

Great Falls College

Montana State University

VETERINARY TECHNICIAN PROGRAM



*Guidelines and protocols for the use of animals
in veterinary technology teaching programs*

Table of Contents

Overview	2
Effective Dates	3
Principal Investigators	3
Abbreviations	3
Rationale for Live Animal Use	3
Justification of Animal Numbers	4
Alternative to Live Animal Use	5
Animal Use Safety Verification	6
Policy on Anesthesia	7
Policy on Euthanasia	7
Procedures	8
Administering Fluids	9
Anal Sac Expression	10
Anesthesia	11
Bandaging	12
Barium Study	13
Bathing	14
Bladder Expression	15
Blood for Crossmatch	16
Castration/Neutering	17
Cattle Chute	18
Cystocentesis	19
Dental Cleaning	20
E-Collar Application	21
Ear Cleaning	22
Encagement	23
Enema	24
Environmental Conditions: Sanitation Procedures for Animal Holding and Housing Areas	25
Fluorescein Corneal Staining	26
Fecal Collection for Diagnostic Testing	27
Haltering, Leading and Tying	28
Hoof Trimming	29
Intramuscular Injection	30

Intraperitoneal Injection	31
Intravenous Catheterization	33
Intravenous Injection	33
Muzzling	34
Nail Trimming	35
Oral Medication	36
Orogastric Intubation	37
Otoscopic Examination	38
Ovariohysterectomy	39
Physical Examination.....	40
Radiographs	41
Restraint	42
Restraint Tools	43
Restraint Pole	44
Muzzles	44
Cat Bag.....	44
Schirmer Tear Test (STT).....	46
Skin Scraping.....	47
Splints and Bandages	48
Subcutaneous Injections.....	50
Surgical Site Preparation.....	51
Suture Removal/Staples	52
Tonometry	53
Topical Medications (Otic and Ophthalmic)	54
Twitch Application	56
Urinary Catheterization.....	57
Urine Sample Collection (Voided)	58
Vaginal Cytology	59
Venipuncture	60
Glossary of Definitions	61

Overview

Great Falls College Montana State University Veterinary Technician Program has committed to practicing in a manner consistent with current acceptable standards within the veterinary community.

Effective Dates

- Review: 2/4/2026
- Approval:
- Expiration:

Principal Investigators

- Jamie Dennis, LVT, CVT
- Cynthia Faux, DVM

Abbreviations

- AVMA: American Veterinary Medical Association
- CVTEA: Committee on Veterinary Technician Education and Activities
- AWA: Animal Welfare Act
- IACUC: Institutional Animal Care and Use Committee
- DVM: Doctor of Veterinary Medicine
- LVT: Licensed Veterinary Technician
- CVT: Certified Veterinary Technician
- VCPR: Veterinarian Client Patient Relationship

Unique Terms to GFC

- Clinical Teaching Assistant: On-Site DVM and/or LVT/CVT who is responsible for **direct oversight** of all activities and essential skills acquisition of Veterinary Technician students at Veterinary Partner facilities.
- Student: an individual enrolled in the Veterinary Technician program at Great Falls College MSU.
- Veterinary Partner: A veterinary practice that meets the minimum standards of site compliance and serves as a primary learning site. For more information, see [Veterinary Technician Program | Great Falls College MSU \(gfcmsu.edu\)](https://www.gfcmsu.edu/veterinary-technician-program)

Rationale for Live Animal Use

The use of live animals is necessary for students to achieve the level of competency outlined in AVMA-CVTEA Standard 5g, which requires the demonstration of essential skills on live animal patients under veterinary supervision. While simulation models and other non-live alternatives are incorporated for initial training and reinforcement, they are not sufficient to assess final clinical proficiency.

In this distance-learning model, psychomotor skills requiring live animals to be utilized for assessment are conducted preferentially on privately client owned patients receiving the treatment as part of their medical plan

prescribed by the attending licensed veterinarian. If students are not able to achieve adequate practice to become proficient with a skill due to limited number of patients prescribed to receive the treatment associated with the required course skill, other animals may be recruited from shelters/rehabilitation licensed businesses, clinic staff, students, and privately owned patients as long as a legal representative of the animal in all cases gives explicit consent to the attending veterinarian and there is a valid VCPR in place. This explicit consent must be documented in some way within the animals' medical record and available upon request by Great Falls College - MSU.

- Species Justification: The GFC Veterinary Technician program requires students to master clinical skills on small animal, exotic, laboratory, and large animal species to meet accreditation standards and reflect the range of practice environments graduates may enter. The specific species used will vary by veterinary partner facility and the patient population under their care.
- Educational Relevance: These hands-on activities provide vital experience in applying learned skills in a real-world context under the oversight of a credentialed veterinary professional. This enhances both technical proficiency and decision-making in a clinical setting.
- Societal Benefit: This training model produces well-prepared veterinary technicians who contribute to improved animal health, public health, and welfare. By using animals already under treatment, the program ensures ethical alignment with veterinary standards while supporting workforce readiness.

AVMA CVTEA accreditation standards state the following:

"5b. Adequate numbers of common domestic and laboratory animal species are required to provide the necessary quantity and quality of clinical instruction to meet curriculum requirements without overuse of the animals or violation of AWA requirements for humane use and care (see [CVTEA accreditation policies and procedures | American Veterinary Medical Association](#) for more information). "

Justification of Animal Numbers

Animals used for clinical skill development in this program are primarily independently, client owned patients that are receiving care at veterinary partner clinics, and the procedure, treatment, and/or diagnostic ordered by the attending DVM align with the skill assigned to be acquired.

The number of animals involved is inherently limited by the species treated, and appointment load seen by each veterinary partner site. Knowing this limitation, this program offers specific Fast-Track labs and opportunities to have a rotation at specialty veterinary clinics. This program also allows for recruitment of animals that do not require the particular procedure, treatment, or diagnostic being performed, deemed teaching purposes, to achieve adequate numbers for skill proficiency and mastery acquisition.

- Animals used for teaching purposes must adhere to the maximum student to animal ratio.
 - Canine and feline = 2:1
 - Large animal = 4:1
 - Exotic animals = 3:1
- During skill acquisition, students will be under the direct supervision of the Clinical Assistant at all times and will not be relegated to non-contracted, credentialed or non-credentialed individuals.

- Procedures, treatments, and diagnostics are performed for strictly teaching purposes when the veterinary partner cannot provide adequate numbers of patients prescribed the procedure, treatment, or diagnostic as part of the medical plan for students to gain proficiency and mastery of skills.
- All animals may be used repeatedly for the same skill in accordance with the IACUC use protocol but only animals that have multiple skills prescribed as a part of their medical plan may be used for multiple skills on the same business day. The number of times a skill is performed on a single animal must be pre-authorized in accordance with the associated skill IACUC protocol by the attending veterinarian and legal representative of the animal and conducted under direct supervision of the Clinical Assistant.
- For all animals used for strictly teaching purposes, written consent from the animals' legal representative must be obtained and kept within the medical record. The medical record must also contain the attending veterinarian's authorization for the use of the animal and all details of the use including
 - What skill was being acquired
 - How many students were hands on and the number of times the animal had the procedure, treatment, or diagnostic performed in total
 - The animals' behavior before and during the procedure, treatment, or diagnostic including FAS rating. It must also be noted if skill acquisition was stopped due to an increase in FAS rating.
 - What was the FAS after the skill acquisition was discontinued and what was done with the animal and why (i.e. animal returned to the owner, or placed in a kennel)
 - and a written testament that the Clinical Assistant was directly supervising the student for the entire duration.
- Clinical skills assessment are completed only when the student performs the skill in alignment with these guidelines.

This model supports the 3Rs (Replacement, Reduction, Refinement) and aligns with the Animal Welfare Act (AWA) and USDA expectations for the humane use of animals in teaching. It also meets the AVMA-CVTEA requirement that students demonstrate competence through live-animal experience within a supervised and ethically sound environment.

Alternative to Live Animal Use

AVMA CVTEA accreditation standards state that "students are expected to physically perform skills that are italicized. Skill assessment is expected to be performed on live animals." See Veterinary Technology Student Essential and Recommended Skills List, Appendix G for more information ([CVTEA accreditation policies and procedures | American Veterinary Medical Association](#)).

The program has considered alternatives to procedures that may cause more than momentary or slight pain or distress to the animal and has provided a written narrative description of the methods and sources used to determine that alternatives were not available.

Students receive lectures and videos regarding the skills described. If possible, students will practice on models or experience simulations to adhere to the actual procedure as closely as possible. When the student is considered proficient with the model or simulation, they are then allowed to attempt the skills on a live patient.

Animal Use Safety Verification

Section 1: Purpose

The purpose of this document is to address the use of teaching purposes animals by students enrolled in the Great Falls College Veterinary Technician Program at licensed veterinary or humane facilities, as required by CVTEA for GFC-MSU's program accreditation. The techniques performed by students are commonly used in veterinary practices serving small animals, exotics, laboratory, and large animal species. Performing these techniques on live animals is necessary for completing the Essential Skills Checklist, graduating from the GFC-MSU program, and meeting the expectations of employers hiring Veterinary Technicians from the GFC-MSU Veterinary Technician Program. It is acknowledged that client owned animals are used within this program and veterinary partners agree through contract to operate within any guidelines or laws set forth by the Animal Welfare Act, American Veterinary Medical Association, or any state laws governing the practice of veterinary medicine, however enforcement falls outside of the GFC-MSU IACUC's jurisdiction.

Animal Used: Client owned and teaching purposes

Animal Procedure Area (Bldg/Room): Veterinary clinics, Fast-Track Lab locations

Animal Housing (Bldg/Room): Private residences, non-affiliated and affiliated off-campus licensed facilities

Section 2: Hazard Identification

All personnel participating in this project must be knowledgeable and have been trained in the required laboratory techniques, personal protective equipment, decontamination, security, and be familiar with hazard containment policies and procedures. Document and retain evidence that workers have been trained in and understand these procedures.

- ☒ Biological Hazards
- ☒ Controlled Substances that require a State CSR/DEA License
- ☒ Hazardous Drugs
- ☒ Chemical Hazards
- ☐ Nanoparticle SOP
- ☐ Radioactive Materials:
- ☒ Imaging
- ☒ Physical Hazards:
 - ☒ Bite and Scratch
 - ☒ Large animal (kick, crush)
 - ☒ Sharps: Do not recap needles; discard needles directly into a sharps container. If recapping is necessary, use the one-handed technique to reduce the risk of pricking yourself.

