

NECROPSY MENTORSHIP



VM 22400

CRITERIA HANDBOOK AND LOGBOOK

INDEX OF NOTEBOOK

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Clinical Mentorship Tasks

Introduction to Essential Tasks and Criteria

1. Assist in Prosecution on Non-Preserved Animal
2. Collection, Preservation and Shipping of Samples

Clinical Mentorship Projects

3. Safe Handling of Rabies Suspect Bodies and Samples
4. Storage and Disposal of Deceased Animals

NOTE THE FOLLOWING DUE DATES FOR THE TASKS ABOVE:

Fall or Spring semester 11:59p.m. Thursday of week 10 – Tasks 1-2

11:59p.m. Thursday of week 12 – Tasks 3-4

Summer session 11:59p.m. Thursday of week 8 – Tasks 1-2

11:59p.m. Thursday of week 10 – Tasks 3-4

Incomplete grades will not be assigned for mentorships at the end of the semester.

Grade penalties will be assessed for tasks submitted after the due date.

Resubmission due dates will be set by the instructor as required.

STUDENT INFORMATION

GOALS OF CLINICAL MENTORSHIP

Working with a veterinary care facility, the student will perform tasks under the supervision of a clinical mentor (veterinarian or credentialed veterinary technician).

In order to achieve the goals for this Clinical Mentorship, the tasks must be performed to the level of competency as outlined by the criteria for each task. The submitted videos should demonstrate proficiency in performing skills that have been learned and practiced until the student feels comfortable. While occasional guidance from the mentor is acceptable during the learning phase, video submissions must show that the student can execute the task independently, smoothly, and competently without excessive direction or outside assistance. All tasks must be performed without reliance on the Task Verification Form or other written sources during the video. Video demonstration of each skill should reflect the ability to perform the skill autonomously, as would be expected in clinical practice.

The student is responsible for providing documentation for each task as defined by the *Materials Submitted for Evaluation and Verification* section on each task.

In addition to the documentation, the Clinical Mentorship site supervisor will verify that the student performed the task under their supervision.

Final approval of successful performance and completion of the Clinical Mentorship will be made by the Purdue University instructor in charge of the Clinical Mentorship. This approval will be based upon the documentation provided by the student.

The Purdue University instructor in charge has the option to require additional documentation if, in their judgment, the student has not performed and/or documented the task to the level set by the Criteria.

Documentation of completed tasks is essential to validating the educational process and insuring that the performance of graduates of the Veterinary Nursing Distance Learning Program meets the standards of quality required by the Purdue University College of Veterinary Medicine faculty and the American Veterinary Medical Association accrediting bodies.

Essential criteria for each skill are denoted by **(critical)** and must be included in the performance of the skill in order for the task to be approved. Failure to demonstrate any **(critical)** steps clearly will result in resubmission of the task. Critical components include actions or omissions that would compromise patient or personal safety, cause potential immediate harm to the patient or personnel, demonstrate a serious breach of infection control protocols, show a fundamental lack of knowledge of performance of the task, or fail to demonstrate required AVMA essential skills.

Live narration of videos is expected for all submissions. If a student wishes to submit a video with voice-over they must contact the instructor prior to making the video to discuss whether an exception may be made. Certain tasks require live narration, and exceptions will not be made for those.

Continuous, unedited video is preferred, and is required for some tasks. Required continuous, unedited video will be noted in the task description. If video is not continuous, the student must ensure that all criteria are demonstrated in the video clips.

PRE-REQUISITES FOR CLINICAL MENTORSHIP

Agreements

Because of legal, liability and AVMA accreditation issues, the following documents must be submitted prior to beginning the Clinical Mentorship

1. Clinical Mentorship and Facility Requirement Agreement
2. Supervisor Agreement
3. Release of Liability, Health Risk and Insurance, Technical Standards and Mentorship Code of Conduct
4. Professional Liability Insurance Coverage

These documents are available on the VNDL website.

