b. Rabbit - ear vein, cephalic vein, lateral saphenous vein, or jugular vein.
 - (1) Marginal ear vein - dorsal side of the ear at the lateral margin.
 - (a) Dilate the ear vein by holding it in your hand or wrapping a warm cloth around it for a few minutes.
 - (b) Shave or gently pluck the fur over the vein.
 - (c) Clean the injection site with 4X4 gauze and alcohol.

Performance Steps

- (2) Cephalic vein, lateral saphenous vein, or jugular vein.
 - (a) Shave or gently pluck the fur over the vein.
 - (b) Clean the injection site with 4X4 gauze and alcohol.

6. Inject the medication.

a. Rodents.

NOTE: Inject no more than 0.3 cc in mice and gerbils and 0.5 cc in rats.

- (1) Insert the needle gently, parallel to the vein, and at a 20° to 30° angle.
- (2) Gently aspirate by pulling back on the plunger. If the vein has been penetrated, blood will flash in the needle hub.
- (3) Push the plunger in a slow, smooth motion.
- (4) Monitor the injection site for swelling.

b. Rabbits.

- (1) Insert the needle quickly and firmly into the vein at a 20° to 30° angle.
- (2) Gently aspirate by pulling back on the plunger. If the vein has been penetrated, blood will flash in the needle hub.
- (3) Push the plunger in a slow, smooth motion.
- (4) Monitor the injection site for swelling.

7. Withdraw the needle from the vein.

8. Apply direct pressure to the injection site.

9. Dispose of the needle and syringe IAW local SOP.

10. Return the animal to its cage.

11. Observe the animal for evidence of adverse reaction.

- a. Change in mental alertness.
- b. Change in breathing pattern.
- c. Change in skin color.
- d. Lameness.
- e. Vomiting.
- f. Diarrhea.

12. Record the injection on the paperwork required by local SOP or protocol.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Selected an appropriately sized needle and syringe.	_____	_____
2. Drew up the prescribed medication.	_____	_____
3. Donned PPE.	_____	_____
4. Restrained the lab animal.	_____	_____
5. Prepared the injection site.	_____	_____
6. Injected the medication.	_____	_____
7. Withdrew the needle when the injection was complete.	_____	_____

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
8. Applied direct pressure to the injection site.	_____	_____
9. Disposed of the needle and syringe IAW local SOP.	_____	_____
10. Returned the animal to its cage.	_____	_____
11. Observed the animal for an adverse reaction.	_____	_____
12. Recorded the injection on the paperwork required by local SOP or protocol.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ADMINISTER AN INTRADERMAL INJECTION TO A LABORATORY ANIMAL
081-891-3311

Conditions: You are instructed to administer intradermal injections to a laboratory animal. Necessary materials and equipment include: needles and syringes of appropriate size, examination gloves, face mask, protective clothing (e.g., lab coat or scrubs), restraint devices, prescribed medication, and paperwork required by local SOP or protocol.

Standards: Administered the prescribed amount of medication intradermally without harming the animals.

Performance Steps

1. Select the appropriate needle and syringe sizes for the animal.
 - a. 25-27 gauge, 5/8" needles are generally used for laboratory animals.
 - b. 1-3 cc syringes are generally used for laboratory animals.
2. Draw up the prescribed medication.
3. Put on personal protective equipment (PPE).
 - a. Examination gloves.
 - b. Face mask.
 - c. Protective clothing (e.g., lab coat or scrubs).
4. Restrain the lab animal (see task 081-891-1405).
5. Anesthetize the lab animal, if directed (see task 081-891-3302).
6. Prepare the injection site.
 - a. Clip the hair on the back of the animal or area where required by the protocol.
 - b. Clean the injection site with 4X4 gauze sponges and alcohol.
7. Inject the medication.

NOTE: Inject no more than 0.1 cc per site in rodents and 0.25 cc per site in rabbits. The protocol may require more than one injection per animal.

- a. Insert the needle between the layers of skin (intradermally) at a 30° angle.
 - b. Aspirate by pulling back on the plunger. If any fluid appears in the hub of the needle, DO NOT inject! Immediately withdraw the needle and select a different site for injection.
 - c. Push the plunger in a slow, fluid motion to administer the medication.
8. Withdraw the needle when the injection is complete.
 9. Dispose of the needle and syringe IAW local SOP.
 10. Return the animal to its cage.
 11. Record the injection on the paperwork required by local SOP or protocol.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Selected the appropriate size of needle and syringe.	—	—
2. Drew up the prescribed medication.	—	—
3. Donned PPE.	—	—
4. Restrained the lab animal.	—	—
5. Anesthetized the lab animal, if directed.	—	—
6. Prepared the injection site.	—	—
7. Injected the medication.	—	—
8. Withdrew the needle when the injection was completed.	—	—
9. Disposed of the needle and syringe IAW local SOP.	—	—
10. Returned the animal to its cage.	—	—
11. Recorded the injection on the paperwork required by local SOP or protocol.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

ADMINISTER AN INTRAPERITONEAL INJECTION TO A LABORATORY ANIMAL
081-891-3312

Conditions: You are instructed to administer an intraperitoneal injection to a laboratory animal. Necessary materials and equipment include: needles and syringes of appropriate size, examination gloves, face mask, protective clothing (e.g., lab coat or scrubs), restraint devices, prescribed medication, and paperwork required by local SOP or protocol.

Standards: Administered the prescribed amount of medication intraperitoneally without harming the animal.

Performance Steps

1. Select the appropriate sized needle and syringe for the species.
 - a. Mice, gerbils, and hamsters.
 - (1) 21-25 gauge needle.
 - (2) 1-5 cc syringe.
 - b. Rats.
 - (1) 21-25 gauge needle.
 - (2) 1-10 cc syringe.
 - c. Rabbits.
 - (1) 18-23 gauge needle.
 - (2) 1-10 cc syringe.
2. Draw up the prescribed medication.
3. Put on personal protective equipment.
 - a. Examination gloves.
 - b. Face mask.
 - c. Protective clothing (e.g., lab coat or scrubs).
4. Restrain the animal (see task 081-891-1405).
 - a. Invert mice, gerbils, rats, and hamsters with the animal's head down so that the abdominal viscera fall forward.
 - b. Have an assistant restrain the rabbit in an inverted position.
5. Clean the injection site with 4X4 gauze sponges and alcohol.

NOTE: Mice, hamsters, and gerbils are injected in the right caudal abdominal quadrant. Rats are injected in the left caudal abdominal quadrant. Rabbits are injected in the lower left or right caudal abdominal quadrant.
6. Inject the medication.
 - a. Insert the needle quickly and firmly at a 20° to 30° angle.
 - b. Aspirate by pulling back on the plunger. If any fluid appears in the hub of the needle, **DO NOT** inject! Immediately remove the needle and select a different injection site.
7. Withdraw the needle when the injection is complete.
8. Apply direct pressure to the injection site.
9. Dispose of the needle and syringe IAW local SOP.
10. Return the animal to its cage.

Performance Steps

11. Record the injection on the paperwork required by local SOP or protocol.

Performance Measures

GO

NO
GO

- 1. Selected the appropriate sized needle and syringe for the species. _____ _____
- 2. Drew up the prescribed medication. _____ _____
- 3. Donned PPE. _____ _____
- 4. Restrained the animal. _____ _____
- 5. Prepared the injection site. _____ _____
- 6. Injected the medication. _____ _____
- 7. Withdrew the needle when the injection was completed. _____ _____
- 8. Applied direct pressure to the injection site. _____ _____
- 9. Disposed of the needle and syringe IAW local SOP. _____ _____
- 10. Returned the animal to its cage. _____ _____
- 11. Recorded the injection on the paperwork required by local SOP or protocol. _____ _____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References None

Subject Area 21: NBC (SL 3)

**SUPERVISE THE ESTABLISHMENT OF A NUCLEAR, BIOLOGICAL, AND CHEMICAL
DECONTAMINATION FACILITY FOR MILITARY ANIMALS**

081-891-3015

Conditions: As the senior NCO present, you must supervise the establishment of a decontamination facility for military animals exposed to nuclear, biological, or chemical contamination. You are at MOPP Level 4. You must establish an area to process contaminated patients ("dirty" area), an area to process decontaminated patients ("clean" area), and triage points and emergency medical treatment stations for each of these areas. Necessary materials and equipment include: decontamination supplies and equipment (e.g., buckets, suction pump, water, STB (super tropical bleach), MOPP gear, engineer tape), M8 and M9 chemical agent detector paper, M256 chemical agent detection kit, M295 and M291 chemical agent decontamination kits, M8A1 alarm system, chemical agent monitor (CAM) if available, digging equipment, sodium carbonate and calcium hypochlorite solutions, shampoo, povidone-iodine or chlorhexidine surgical scrub, towels, and drugs and supplies required to treat ill or injured patients and to provide supportive care.