Section 3: Students and Staff

- ☒ Hazards that require participation in the Animal Exposure Occupational Health Program
 - ☐ Work with wildlife species (e.g., bats, raccoons, wild mice, etc.)
 - ☐ Required use of respiratory protection (N95, respirator)
 - ☒ Use of species where vaccinations are required (e.g., rabies, dogs, cattle, etc.)
- ☒ Engineering Controls
 - ☒ Biological Safety Cabinet
 - ☒ Chemical Fume Hood
 - ☒ Radiation Shielding
 - ☒ Gas Scavenger
- ☒ Personal Protective Equipment
 - ☒ Standard lab attire includes gloves, eye protection, closed-toe shoes, long pants, and a lab coat.
 - ☒ There may be additional study and/or facility requirements that include disposable shoe covers, hair covers, and/or outerwear.

☐ N-95 Respirator

☐ Half or Full-Face Respirator

Section 4: General Occupational Health Information

☒ Zoonotic Diseases

[Research Integrity & Compliance - Research Integrity & Compliance | Montana State University](#)

☒ Allergy Prevention: The potential to develop an allergy to animals increases with frequent or prolonged exposure to animals or if you have a history of allergies.

☒ Immunocompromised and immunosuppressed individuals may be at higher risk of occupational health hazards that are present in this protocol. It is highly recommended that you participate in the Animal Exposure Occupational Health Program and/or discuss your occupational risks with your healthcare provider before exposure to animals or hazardous agents.

☒ Pregnant women, those of childbearing age, and/or those who are planning conception may be at higher risk of occupational health hazards listed in this protocol. It is highly recommended that you participate in the Animal Exposure Occupational Health Program and/or discuss your occupational risks with your healthcare provider before exposure to animals or hazardous agents.

☒ Work-Related Illnesses or Injuries

First Report of Injury (FROI): [Workers' Compensation | Great Falls College MSU](#)

Policy on Anesthesia

Per AVMA-CVTEA accreditation standards, veterinary technician students must demonstrate competence in anesthesia-related skills under the supervision of a licensed veterinarian. Because anesthetic protocols vary depending on the species, procedure, equipment, veterinarian's clinical judgment, the program acknowledges that no single anesthetic protocol is universally applicable.

Therefore, the anesthetic protocol used during procedures is determined by the supervising veterinarian and the veterinary practice where the procedure occurs. The program does not prescribe specific anesthetic drug combinations or protocols, as these are considered part of the veterinarian's orders. This ensures students are exposed to the diversity of clinical practices they will encounter in the field.

All anesthetic procedures must be medically necessary, performed on patients already receiving the procedure as part of their care under the supervision of a licensed veterinarian.

Policy on Euthanasia

Euthanasia of animals is not part of any protocol in this document. Although the program is aware that euthanasia occurs in the context of veterinary medical practice, no student is expected nor required to perform, nor graded on performance of a euthanasia procedure for this program. If unforeseen circumstances arise where euthanasia of any animal occurs while somehow involved with the program, the American Veterinary Medical Association's Guidelines for the Euthanasia of Animals will be followed.

<https://www.avma.org/resources-tools/avma-policies/avma-guidelines-euthanasia-animals>

Policy on Fear, Anxiety, Stress (FAS) Scale Scoring

All animals that are to be utilized by students must receive an intake FAS score and the Clinical Assistant is responsible for monitoring the FAS score during student involvement. The bulk of communication between humans is through body language, and the same goes for animals. It's important for students to understand the often subtle signs of fear, anxiety, and stress that animal's are expressing to maintain adherence to CVTEA, AWA, and USDA humane standards of care. As such, any procedure, treatment, or diagnostic whether part of the animal's medical plan or as part of a teaching purpose that results in the animal reaching an FAS score of 3 must cease use as a skill acquisition candidate. If the animal is a patient where the procedure, treatment, and/or diagnostics are to be completed as part of the prescribed medical plan, it is up to the attending veterinarian whether to cease the process overall, however the student is required to be removed from involvement. If the animal was procured purely for teaching purposes, the animal must cease to be used immediately and allow it to calm down in a dark and/or quiet room. In either situation, the animal is prohibited from being utilized for any skill acquisition for the student for the remainder of the business day. GFC – MSU Veterinary Technician Program prohibits the use of animals with an intake FAS of 3, 4 or 5 for teaching purposes and prohibits the involvement of students in carrying out the medical plan for animals at these FAS levels. While GFC – MSU recognizes handling of such animals is necessary in the field, the risk posed to the animal's physical and mental welfare in continuing with medical processes without sedation or anesthesia plus an inexperienced handler cannot be justified as adhering to the Animal Welfare Act (AWA) and USDA expectations for the humane use of animals in teaching.

Procedures

Administering Fluids

SPECIES: Canine, feline

DESCRIPTION OF PROCEDURE:

Administering Subcutaneous Fluids:

1. Student will gather and prepare supplies, including fluids close to body temperature
2. Student will attach a new needle onto the end of a sterile fluid bag with the fluid line clamped-off
3. Animal will be properly restrained in standing, sitting, or sternal recumbency
4. Student will insert needle bevel-up into tented skin
5. Student will maintain position of the needle
6. Student will release the clamp of the fluid line, introducing the fluids into the animal's subcutaneous cavity
7. Student will monitor site during entire procedure
8. After the desired amount of fluids is administered, student will clamp the fluid line and remove the needle from the patient
9. Needle is discarded into proper biohazard container

Administering IV Fluids:

1. Prepare Equipment: Gather IV fluids, administration set, catheter, alcohol pads, gauze, tape, and gloves.
2. Assess the Animal: Evaluate the animal's condition and determine the fluid requirements.
3. Prepare the Animal: Restrain the animal and clean the chosen vein site with alcohol.
4. Insert IV Catheter: Aseptically insert the sterile IV catheter into the vein and secure it with tape.
5. Connect IV Line: Attach the IV administration set and prime the line to remove air bubbles.
6. Start Fluid Administration: Set and adjust the drip rate according to the animal's fluid needs.
7. Monitor the Animal: Watch for any signs of complications or discomfort and check vital signs.
8. Flush the Line: Flush the catheter with saline if necessary to maintain patency.
9. Remove IV Catheter: After fluid administration, carefully remove the catheter and apply pressure to the site.
10. Post-Procedure Care: Clean the site, monitor for signs of discomfort, and document the procedure.

SAFEGUARDS: When administering IV or SQ fluids to cats and dogs, proper restraint and aseptic technique must be used to prevent injury, infection, and undue stress. Fluid volumes and administration rates should be carefully calculated and tailored to the individual animal's condition to avoid overhydration or underhydration. The animal should be monitored continuously during the procedure for signs of discomfort, adverse reactions, or complications such as swelling or leakage at the injection site. IV catheters should be kept secure, and fluid lines should be checked regularly for any signs of dislodgement or blockage. If any discomfort, swelling, or other issues occur, the procedure should be halted immediately and the animal reassessed. All procedures must be performed by trained personnel and documented in accordance with IACUC guidelines to ensure the animal's safety and welfare.

PREPARATION OF STUDENTS:

- ✓ Lecture and/or reading
- ✓ Demonstration and/or video

ANESTHESIA/TRANQUILIZATION: Anesthesia or tranquilization may be considered for administering IV or SQ fluids to cats and dogs if the animal is extremely anxious, difficult to restrain, or at risk of injury due to

movement. The need for sedation should be evaluated by a veterinarian based on the animal's health status, behavior, and the complexity of the procedure. Only qualified personnel should administer anesthesia or tranquilizers, following appropriate dosage guidelines. The animal must be closely monitored throughout the procedure for any adverse effects, and sedation or anesthesia should be kept to the minimum required for the procedure to ensure the animal's safety and minimize risk.

SHOULD DISCOMFORT OCCUR: If discomfort occurs during the administration of IV or SQ fluids, the procedure should be immediately stopped, and the animal should be reassessed for any signs of distress, pain, or adverse reactions. The animal's condition should be evaluated, and adjustments made to the technique or approach, such as altering fluid volume, rate of administration, or changing the injection site. If necessary, additional interventions, including sedation or anesthesia, should be considered to alleviate discomfort. The procedure should not continue until the animal's well-being is fully ensured, and appropriate actions should be documented.

EUTHANASIA: None

LIMIT: The administration of IV or SQ fluids should be performed only when clinically necessary and with careful consideration of the animal's condition. Fluid volumes, administration rates, and methods must be tailored to the individual needs of each animal to prevent complications such as fluid overload or tissue damage. Restraint should be minimal, and sedation or anesthesia should only be used when required for the animal's safety and comfort. The procedure should be completed with the least amount of stress or discomfort to the animal, and all potential risks must be monitored throughout. The use of IV or SQ fluids should be reassessed regularly.

Anal Sac Expression

SPECIES: Canine, feline

DESCRIPTION OF PROCEDURE:

1. The animal is manually restrained
2. A gloved finger is introduced to the rectum just behind the wall of the anus
3. Either the left or right anal sac is located, palpated for size, and expressed as needed
4. The animal's perianal region is cleansed with waterless shampoo or antiseptic.

SAFEGUARDS: Only performed under immediate supervision of an instructor. Adequate lubricant will be used to minimize discomfort. If anal sac cannot be easily expressed with gentle pressure, procedure will be immediately discontinued, and the animal will be referred to its regular veterinarian for care.

PREPARATION OF STUDENTS:

- ✓ Lecture and/or reading
- ✓ Demonstration and/or video

ANESTHESIA/TRANQUILIZATION: Not normally required for this procedure.

SHOULD DISCOMFORT OCCUR: There is some mild discomfort associated with this procedure. However, make a DVM aware any perceived excessive discomfort that may occur.

EUTHANASIA: Shall not be used.

LIMIT: Palpation of the anal sac(s) may not be performed more than two times within a 24-hour period. Expression of the anal sac(s) will only be performed if necessary (i.e., when full).