If more than one Clinical Mentorship course is taken, separate Clinical Mentorship and Facility Requirement Agreement and Supervisor Agreement must be completed for each course.

More than one Mentorship Supervisor may sign the mentorship logbook. Each must be either a DVM or a credentialed technician, and must complete a separate Supervisor Agreement.

Failure to complete and submit the listed documents and/or non-payment for Student Professional Liability Insurance Coverage will prevent the student from enrolling in the Clinical Mentorship

Insurance

Two types of insurance are recommended or required for the student working in a Clinical Mentorship.

Health Insurance is highly recommended to cover the medical expenses should the student become injured while on the job. It is the student's responsibility to procure such insurance.

Liability Insurance is required to protect the student in the event of a suit filed against the student for acts he/she performed while in the Clinical Mentorship.

Each VNDL student is required to purchase, for a nominal fee, Professional Liability Insurance through Purdue University. The fee covers from the time of initiation of coverage until the subsequent July 31st.

Students will not be enrolled in Clinical Mentorships until the Professional Liability Insurance is paid, and the student is covered by the policy.

CONTACT PERSON

Questions regarding the overall Clinical Mentorship process should be directed to
Pam Phegley, BS, RVT
Clinical Mentorship Coordinator
(765) 496-6809
phegleyp@purdue.edu

Questions regarding this mentorship (tasks, due dates, etc.) should be directed to the instructor for this mentorship course.

WHAT TO LOOK FOR IN A MENTORSHIP FACILITY

When evaluating a facility for clinical mentorships, the student should thoroughly research the site. It is strongly suggested to visit the site if not currently working there. This experience is a chance to begin to apply the wealth of knowledge and skills acquired and developed to this point in the veterinary nursing education. The following are points of discussion or questions to consider when evaluating the site (RVT includes any credentialed veterinary technician):

- Does the site currently have credentialed veterinary technicians/nurses on staff?
- Are there any boarded DVM specialists or VTS RVTs on staff?
- What is the role of the technician/nurse versus other members of the staff (such as veterinary assistants)?
- What is the overall size of the staff (professional and paraprofessional staff)?
- Is the site an accredited practice or facility (AAHA, ALAC, etc.)?
- Has the site hosted a VNDL student in the past?
- Does the staff seem receptive to hosting a student?
- Is the site located in a safe and easily accessible location? Are there geographical considerations?
- Is this also an employment opportunity?
- Ask the supervisor:
 - What are their specific goals for the student?
 - Have they ever been a supervisor before for a veterinary technician/nursing student?
 - Who else at the site may be involved in supervision?
 - Do they have any concerns for the legal allowances in which the student may perform certain tasks?

It is strongly recommended that the student show potential mentorship supervisor(s) examples of mentorship logbooks, so they are aware of what the student will need to accomplish in this facility. The discussion should include that most tasks will require videos of the student performing skills, and how this will be accomplished. A student may have multiple supervisors (either DVM or credentialed technician), and one must be present any time the student is performing skills for a clinical mentorship. Supervisors sign Task Verification forms which state that they observed the student as they performed each task. Mentorship supervisors act as coaches and must be present to ensure the safety of the patient and personnel. They are not involved in evaluation of skills; this is done by Purdue instructors.

SELECTING THE CLINICAL MENTORSHIP SITE – FACILITY REQUIREMENTS

You must visit the Clinical Mentorship Site and determine if the following supplies and equipment are readily available to you for use during your Clinical Mentorship. The mentorship supervisor will verify the availability of required items by completing the Mentorship and Facility Requirement Agreement.

The veterinary care facility must be equipped with the following equipment:

- Necropsy knife (sturdy and able to be sharpened)
- Scalpel handle
- Mayo or Metzenbaum scissors
- Forceps
- Serrated utility scissors
- Pruning shears or other instrument for cutting ribs

In addition, the following disposable items must be available:

- Heavy-duty latex gloves
- Scalpel blades
- Jars of formalin
- Sterile culture tubes or culture swabs
- Zipper-top plastic bags
- Indelible marking pen

Note: If an appropriate case for necropsy does not present to the mentorship site, a large rat may be purchased and used. Any differences in rat anatomy should be noted verbally on the video. A fresh cadaver (not preserved or frozen) should be used.