Standards: Supervised the establishment of a decontamination facility for military animals exposed to chemical, biological, and nuclear contamination IAW FM 8-285 and FM 8-10-18.

Performance Steps

1. Ensure proper site selection. Consider the following:
 - a. Wind direction is important when siting the facility.
 - (1) Contaminated patients and conveyances must arrive downwind of the selected site.
 - (2) Procedures involving contaminated patients and operations (triage, decontamination, and emergency medical treatment of contaminated patients) must take place downwind of the selected site.
 - b. Cover, concealment, and overhead protection are required.
 - c. Entry control points should allow access from likely evacuation routes.
 - d. Terrain should allow for drainage of contaminated liquids away from the site.
2. Ensure manpower needs are met. Request personnel for decontamination operations from supported units.
3. Ensure required equipment is available and functional.
4. Ensure required decontamination chemicals are available.
5. Ensure personnel handling contaminated animals and equipment are at MOPP Level 4.
6. Ensure chemical detection procedures are established on the perimeter of the unit.
7. Ensure an ambulance arrival area and helicopter landing point are established for contaminated evacuation vehicles, aircraft, and patients.
8. Ensure establishment of a triage area for contaminated patients.
9. Ensure establishment of an emergency medical treatment station for contaminated patients that includes the ability to provide--

Performance Steps

- a. Cardiopulmonary resuscitation (CPR).
 - b. Hemorrhage control.
 - c. Nerve agent antidote administration.
10. Ensure a decontamination station is established to include the following:
 - a. Proper equipment and decontamination chemicals are available.
 - b. Adequate numbers of personnel are available.
 - c. Contaminated waste runoff to the waste dump is provided.
 - d. Considerations for litter and ambulatory patients.
 - e. Considerations for decontamination of equipment (leashes, muzzles, chains, etc.)
 - f. Consideration that the only patients to be treated at the site are those to be decontaminated.
 11. Ensure a contaminated waste dump is prepared. Consider the following:
 - a. It must be 75 meters from the entry control point.
 - b. The drainage must be layered with a mixture of super tropical bleach (STB) and soil as it fills the dump.
 - c. The waste dump must be downhill from the decontamination station.
 - d. The waste dump must be downwind from the treatment facility.
 12. Ensure a hotline and shuffle pit are prepared.
 - a. They must be wide enough to fit a stretcher.
 - b. Ensure that 4 to 6 inches of loose dirt are mixed with STB.
 13. Ensure a triage area and an emergency treatment area for decontaminated patients are established 30 to 50 meters upwind of the hotline.
 14. Ensure establishment of an ambulance arrival area and a helicopter landing point for uncontaminated vehicles, aircraft, and patients.
 15. Ensure contamination monitoring procedures are established for vapor hazards in the uncontaminated ("clean") treatment facility.
 16. Ensure measures are established for monitoring the completeness of decontamination.
 - Use--
 - a. Chemical agent monitor (CAM).
 - b. Radiac meter.
 - c. M8 and M9 chemical agent detection paper.
 17. Ensure a recovery area for decontaminated and uncontaminated patients is established.
 - Utilize--
 - a. Airline animal kennels.
 - b. Portable kennels.
 18. Ensure control measures are established for personnel passing from contaminated and uncontaminated areas.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Ensured proper site selection.	—	—
2. Ensured manpower needs were met.	—	—

Performance Measures	<u>GO</u>	<u>NO GO</u>
3. Ensured required equipment was available and functional.	—	—
4. Ensured required decontamination chemicals were available.	—	—
5. Ensured personnel handling contaminated animals and equipment were at MOPP Level 4.	—	—
6. Ensured chemical detection procedures were established on the perimeter of the unit.	—	—
7. Ensured an ambulance arrival area and helicopter landing point were established for contaminated vehicles, aircraft, and patients.	—	—
8. Ensured establishment of a triage area for contaminated patients.	—	—
9. Ensured establishment of an emergency medical treatment station for contaminated patients that included emergency first aid procedures.	—	—
10. Ensured a decontamination station was established.	—	—
11. Ensured a contaminated waste dump was prepared.	—	—
12. Ensured a hotline and shuffle pit were prepared.	—	—
13. Ensured establishment of a treatment area for decontaminated patients 30 to 50 meters upwind of the hotline.	—	—
14. Ensured establishment of an ambulance arrival area and helicopter landing point for uncontaminated vehicles, aircraft, and patients.	—	—
15. Ensured establishment of contamination monitoring procedures for vapor hazards in the clean treatment facility.	—	—
16. Ensured establishment of monitoring for completeness of decontamination.	—	—
17. Ensured establishment of a recovery area for decontaminated and uncontaminated patients.	—	—
18. Ensured control of personnel passing between contaminated and uncontaminated areas.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
None

Related
FM 8-10-18
FM 8-285

Subject Area 22: Administrative (SL 3)

ENSURE COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS SPECIFIC TO A VETERINARY ACTIVITY**081-891-3004**

Conditions: You are responsible for ensuring the Veterinary Service Activity complies with Occupational Safety and Health Administration (OSHA) standards. Necessary materials and equipment include: 29 CFR 1910, AR 385-10, local SOPs, personnel records, and local records (e.g., preventive medicine, Occupational Health, training).

Standards: Ensured that the veterinary activity is in compliance with Occupational Safety and Health Administration (OSHA) standards IAW 29 CFR 1910 and AR 385-10.

Performance Steps

1. Review procedures for potentially hazardous agents and work tasks.
 - a. Ensure there is a completed risk management or risk assessment work sheet for each work task.
 - b. Ensure personal protective equipment (PPE) is available and utilized in each work situation.
 - (1) Identify PPE for each work situation.
 - (2) Annotate the PPE on a risk management or risk assessment work sheet.
 - (3) Submit the completed risk management or risk assessment work sheet to the facility supervisor for review and approval.
2. Ensure a safe work environment exists in the radiology room.
 - a. Provide PPE required for proper radiographic exposures.
 - (1) Lead aprons.
 - (2) Lead gloves.
 - (3) Personal radiation monitoring devices (dosimeters, film badges).
 - b. Ensure the radiology equipment is included in a routine preventive maintenance program with the local radiation safety office.
 - c. Ensure a standardized technique is followed when determining exposure settings (e.g., technique chart, Santee's Rule).
 - d. Ensure chemical restraint and restraining devices are used as indicated to assist in positioning an animal for radiographic exposures.
 - e. Check radiographs for proof of collimation on each radiograph.
 - f. Ensure proper darkroom procedures are followed in developing radiographs to include use of PPE when working with darkroom chemicals (see task 081-891-1073).
 - g. Ensure there is a warning sign on the entrance door to the radiology room.
3. Ensure a safe environment exists during anesthetic procedures.
 - a. Check that anesthetic machines are included in a routine preventive maintenance program with the local biomedical equipment maintenance department, especially for calibration of vaporizers.
 - b. Ensure proper handling and storage of compressed gas cylinders.
 - (1) Cylinders should be chained to the wall or placed in approved racks when stored.
 - (2) Do not allow the use of lubricating oils on cylinders.
 - (3) Ensure only spark-free wrenches are used on oxygen cylinders.

Performance Steps

- (4) Ensure cylinders are placed on approved carts, bases, or attached to oxygen yokes on the anesthetic machine when in use.
- (5) Ensure oxygen warning signs are visible in areas where oxygen is stored or in use.
- c. Ensure proper waste anesthetic gas scavenging procedures are followed.
 - (1) Ensure an approved waste anesthetic gas scavenging system is in use and is functional.
 - (2) Ensure leak tests are performed on anesthesia machines before each anesthetic procedure.
 - (3) Ensure inhalation anesthesia vaporizers are not turned on until the endotracheal tube is attached to the Y connector on the patient breathing tubes.
 - (4) Ensure oxygen flow rates are being computed for each patient and are used to adjust oxygen flow.
 - (5) Ensure anesthetized patients are allowed to breathe 100% oxygen for several minutes at the end of each anesthetic procedure.
 - (6) Ensure the recovery room has a fresh air exchange of 10-15 exchanges per hour or that personnel maintain a minimum distance of 6 feet from a recovering patient as much as possible.
 - (7) Ensure preventive medicine personnel establish and follow a program for routine monitoring of waste anesthetic gases during anesthetic procedures.
 - (8) Ensure anesthetic mask induction and box induction procedures are used only when necessary and performed in a well-ventilated area.
 - (9) Ensure anesthetic vaporizers are filled at the end of the day when the majority of personnel have left the area.
 - (10) Ensure a key or filler spout system is used to fill the vaporizer with anesthetic agent if the vaporizer is so equipped.
 - (11) Ensure the activity has established and is following a training program for all personnel on safe anesthesia and waste gas handling procedures.
4. Ensure a safe work environment exists in the diagnostic laboratory.
 - a. Ensure all laboratory equipment is included in a routine preventive maintenance program with the local biomedical equipment maintenance department.
 - b. Ensure proper handling and storage of chemicals used for laboratory procedures.
 - (1) Ensure secondary containers are properly labeled.
 - (2) Ensure flammable materials are stored in a flammable locker when not in use.
 - (3) Ensure personnel working with chemicals understand applicable OSHA guidelines and the location and use of material safety data sheets (MSDS) for the chemicals they use.
 - (4) Ensure chemicals are stored only with compatible chemicals IAW the MSDSs.
 - c. Ensure a refrigerator is available for storage of laboratory samples and is clearly labeled, "Not For Food Storage."
 - d. Ensure a sign is posted in the laboratory area that states, "No Food, Drinking, or Smoking in this Area."
 - e. Ensure individuals working in the laboratory receive training on proper laboratory practices that relate to safety and health.
 - f. Ensure individuals wear protective gloves and protective overgarments while working in the laboratory.
 - g. Ensure mechanical pipetting devices are available and that mouth pipetting is not used.