Anesthesia

SPECIES: Canine, feline, exotics

DESCRIPTION OF PROCEDURE:

1. Pre-anesthetic Procedure
 - Pre-Anesthesia physical exam by attending DVM
 - Laboratory Exam – PCV, TP
 - Place intravenous catheter (See Catheter Protocol)
 - Administer pre-anesthetic when needed
 - If applicable: CBC, U/A, Blood Chemistry (anesthetic profile), heartworm test, feline leukemia virus/ feline immunodeficiency virus test
2. Anesthetic Procedure
 - Induce anesthesia using a variety of contemporary anesthetic protocols as prescribed by the attending veterinarian
 - Intubate (*In certain cases such as rodents and feline castration, intubation may not be done*)
 - Maintain anesthesia using isoflurane or sevoflurane gas.
 - Monitor physiological parameters (heart rate, respiratory rate, blood pressure, temperature, EtCO₂ and O₂ levels) by appropriate physical and electronic methods and record data every 5 minutes.
3. Recovery Procedure
 - Monitor physiological parameters and record data every 10 minutes
 - Extubate when swallowing reflex returns
 - Monitor temperature until it reaches 99°F
 - Turn animal frequently to stimulate recovery
 - Remove intravenous catheter when sternal
 - Return to ward when sternal or able to stand
 - Water and food withheld until recovery is complete

SAFEGUARDS: Food is withheld for minimum 12 hours prior to anesthesia; water is withheld minimum 2 hours. Unless attending DVM approves of alternative pre-anesthetic fasting protocol according to patient medical status. Students are under immediate supervision by clinical teaching assistant.

PREPARATION OF STUDENTS:

- ✓ Lecture and/or reading
- ✓ Demonstration and/or video

ANESTHESIA/TRANQUILIZATION: N/A

SHOULD DISCOMFORT OCCUR: No discomfort is expected to be associated with this procedure.

EUTHANASIA: Shall not be used.

LIMIT: No more than is deemed medically necessary by the veterinarian.

Bandaging

SPECIES: Canine, Feline, Avian, and Equine

DESCRIPTION OF PROCEDURE:

1. Animal is manually restrained.
2. Gauze, tape, and cotton are used to bandage a limb, tail, head, ear, or abdomen.
3. Bandage is removed carefully

SAFEGUARDS: May only be performed under direct or immediate supervision of the instructor. Bandages will be removed or changed per DVM orders.

PREPARATION OF STUDENTS:

- ✓ Lecture and/or reading
- ✓ Demonstration and/or video
- ✓ Practice on simulation models if available

ANESTHESIA/TRANQUILIZATION: Not normally required for this procedure. However, the DVM may order chemical sedation if the animal is deemed unusually stressed.

SHOULD DISCOMFORT OCCUR: There is no discomfort associated with this procedure.

EUTHANASIA: Shall not be used.

LIMIT: No more than 5 bandage attempts per day.

Barium Study

SPECIES: Canine, feline

DESCRIPTION OF PROCEDURE:

1. Animal should be fasted (food withheld) for 12-24 hours before radiographs. Ingestion of liquid during this period is permitted.
2. Can offer barium directly by mouth or mixed with a small amount of canned food
3. A barium concentration of 80-100% W/W is used. Barium can be in the liquid form or powder form. If in the powder form, it must be mixed with water according to the directions on the packaging.
4. Volume to be administered: up to 12 mL/kg for cats and small dogs; and up to 6 mL/kg for large dogs.
5. If administering the solution orally, solution can be given in the cheek pouch of the patient using a 50mL syringe with a catheter tip and allow the patient to swallow it in its own time.
6. It is important during administration to not extend the animal's neck or administer the liquid at a rate that is too fast for it to be able to drink comfortably.
7. Be sure to give the patient an opportunity to stop drinking and take a breath
8. Lateral and V/D radiographs are taken 15 minutes after barium administration, then once every 45 minutes. Up to a total of four sets of radiographs will be taken.

SAFEGUARDS: May only be performed under immediate instructor supervision.

PREPARATION OF STUDENTS:

- ✓ Lecture and/or reading
- ✓ Demonstration and/or video

ANESTHESIA/TRANQUILIZATION: Contraindicated for this procedure as the animal must be conscious with adequate swallow reflex to ingest the barium.

SHOULD DISCOMFORT OCCUR: There is little discomfort associated with this procedure.

EUTHANASIA: Shall not be used.

LIMIT: No more than one study every 6 months.

Bathing

SPECIES: Canine, feline, and equine

DESCRIPTION OF PROCEDURE:

1. Animal is manually restrained in a large tub.
2. The hair coat is wet, shampoo is applied, and the coat is rinsed thoroughly.
3. The animal is dried with a towel

SAFEGUARDS: Procedure will be performed under direct supervision of an instructor, and only as part of the animal's routine healthcare. A towel or non-slip mat will be placed in the bottom of the tub to provide traction. The animal will be kept leashed. Eye lubricant will be applied to the eyes to protect from shampoo contact. Cotton or gauze will be placed inside the ears to prohibit water from entering the canals, then removed immediately after bathing.

PREPARATION OF STUDENTS:

- ✓ Lecture, video, and/or demonstration

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: There is no discomfort associated with this procedure.

EUTHANASIA: Shall not be used.

LIMIT: No more than once every 30 days.

Bladder Expression

SPECIES: Canine, feline

DESCRIPTION OF PROCEDURE:

1. Animal is anesthetized and in lateral or dorsal recumbency.
2. The bladder is located by palpation in the midline of the caudo-ventral abdomen.
3. A bowl is placed to catch the urine, according whether male or female.
4. Using the flat of the hands and gentle and steady pressure, the bladder is squeezed with a cranial to caudal motion until urine flows.
5. No sudden force or the tips of the fingers are to be used.

SAFEGUARDS: May only be performed under immediate supervision of the instructor. Instructor shall palpate the abdomen first to verify the bladder is full enough to be expressed. Only animals under anesthesia for other procedures, where expression of the bladder is deemed necessary by the attending veterinarian will be used.

PREPARATION OF STUDENTS:

- ✓ Lecture and/or reading
- ✓ Demonstration and/or video
- ✓ Practice on simulation models if available

ANESTHESIA/TRANQUILIZATION: Animal is under general anesthesia for another procedure.

SHOULD DISCOMFORT OCCUR: There should be no discomfort associated with this procedure.

EUTHANASIA: Shall not be used.

LIMIT: No more than one attempt.

Blood for Crossmatch

SPECIES: Canine, feline

DESCRIPTION OF PROCEDURE:

1. Student will collect blood from species recipient
2. Student will collect blood from either species specific donor or donor blood pack
3. Student will crossmatch both samples with the use of either a crossmatch kit or manually

SAFEGUARDS: When performing blood crossmatch procedures in cats and dogs, it is essential to use proper restraint and aseptic techniques to prevent stress or contamination. The animal's condition should be thoroughly assessed before the procedure to ensure blood collection is necessary and safe. Blood samples should be handled carefully to avoid hemolysis or clotting, and proper storage techniques must be followed to maintain sample integrity. The procedure should be conducted by trained personnel, and animals should be monitored for any signs of discomfort or adverse reactions.

PREPARATION OF STUDENTS:

- ✓ Lecture and/or reading
- ✓ Demonstration and/or video

ANESTHESIA/TRANQUILIZATION: Anesthesia or tranquilization may be considered during blood crossmatch procedures if the animal is particularly anxious, difficult to restrain, or requires additional sedation for comfort and safety. The need for sedation should be determined by a veterinarian based on the animal's temperament and medical condition. Only qualified personnel should administer anesthesia or tranquilizers, and appropriate monitoring should be maintained throughout the procedure. The goal is to minimize stress and ensure the animal's well-being. Any use of sedation or anesthesia should be documented, and recovery should be carefully monitored post-procedure.

SHOULD DISCOMFORT OCCUR: If discomfort occurs during the blood crossmatch procedure, the procedure should be immediately halted, and the animal should be reassessed for any signs of pain, distress, or complications. Appropriate adjustments should be made to minimize discomfort, such as altering the technique or providing additional sedation if necessary. If the animal's condition requires it, further medical evaluation should be performed to ensure their safety. The procedure should not resume until the animal is stable and comfortable, and all actions should be documented.

EUTHANASIA: None

LIMIT: Blood crossmatch procedures should be performed only when clinically necessary, such as prior to transfusions, and must be conducted using the least invasive and most humane methods possible. Restraint should be minimal, and the procedure should be completed efficiently to reduce stress or discomfort for the animal. Blood samples should only be collected from animals that are stable and, in a condition where the procedure is unlikely to cause harm. Any use of sedation or anesthesia should be justified based on the animal's needs and performed by qualified personnel.

Castration/Neutering

SPECIES: Canine, feline

DESCRIPTION OF PROCEDURE: Castrations are common surgical procedures in private veterinary practice and in shelter medicine.

Castration, or neutering, is a surgical procedure to remove a male dog or cat's testicles, preventing reproduction and reducing behaviors like roaming or territorial marking. This procedure also helps lower the risk of certain health problems, such as testicular cancer and prostate issues.

The students of this program are required by AVMA/CVTEA to participate in a feline and a canine castration. These animals are privately owned animals presented to the clinic for the prescribed procedure.

The role of the student will be determined by the veterinarian in charge of the procedure and may include (but not limited to) participating in the pre-surgical work up, surgical preparation of the patient and/or surgical suite, monitoring patient during the procedure, scrubbing in as a surgical assistant, and assisting in post-operative care.

PREPARATION OF STUDENTS:

- ✓ Lecture and/or reading
- ✓ Demonstration and/or video

ANESTHESIA/TRANQUILIZATION: Yes

SHOULD DISCOMFORT OCCUR: Some post operative discomfort is expected to be associated with this procedure and is treated with analgesics under the attending veterinarian's direction. Animals will be treated by the attending veterinarian in those uncommon cases where surgical or post-surgical complications arise. Instructions to clients, including behavioral modifications (keeping the animal quiet or the wearing of an Elizabethan collar to prevent licking up the incision) will be prescribed under the direction of the attending veterinarian.

EUTHANASIA: Shall not be used.

LIMIT: The student may assist as a veterinary technician student under the direct supervision of the attending veterinarian

Cattle Chute

SPECIES: Bovine

DESCRIPTION OF PROCEDURE:

1. Chute is opened to allow entrance of the animal.
2. Animal is driven appropriately into the chute
3. The animal is secured in the chute by closing the head gate around the animal's neck between the head and shoulders.
4. The chute is also closed at the rear and the walls can be pulled inward to squeeze the animal's sides.
5. The chute will then be opened to release the patient back into its enclosure.

SAFEGUARDS: Performed under immediate instructor supervision. Horned cattle will not be used for this procedure.

PREPARATION OF STUDENTS:

- ✓ Lecture and/or reading
- ✓ Demonstration and/or video
- ✓ Practice with an empty cattle chute

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: There is no discomfort associated with this procedure.

EUTHANASIA: Shall not be used.

LIMIT: No more than two attempts per day.