SELECTION OF CLINICAL MENTORSHIP SUPERVISOR

The Clinical Mentorship Supervisor is the person who will sign Task Verification forms that verify performance of tasks at the Clinical Mentorship site. This person must be a credentialed veterinary technician (have graduated from an AVMA accredited program or met State requirements for credentialing as a veterinary technician) or a licensed veterinarian.

An individual who claims to be a “veterinary technician” but has not met the criteria for credentialing above is not eligible to be mentorship supervisor.

The individual is not considered to be an employee of Purdue University when acting as your Clinical Mentorship supervisor.

Each Clinical Mentorship Supervisor must complete a *Clinical Mentorship Supervisor Agreement*. These agreements must be submitted prior to beginning the Clinical Mentorship. Multiple supervisors may be used for documentation of mentorship tasks. Each supervisor must complete a separate agreement.

Should the Clinical Mentorship Supervisor change during the course of the Clinical Mentorship, the student will need to have the new supervisor complete a *Clinical Mentorship Supervisor Agreement* and submit to the Purdue VNDL office.

ALL TASKS PERFORMED FOR A MENTORSHIP MUST BE OBSERVED IN PERSON BY A SUPERVISOR FOR WHOM DOCUMENTATION HAS BEEN SUBMITTED

CRITERIA HANDBOOK AND LOGBOOK

This Criteria Handbook and Logbook contains the list of tasks that must be successfully completed in order to receive credit for this Clinical Mentorship. The student is expected to have learned the basics of how, why, and when each procedure is to be done from the courses listed as pre-requisites for this Clinical Mentorship. This booklet contains the directions and forms that must be followed and completed in order to meet the standards set for successful completion of this Clinical Mentorship.

Please read each component of each task carefully before performing the task to minimize required resubmissions. The components of each task are summarized:

Goal – Describes the ultimate outcome of the task the student will perform.

Description – Lists the physical acts the student will perform, and under what conditions these acts will be completed.

Criteria – Lists specific, observable, objective behaviors the student must demonstrate for each task. The ability to demonstrate each of these behaviors will be required in order to be considered as having successfully completed each task. Essential criteria for each skill are denoted by **(critical)** and must be included in the performance of the skill in order for the task to be approved. Failure to demonstrate any **(critical)** steps clearly will result in resubmission of the task..

Number of Times Task Needs to be Successfully Performed – States the required number of times to repeat the tasks. The patient's name and the date each repetition of the task was performed must be recorded on the Task Verification Form.

EACH REQUIRED REPETITION OF THE TASK MUST BE PERFORMED ON A DIFFERENT ANIMAL. The student may not use the same animal to do all of the repetitions of a task. However, the same animal may be used to perform different tasks. In other words, one can't do three ear cleanings on the same animal, however, one may do an ear cleaning, an anal sac expression, and a venipuncture on the same animal.

Materials Submitted for Evaluation and Verification – These specific materials, which usually include video or other materials, must be submitted to demonstrate that the student actually performed the task as stated. Each evaluation states specifically what must be shown in the submitted materials.

The Purdue University course instructor for this Clinical Mentorship has the option to request further documentation if the submitted materials do not clearly illustrate the required tasks.

It is recommended that the video materials document all angles of the procedure. The purpose of the video and other material is to provide "concrete evidence" that the student was able to perform the task to the standard required.

Pre-planning the videos will help reduce the need to resubmit tasks. The student should narrate the video as they work, explaining what they are doing and why. This helps the evaluator follow the thought process and clarify what is seen on the video. The student's face must be shown at some point in every video to verify their identity. The name and/or number of the task should be either stated at the beginning of the video or embedded (written) into the video itself.