Performance Steps

- h. Ensure eye protection is worn if recommended by the applicable MSDS or if there is a potential splash hazard.
 - i. Ensure work surfaces are promptly disinfected after spills, before starting work, and when laboratory procedures are completed.
 - j. Ensure sharps containers and other biomedical waste containers are located in the laboratory, are readily accessible, and are disposed of promptly when full.
 - k. Ensure personnel receive training on proper sharps and biohazard materials handling procedures.
 - l. Ensure eye wash stations are available and functioning where chemicals are handled.
5. Ensure a safe work environment exists in the kennel area.
- a. Ensure appropriate personal protective equipment is available and used.
 - (1) Slip resistant footwear.
 - (2) Protective eyewear.
 - (3) Chemical resistant nitrile or rubber gloves.
 - (4) Protective outer clothing.
 - b. Ensure disinfectants and cleaning solutions are used and handled in a safe manner.
 - (1) Ensure disinfecting chemicals and cleaning solutions are mixed IAW local SOP and the manufacturer's recommendations.
 - (2) Ensure MSDSs for all products used in the kennel area are read and understood by personnel responsible for cleaning the kennel area.
 - (3) Ensure proper use, storage, handling, and control of all cleaning and disinfecting chemicals IAW local SOPs and applicable MSDSs.
 - (4) Ensure that an eye wash station is available and functioning where disinfectants and cleaning solutions are mixed and used.
 - c. Evaluate the kennel area for hazards and correct any deficiencies.
 - (1) Ensure there are no sharp edges, exposed nails or screws, or broken grates.
 - (2) Ensure installation engineers have confirmed that electrical outlets are ground fault interrupt (GFI) outlets.
 - (3) Ensure water hoses are stored where they will not cause a trip hazard.
 - (4) Ensure caution signs for wet floors are posted when the kennel area is wet.
 - (5) Ensure signs are posted to identify aggressive animals.
 - (6) Ensure visitors are prohibited from entering the kennel area without an escort.
 - (7) Ensure preventive medicine personnel have performed noise level tests to determine if hearing protection is required in the kennel area. If required, ensure hearing protection is being used.
 - (8) Ensure sloping floors or steps are marked with appropriate caution signage.
6. Ensure compliance with the Occupational Health Program.
- a. Ensure all personnel in process through the Occupational Health Clinic.
 - b. Ensure job related illnesses and injuries are promptly reported to the Occupational Health Clinic.
 - c. Ensure a risk assessment from the Occupational Health Clinic is in each employee's personnel file.
 - d. Ensure all personnel who are immune-suppressed, pregnant, asthmatic, or showing signs of allergies are referred to the Occupational Health Clinic for evaluation.
 - e. Ensure a work site injury log exists at each work site.
7. Ensure zoonotic disease prevention measures are in place.
- a. Ensure personal protective equipment is available and used.
 - (1) Gloves.

Performance Steps

- (2) Face masks.
 - (3) Protective eyewear.
 - b. Ensure personnel are trained in proper handwashing procedures and know to wash hands before and after each work task involving animal handling or the handling of biological animal products (e.g., blood, urine, feces).
 - c. Ensure needle stick and animal bite SOPs are current, and all personnel receive periodic training on these procedures.
 - d. Ensure personnel are disinfecting work areas before work starts and after each work task is completed.
 - e. Provide awareness training of the signs and symptoms of potential zoonotic diseases in the workplace.
 - f. Coordinate with Occupational Health to identify any vaccination or other medical regimens required to prevent transmission of diseases in the workplace.
8. Ensure that safe work conditions exist in the clinic area.
- a. Ensure that equipment is part of a routine medical maintenance program.
 - b. Ensure that PPE is available.
 - (1) Gloves.
 - (2) Masks.
 - (3) Goggles.
 - c. Ensure sharps containers are used for disposal of all needles and disposable sharp instruments.
 - d. Ensure individuals are not recapping hypodermic needles.
- NOTE:* If needle recapping is absolutely necessary, only the approved one-handed method is used. Lay the needle cap on a flat surface and slip the needle into the cap. With the other hand, secure the cap over the needle by applying gentle, downward pressure.
- e. Ensure there is a policy for cleaning up animal feces and urine in the waiting area as soon as possible.
9. Ensure there is a functional fire safety program.
- a. Maintain a file for reports of fire safety inspections.
 - b. Conduct periodic fire drills as prescribed by local SOP.
 - c. Ensure fire evacuation plans are prominently posted.
 - d. Ensure a building fire marshal is appointed.
10. Ensure there is a functioning bloodborne pathogen program established.
- a. Ensure there is a local SOP describing how to handle human exposure to human blood in the work place.
 - b. If required by local SOP, ensure a Blood Response Team is appointed.
11. Ensure the veterinary activity has adequate occupational health and safety training programs.
- a. Ensure the training includes the following:
 - (1) Hazards personnel are likely to encounter while performing their job.
 - (2) Methods employees are expected to use to protect themselves from injury or illness.
 - (3) OSHA's "Right to Know" requirements.
 - (4) Reporting of unsafe acts.
 - (5) Emergency communication procedures.
 - (6) Proper use of PPE to include which equipment is required for specific work tasks.
 - (7) Location of the MSDS notebook.

Performance Steps

- (8) How to read an MSDS.
- (9) What to do when new equipment and chemicals are brought into the work place.
- b. Ensure training files contain documentation of individuals who have received training.
- c. Ensure training is a continuous, ongoing process.
- d. Ensure mechanisms exist for evaluating the success of the education and training program. Use the following as a gauge:
 - (1) Site inspections.
 - (2) Illness and injury log.
 - (3) Periodic questionnaires.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Reviewed procedures for potentially hazardous agents and work tasks.	—	—
2. Ensured the work environment was safe in the radiology room.	—	—
3. Ensured the environment was safe during anesthetic procedures.	—	—
4. Ensured the environment was safe while diagnostic laboratory procedures were being performed.	—	—
5. Ensured the environment was safe in the kennel area.	—	—
6. Ensured compliance with the Occupational Health Program.	—	—
7. Ensured zoonotic disease prevention measures were in place.	—	—
8. Ensured the environment was safe in the clinic area.	—	—
9. Ensured there was a functional fire safety program.	—	—
10. Ensured there was a functioning bloodborne pathogen program in place.	—	—
11. Ensured the veterinary activity's occupational health and safety training programs were adequate.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
 29 CFR 1910
 AR 385-10

Related
 None

MAINTAIN THE MILITARY VETERINARY TREATMENT RECORD OF A MILITARY WORKING DOG

081-891-3011

Conditions: You are the NCOIC for a veterinary treatment facility (VTF) that is responsible for the care of several military working dogs (MWDs). You are responsible for the maintenance of the dog's medical records. Necessary materials and equipment include: AR 40-905, AR 40-66, current sequence of forms memo from the DoD Dog Center, at least one military working dog in the clinic for a patient visit, SF 600, and the dog's health record.

Standards: Performed a record review during an MWD patient visit and completed a record review during an audit.