Cystocentesis

SPECIES: Canine, feline

DESCRIPTION OF PROCEDURE:

4. Animal is manually restrained (standing, lateral, or dorsal recumbency).
5. Skin is rinsed with an antiseptic solution.
6. A sterile needle is placed through the skin of the abdomen into the urinary bladder.
6. A urine sample is extracted, and the needle is removed.
7. Animal is walked or given litter box following procedure.

SAFEGUARDS: May only be performed under immediate supervision of the instructor. Instructor shall palpate the abdomen first to verify the bladder is full enough to be punctured. A 22-gauge needle is the maximum size that may be used.

PREPARATION OF STUDENTS:

- ✓ Lecture and/or reading
- ✓ Demonstration and/or video
- ✓ Practice on simulation models if available

ANESTHESIA/TRANQUILIZATION: Not normally required for this procedure. However, the DVM may order chemical sedation if the animal is deemed unusually stressed.

SHOULD DISCOMFORT OCCUR: There is little discomfort associated with this procedure. A slight amount of discomfort may occur when the needle enters the skin but is minimal and of short duration. Alternatives such as chemical restraint would require the same amount of discomfort for administration as this procedure.

EUTHANASIA: Shall not be used.

LIMIT: No more than one attempt every 14 days.

Dental Cleaning

SPECIES: Canine, feline

DESCRIPTION OF PROCEDURE:

1. Animal is anesthetized under general anesthesia.
2. Scaling and cleaning will be done by both hand and ultrasonic scaler.
3. DVM or CVT will probe the gingival sulcus. Results will be charted by students.
4. Full mouth radiographs will be taken by students.
5. Teeth will be polished post radiographs.

SAFEGUARDS: Only performed under immediate supervision of clinical teaching assistant AND/OR direct supervision of a DVM.

PREPARATION OF STUDENTS:

- ✓ Lecture and/or reading
- ✓ Demonstration and/or video

ANESTHESIA/TRANQUILIZATION: General anesthesia is required for this procedure. Approved anesthetic protocol will be adhered to.

SHOULD DISCOMFORT OCCUR: Pain medication will be administered and/or prescribed as deemed necessary by the veterinarian.

EUTHANASIA: Shall not be used.

LIMIT: This procedure may only be performed when deemed medically necessary by a veterinarian.

E-Collar Application

SPECIES: Canine, feline

DESCRIPTION OF PROCEDURE:

1. An appropriately sized E-collar is selected and constructed
2. The E-collar is pushed on over the nose and head and seated on the animal's neck.
3. Rolled gauze is fed through the loops of the E-collar and used to secure it around the animal's neck. Gauze will be tied in a bow tight enough to prevent the E-collar from coming off but must be loose enough to fit at least two fingers underneath.
4. Gauze is untied and E-collar is removed from the animal.

SAFEGUARDS: Will be performed under direct supervision of a clinical teaching assistant. Food rewards (treats, peanut butter, etc.) may be used to minimize stress and entice the animal's head through the collar.

PREPARATION OF STUDENTS:

- ✓ Lecture, demonstration, video, and/or practice on a stuffed animal

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: There is no discomfort associated with this procedure.

EUTHANASIA: Shall not be used.

LIMIT: No more than 4 times per day.

Ear Cleaning

SPECIES: Canine, feline

DESCRIPTION OF PROCEDURE:

1. Animal is restrained manually.
2. Appropriate solution is placed in the ear canal and the ear is massaged.
3. Cotton balls and swabs are used to remove debris from the vertical ear canal.
4. An otoscopic exam will be performed by a clinical teaching assistant before and after cleaning.

SAFEGUARDS: This procedure will only be performed as part of the animal's routine hygiene care. It will be done under direct supervision of a clinical teaching assistant.

PREPARATION OF STUDENTS:

- ✓ Lecture, demonstration, and/or video

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: Little to no discomfort is expected with this procedure. If animal shows signs of extreme pain or discomfort, the procedure will be immediately discontinued.

EUTHANASIA: Shall not be used.

LIMIT: No more than once *per ear* within a 7-day period.

Encagement

SPECIES: Canine, Feline, and Laboratory Animals

DESCRIPTION OF PROCEDURE:

1. Animal is placed in a clean kennel or crate that is large enough for the animal to be able to stand-up, turn around, and lay down comfortably.
2. If animal is to be encaged longer than 30 minutes, bedding and fresh water will be provided.

SAFEGUARDS: A card with animal ID information will be posted on the kennel in which the animal is held. Items such as harnesses, leashes, etc. will be removed from the animal's body prior to kenneling to prevent injury.

PREPARATION OF STUDENTS:

- ✓ Lecture, demonstration, and/or video

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: No discomfort is associated with this procedure.

EUTHANASIA: Shall not be used.

LIMIT: None.

Enema

SPECIES: Canine, feline

DESCRIPTION OF PROCEDURE:

1. The appropriate volume of enema solution is prepared.
2. Animal is manually restrained
3. A flexible tube is premeasured, lubricated, and inserted into the rectum.
4. The appropriate volume of enema solution is instilled into the rectum.
5. The tube is kinked/occluded then withdrawn from the rectum.
6. If the animal is canine, it will be immediately taken to an area where it can void its bowels. If the animal is feline, it will be placed in a kennel with a litter box.

SAFEGUARDS: Performed under immediate clinical teaching assistant supervision.

PREPARATION OF STUDENTS:

- ✓ Lecture
- ✓ Demonstration and/or video

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: Some mild discomfort may occur with initial passage of the tubing but should be minimal and of short duration. If animal shows signs of pain or extreme discomfort, the procedure will be discontinued.

EUTHANASIA: Shall not be used.

LIMIT: No more than once in a 14-day period, unless deemed medically necessary by the veterinarian.

Environmental Conditions: Sanitation Procedures for Animal Holding and Housing Areas

SPECIES: Canine, feline

DESCRIPTION OF PROCEDURE:

1. Student will inspect animal housing regularly
2. If housing unit is soiled, student will safely transfer animal to new, clean housing
3. Student will clean and disinfect housing unit as necessary, using the appropriate techniques depending on the species, waste present, facility protocol
4. Student will allow cleaning solutions to soak in the areas until biological sanitation have been achieved
5. Student will remove all residual disinfecting agents from the housing area before housing a new animal

SAFEGUARDS: To ensure the well-being of animals, students in the veterinary technology program must follow strict sanitation procedures for animal holding and housing areas. This includes daily cleaning and weekly deep cleaning of cages and equipment using approved, safe disinfectants. Students must wear appropriate personal protective equipment (PPE) to prevent contamination and handle waste properly, ensuring it is disposed of safely. Different animal groups should be housed separately to reduce the risk of disease transmission, and ventilation systems must be regularly checked to maintain a healthy environment. Students are responsible for documenting all sanitation tasks, and pest control measures must be in place and reported if needed.

PREPARATION OF STUDENTS:

- ✓ Lecture and/or reading
- ✓ Demonstration and/or video

ANESTHESIA/TRANQUILIZATION: None

SHOULD DISCOMFORT OCCUR: If discomfort occurs during procedures, they should be stopped immediately, and the animal's condition should be reassessed. The situation should be reported to a supervisor to ensure appropriate actions are taken to minimize stress or injury to the animal.

EUTHANASIA: None

LIMIT: Sanitation procedures for animal holding and housing areas have limits based on the effectiveness of cleaning agents and techniques. Proper disinfectants must be chosen to avoid harm to animals, and cleaning should not cause undue stress or disrupt the animals' environment

Fluorescein Corneal Staining

SPECIES: Canine, feline, equine, and exotics

DESCRIPTION OF PROCEDURE:

1. Animal is restrained manually.
2. A drop of fluorescein stain is placed into the eye of the animal.
3. Eye is flushed with sterile ophthalmic irrigating solution.
4. Eye is examined for stain retention and patent nasolacrimal ducts.

SAFEGUARDS: Only performed under direct supervision of a clinical teaching assistant.

PREPARATION OF STUDENTS:

- ✓ Lecture, demonstration, and/or video

ANESTHESIA/TRANQUILIZATION: Not required for this procedure

SHOULD DISCOMFORT OCCUR: No discomfort is expected to occur with this procedure.

EUTHANASIA: Shall not be used.

LIMIT: No more than once *per eye* within a 24-hour period

Fecal Collection for Diagnostic Testing

SPECIES: Canine, feline, large animals, exotics

DESCRIPTION OF PROCEDURE:

1. Students obtain a fecal sample by collection from cage bottoms, litter boxes, stalls, pastures, or runs.
2. They then evaluate the sample for parasites using a microscope.
3. If a voided sample is not available and stool for a fecal exam is needed, a fecal loop of appropriate size is lubricated and gently inserted into the rectum to obtain a sample (Canine and Feline only).

SAFEGUARDS: Fecal evaluation is usually performed on an already voided sample. If a sample is required, then a sample will be obtained using a fecal loop under clinical teaching assistant direct supervision.

PREPARATION OF STUDENTS:

- ✓ Lecture, demonstration, and/or video

ANESTHESIA/TRANQUILIZATION: Not needed for this procedure.

SHOULD DISCOMFORT OCCUR: No discomfort is associated with collection of voided fecal samples. Mild discomfort may occur if fecal sample is collected via fecal loop but is only of short duration. If animal appears stressed or painful, collection via fecal loop will be discontinued and we will wait until a voided sample is produced.

EUTHANASIA: Shall not be used.

LIMIT: No limit for voided samples. No more than once per 7 days for collection via fecal loop.

Haltering, Leading and Tying

SPECIES: Equine, bovine, camelid, caprine, and ovine

DESCRIPTION OF PROCEDURE:

1. Animal is retained in a small area for capture.
2. Animal is approached from the left side in a calm manner.
3. Halter is slid over the nose, behind the ears and tied or buckled.
4. Animal is lead from the left side of the animal.
5. The animal is tied to a rail, post, or other appropriate fixture using a quick release knot (such as a slip release knot).

SAFEGUARDS: Performed under direct supervision of a clinical teaching assistant.

PREPARATION OF STUDENTS:

- ✓ Lecture, video, and/or demonstration

ANESTHESIA/TRANQUILIZATION: Not needed for this procedure.

SHOULD DISCOMFORT OCCUR: No discomfort is associated with this procedure.

EUTHANASIA: Shall not be used.

LIMIT: None.

Hoof Trimming

SPECIES: Large animal

DESCRIPTION OF PROCEDURE:

1. Animal is restrained manually
2. Hoof is lifted and held
3. Hoof trimmers are used to trim and remove excess/overgrown parts

SAFEGUARDS: Performed under direct clinical teaching assistant supervision. Styptic powder will be kept readily available.