This validation is essential to help the Purdue VNDL meet AVMA accreditation criteria. Therefore, it is essential that the student follows the evaluation and validation requirements.

Task Verification Forms – Each task has a form that must be completed and signed by the Clinical Mentorship Supervisor. A supervisor must observe every performance of a skill for a clinical mentorship.

Supplementary Materials – Logs, written materials, photographs, or other forms/documentation may be required for specific tasks. The “Materials to be Submitted for Evaluation” section outlines what is required to submit for each task.

COMPLETION OF THE CLINICAL MENTORSHIP

Mentorship logbooks include due dates for sets of tasks. Each set must be submitted by the deadline listed in the logbook. Late submissions will incur a grade penalty. Incomplete grades will not be assigned for mentorships at the end of each semester.

Feedback will be posted to the Brightspace assignment following review of each task. As necessary, instructors may require resubmission of some tasks. When feedback is posted, due dates for resubmissions will be given. ***It is crucial that students with pending feedback set their Brightspace to notify them when feedback and scores are posted, so this information is received in a timely manner.***

Final approval of successful performance and completion of the Clinical Mentorship will be made by the Purdue University instructor in charge of the Clinical Mentorship based upon the documentation provided by the student.

Upon successful completion of all tasks in the clinical mentorship course, a grade will be assigned by the course instructor based upon the documented performance of the tasks.

Note: A student who is dismissed from their mentorship facility may fail the course and may be dismissed from the program.

Task Verification forms and other written materials should be submitted in ***Assignments*** in Brightspace. Task Verification forms are due by the task due date in order for each task to be complete. You must assign the forms and any other supplemental paperwork required for the tasks, to the correct course assignment in order for the instructor to view them.

Videos should be submitted in ***Assignments*** in Brightspace. This method of online submission does not limit how much you put on, is no cost to you, and automatically archives. You must assign the videos to the correct course assignment in order for the instructor to view them.

Patient proof of rabies vaccination should be submitted in ***Assignments*** in Brightspace for all patients used for mentorship tasks by unvaccinated students. This is due by the task due date. Patient ID, age, date of vaccination, and either type of vaccine (1- or 3-year) or due date for booster must be shown.

OSHA Compliance should be demonstrated in videos and photographs submitted. The student should always be aware of workplace safety and compliance. Violations such as human food and drink in hospital areas, unlabeled secondary containers, lack of PPE, etc. will be noted and may result in point deductions or task resubmission.

Using Kaltura for Video Assignments

Kaltura is a secure streaming service that Purdue offers for faculty, staff, and students. Videos uploaded to an assignment via Kaltura will only be accessible to instructor(s) within the course.

Step 1: Set Video Type on Your Device

Confirm your device is recording in a format accepted by Kaltura; common formats include:

- .MOV/.MP4/.M4V • .WMV
- .AVI
- .WEBM

Kaltura cannot accept the HEVC video format.

iPhone/iPad:

- *Click* on **Settings->Camera->Formats**
- *Change* the format to **Most Compatible**.

Android:

- In your camera application's settings, *change* the video recording format to **MOV, M4V, or MP4**.

Desktop/Laptop:

- Depending on your recording application, you will need to save your video recording as a common video format (such as .mp4, .mov, or .m4v).

Step 2: Allow your Browser to use Pop-Up Windows

Confirm your browser has pop-ups enabled. Kaltura will pop open a window for you to upload your video. Use the *Help* feature in your preferred browser if you need assistance in enabling pop-up windows.

If you do not allow pop-up windows on your browser, you will not be able to upload videos.

Step 3: Ensure You Have a Stable High-Speed Internet Connection

Confirm you have a **stable** internet connection; if you are on a connection that can disconnect on a regular basis your upload may be cancelled. Additionally, you will need to have a **high-speed** connection. Videos may have large file sizes, and a slow connection may result in your video taking a very long time to upload. If you need a stable and fast internet connection but do not have one at home, consider using public wifi at a library or coffee shop.