Performance Steps

1. Gather references.
 - a. AR 40-905.
 - b. AR 40-66.
 - c. Current sequence of forms memo from the DoD Dog Center (revised annually).
2. Perform a record review during a patient visit to the veterinary treatment facility (VTF).
 - a. Ensure that the correct Military Veterinary Treatment Record is used.
 - (1) Ensure that it contains the correct dog (patient) name.
 - (2) Verify that the tattoo number on the dog is the number in the record.
 - b. Ensure entries in the SF 600 are in the CCSOAP format (chief complaint, subjective, objective, assessment, plan). (See task 081-891-1036.)
 - c. Ensure all entries include the signature of the animal care specialist or the veterinarian.
 - d. Ensure that routine laboratory report forms are properly completed, signed, and filed in the medical record according to current guidance (current sequence of forms memo from the DoD Dog Center).
 - e. Evaluate record entries for legibility.
 - f. Check DD Form 2619 for current entries. Responsibility for updating the form lies with the veterinarian.
3. Perform a complete MWD record review during a semiannual audit.
 - a. All MWD records will be audited.
 - b. Perform steps 2a through 2e.
 - c. Ensure all forms are maintained in proper sequence according to the DoD Dog Center sequence of forms memo.
 - d. Ensure that the SF 516 and Anesthesia Reports are properly completed and maintained for every surgery entry on SF 600.
 - e. Ensure that "out of the ordinary" diagnostic tests or procedures referenced on SF 600 are accompanied by appropriate reports properly maintained in the medical record.
 - (1) Endoscopic evaluation.
 - (2) Radiographic interpretations.
 - (3) Histopathology reports.
 - (4) ECG tracings.
 - f. Determine if physical examinations are performed when required and signed by the veterinarian.
 - (1) Annually.

Performance Steps

- (2) Predeployment.
- (3) Return from deployment.
- g. Determine if required blood and serologic tests are performed as required by regulation (see references in steps 1a through 1c).
- h. Following the completed review of each MWD medical record, make an entry on the SF 600 regarding the review and sign the entry.
- i. Discrepancies identified will be documented in a memorandum for record (MFR).
 - (1) Reference discrepancies to specific records.
 - (2) Provide a copy to the responsible veterinary officer.
 - (3) Provide a copy to others as requested/required.
 - (4) File the MFR and maintain it for 3 years.
- j. Implement corrective actions for those discrepancies noted over which you have control. Coordinate corrective actions with the veterinarian.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Gathered references.	_____	_____
2. Performed a record review during a patient visit to the veterinary treatment facility (VTF).	_____	_____
3. Performed a complete MWD record review during a semiannual audit.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	Related
AR 40-66	None
AR 40-905	

INSPECT ANIMAL FACILITIES
081-891-3014

Conditions: The veterinarian has requested that you perform a monthly courtesy inspection of an animal facility. This inspection does not replace the quarterly inspection required of the veterinarian. The supervisor of the facility is available to accompany you while performing the inspection. Necessary materials and equipment include: DD Form 2342, AR 40-905, facility SOPs to include quarantine procedures, a copy of the last inspection performed, Federal/state/local laws concerning animal waste facilities, a list of poisonous plants in the area, a pen, and a clipboard.

Standards: Performed a walk-through inspection and completed DD Form 2342.

Performance Steps

1. Obtain a DD Form 2342.
 - a. Fill in the administrative data portion of the form.
 - (1) Block 1. Date of the inspection.
 - (2) Block 2. Area being inspected such as the stables, kennels, etc.
 - (3) Block 3. Building number and/or location of the facility being inspected.
 - (4) Block 4. Name of the supervisor of the facility (e.g., kennel master, stable manager).
 - (5) Block 5. Name of the inspector (your name).
2. Inspect the facility utilizing DD Form 2342.
 - a. Start the inspection with Section I, Item 1 and follow the order of the form.
 - b. Check "SAT" (satisfactory) or "UNSAT" (unsatisfactory) based on observations during the inspection.
 - c. Section I - Sanitary Conditions.
 - (1) Item No. 1 - Premises.
 - (a) Inspect for the presence of trash.
 - (b) Inspect for the presence of feces.
 - (c) Inspect for the presence of potential hazards (e.g., slick surfaces, gopher holes).
 - (2) Item No. 2 - Stalls/Kennels.
 - (a) Evaluate for cleanliness.
 - (b) Evaluate for proper drainage. Is there standing water in any drains?
 - (c) Inspect for the evidence of disrepair (e.g., broken door latches, sharp projectiles from fencing material).
 - (d) Does the kennel have an area for the animal to rest off of wet surfaces?
 - (e) Is shade provided?
 - (3) Item No. 3 - Tack/Equipment Rooms.
 - (a) Evaluate for cleanliness.
 - (b) Ensure that the equipment is in good working order.
 - (4) Item No. 4 - Office Lounge-Locker Room. Evaluate for cleanliness.
 - (5) Item No. 5 - Toilet Facilities.
 - (a) Evaluate the sanitation to include the stools, urinals, and hand washing facilities.
 - (b) Inspect for signs of vectors and vermin (e.g., rodent droppings or flying insects).
 - (6) Item No. 6 - Food/Beverage Vending Machines.

Performance Steps

- (a) Evaluate for cleanliness.
 - (b) Inspect for signs of vectors and vermin.
 - (c) Inspect the machine(s) for serviceability (e.g., is the ice machine working properly?).
- (7) Item No. 7 - Corral/Runs.
- (a) Inspect for the presence of trash.
 - (b) Ensure that the runs are being properly cleaned twice a day either by asking the supervisor of the facility or looking at a posted cleaning roster.
 - (c) Inspect for the presence of stagnant and/or standing water.
 - (d) Ensure the drains are functioning properly by pouring water over them and watch that the water goes down the drain.
 - (e) Inspect for signs of disrepair (e.g., working gate latches, fence integrity, sharp protruding bolts/objects).
 - (f) Ensure that the area provides adequate space for the animal IAW CFR 9.
- (8) Item No. 8 - Feed Quality and Storage.
- (a) Ensure prescribed feed(s) are present.
 - (b) Check expiration dates on the feed bags and ensure that the food is not expired.
 - (c) Inspect for the presence of vermin.
 - (d) Inspect for the presence of vermin control such as roach bait and rodent sticky traps.
 - (e) Evaluate the feed to ensure it is free of mold/mildew, foreign materials, and rotated on a regular basis.
 - (f) Ensure that the feed storage containers and/or building are vermin proof.
- (9) Item No. 9 - Water Troughs/Pans.
- (a) Ensure that proper sanitary practices are being followed either by asking the supervisor or looking at the posted water bowl cleaning roster.
 - (b) Ensure a water bowl cleaning roster is posted.
 - (c) Inspect the water trough for signs of algae, contamination, and/or disrepair.
 - (d) Inspect feed and water pans for evidence of chewing and presence of dents.
- (10) Item No. 10 - Animal Waste Disposal.
- (a) Ensure that the animal waste disposal collection site is at least 100 feet from the nearest building and has proper drainage.
 - (b) Evaluate the drains for the presence of obstructions.
 - (c) Inspect trough areas, if applicable, to ensure feces are not present.
 - (d) Ensure the animal waste facilities are in compliance with federal, state and local laws.
- (11) Item No. 11 - Trash Disposal.
- (a) Inspect for the presence of trash containers that are IAW local policies
 - (b) Ensure that all trash containers have lids and are properly covered.
 - (c) Ensure the trash is removed on a regular basis by asking the supervisor.
 - (d) Ensure the trash is disposed of IAW local policies.
- (12) Item No. 12 - Insect and Rodent Control.
- (a) Ensure that the insect and/or rodent control program is being followed by asking the supervisor or reading posted rosters.
 - (b) Ensure that the insect and/or rodent control program is being monitored by asking the supervisor or reading posted rosters.
 - (c) Identify specific chemicals and rodenticides being used by asking the supervisor.
- (13) Item No. 13 - Quarantine and Isolation Area.

Performance Steps

- (a) Ensure that the quarantine and isolation area is at least 200 feet away from the main population of animals.
 - (b) Ensure that the facilities are adequate in construction and design (e.g., make sure they are not on the verge of collapse).
 - (c) Ensure that the facilities provide barriers to prevent the occurrence of cross contamination between animals.
 - (d) Ensure that proper quarantine procedures are being followed by discussing with the supervisor of the facility.
- (14) Item No. 14 - Equipment.
- (a) Ensure the equipment is serviceable.
 - (b) Ensure necessary equipment is available to perform required sanitary procedures.
 - (c) Ensure that the equipment is properly stored.
- (15) Item No. 15 - Water Supply.
- (a) Ensure that the water provided is potable and from an approved source.
 - (b) Ensure the water supply can meet the total needs of the facility (e.g., adequate hot water).
 - (c) Inspect for water leakage.
- (16) Item No. 16 - Pastures/Training Areas.
- (a) Inspect for cleanliness and sanitation.
 - (b) Inspect all training devices for signs of breakage/disrepair.
 - (c) Inspect for holes.
 - (d) Inspect for signs of vermin.
 - (e) Ensure no feces are present.
 - (f) Evaluate fencing for signs of disrepair.
 - (g) Ensure the equipment is secured properly.
 - (h) Ensure that there are no poisonous plants in the area.

NOTE: Consult with roads, grounds, or county extension agents for a listing of native poisonous plants.