PREPARATION OF STUDENTS:

- ✓ Demonstration and/or video

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: No discomfort is expected with this procedure.

EUTHANASIA: Shall not be used.

LIMIT: None; However, hooves will only be trimmed if overgrown as part of the animal's routine healthcare.

Intramuscular Injection

SPECIES: Canine, feline, large animals, exotics

DESCRIPTION OF PROCEDURE:

1. Sterile saline is drawn up into a syringe and the used needle is replaced with a new one.
2. Animal is manually restrained.
3. Injection site is located and swabbed with antiseptic.
4. Needle is inserted through the skin into the muscle. Plunger is aspirated to check for blood. If no blood is seen, the solution is then injected with moderate pressure.
6. The needle is removed from the skin.

SAFEGUARDS: Performed under immediate clinical teaching assistant supervision. No more than 1 mL per fifty pounds of body weight will be injected into any one site. If more than 1 mL/50 lbs is required, multiple injection sites must be used.

PREPARATION OF STUDENTS:

- ✓ Lecture
- ✓ Video and/or demonstration
- ✓ Practice on a live animal by simulating (using an empty syringe with no needle attached)

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: There is little discomfort associated with this procedure. A slight amount of discomfort may occur when the needle enters the skin but is minimal and of short duration. Alternatives such as chemical restraint would require the same amount of discomfort for administration as this procedure.

EUTHANASIA: Shall not be used.

LIMIT: No more than two times within a 3-day period. A different site must be used for each injection within that period.

Intraperitoneal Injection

SPECIES: Laboratory Animals

DESCRIPTION OF PROCEDURE:

1. Restrain the animal manually with the body tilted downward, and the head of the animal tilted back. This assists in sliding the organs forward so that the needle does not puncture them.
2. Locate the injection site in the lower quadrant of the abdomen, lateral to the animal's midline.
3. Swab the injection site with an antiseptic.
4. Insert the needle into the inguinal area at 45° angle or lower to the skin.
5. Aspirate the syringe to make sure the urinary bladder or large intestines have not been entered.
6. If foreign matter is drawn back into the syringe, then withdraw the needle and abandon the procedure on that animal. Treatment following such an event will be up to the attending veterinarian.
7. If nothing is drawn back into the syringe, then inject the required amount of material and withdraw the needle.
8. Replace the animal within its enclosure.

SAFEGUARDS: performed under immediate instructor supervision if student or performed by instructor if a group assignment.

PREPARATION OF STUDENTS:

- ✓ lecture
- ✓ demonstration and/or video
- ✓ practice on live animal by simulating injection with a syringe (no needle attached)

ANESTHESIA/TRANQUILIZATION: not required for this procedure.

SHOULD DISCOMFORT OCCUR: there is little discomfort associated with this procedure. A slight amount of discomfort may occur when the needle enters the skin but is minimal and of short duration. Alternatives such as chemical restraint would require the same amount of discomfort for administration as this procedure.

EUTHANASIA: Shall not be used unless under the discretion of the attending veterinarian for animal's welfare.

LIMIT: No more than two time per animal within a 24-hour period.

Intravenous Catheterization

SPECIES: Canine, feline, caprine, ovine, equine, and bovine

DESCRIPTION OF PROCEDURE:

1. Animal is restrained in sternal recumbency (cephalic catheter) or lateral recumbency (saphenous catheter).
2. Hair is shaved from the insertion site.
3. Insertion site is cleansed with antiseptic.
4. IV catheter is introduced into the vessel using aseptic technique and then secured with tape.
5. Injection port or T-port is connected to the catheter and secured with tape or vetwrap.
6. IV catheter is flushed with sterile saline to assess patency.
7. Catheter is removed and a temporary bandage is applied to the limb to provide hemostasis. Wrap will be removed within 30 minutes to prevent swelling of the distal extremity.

SAFEGUARDS: This procedure will only be performed under immediate supervision of a clinical teaching assistant. **Students will be required to demonstrate proficient technique on a training model before being allowed to attempt this procedure on a live animal.** Animals that are already anesthetized or sedated for other reasons will be used in priority over those that are not whenever possible.

PREPARATION OF STUDENTS:

- ✓ Lecture.
- ✓ Video and/or live demonstration.
- ✓ Practice on IV trainer manikin

ANESTHESIA/TRANQUILIZATION: Anesthesia and tranquilization is not typically required for this procedure. Distress and pain are minimal and of short duration.

SHOULD DISCOMFORT OCCUR: In cases where the animal seems to be unusually distressed, another approved animal will be used in its place. Whenever possible, animals that are already tranquilized or anesthetized for another purpose will be utilized to minimize stress.

EUTHANASIA: Will not be used for this procedure.

LIMIT: No more than 2 attempts (punctures) within a seven-day period.

Intravenous Injection

SPECIES: Canine, feline, large animals, and exotic animals

DESCRIPTION OF PROCEDURE:

1. Sterile saline is drawn into a syringe and the used needle is replaced with a new one.
2. Animal is manually restrained.
3. Injection site is located and swabbed with antiseptic.
4. Needle is placed in the vein and plunger is aspirated to check for a flash of blood.

SAFEGUARDS: Procedure will be performed under immediate clinical teaching assistant supervision. Whenever possible, injection will be administered through an intravenous catheter.

PREPARATION OF STUDENTS:

- ✓ Lecture
- ✓ Demonstration and/or video
- ✓ Practice on IV trainer model

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: There is little discomfort associated with this procedure. A slight amount of discomfort may occur when the needle enters the skin but is minimal and of short duration. Alternatives such as chemical restraint would require the same amount of discomfort for administration as this procedure.

EUTHANASIA: Shall not be used.

LIMIT: [Dogs & Cats] twice per vessel within a 7-day period. [Large animals] 3 times per vessel within a 7-day period. [Exotics] Once per vessel within a 7-day period.

Muzzling

SPECIES: Canine, feline

DESCRIPTION OF PROCEDURE:

1. An appropriately sized muzzle is selected (nylon muzzle, basket muzzle, or strip of rolled gauze)
2. Animal is manually restrained
3. Muzzle is applied to the animal's face and secured snugly behind the ears.
4. Muzzle is removed.

SAFEGUARDS: Performed under direct clinical teaching assistant supervision. No animal will ever be left unattended while muzzled. Animals with recent history of vomiting, regurgitating, or respiratory concerns will not be used.

PREPARATION OF STUDENTS:

- ✓ Lecture, demonstration, and/or video

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: No discomfort is expected with this procedure.

EUTHANASIA: Shall not be used.

LIMIT: No more than five times per day.

Nail Trimming

SPECIES: Canine, feline, and exotic animals

DESCRIPTION OF PROCEDURE:

1. Animal is manually restrained
2. Nail trimmers are used to remove excess growth from the nails
3. If necessary, a dremel may be used to smooth out the sharp edges of the nails afterward.

SAFEGUARDS: Performed under immediate clinical teaching assistant supervision. Styptic powder will be kept on hand in case any bleeding occurs.

PREPARATION OF STUDENTS:

- ✓ Demonstration and/or video

ANESTHESIA/TRANQUILIZATION: Not required for this procedure. If the animal is too uncooperative to safely perform a nail trim, the procedure will be forgone on said animal and another animal will be used in its place.

SHOULD DISCOMFORT OCCUR: No discomfort is expected with this procedure unless the nail is cut at the quick. If this happens, styptic powder will be applied to the nail to stop the bleeding, and the nail trim will be completed by a clinical teaching assistant if necessary.

EUTHANASIA: Shall not be used.

LIMIT: Procedure will only be performed when nails are overgrown as part of the animal's routine healthcare.

Oral Medication

SPECIES: Canine, feline, exotic animals, and large animals

DESCRIPTION OF PROCEDURE:

1. Animal is manually restrained
2. *For solid oral medications:* A tablet or capsule is placed in the back of the oral cavity by hand and the animal is observed for signs of swallowing. If the animal is not currently prescribed to take any oral medications, a small piece of kibble or species-appropriate treat is used instead.
→ *For bovines and equines:* A balling gun is used to administer the medication instead of by hand.
For liquid oral medications: A predetermined volume of liquid medication is drawn into an oral syringe. The syringe is inserted into the corner of the animal's mouth and the medication is administered slowly to allow the animal time to swallow. If the animal is not currently prescribed to take any oral medications, water will be used instead.

SAFEGUARDS: Performed under direct clinical teaching assistant supervision.

PREPARATION OF STUDENTS:

1. Lecture and/or demonstration

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: No discomfort is associated with this procedure.

EUTHANASIA: Shall not be used.

LIMIT: No more than six times per day, unless medically necessary.

Orogastric Intubation

SPECIES: Canine, feline, equine, bovine, caprine, and ovine

DESCRIPTION OF PROCEDURE:

1. A predetermined amount of oral liquid (medication or water) is drawn up into a catheter-tipped syringe.
2. An orogastric tube is premeasured from the front of the mouth to the last rib and marked with a piece of tape.
3. The animal is manually restrained
4. An oral speculum is placed in the animal's mouth
5. The tube is lubricated and passed through the speculum down the esophagus and into the stomach. The tube is passed gently without force until the premeasured marker is aligned with the front of the mouth. If any resistance is met, the procedure will be immediately discontinued, and the tube will be completely withdrawn.
6. 5 to 6 ml of sterile saline is instilled into the tube and the patient is observed for coughing. If the animal coughs, the tube will be removed, and the procedure will be discontinued.
7. If not coughing occurs, the oral medication can then be delivered via the orogastric tube, followed by a small amount of water if necessary.
8. The tube is kinked/occluded and removed, then so is the oral speculum.
9. The animal is monitored for a minimum of 30 minutes for vomiting or signs of respiratory distress.

SAFEGUARDS: Performed under immediate clinical teaching assistant supervision **and/or** direct supervision of a veterinarian.

PREPARATION OF STUDENTS:

- ✓ Lecture
- ✓ Demonstration and/or video

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: Some discomfort is expected as the tube is initially passed down the esophagus but should be brief. If animal shows signs of continuous or extreme discomfort the procedure will be immediately discontinued.

EUTHANASIA: Shall not be used.

Otoscopic Examination

SPECIES: Canine, feline, equine, and exotics

DESCRIPTION OF PROCEDURE:

1. Animal is restrained manually
2. An appropriately sized ear cone for the patient is attached to the otoscope.
3. The ear of the patient is held by the examiner to best convey the ear canal.
4. The cone is maneuvered to clearly show the tympanic membrane with the attached light source.