Step 4: Uploading Your Task Verification Form (TVF)

You must upload your TVF at the same time that you upload your video.

- *Open* the assignment in Brightspace
- *Click* on the **"Add a File"** button. A dialogue box will open allowing you to select the TVF file to upload from your device.

Step 5: Uploading Your Video

Once you have uploaded your TVF, you can upload your video. Scroll down on the page to the Comments area.

- *Click* on the **Insert Stuff** icon on the text editor.
- On the **Insert Stuff** menu that opens, *click* on **Add Kaltura Media**.
- On the **Insert Stuff** window, *click* the **plus** button. On the menu that opens, *click* **Media Upload**.
- The **Upload Media** window will open. *Click* on **Choose a file to upload** to select a file on your computer, or *click and drag* the video file into the box.
- Depending on your internet connection speed and the file size, it may take a few minutes to upload the file. **Allow the file to upload completely and do not close the window.**

You may alter the name of the file and add a description.

Once the file is uploaded and any name or description changes have been made, *click*

</> Save and Embed to save the video to Kaltura.

- If your video has processed, you may see a preview. Otherwise, you may see an animation that your video is still processing. Even if the video is still processing, you can still submit the video. *Click* **Insert** to add the video to the assignment or discussion
- Your video will be added to the text box. *Click* **Submit** to turn in your assignment.
- You may confirm your submission by clicking on the link to the assignment or discussion and seeing if you can view the video.

For Support

Contact the PVM Instructional Design team at pvmmit@purdue.edu for assistance.

CLINICAL MENTORSHIP TASKS

INTRODUCTION TO ESSENTIAL TASKS AND CRITERIA

Before starting each task:

1. Read the Goal, Description, Criteria, and Materials to be Submitted for Evaluation and Verification. Understand what is expected for each task.
2. Make sure that all equipment and supplies needed to complete the task are available. Pay particular attention to the details of what needs to be documented and submitted.
3. Make sure to obtain appropriate permissions where necessary. Please inform the facility's owner/manager of activities. A good relationship with the veterinarian in charge is key to having a positive Clinical Mentorship experience.

After performing each task:

4. Label all items submitted so that the materials submitted for evaluation and validation at Purdue are identified as the student's submission.
5. Label all videos posted to Brightspace with the task number.
6. Submit materials by the deadlines listed in the course syllabus.

CLINICAL MENTORSHIP PROJECTS

INTRODUCTION TO SPECIAL PROJECTS

Certain mentorships will have required projects to complete in addition to the required tasks. These are skills that are better assessed in the form of a project. Projects should be typed, and checked for correct grammar and spelling.

Before starting each project

1. Read through the project in its entirety. This will give you a description of the project and what is needed to complete it successfully.
2. Determine what materials, if any, need to be submitted for completion of the project.
3. Most projects will come with a list of questions that need to be answered. The responses should be included in the write up.
4. If videotaping is required for a project, it should be noted on the videotape verbally that this is for the project and not another required task. Some projects may require a verbal narration of a student doing something. Each individual project will define if that is a necessary requirement for that project.

Notes to Student

As there is no didactic course to accompany the Necropsy Clinical Mentorship, handouts have been included in the mentorship logbook to inform the student of techniques and procedures that will be needed to complete the tasks. The first is the technique used by the Purdue Animal Disease Diagnostic Laboratory (ADDL) for performance of necropsy. The second is a page of guidelines for packing and shipping samples to outside labs.

The student should review anatomy to be able to identify anatomical landmarks mentioned in the necropsy technique. In addition, the student should understand all the terminology used to describe the technique or lesions observed (i.e., “transudate”, “in situ”, etc.)

The student’s role is to assist the DVM with the necropsy as well as document findings. The student must, either during or after the necropsy, identify each of the listed structures themselves. Then the student should collect, preserve and package the samples for shipping. The samples should NOT be shipped to Purdue – it may be a simulation if the samples will not be submitted to a lab for analysis.