- (17) Remarks and Recommendations block.
- (a) Any item requiring comments is annotated in this block.
 - (b) Cross reference the number of the item annotated.
 - (c) Comments may be negative or positive.
 - (d) Negative comments should include a suggestion to fix the problem.
- d. Section II - Animal Preventive Health Measures.
- (1) Item No. 1 - Condition/Grooming.
- (a) Locate the posted bathing schedule and ensure it is being followed by asking the supervisor.
 - (b) Ensure prescribed supplies are used.
 - (c) Evaluate horse washing areas for proper drainage and presence of physical hazards.
- (2) Item No. 2 - Personnel Training.
- (a) Check documentation to ensure new handlers and personnel are trained upon arrival.
 - (b) Inspect the training files for documentation of annual, quarterly, monthly, and inclement weather training.
- (3) Item No. 3 - Feed and Water Schedule
- (a) Ensure there is a posted feed and water schedule.
 - (b) Ensure that the schedule includes feeding times, amounts of feed, and time of watering.

Performance Steps

- (c) Ensure that the feed and water schedule is being followed by asking the supervisor.
- (4) Item No. 4 - Quarantine Measures.
 - (a) Check documentation to ensure the Kennel Master and Stable Manager are trained on proper quarantine measures.
 - (b) Ensure that quarantine measures are being followed (see step 2c(13)(d)).
- (5) Remarks and Recommendations block (see steps 2c(17)(a)-(d)).
- e. General Rating Section.
 - (1) Base the general rating on the inspection results.
 - (2) Check the Excellent box if the following statements are true (very few inspection ratings fit into this category):
 - (a) All areas inspected are in immaculate condition.
 - (b) All equipment is maintained in good working order.
 - (c) All aspects of the facility are in good repair.
 - (d) All SOPs are current and enforced.
 - (e) All documentation is current.
 - (3) Check the Satisfactory box if the following statements are true (most inspections ratings fit into this category):
 - (a) Minor, correctable problems noted.
 - (b) Some recommendations are noted in the Remarks section.
 - (4) Check the Unsatisfactory box if the following statements are true.
 - (a) Section I (Sanitary Conditions) has remarks/observations that have not been corrected from the last inspection.
 - (b) Conditions exist that pose a serious threat to the animal's health and/or general well being (e.g., unsanitary conditions, rotten food, kennels/stalls in disrepair, no potable water).
 - (c) Conditions exist that could potentially cause harm/injury to the animal (e.g., training equipment in disrepair/broken and still in use, safety violations).
 - (d) Section II (Animal Preventive Health Measures) has remarks/observations that have not been corrected from previous inspections (e.g., feed and water schedule is not adequate, vaccinations outdated, proper safety equipment not being used, not following proper quarantine measures).
- f. Signature of the Veterinary Corps Officer. Leave this block blank.
- g. Sign the form with your name and rank in the remarks section.

3. Forward the completed form to the veterinarian.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Obtained a DD Form 2342.	_____	_____
2. Inspected the facility utilizing DD Form 2342.	_____	_____
3. Forwarded the completed form to the veterinarian.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

STP 8-91T14-SM-TG

References

Required
AR 40-905

Related
None

MANAGE A CONTROLLED SUBSTANCE PROGRAM FOR VETERINARY SERVICES
081-891-3016

Conditions: You are in a facility in which controlled substances are controlled and stored. You are in charge of maintaining the controlled substances for the facility. Necessary materials and equipment include: 3-ring binder or notebook containing DA Form 3949 (one for each controlled substance in the storage area), pen, local SOPs, AR 40-2, DA Form 3161, and the Controlled Substances Act of 1970. You must also have access to the controlled substances.

Standards: Ensured proper storage of controlled substances IAW local SOPs and AR 40-2. Ensured all entries on DA Form 3949 were completed, signed, and correct. Ensured that DA Form 3949 reflected the amount of controlled substances in the storage area and reported discrepancies to the veterinarian.

Performance Steps

1. Ensure controlled substances are properly stored IAW local SOPs, the Controlled Substances Act of 1970, and AR 40-2.
 - a. Security storage is used for note Q, FDA Schedule III, IV, and V narcotics.
 - b. Vault storage is used for note R, FDA Schedule I and II narcotics.

NOTE: Coordinate storage specifications, adequacy, and annual inspections with the installation Provost Marshall.

2. Ensure that the DA Form 3949 is completed properly (see Figure 3-46).

NOTE: A separate DA Form 3949 is maintained for each controlled substance. All entries will be made in black ink.

- a. Ensure the heading is properly completed.
 - (1) WARD block. Fill in this block with either:
 - (a) The words "VET SVCS" and unit location, or
 - (b) TOE number and unit location.
 - (2) ITEM block. Include the following:
 - (a) The name of the controlled substance.
 - (b) The controlled substance's accountable unit of measure, to include the strength per tab or concentration per unit of fluid.
 - (3) YEAR and MONTH block. The current year and month are recorded.
- b. Ensure receipts are recorded properly. Ensure that the relevant blocks are filled in with the following information:
 - (1) Day and hour the controlled substance is received.
 - (2) The amount of controlled substance received is written in and the quantity is added to the previous balance.
 - (3) The authorized person who received the drugs signs in the ADMINISTERED BY column.

Performance Steps

For use of this form, see AR 40-2; the proponent agency is Office of the Surgeon General.

CONTROLLED SUBSTANCES RECORD		To be used with DA Form 3949-1		WARD 64th MED DET (VET SVCS)			
DATE	ITEM						
YEAR 92	Biatol, 1 Gram Bottle, 4% Solution (40 mg/ml), 2.5 ml/Bottle						
MONTH JAN							
DAY	HOURL	PATIENT'S NAME <small>MWD NAME: TATTOO NUMBER</small>	ORDERED BY <small>(Dr's name)</small>	ADMINISTERED BY <small>(Signature)</small>	EXPENDITURES	RECEIPTS <small>(Amt from pharmacy)</small>	BALANCE
2	0800	BALANCE FORWARDED					22
2	0805	MAX, C246	CPT C. CLARK	<i>Jim Jones</i>	(12) 14		8
2	1500			<i>Jan Doe</i>	fs	100	108
6	0120	GUS 3471	LT. G. WHITE	<i>Jim Jones</i>	(14) 16		94 fs
6	0120	GUS 3471	LT. G. WHITE	<i>Jim Jones</i>	(14) 16		92
9	0830	SHEENA AØ1Ø	CPT C. CLARK	<i>Jim Jones</i>	(10) 12		80

DA FORM 3949 EDITION OF 1 OCT 72 IS OBSOLETE
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Figure 3-46

- c. Ensure that corrections are made with a single line drawn through the error and initialed. No erasing is permitted.
- d. Ensure that there are no blank lines between entries.
- e. Ensure expenditures are recorded properly. Ensure that the relevant blocks are filled in with the following information:

NOTE: Drug expenditures should be posted as the drug is being prepared for dispensing.

- (1) Day and hour the drug is dispensed.
- (2) For privately owned animals, the pet's name, owner's last name, and owner's Social Security Number are entered in the block. For MWDs, the dog's name and tattoo number are entered in the block.
- (3) First initial and last name of the veterinarian prescribing the drug.
- (4) The person administering the drug signs the ADMINISTERED BY column.
- (5) The amount of the drug administered is recorded in the EXPEDITURES column. Ensure that the relevant blocks are filled in with the following information:
 - (a) If the amount administered is a fractional amount of the dose dispensed, the amount administered is placed in parentheses in front of the unit(s) dispensed (see Figure 3-46).
 - (b) If the accountable units are milliliters, the amount administered is recorded as a decimal portion of the unit, such as 2.2 ml.

Performance Steps

- (6) The new balance is recorded.
 - (a) The amount dispensed is subtracted from the balance shown in the BALANCE column.
 - (b) The new balance is recorded on the line directly below the previous balance (see Figure 3-46).
 - 3. Inventory the drugs.
 - a. Perform a weekly inventory. Ensure that the amounts annotated on the DA Form 3949 are what is in the controlled substances vault or storage area.
 - b. Monthly inventory.
 - (1) Conducted by a disinterested (not in the facility) commissioned officer, senior NCO, or GS-7 or above.
- NOTE:* This is usually a duty assigned by the installation command.
- (2) 100% of controlled substances within the facility are inventoried.
- 4. Destroy controlled substances when required.
 - a. Request permission from the Commander of the facility that supplies the controlled substances.
 - b. Fill out a DA Form 3161 if the substance is of high value (over \$100) or in large quantities (5 to 7 days supply).
 - c. Ensure a Destruction Officer (not a Pharmacy Officer) and two witnesses are present during the destruction.
 - 5. Immediately report any discrepancies to the veterinarian.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Ensured controlled substances were properly stored IAW local SOPs, the Controlled Substances Act of 1970, and AR 40-2.	—	—
2. Ensured that DA Form 3949 was completed properly for each controlled substance.	—	—
3. Properly inventoried all controlled substances.	—	—
4. Destroyed controlled substances when required.	—	—
5. Immediately reported any discrepancies to the veterinarian.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required	Related
AR 40-2	None

Skill Level 4

Subject Area 23: Administrative (SL 4)

MANAGE A HAZARD COMMUNICATION PROGRAM FOR VETERINARY SERVICES
081-891-0043

Conditions: You have been designated as the Hazard Communication (HAZCOM) Program NCO for the facilities that are your responsibility. Necessary materials and equipment include: a list of local hazardous chemicals provided by Preventive Medicine Services; Material Safety Data Sheets (MSDSs); Occupational Safety and Health Administration (OSHA) standards; 29 Code of Federal Regulations (CFR) 1910, Subpart Z (Toxic and Hazardous Chemicals); items on the hazardous chemical inventory; and local training records.