SAFEGUARDS: Only performed under direct supervision of a clinical teaching assistant.

PREPARATION OF STUDENTS:

- Lecture
- Demonstration, and/or video

ANESTHESIA/TRANQUILIZATION: Not required for this procedure

SHOULD DISCOMFORT OCCUR: Little to no discomfort is expected with this procedure. If animal shows signs of extreme pain or discomfort, the procedure will be immediately discontinued.

EUTHANASIA: Shall not be used.

LIMIT: No more than twice *per ear* within a 24-hour period.

Ovariohysterectomy

SPECIES: Canine, feline

DESCRIPTION OF PROCEDURE: Ovariohysterectomies are common surgical procedures in private veterinary practice and in shelter medicine.

Ovariohysterectomy (OHE) is a surgical procedure to remove a female animal's ovaries and uterus to prevent pregnancy and eliminate heat cycles. The procedure will eliminate or reduce the risk of certain health issues, uterine infections.

The students of this program are required by AVMA/CVTEA to participate in a feline and a canine OHE. These animals are privately owned animals presented to the clinic for the prescribed procedure.

The role of the student will be determined by the veterinarian in charge of the procedure and may include (but not limited to) participating in the pre-surgical work up, surgical preparation of the patient and/or surgical suite, monitoring patient during the procedure, scrubbing in as a surgical assistant, and assisting in post-operative care.

PREPARATION OF STUDENTS:

- ✓ Lecture and/or reading
- ✓ Demonstration and/or video

ANESTHESIA/TRANQUILIZATION: Yes

SHOULD DISCOMFORT OCCUR: Some post operative discomfort is expected to be associated with this procedure and is treated with analgesics under the attending veterinarian's direction. Animals will be treated by the attending veterinarian in those uncommon cases where surgical or post-surgical complications arise. Instructions to clients, including behavioral modifications (keeping the animal quiet or the wearing of an Elizabethan collar to prevent licking up the incision) will be prescribed under the direction of the attending veterinarian.

EUTHANASIA: Shall not be used.

LIMIT: The student may assist as a veterinary technician student under the direct supervision of the attending veterinarian.

Physical Examination

SPECIES: Canine, feline, exotic animals, and large animals

DESCRIPTION OF PROCEDURE:

1. The animal is manually restrained
2. The physical exam is performed and may consist of the following:
 - a. Looking inside both ears
 - b. Lifting the lips to check gum color
 - c. Opening the mouth to check teeth
 - d. Pinching of the skin to assess hydration status
 - e. Palpation of the body to check for masses, wounds, irregularities, etc.
 - f. Auscultation of the chest with a stethoscope
 - g. Palpation of the femoral pulses
 - h. Lifting of the tail to examine the perianal region
 - i. Insertion of either an aural thermometer into the ear or a rectal thermometer into the rectum to measure body temperature.
 - j. Lifting, flexing, and extending of the limb joints to assess range of motion
 - k. Walking or running of the animal to assess gait.
 - l. Various reflex tests

SAFEGUARDS: Performed under direct clinical teaching assistant supervision.

PREPARATION OF STUDENTS:

- ✓ Lecture, demonstration, and/or video

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: No discomfort is expected for this procedure.

EUTHANASIA: Shall not be used.

LIMIT: None.

Radiographs

SPECIES: Canine, feline, exotics, equine, and large animals

DESCRIPTION OF PROCEDURE:

1. Animal is measured for the predetermined radiographic study views
2. Animal's information is entered into the computer system and the machine is set up for the first radiograph
3. All persons involved will don protective gear and dosimeters shall not show up in x-rays.
4. Animal is manually restrained in the proper position in relationship to the image cassette and the primary x-ray beam. Positioning aids (sandbags, troughs, etc) can be used to help minimize the amount of manual restraint needed. Chemical restraint (i.e., sedation or anesthesia) is strongly recommended in most cases to limit stress to the patient, unless deemed medically not recommended by the attending veterinarian, with the exception of dental radiographs (anesthesia is required) and most orthopedic studies (heavy sedation and/or anesthesia is required).
5. The radiograph is exposed and reviewed on the screen. If the radiograph is unacceptable, additional exposures may be taken until an acceptable one is created.
6. All exposures will be documented in the radiology log.

SAFEGUARDS: Performed under direct clinical teaching assistant supervision. Whenever possible, animals with legitimate medical needs to have radiographs taken will be used for this procedure. All items such as collars, leashes, harnesses, etc. are removed from the animal to minimize scatter radiation.

PREPARATION OF STUDENTS:

- ✓ Lecture
- ✓ Demonstration and/or video
- ✓ Practice with models or stuffed animals (exposures will be simulated and no x-rays will be produced on non-live animals).

ANESTHESIA/TRANQUILIZATION: Strongly recommended for most radiographic studies; required for OFA and dental radiographic studies.

SHOULD DISCOMFORT OCCUR: Mild discomfort may occur, particularly for stressed patients and/or patients with underlying painful conditions when joints or body parts need to be positioned and/or manipulated in ways which may lead to discomfort.

EUTHANASIA: Shall not be used.

LIMIT: *Because more than one image is often necessary, a series of images constitutes as one "study" or procedure.* No more than four radiographic studies (with or without exposure) can be performed per day. No more than ten radiographic procedures (with exposure) can be performed within a 6-month period (to limit the animal's exposure to radiation).

Restraint

SPECIES: Canine, feline, exotic animals, and large animals

DESCRIPTION OF PROCEDURE: Restraint involves safely maneuvering an animal into a specified position and maintaining control of it for a period of time, typically long enough to allow for another person to perform some type of treatment or nursing procedure.

Apply a mechanical rope or self-restraining aluminum twitch to an equine (horses/ponies/donkeys/mules) to the upper lip of the equine.

Apply a bovine tail restraint. The cow is restrained in a head chute or alley way to prevent side to side movement. Stand directly behind the animal. The tail is lifted gently but firmly straight up and over the back until resistance is felt. Bending should occur only at the base of the tail. Constant pressure is applied, without excessive exertion.

SAFEGUARDS: Performed under direct clinical teaching assistant supervision. Minimal amount of restraint is always used. Fear free, low stress techniques such as positive reinforcement and food rewards will be utilized whenever possible.

PREPARATION OF STUDENTS:

- ✓ Lecture
- ✓ Demonstration and/or video
- ✓ Practice with training models

ANESTHESIA/TRANQUILIZATION: Sedation and/or anesthesia may be utilized under direct veterinarian supervision to minimize patient stress.

SHOULD DISCOMFORT OCCUR: Mild discomfort may occur, particularly for stressed patients and/or patients with underlying painful conditions when joints or body parts need to be positioned and/or manipulated in ways which may lead to discomfort.

EUTHANASIA: Shall not be used.

LIMIT:

- [Standing & sitting restraint] None.
- [Sternal, jugular, & cephalic restraint] No more than ten times per day.
- [Dorsal & lateral restraint] No more than six times per day.

Restraint Tools

SPECIES: Canine, feline, exotics

DESCRIPTION OF PROCEDURE:

Restraint Pole

1. Approach cautiously to avoid startling the animal.
2. Extend the restraint pole and ensure the loop is open and ready.
3. Gently place the loop over the animal's head or around the neck.
4. Pull the rope to tighten the loop securely around the animal's neck, but not too tight to cause harm.
5. Maintain steady tension on the pole to control the animal's movement.
6. Guide the animal to a secure position while maintaining control of the pole.
7. Release the loop carefully once the animal is in position or once restraint is no longer needed.

Muzzles

Commercial muzzle

1. choose appropriate size muzzle
2. restrain dog safely
3. approach from behind
4. slip muzzle on quickly without losing head control
5. grab ends of muzzle and secure it without dog getting loose
6. tighten muzzle

Gauze muzzle restraint

1. restrain dog in sternal
2. tip head with nose towards ceiling
3. maintain head control until muzzle is on and tightened

Gauze muzzle apply

1. make muzzle from gauze appropriate size knotted in middle
2. approach dog once partner is ready in restraint
3. quickly apply muzzle
4. tighten so that muzzle cannot be slipped off
5. remove safely once procedure is done and restraining partner is ready

Feline muzzle

1. Choose appropriate size muzzle
 2. Position cat in sternal holding muzzle in outside arm
 3. Keeping arm over cat so that control of cat's body is maintained
 4. Sweep muzzle quickly onto cat
 5. Tighten muzzle
 6. Check quickly to be sure cat's nares are visible, remove quickly if not
- Removal: loosen
Maintain sternal recumbency
Quickly sweep muzzle off

Cat Bag

1. Choose appropriate size cat bag
2. First secure Velcro closure around cats' neck
3. Work the whole maintaining control of animal's head and body
4. Fasten closures
5. Maintain head control even while cat is in bag
6. Remove body first head last maintain good body and head control

Towel (feline, exotics)

1. Choose and position towel
2. Maintain control of animal's head and body
3. Wrap securely so that towel is tight enough to not allow animal to get limbs out but does not obstruct animal's ability to breath.
4. Remove from towel while maintaining body and head control

SAFEGUARDS:**1. Restraint Poles**

- Safeguards:
 - Only use when less invasive methods are ineffective.
 - Use gently without excessive force to prevent injury.
 - Monitor for signs of distress or harm.
 - Avoid prolonged use; release restraint immediately if needed.

2. Muzzles

- Safeguards:
 - Ensure proper fit to avoid airway obstruction.
 - Use for short periods, only as necessary.
 - Monitor the animal's breathing and comfort.
 - Remove muzzle promptly once the procedure is complete.
 - Avoid use on animals with respiratory issues.

3. Cat Bags

- Safeguards:
 - Ensure the bag is not too tight and allows airflow.
 - Monitor for signs of distress, overheating, or breathing difficulty.
 - Check that the cat's head and limbs are easily accessible.
 - Remove or adjust the bag if the animal shows distress.

4. Cat-Towel Restraints

- Safeguards:
 - Ensure the towel is not too tight and does not restrict breathing.
 - Allow minimal movement while preventing escape or injury.
 - Never leave the animal unattended while restrained.
 - Adjust or remove the restraint if the animal shows signs of discomfort.

PREPARATION OF STUDENTS:

- ✓ Lecture and/or reading
- ✓ Demonstration and/or video

ANESTHESIA/TRANQUILIZATION: Anesthesia or tranquilization may be considered when necessary to reduce stress, pain, or injury, and should only be administered by a qualified professional following appropriate guidelines and protocols to ensure animal welfare and safety.