Thoroughly review and understand the technique prior to beginning the necropsy.

VETERINARY NECROPSY TECHNIQUE

Purdue University
Animal Disease Diagnostic Laboratory

The following is a brief outline of the technique that is to be used when performing postmortem examinations. Do not begin the necropsy until a permission sheet signed by the owner is in your possession. A signed owner's release form must accompany any animal to be euthanized.

Remember that the entire carcass, including all systems and organs, must be carefully examined. Lesions may appear anywhere and care should be taken to expose and examine all lesions. Examine each of the paired organs.

Every animal should be weighed and/or measured (i.e., crown-rump length for aborted feti) prior to prosection.

Preliminary Review and Observations

7. Signalment – species, breed, sex, sexual status, age, color
8. History and clinical diagnosis
9. Clinical pathology
10. External appearance
 - Body condition (adequate or inadequate fat stores, emaciated, etc)
 - Mucous membranes
 - Body orifices
 - General conformation
 - Superficial lesions (tumors, dermatitis, etc.)
 - Hair coat
 - Parasites
 - Lips, gums, cheeks, teeth

Opening the Body Cavities

1. Place animal carcass in lateral recumbency and incise skin at axilla
 - Continue the ventral midline skin incision anteriorly to the symphysis of the mandible and posteriorly to the perineum.
 - Do not damage the udder
 - To avoid cutting hair, incise the skin from the subcutaneous side
2. Raise the front leg and scapula and dissect and reflect dorsally
 - Remove the remaining skin between the excised front and rear limb to the level of the spinal column and reflect dorsally.
 - Examine the **exposed superficial lymph nodes** and **jugular veins**
3. Excise through the “up” rear limb (at the level of the pelvis) and continue to incise through the coxofemoral joint and reflect the rear limb dorsally
4. Examination of the **mammary glands or testes**
 - Mammary glands and mammary lymph nodes are completely cut away from the body
 - Examine for symmetry, swellings, tumors, atrophy
 - Examine the lymph nodes and incise them
 - Incise the gland through the cistern and teat canal, examining each portion
 - Palpate for thickenings, fibrosis, tumors

5. Examine **prepuce and penis**
6. Make a paracostal incision through the abdominal wall just behind and parallel to the last rib
 - Extend the incision dorsally to the vertebrae and ventrally to the midline
 - Raise the body wall to avoid cutting viscera
7. Make a paralumbar incision through the abdominal wall caudally to the pelvis
 - Reflect the muscle wall ventrally and expose the abdominal cavity
8. Cut the **diaphragm** on the right side in an arc from the sternum along its costal attachments to the vertebral column
 - Listen for an inrush of air indicative of negative pressure in the pleural cavity
9. Sever the ribs at their sternal and vertebral ends with a pruning shear or other suitable instrument and lift off the thoracic wall, thus exposing the entire thoracic cavity

Gross Examination of the Thoracic and Abdominal Cavities

1. Examine both cavities and all contents carefully with minimal movement of the viscera
 - Note transudates, exudates, and hemorrhage
 - Open the **pericardial sac**
 - Note amount, color, and consistency of abnormal fluid accumulations
 - Examine for adhesions, displacements, absence of organs, and size and symmetry of organs in situ
 - Record lesions of organs and perform detailed examination of organs prior to removal
 - Take initial samples for microbiology, especially exudates in body cavities