Standards: Managed an effective HAZCOM program for the facilities that are your responsibility.

Performance Steps

1. Ensure that facility personnel are inspecting their hazardous chemical inventory using the following guidance:
 - a. Check that the inventory is maintained in one of the following ways:
 - (1) On local forms furnished by Preventive Medicine Services.
 - (2) A log book.
 - (3) File box utilizing 3"X5" cards.
 - (4) Computer spreadsheet.
 - b. Check that each item on the hazardous chemical inventory contains the following:
 - (1) Trade name.
 - (2) Generic name.
 - (3) Name and address of manufacturer.
 - (4) Name of hazardous chemical(s) contained in the product.
 - (5) The hazard warning.
 - (6) Where the product is stored.
 - (7) Where the product is used.
 - (8) That there is a Material Safety Data Sheet (MSDS) on file and its location.
 - c. Have the site NCOIC create the inventory using the guidance above, if an inventory does not exist.
2. Ensure facilities are being inspected regularly using the following guidance:
 - a. Locate each product on the hazardous chemical inventory.
 - b. Verify that the information found in step 1b for each product is correct. If it is not correct, make corrections.
 - c. Identify hazardous chemicals and products not included in the hazardous chemical inventory.
 - (1) Examine the product labels for the following words to determine if the product is hazardous:
 - (a) DANGER.
 - (b) CAUTION.
 - (c) HARMFUL.
 - (d) WARNING.

Performance Steps

- (2) Review 29 Code of Federal Regulations (CFR) 1910, Subpart Z, Toxic and Hazardous Chemicals, for a listing of the chemical in question.
 - d. Ensure newly identified products and chemicals are added to the hazardous chemical inventory as in step 1b.
 - e. Drugs are exempt from the hazardous chemical inventory unless--
 - (1) They are mixed with something before dispensing, such as diluting a concentrate and repackaging.
 - (2) They are altered in some way, such as grinding pills into a powder.
 - f. Ensure that all secondary containers are marked with a warning label.
3. Ensure that facilities have MSDSs for all products that contain a hazardous chemical.
 4. Ensure that facilities have MSDSs easily accessible to all individuals working with hazardous chemicals.
 5. Ensure that facilities are providing current training and information to individuals working with hazardous chemicals using the following guidance:
 - a. Ensure the training is conducted at regularly scheduled intervals.
 - b. Train personnel in the following subject areas:
 - (1) Location of MSDSs in the workplace.
 - (2) How to read the MSDSs for chemicals used in the workplace.
 - (3) Use of personal protective equipment (PPE).
 - (4) Worksite specific HAZCOM training (e.g., chemical spill handling procedures, proper mixing of formalin).
 - (5) Emergency procedures.
 - c. Document training of personnel to include the signatures of personnel trained.
 - d. File training documentation for a minimum of 5 years for worksite specific and refresher training.
 6. Ensure facility personnel are aware of their individual responsibilities using the following guidance:
 - a. Verify that personnel know where to get information about chemicals they work with.
 - b. Verify that personnel know how to read and understand the information on the labels and MSDSs of chemicals they work with before they start a job.
 - c. Verify that personnel are aware to ask questions if they are not sure about a chemical or a procedure.
 - d. Verify that personnel know they are responsible for wearing proper PPE.
 - e. Verify that personnel know not to eat, drink, or smoke around hazardous chemicals.
 - f. Verify that personnel know the emergency procedures for their work area.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Ensured that facility personnel are inspecting their hazardous chemical inventory using provided guidance.	—	—
2. Ensured that facilities are being inspected regularly using provided guidance.	—	—
3. Ensured that facilities have MSDSs for all products that contain a hazardous chemical.	—	—

Performance Measures

	<u>GO</u>	<u>NO</u> <u>GO</u>
4. Ensured that facilities have MSDSs easily accessible to all individuals working with hazardous chemicals.	—	—
5. Ensured that facilities are providing current training and information to individuals working with hazardous chemicals using provided guidance.	—	—
6. Ensured that facilities personnel are aware of their individual responsibilities using provided guidance.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
29 CFR 1910, SUBPART Z

Related
None

**COORDINATE EXECUTION OF AN ANIMAL MEDICINE PLAN
081-891-4001**

Conditions: You are responsible for coordinating execution of applicable portions of the animal medicine plan for your unit. Necessary materials and equipment include: AR 40-905, applicable veterinary documents, and FM 8-10-18.

Standards: Coordinated execution of an animal medicine plan IAW AR 40-905, applicable veterinary documents, and FM 8-10-18.

Performance Steps

1. Coordinate external support requirements with supporting element(s).
2. Coordinate specimen collection and shipment IAW Area Medical Laboratory instructions to the supporting laboratory.
3. Coordinate sanitary inspections of animal facilities.
4. Coordinate NBC animal medical operations, if applicable.
5. Coordinate intra-theater and inter-theater evacuation of government owned animals, if applicable.
6. Coordinate noncombatant evacuation operations of privately owned animals, if applicable.
7. Monitor status of military working dog semiannual physicals.
8. Coordinate mascot health services, if applicable.
9. Coordinate disposal of medical wastes and animal remains.
10. Coordinate storage of controlled substances by subordinate element(s).
11. Coordinate Class VIII supply.
12. Consolidate reports from supported elements.
13. Monitor reports to identify trends.
14. Report all findings to your supervisor and/or commander.
15. Provide updates to higher HQ element.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Coordinated external support requirements with supporting element(s).	—	—
2. Coordinated specimen collection and shipment IAW Area Medical Laboratory instructions to the supporting laboratory.	—	—
3. Coordinated sanitary inspections of animal facilities.	—	—
4. Coordinated NBC animal medical operations, if applicable.	—	—

Performance Measures	<u>GO</u>	<u>NO</u> <u>GO</u>
5. Coordinated intra-theater and inter-theater evacuation of government owned animals, if applicable.	—	—
6. Coordinated noncombatant evacuation operations of privately owned animals, if applicable.	—	—
7. Monitored the status of military working dog semiannual physicals.	—	—
8. Coordinated mascot health services, if applicable.	—	—
9. Coordinated disposal of medical wastes and animal remains.	—	—
10. Coordinated storage of controlled substances by subordinate element(s).	—	—
11. Coordinated Class VIII resupply.	—	—
12. Consolidated reports from supported elements.	—	—
13. Monitored reports to identify trends.	—	—
14. Reported all findings to the supervisor and/or commander.	—	—
15. Provided updates to higher HQ element.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier fails any step, show what was done wrong and how to do it correctly.