SHOULD DISCOMFORT OCCUR: If discomfort occurs during the use of restraint poles or other restraint methods, the procedure should be immediately halted, and the animal's condition reassessed to ensure its well-being, with appropriate adjustments or alternative methods considered to minimize stress or harm.

EUTHANASIA: None

LIMIT: These methods should only be used when absolutely necessary and in situations where less invasive techniques are ineffective. Restraint should be applied with minimal force and for the shortest duration possible to avoid causing stress, injury, or prolonged discomfort to the animal. Continuous monitoring is required to assess the animal's physical and emotional state, and alternative restraint techniques, including sedation or tranquilization, should be considered when appropriate to ensure the animal's welfare.

Schirmer Tear Test (STT)

SPECIES: Canine, feline

DESCRIPTION OF PROCEDURE:

1. Animal is restrained manually
2. The Schirmer Tear Test strips are bent 90 degrees at the notched area before opening the packet.
3. The bottom eyelid is pulled down and the bent area of the strip is aseptically placed into a conjunctival position so that the strip is in contact with the cornea.
4. The strip remains in position for 60 seconds.
5. The strip is removed and interpreted for tear production.
6. The procedure can be performed concurrently on both eyes or the previous steps can be repeated on the alternate eye.

SAFEGUARDS: Only performed under direct supervision of a clinical teaching assistant.

PREPARATION OF STUDENTS:

- ✓ Lecture, demonstration, and/or video

ANESTHESIA/TRANQUILIZATION: Not required for this procedure

SHOULD DISCOMFORT OCCUR: No discomfort is expected to occur with this procedure.

EUTHANASIA: Shall not be used.

LIMIT: No more than once *per eye* within a 24-hour period

Skin Scraping

SPECIES: Canine, feline

DESCRIPTION OF PROCEDURE:

1. Animal is restrained manually
2. A #10 scalpel blade is partially dulled and coated with mineral oil
3. The blade is then used to scrape away the hair and top layer of skin from a specified site (typically at the edge of a skin lesion).
4. The scrapings are transferred to a microscope slide and examined under the microscope for ectoparasites.

SAFEGUARDS: Performed under immediate instructor supervision. Blade will be slightly dulled prior to use. Medicated ointment may be applied to the skin afterward.

PREPARATION OF STUDENTS:

- ✓ Lecture
- ✓ Demonstration and/or video
- ✓ Practice on fruit (kiwi) or cadavers

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: Mild discomfort is expected with this procedure but is of short duration. If irritation of the area tested is noted, topical antibiotic steroids may be applied as prescribed by the veterinarian.

EUTHANASIA: Shall not be used.

LIMIT: No more than two times within a 14-day period.

Splints and Bandages

SPECIES: Canine, feline

DESCRIPTION OF PROCEDURE:

Apply Emergency Splints and Bandages:

1. Student will place two strips of medical tape onto the patient's limbs
2. Student will wrap the patient's limb with thick cast padding over a fractured limb
3. Student will wrap the cast padding in place with stretch-gauze, carefully ensuring a comfortable, yet secure wrap
4. Student will take both ends of medical tape and bring them proximally, securing the tape onto the wrap
5. Student will wrap limb with non-conforming vet-wrap, ensuring that the patient's toes are clearly visible
6. Student will check both exposed toes, making sure that they are even in position

Apply and Remove Splints and Bandages:

1. Student will place two strips of medical tape onto the patient's limbs
2. Student will wrap the patient's limb with cast padding from distal to proximal with even distribution of material and pressure
3. Student will repeat step 2 with stretch-gauze, carefully ensuring a comfortable, yet secure wrap
4. Student will take both ends of medical tape and bring them proximally, securing the tape onto the wrap
5. Student will repeat step 3 with non-conforming vet-wrap, ensuring that the patient's toes are clearly visible
6. Student will check both exposed toes, making sure that they are even in position
7. When removing bandage, student will use bandage scissors to slowly cut the bandage one layer at a time to prevent injury to the patient

*Student has the option to manually remove the bandage by hand, peeling each layer slowly in the same manner as it was applied

SAFEGUARDS: When applying or removing bandages and splints, gentle restraint should be used to avoid stress or injury to the animal. Bandages should be applied securely, but not too tight, to ensure proper circulation and support. The animal should be monitored for signs of discomfort, swelling, or irritation, and any issues should be addressed immediately. When removing bandages or splints, care should be taken to avoid causing pain.

PREPARATION OF STUDENTS:

- ✓ Lecture and/or reading
- ✓ Demonstration and/or video

ANESTHESIA/TRANQUILIZATION: Anesthesia or tranquilization may be used during the application or removal of bandages and splints if necessary to reduce pain, anxiety, or stress, or if the animal cannot be safely restrained. The decision to sedate or anesthetize the animal should be made by a veterinarian, ensuring minimal risk and discomfort. Only trained personnel should administer sedation or anesthesia, and the animal should be monitored for any adverse effects throughout the procedure.

SHOULD DISCOMFORT OCCUR: If discomfort occurs during the application or removal of bandages or splints, the procedure should be immediately halted, and the animal should be reassessed. Appropriate adjustments should be made to alleviate distress, and alternative methods should be considered if necessary to ensure the animal's safety and comfort.

EUTHANASIA: None

LIMIT: The application and removal of bandages and splints should be performed only when clinically necessary. Restraint should be minimal, and sedation or anesthesia should only be used if required to ensure the animal's safety and reduce stress or pain. Procedures should be completed as quickly as possible to minimize discomfort, and the animal should be closely monitored throughout.

Subcutaneous Injections

SPECIES: Canine, feline, exotic animals, and large animals

DESCRIPTION OF PROCEDURE:

1. Animals are manually restrained.
2. A sterile needle is placed through the skin.
3. The student aspirates to make sure the needle is not in a vein and a small amount of sterile isotonic fluid is administered.
4. The needle is removed from the skin.

SAFEGUARDS: Performed under immediate instructor supervision.

PREPARATION OF STUDENTS:

- ✓ Lecture
- ✓ Demonstration and/or video
- ✓ Practice on live animal by simulating injection with a syringe (no needle attached)

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: There is little discomfort associated with this procedure. A slight amount of discomfort may occur when the needle enters the skin but is minimal and of short duration. Alternatives such as chemical restraint would require the same amount of discomfort for administration as this procedure.

EUTHANASIA: Shall not be used.

LIMIT: No more than four times within a 7-day period.

Surgical Site Preparation

SPECIES: Canine, feline, and exotics

DESCRIPTION OF PROCEDURE:

1. The animal is in a safe and stable anesthetic plane.
2. The patient is placed in the required surgical position.
3. The surgical area is clipped using a #40 blade and going against the grain of hair growth. The boundaries are determined by the procedure.
4. Excess hair is vacuumed, and tape may be used to remove any stray hair from the surgical area.
5. Skin is cleaned using surgical scrub and water/saline, followed by alcohol on 4x4 gauze until area is clean.
6. The final skin preparation occurs in the surgical suite, while wearing sterile gloves. Using antiseptic-soaked surgical sponges, the surgical site is scrubbed beginning at the incision site and, in a circular motion, working to the periphery, when the surgery sponge is discarded for a new one. This pattern is repeated until the skin has had five minutes contact with the surgical antiseptic.
7. The area is rinsed with sterile saline or 70% isopropyl alcohol until free of residue.
8. The alcohol should air dry.
9. A light coat of surgical solution is sprayed onto the surgical site.

SAFEGUARDS: Under instructor direct supervision of DVM and CVT.

PREPARATION OF STUDENTS: Lecture and demonstration.

ANESTHESIA/TRANQUILIZATION: The animal will be under general anesthesia for a procedure deemed necessary by the attending veterinarian.

SHOULD DISCOMFORT OCCUR: none is from the surgical preparation procedure.

EUTHANASIA: N/A

LIMIT: Once per patient.

Suture Removal/Staples

SPECIES: Canine, feline, equine, large animals, and exotics

DESCRIPTION OF PROCEDURE:

1. The patient is restrained so the suture site is available.
2. The knot is gently lifted, exposing the 'legs' of the stitch. Using suture scissors, one leg is cut, so the stitch can be pulled through the skin. Care must be taken to only cut one side of the stitch to prevent leaving any piece of suture material within the suture line.
3. A line of continuous sutures must be cut to prevent drawing excessive amounts of suture through the skin.

SAFEGUARDS: Only performed under direct supervision of a clinical teaching assistant.

PREPARATION OF STUDENTS:

- Lecture
- Demonstration, and/or video

ANESTHESIA/TRANQUILIZATION: Not required for this procedure

SHOULD DISCOMFORT OCCUR: No discomfort is expected to occur with this procedure.

EUTHANASIA: Shall not be used.

LIMIT: None.

Tonometry

SPECIES: Canine, feline, equine, and exotics

DESCRIPTION OF PROCEDURE:

4. A new probe is inserted into the Tonovet prior to use with each patient.
5. Animal is restrained manually with care to not apply added pressure to the head or neck.
6. The Tonovet is held level (90-degree angle) 4-8 mm from the cornea in the center of the pupil.
7. The button on the Tonovet is pressed 6 times in a row.
8. The IOP (Intraocular Pressure) is obtained from the Tonovet.
9. The procedure is repeated on the alternate eye.

SAFEGUARDS: Only performed under direct supervision of a clinical teaching assistant.

PREPARATION OF STUDENTS:

- Lecture
- Demonstration, and/or video

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: No discomfort is expected to occur with this procedure.

EUTHANASIA: Shall not be used.

LIMIT: No more than once *per eye* within a 24-hour period.

Topical Medications (Otic and Ophthalmic)

SPECIES: Canine, feline

DESCRIPTION OF PROCEDURE:

1. Student will gather and prepare all supplies; animal will be properly restrained
2. Student will apply topical ointment to desired location, applying only to the skin and not the hair/fur
3. Students will apply the necessary amount. If the dosage is increased, student will apply topical medication to multiple locations
4. Note: Student will apply topical medications to areas that are inaccessible to the animal's mouth

Ophthalmic Medications:

1. Student will gather supplies, properly restrained animal
2. Student will gently pull the patient's eyelids back while approaching from the back of the animal's head
3. Student will administer ophthalmic medications onto the cornea of the desired eye
4. If multiple medications are to be administered into the same eye, student will wait a minimum of 5 minutes before repeating the above steps. Apply solutions before ointments.