References

Required
AR 40-905
FM 8-10-18

Related
None

APPENDIX A

FIELD EXPEDIENT SQUAD BOOK

FIELD EXPEDIENT SQUAD BOOK

For use of this form, see AR 350-57; the proponent agency is DCSOPS

SHEET
1 OF 10

USER APPLICATION

SOLDIER'S NAME

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STATUS

TASK NUMBER AND SHORT TITLE	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	
081-891-1005 Initiate First Aid on a Military Working Dog for Heat Stroke																					
081-891-1006 Initiate First Aid on a Military Working Dog for a Cold Injury																					
081-891-1037 Initiate First Aid on a Military Working Dog for Dehydration																					
081-891-1041 Initiate First Aid on a Military Working Dog for Anaphylaxis																					
081-891-1042 Initiate First Aid on a Military Working Dog for Hypovolemic Shock																					
081-891-1094 Perform a Primary Survey on a Military Working Dog																					
081-891-1301 Initiate First Aid for an Eye Injury of a Military Working Dog																					
081-891-1302 Initiate First Aid for Gastric Dilatation-Volvulus (Bloat) in a Military Working Dog																					
081-891-1602 Perform Basic Cardiac Life Support on a Military Working Dog																					
081-891-1007 Take the Vital Signs of a Military Working Dog (Temperature, Pulse, and Respirations)																					
081-891-1010 Clean the External Ear Canals of a Military Working Dog																					
081-891-1011 Clean the Teeth of a Military Working Dog																					
081-891-1012 Administer Oral Medication to a Military Working Dog																					

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SHEET

2 OF 10

USER APPLICATION	SOLDIER'S NAME					

TASK NUMBER AND SHORT TITLE	STATUS												
	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	
081-891-1013 Administer Otic Medication to a Military Working Dog													
081-891-1014 Administer Ophthalmic Medication to a Military Working Dog													
081-891-1015 Administer a Subcutaneous Injection to a Military Working Dog													
081-891-1016 Administer an Intramuscular Injection to a Military Working Dog													
081-891-1017 Administer an Intravenous Injection to a Military Working Dog													
081-891-1018 Initiate an Intravenous Infusion on a Military Working Dog													
081-891-1022 Perform a Skin Scraping on a Military Working Dog for Microscopic Ectoparasite Evaluation													
081-891-1023 Obtain a Venous Blood Specimen from a Military Working Dog													
081-891-1024 Perform a Direct Microscopic Examination of Whole Blood for Microfilaria													
081-891-1038 Place an Intravenous Catheter in a Military Working Dog													
081-891-1063 Assist with Performing a Physical Exam of a Military Working Dog													
081-891-1086 Assist with Euthanasia of a Military Working Dog													
081-891-1204 Collect Ear Swabs from a Military Working Dog for Microscopic Evaluation													

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SHEET

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TASK NUMBER AND SHORT TITLE	STATUS												
	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	
081-891-1070 Perform a Diff-Quik Stain on the Blood of a Military Working Dog													
081-891-1071 Perform a Heartworm Antigen Test on the Blood of a Military Working Dog													
081-891-1074 Perform a Total Protein Determination (Refractometer) on the Blood of a Military Working Dog													
081-891-1202 Perform a Microhematocrit/Buffy Coat Evaluation for Presence of Microfilaria on the Blood of a Military Working Dog													
081-891-1203 Perform a Modified Knott's Test on the Blood of a Military Working Dog													
081-891-1206 Perform a Gram Stain on a Specimen from a Military Working Dog													
081-891-1207 Perform a Routine Urinalysis on a Specimen from a Military Working Dog													
081-891-1029 Intubate a Military Working Dog													
081-891-1031 Ventilate a Military Working Dog for Respiratory Arrest During Surgery													
081-891-1068 Maintain Anesthesia on a Military Working Dog													
081-891-1069 Prepare Veterinary Surgical Instruments for Use													
081-891-1087 Perform a Surgical Skin Preparation on a Military Working Dog													
081-891-1089 Put On Sterile Gloves Using the Open Glove Technique for a Veterinary Procedure													

USER APPLICATION

SOLDIER'S NAME

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SHEET

5 OF 10

USER APPLICATION

SOLDIER'S NAME

TASK NUMBER AND SHORT TITLE	STATUS									
	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO
081-891-1090 Perform the Surgical Hand and Arm Scrub for a Veterinary Procedure										
081-891-1091 Put On Sterile Gown and Gloves Using the Closed Glove Technique for a Veterinary Procedure										
081-891-1092 Gown and Glove Surgical Team Members for a Veterinary Procedure										
081-891-1403 Remove Sutures or Staples on a Military Working Dog										
081-891-1603 Provide Postoperative Care to a Military Working Dog										
081-891-1054 Radiograph the Thorax of a Military Working Dog										
081-891-1055 Radiograph the Abdomen of a Military Working Dog										
081-891-1062 Radiograph the Pelvis of a Military Working Dog for Hip Dysplasia Evaluation										
081-891-1073 Develop Radiographic Film Using an Automatic Film Processor in an Animal Facility										
081-891-1088 Process Radiographic Film Manually at a Veterinary Treatment Facility										
081-891-1205 Radiograph the Flexed Elbow of a Military Working Dog										
081-891-1402 Perform a Physical Examination on an Equine										
081-891-1406 Perform Physical Restraint of Large Animals										

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SHEET

7 OF 10

USER APPLICATION

SOLDIER'S NAME

TASK NUMBER AND SHORT TITLE	STATUS												
	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	
081-891-1059 Perform Life Saving Therapy on a Military Working Dog with Burns													
081-891-1061 Perform a Venous Outdown on a Military Working Dog													
081-891-3005 Perform Life Saving Therapy on a Military Working Dog for Heat Stroke													
081-891-3006 Perform Life Saving Therapy on a Military Working Dog for a Cold Injury													
081-891-3012 Perform Life Saving Therapy on a Military Working Dog for Dehydration													
081-891-3013 Perform Life Saving Therapy on a Military Working Dog for Hypovolemic Shock													
081-891-3101 Perform a Needle Thoracentesis on a Military Working Dog													
081-891-3201 Perform Life Saving Therapy on a Military Working Dog for Nuclear, Biological, and Chemical Injuries													
081-891-3202 Perform Life Saving Therapy for Gastric Dilatation-Volvulus (Bloat)													
081-891-3203 Perform Life Saving Therapy on an Animal For Anaphylaxis													
081-891-3304 Perform a Secondary Survey on a Military Working Dog													
081-891-3501 Insert a Chest Tube on a Military Working Dog													
081-891-3502 Perform a Tracheotomy on a Military Working Dog													

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SHEET
8 OF 10

USER APPLICATION	SOLDIER'S NAME									

TASK NUMBER AND SHORT TITLE	STATUS											
	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO	GO	NO-GO
081-891-3503 Perform a Blood Transfusion on a Military Working Dog												
081-891-1045 Apply a Bandage to the Head, Neck, or Trunk of a Military Working Dog												
081-891-1046 Apply a Bandage to the Leg or Paw of a Military Working Dog												
081-891-1053 Collect a Urine Sample from a Military Working Dog by Cystocentesis or Using a Urethral Catheter												
081-891-1060 Obtain an ECG Tracing from a Military Working Dog												
081-891-1201 Perform a Microscopic Exam to Identify Common Intracellular Blood Parasites in the Blood of a Military Working Dog												
081-891-3103 Perform Cytological Examination on Various Laboratory Samples at a Veterinary Treatment Facility												
081-891-1030 Induce Anesthesia in a Military Working Dog												
081-891-1043 Debride a Wound on a Military Working Dog												
081-891-1044 Close a Wound on a Military Working Dog												
081-891-3104 Assist in Performing an Upper Gastrointestinal Contrast Radiography Study on a Military Working Dog												
081-891-3106 Develop a Radiograph Technique Chart for a Veterinary Treatment Facility												
081-891-3107 Assist in Performing a Double Contrast Cystogram on a Military Working Dog												

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GLOSSARY

ACCP	The Army Correspondence Course Program
ACLS	advanced cardiac life support
ACT	activated clotting time
ALT	alanine transaminase
APTT	activated partial thromboplastin time

Army Training and Evaluation Program (ARTEP)

The Army's collective training program that establishes unit training objectives critical to unit survival and performance in combat. They combine the training and the evaluation process into one integrated function. The ARTEP is a training program and not a test. The sole purpose of external evaluation under this program is to diagnose unit requirements for future training.

AST	aspartate aminotransferase
BAL	British anti-lewisite

Battle focus

A process to guide the planning, execution, and assessment of the organization's training program to ensure they train as they are going to fight.

BCLS	basic cardiac life support
bpm	beats per minute
BUN	blood urea nitrogen
CAM	chemical agent monitor
CANA	convulsant antidote for nerve agents
CBRNE	chemical, biological, radiological, nuclear, and high-yield explosive
cc	cubic centimeter
CCSOAP	chief complaint, subjective, objective, assessment, plan
cm	centimeter
cm H₂O	centimeters of water

COLLECTIVE TRAINING

Training, either in institutions or units, that prepares cohesive teams and units to accomplish their missions on the battlefield and in operations other than war.

COMMON TASK

A task which all soldiers in a given skill level must be able to do, regardless of their MOS.

CPR cardiopulmonary resuscitation

CROSS TRAINING

The systematic training of soldiers on tasks related to another duty position.

CRT capillary refill time

DIC disseminated intravascular coagulation

DOD Department of Defense

DSF drip set fraction

DTM dermatophyte test medium

DV dorsal-ventral; dorsoventral

ECG electrocardiogram

EDTA ethylenediaminetetraacetic acid

ETCO₂ end-tidal carbon dioxide concentration

F Fahrenheit

FFD focal-film distance

g/dl grams per deciliter

GDV gastric dilatation-volvulus

GFI ground fault interrupt

GI gastrointestinal

HAZCOM hazardous communications

HCT hematocrit

HPF high power field

HQ headquarters

IAW in accordance with

ID intradermal

IM intramuscular

INDIVIDUAL TRAINING

Training which prepares the soldier to perform specified duties or tasks related to assigned duty position or subsequent duty positions and skill level.

INTEGRATION TRAINING

The completion of initial entry training in skill level 1 tasks for an individual newly arrived in the unit, but limited specifically to tasks associated with the mission, organization and equipment of the unit to which the individual is assigned. It may be conducted by the unit using training materials supplied by TRADOC, by troop schools, or by in-service or contract mobile training teams. In all cases, this training is supported by TRADOC school proponent.

IP	intraperitoneal
IU	international unit
IV	intravenous
kg	kilogram(s)
kVp	kilovoltage peak
L/min	liters per minute
LPF	low power field
LRS	lactated Ringer's solution
mAs	milliamperage second(s)
mEq/L	milliequivalents per liter

MERGER TRAINING

Training that prepares an NCO to supervise one or more MOSs at a lower SL when the NCO advances a SL in the CMF.

METL	mission essential task list
MFR	memorandum for record
mg/kg	milligrams per kilogram

MISSION ESSENTIAL TASK LIST (METL)

A compilation of collective mission essential tasks which must be successfully performed if an organization is to accomplish its wartime mission(s). See FMs 25-100 and 25-101.

ml	milliliter
ml/hr	milliliters per hour
ml/kg	milliliters per kilogram

mm	millimeter
mm Hg	millimeters of mercury
MOPP	mission-oriented protective posture
MOS	military occupational specialty
MOSC	military occupational specialty code
MSDS	material safety data sheet
MWD	military working dog
NBC	nuclear, biological, and chemical
NCO	noncommissioned officer
NCOIC	Non-Commissioned Officer In Charge
NHP	nonhuman primate
OSHA	Occupational Safety and Health Administration
PAO₂/PaO₂	partial pressure of alveolar oxygen/partial pressure of arterial oxygen
PCLS	prolonged cardiac life support
PCV	packed cell volume
pH	symbol relating the hydrogen concentration to that of a given standard solution
PPE	personal protective equipment
psi	pounds per square inch
PT	prothrombin time
RBC	red blood cell(s)

REFRESHER TRAINING

Training that reinforces previous training and/or helps to sustain or regain previously acquired skills and knowledge. Refresher training is related to course-specific training objectives, performed under prescribed conditions, and meets prescribed performance standards. Training may take place in a course during or outside of POI time. It usually takes place in the unit to sustain or retrain a previously required proficiency level or it may be used to prepare an individual for institutional training, i.e., to meet prerequisite training requirements.

rpm	revolutions per minute
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SELF-DEVELOPMENT

Self-development is a planned, progressive, and sequential program followed by leaders to enhance and sustain their military competencies. Self-development consists of individual study, research, professional reading, practice, and self-assessment.

SGOT serum glutamic-oxaloacetic transaminase

SGPT serum glutamic-pyruvic transaminase

SID source to image receptor distance

SL squad leader; skill level

SM soldier's manuals

SOP standing operating procedures

SpO₂ blood oxygen saturation

SQ subcutaneous

STB supertropical bleach

SUSTAINMENT TRAINING See "Refresher training."

TBSA total body surface area

TG trainer's guide

TP total protein

TPP total plasma protein

TRAIN-UP

The opportunity for an individual to train to a higher skill level in his or her MOS or CMF; certification may be involved.

UNIT TRAINING

Training that is conducted in a unit.

VD ventral-dorsal; ventrodorsal

VTF veterinary treatment facility

WBC white blood cell(s)/white blood count (depends on use)

REFERENCES

New reference material is being published all the time. Present references, as listed below may become obsolete. To keep up-to-date, see DA Pam 25-30. Many of these publications and forms are available in electronic format from the sites listed below:

[U.S. Army Publishing Agency](#)

Administrative Departmental Publications and Forms
(ARs, Cirs, Pams, OFs, SFs, DD & DA Forms)

[General Dennis J. Reimer Training and Doctrine Digital Library \(RDL\)](#)

Army Doctrinal and Training Publications
(FMs, PBs, TCs, STPs)

Required Publications

Required publications are sources that are listed in task conditions statements and are required for the soldier to perform the task.

Army Regulations

AR 385-10	The Army Safety Program 23 May 1988
AR 40-2	Army Medical Treatment Facilities: General Administration 3 March 1978
AR 40-66	Medical Record Administration and Health Care Documentation 3 May 1999
AR 40-905	Veterinary Health Services 14 August 1994

Department of Army Forms

DA FORM 3161	Request for Issue or Turn-In 1 December 2000
DA FORM 3949	Controlled Substances Record 1 April 1973
DA FORM 7389	Medical Record - Anesthesia 1 February 1998

Field Manuals

FM 8-10-18	Veterinary Service Tactics, Techniques, and Procedures 22 August 1997
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Other Product Types

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1910, SUBPART Z	Toxic and Hazardous Substances
DD FORM 1626	Veterinary Necropsy Report Checklist and Guidelines 1 October 2001
DD FORM 1743	Death Certificate of Military Dog 1 July 1970
DD FORM 2341	Report of Animal Bite - Potential Rabies Exposure 1 June 1992
DD FORM 2342	Animal Facility Sanitation Checklist 1 January 2000
DD FORM 2620	Request for and Report of Laboratory Examination for Rabies 1 June 1992
OF 520	Medical Record--Electrocardiographic Record

SF 512	Clinical Record - Plotting Chart 1 March 1994
SF 546	Chemistry I 1 August 1977
SF 549	Hematology 1 July 1978
SF 550	Urinalysis 1 April 1977
SF 552	Parasitology 1 July 1977
SF 553	Microbiology I 1 March 1977
SF 557	Miscellaneous 1 March 1977
SF 600	Health Record - Chronological Record of Medical Care 1 June 1997
VET LAB FORM D-102	Rabies Submission Form

Technical Bulletins

TB MED 283	Veterinary Necropsy Protocol for Military Dogs 23 February 1979
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Related Publications

Related publications are sources of additional information. They are not required in order to perform the tasks in this manual.

Army Regulations

AR 11-9	The Army Radiation Safety Program 28 May 1999
AR 190-12	Military Police Working Dogs 30 September 1993

Department of Army Forms

DA FORM 2028	Recommended Changes to Publications and Blank Forms
DA FORM 5164-R	Hands-On Evaluation
DA FORM 5165-R	Field Expedient Squad Book

Department of Army Pamphlets

DA PAM 350-59	Army Correspondence Course Program Catalog 26 October 2001
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Field Manuals

FM 25-100	Training the Force 15 November 1988
FM 25-101	Battle Focused Training 30 September 1990
FM 8-284	Treatment of Biological Warfare Agent Casualties 17 July 2000
FM 8-285	Treatment of Chemical Agent Casualties and Conventional Military Chemical Injuries 22 December 1995
FM 8-52	Clinical Textbook for Veterinary Technicians 8 May 1987
FM 8-9	NATO Handbook on the Medical Aspects of NBC Defensive Operations 1 February 1996

Other Product Types

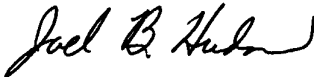
AF REG AFI 41-20	Medical Resource Management Operations
DD FORM 2619	Military Working Dog Master Problem List 1 June 1992
FLUID THERAPY - ANIMAL	Dibartola, Fluid Therapy in Small Animal Practice, 2nd Edition, W. B. Saunders Co (ISBN 0-7216-7739-8) 1 April 2000
HDBK VET CARE OF MWD	Handbook of Veterinary Care and Management of the Military Working Dog, 2nd Edition (available in Veterinary Service Lotus Notes database) 1 March 2001
NAVMED P-117	Manual of the Medical Department (http://www.vnh.org/Admin/MMD/001Contents.html)
QUICK LOOK: CRITICAL CARE	Murtaugh, Quick Look Series in Veterinary Medicine: Critical Care, 2nd Edition, Teton New Media (ISBN 1-8934-4135-0) 1 April 2002
SF 516	Medical Record--Operation Report 1 May 1983
VETERINARY EMERGENCY	Murtaugh/Kaplan, Veterinary Emergency and Critical Care Medicine, Mosby-Year Book (ISBN 0-8016-6399-7) 1 January 1992
Soldier Training Publications	
STP 21-1-SMCT	Soldier's Manual of Common Tasks Skill Level 1 1 October 2001
STP 21-24-SMCT	Soldier's Manual of Common Tasks (SMCT) Skill Levels 2-4 1 October 2001

**STP 8-91T14-SM-TG
20 AUGUST 2002**

By Order of the Secretary of the Army:

ERIC K. SHINSEKI
*General, United States Army
Chief of Staff*

Official:



JOEL B. HUDSON
*Administrative Assistant to the
Secretary of the Army*
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