Otic Meds:

1. Prepare the Medication: Ensure the correct otic medication is ready and follow the prescribed dosage instructions.
2. Position the Animal: Gently restrain the animal in a comfortable position. For cats, wrapping them in a towel may help prevent movement. For dogs, have them sit or lie down.
3. Clean the Ear (if needed): If instructed, gently clean the ear canal with an ear cleaner before applying the medication. Make sure the ear is dry.
4. Apply the Medication: Hold the ear flap open and place the prescribed amount of medication into the ear canal.
5. Massage the Ear: Gently massage the base of the ear to help distribute the medication inside the ear canal.
6. Allow the Animal to Shake (if safe): If the animal shakes its head, this can help distribute the medication more thoroughly in the ear.
7. Wipe Excess Medication: Use a clean cotton ball or gauze to gently wipe away any excess medication from the ear flap.
8. Reward the Animal: Praise or give the animal a treat to associate the experience with positive reinforcement.

SAFEGUARDS: Restraint should be performed gently and calmly, using appropriate techniques such as towel wrapping or gentle handling to prevent injury or undue stress. The medication should be applied using proper technique, ensuring the correct dosage and avoiding contamination of the medication or the animal's surrounding environment. The animal should be monitored for any signs of discomfort, adverse reactions, or excessive movement, and the procedure should be paused if distress occurs. After administration, any excess medication should be cleaned off to avoid irritation, and the animal should be monitored for any negative responses. Additionally, adequate hygiene practices should be maintained.

PREPARATION OF STUDENTS:

- ✓ Lecture and/or reading
- ✓ Demonstration and/or video

ANESTHESIA/TRANQUILIZATION: Anesthesia or tranquilization may be used when administering otic or ophthalmic medications if the animal is too stressed, aggressive, or difficult to restrain safely. A veterinarian should determine the need for sedation based on the animal's condition and the procedure. Sedatives or anesthetics must be administered by qualified personnel, following appropriate guidelines, and the animal should be monitored for adverse reactions throughout and after the procedure. The goal is to minimize stress and ensure the animals' safety.

SHOULD DISCOMFORT OCCUR: If discomfort occurs during the administration of otic or ophthalmic medications, the procedure should be immediately halted, and the animal should be reassessed. Appropriate adjustments should be made to minimize distress, and alternative methods should be considered if necessary to ensure the animal's well-being.

EUTHANASIA: None

LIMIT: These procedures must be performed with caution, ensuring that restraint is kept to a minimum, and sedation or anesthesia is used only when absolutely necessary. All steps should be conducted with the goal of minimizing stress, discomfort, and risk to the animal, in compliance with IACUC guidelines.

Twitch Application

SPECIES: Equine

DESCRIPTION OF PROCEDURE:

1. The loop or handle of the twitch over the bridge of the nose and gently brought down to the upper lip
2. The upper lip is grasped and is pulled through the loop or into the handle.
3. The handle is twisted, or the bar is squeezed, placing pressure on the upper lip
4. Applied pressure to the lip with a twisting and not pulling motion
5. The twitch is then released, and the handler will rub the horse's upper lip and nose

SAFEGUARDS: Performed under direct clinical teaching assistant supervision.

PREPARATION OF STUDENTS:

- ✓ Lecture, demonstration, and/or video
- ✓ Practice handling the twitch prior to application to become comfortable with the mechanics.

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: There is mild discomfort associated with this procedure. If animal resists, another animal is used, or the procedure is discontinued.

EUTHANASIA: Shall not be used.

LIMIT: No more than two times per day.

Urinary Catheterization

SPECIES: (Male) canines

DESCRIPTION OF PROCEDURE:

1. Animal is restrained manually
2. The penis is extruded, and the urethral opening is cleansed with antiseptic solution
3. A sterile urinary catheter is lubricated, inserted into the urethra, and passed into the urinary bladder
4. A syringe is attached to the external end of the catheter and a urine sample is aspirated.
5. The urinary catheter is then removed.

SAFEGUARDS: Performed under immediate clinical teaching assistant supervision. Procedure will be done using only sterile materials while wearing sterile gloves.

PREPARATION OF STUDENTS:

- ✓ Lecture
- ✓ Demonstration and/or video
- ✓ Practice on a training model (if available)

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: There is little discomfort associated with this procedure. A slight amount of discomfort may occur when the catheter is placed in the urinary bladder but is of short duration. Chemical restraint/sedation may be provided as needed to minimize patient stress/discomfort as recommended by attending DVM.

EUTHANASIA: Shall not be used.

LIMIT: No more than once in a 14-day period, unless medically necessary.

Urine Sample Collection (Voided)

SPECIES: Canine, feline, exotic animal, and large animal

DESCRIPTION OF PROCEDURE:

Animal is walked outside, and a clean or sterile collection container is used to catch urine as the animal voids it or a sample that has been voided on a relatively clean surface such as a kennel or tile floor can be collected via pipette.

SAFEGUARDS: None.

PREPARATION OF STUDENTS:

- ✓ Lecture
- ✓ Demonstration, and/or video

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: There is no discomfort associated with this procedure.

EUTHANASIA: Shall not be used.

LIMIT: None

Vaginal Cytology

SPECIES: (Female) canines

DESCRIPTION OF PROCEDURE:

1. The animal is manually restrained.
2. The vulva and external genitalia is cleansed with antiseptic
3. A speculum is inserted into the distal vaginal canal.
4. A sterile swab that has been pre-moistened with sterile water or saline is passed through the speculum and into the upper vaginal canal, just past the pelvic brim.
5. The swab is moved in an upward sweeping motion to collect cells from the vaginal wall and then removed, followed by removal of the speculum.

SAFEGUARDS: Only sterile supplies/ equipment will be used. Vulva & external genitalia will be cleansed with antiseptic solution to minimize bacterial contamination.

PREPARATION OF STUDENTS:

- ✓ Lecture
- ✓ Demonstration and/or video

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: Mild discomfort is expected with this procedure, but it is of short duration.

EUTHANASIA: Shall not be used.

LIMIT: No more than once within a 7-day period.

Venipuncture

SPECIES: Canine, feline, exotic animal, and large animal

DESCRIPTION OF PROCEDURE:

1. Animal is manually restrained
2. Venipuncture site is located and swabbed with antiseptic
3. Needle is inserted into the vein and a blood sample is withdrawn.
4. Needle is removed from the vein and pressure is applied to the puncture site for 10-30 seconds to assist with hemostasis.

SAFEGUARDS:

- ✓ Performed under immediate clinical teaching assistant supervision.
- ✓ Only sterile supplies/equipment will be used.
- ✓ No more than 1 ml of blood per 3 pounds of body weight will be drawn from a healthy animal within a 2-week period unless medically necessary.
- ✓ **Students will be required to demonstrate proficient technique on a training model before being allowed to attempt this procedure on a live animal.**
- ✓ Animals that are already anesthetized or sedated for other reasons will be used in priority over those that are not.

PREPARATION OF STUDENTS:

- ✓ Lecture
- ✓ Demonstration and/or video
- ✓ Practice on IV training models

ANESTHESIA/TRANQUILIZATION: Not required for this procedure.

SHOULD DISCOMFORT OCCUR: Discomfort is minimal and of short duration. In cases where the animal seems to be unusually distressed, another approved animal will be used in its place. Chemical restraint/sedation may be utilized as needed to limit stress to patient under direct DVM supervision. Whenever possible, animals that are already tranquilized or anesthetized for another purpose will be utilized to minimize stress.

EUTHANASIA: Shall not be used.

LIMIT:

- [Dogs & Cats] twice per vessel within a 7-day period.
- [Large animals] 3 times per vessel within a 7-day period.
- [Exotics] Once per vessel within a 7-day period.

Glossary of Definitions

Amphibian: Exothermic vertebrate animals who spend their larval stage in water (breathing through gills) and adulthood on land (using lungs to breathe) air. Includes frogs, toads, newts, and salamanders.

Avian: Exothermic vertebrate animals with a body covered with feathers, forelimbs modified into wings, scaly legs, a beak, and no teeth, and bearing young in a hard-shelled egg.

Bovine: Group of ruminant odd toed ungulates (hoofed mammals) with cloven hooves. Includes domestic cattle, bison, African buffalo, water buffalo, yak, and antelopes.

Camelid: Even-toed ungulates that lack a true hoof. Includes camels, alpaca, and llama.

Canine: Group of carnivorous and omnivorous mammals that includes wolves, foxes, jackals, coyotes, and domestic dogs.

Caprine: A subgroup of Bovine animals that include goats.

Equine: Group of non-ruminant odd-toed ungulates (hoofed mammals). Includes horses, donkeys, zebras, tapirs, and rhinoceroses.

Exotic Animals: Refers to small mammals (including rodentia, lagomorphs, mustelidae), amphibians, reptiles, and avians.

Feline: Group of carnivorous mammals that includes tiger, lion, jaguar, leopard, cougar, cheetah, lynxes, ocelot, and domestic cat.

Intramuscular (IM) Injection: An intramuscular injection is an injection given directly into a muscle. The blood vessels supplying that muscle distribute the injected medication via the cardiovascular system.

Intravenous (IV) Injection: The process of giving medication directly into a patient's vein. Methods of administering IV medication may include giving the medication by rapid injection (push) into the vein using a syringe, giving the medication intermittently over a specific amount of time using an IV secondary line, or giving the medication continuously mixed in the main IV solution. IV medications are most often given through a peripheral line but may also be administered directly.

Intraperitoneal (IP) Injection: Administration of a substance into the peritoneal cavity, which is the space within the abdomen that contains the stomach, liver, and other organs.

Lagomorph: Group of herbivorous mammals that includes hares, rabbits, and pikas.

Laboratory Animals: Refers to rats and mice exclusively.

Large Animals: Refers to large mammals, including bovine, camelid, caprine, equine, ovine, suidae.

Mustelidae: Carnivorous mammals commonly referred to as the weasel family. Includes, minks, sables, ferrets, weasels, otters, badgers, and wolverines.

Ovine: A subgroup of Bovine animals that include sheep.

PO (Per os): A treatment that is taken orally. Generally includes enteral, buccal, sublingual and respiratory administration.

Reptilian: Exothermic vertebrate animals who generally lay shelled eggs and have skin covered in scales and/or scutes. Includes lizards, snakes, turtles, and tortoises.

Rodentia: Group of omnivorous mammals that includes mice, rats, squirrels, gerbils, porcupines, beavers, chipmunks, guinea pigs, voles and capybara.

Subcutaneous (SQ) Injection: A subcutaneous injection is given in the fatty layer of tissue just under the skin.

Suidae: Group of omnivores non-ruminant even toed ungulates (hoofed mammals). Formerly known as porcine. Includes pigs, hogs, and warthogs.