Examination of the Thoracic Viscera

1. Separate the **mandibles** at the symphysis
 - Cut along the lingual surface of both sides of the mandible
 - Remove the **tongue** and pull it down between the rami
 - Disarticulate the hyoid bones. The tongue, **larynx**, **trachea** and **esophagus** are dissected ventrally back to the thoracic inlet
 - Lift up viscera and detach **heart** and **lungs** from the body wall by cutting dorsal and ventral mediastinum
 - Sever the **aorta** post cava and esophagus back to about 2-3 cm anterior to the diaphragm
 - Sever and remove the thoracic viscera ("pluck")
2. Examine thyroid, parathyroid, and thymus glands
 - Note size, shape, consistency
 - Incise glands examining for lesions
3. Arrange the organs in approximately normal position
 - Examine tongue by incising transversely
 - Open esophagus and examine carefully
 - Examine bronchial lymph nodes by palpating and incising
 - Observe and palpate lungs for consolidation, emphysema or other abnormal consistency
 - Open the larynx, trachea, **bronchi** and small bronchioles
 - Note exudates, hemorrhage, foreign bodies or lung worms in bronchial tree
 - Examine areas of consolidation and other abnormal lung tissue by incising
4. Examine the heart
 - Observe any disproportion of parts (dilation, hypertrophy, anomalies) and alterations in shape; note presence of normal adipose tissue
 - Open Heart
 - Cut through the right atrial free wall (including the auricle) horizontally
 - Examine the endocardium and **vena cava**

- Examine the atrial side of the right A-V valve
 - Check for sufficiency of valve if indicated
- Cut through the right A-V valve and wall of the right ventricle, keeping the incision near the interventricular septum
 - Continue the incision around the right ventricle through the pulmonic valve and pulmonary artery
 - Examine for patent ductus arteriosus
- Open the left atrium and examine in the same manner as the right atrium
 - Cut through the left A-V valve, incising the ventricle through the mid-portion of the free wall
 - Continue the incision to the apex
 - Make a horizontal incision in the ventricle approximately mid-way between the coronary groove and the apex, incising from the first cut to the septum
 - At the septum, cut upward through the aortic valve and aorta
 - This process should result in a small flap of left heart with aortic valve on one side and left A-V valve on the other
- Examine vessels, valves and septa for anomalies
- Examine **endocardium** and **myocardium**

Examination of Abdominal Viscera

1. Remove the **spleen**; examine grossly and incise several times
2. Examine the **pancreas** grossly
3. Make a small incision into the duodenum at the level of the pancreatic duct and apply manual pressure to the **gall bladder** to see if bile enters the intestine
4. Remove and examine the **liver**
 - Examine the peritoneal surface for fibrosis or adhesions
 - Excise the liver from the diaphragm
 - Note the size, shape, weight, color and consistency
 - Open the gall bladder and the larger bile ducts
 - Examine for stones, inflammation, flukes, thickening of the wall
 - Palpate and incise the liver liberally from the abdominal surface; observe for necrosis, fibrosis, abscesses, etc.
5. Examine the **adrenal glands** (prior to removing the kidneys)
 - Cut adrenals in cross-section and note cortical-medullary ratio
6. Remove urinary organs as a unit, including both **kidneys, ureters** and **urinary bladder**
 - Cut each kidney longitudinally in half from the convex surface to the hilus and note alterations in color, consistency, size, etc.
 - Strip off capsule and examine the kidney surface
 - Note the ease with which the capsule comes off
 - Open and inspect the ureters, bladder and urethra
 - Inspect all mucous and serous surfaces
 - Open vagina, cervix and uterine horns along their dorsal borders and examine carefully all surfaces
 - Examine ovaries for cysts, corpora lutea, atrophy, etc.
 - Examine male accessory sex organs; observe size, consistency, inflammation, etc.
7. Remove the **stomach** and **intestines** to the rectum
 - Place the rectum over the lumbar area when it is cut so that the abdomen will not be contaminated
 - Free the intestine from the **mesentery** as it is removed and observe its lymph nodes

Examination of the Gastrointestinal Tract

5. The esophagus has been opened
6. Open the stomach along the greater curvature
 - Observe the mucosal and serosal surfaces; ingesta must be removed
 - Examine for hemorrhage, parasites, foreign bodies, abnormal ingesta, etc.
7. Open the small intestine
 - Observe all surfaces and ingesta
 - Leave 1-inch segments closed for histopathology
8. Open the **cecum** and colon back to the **anus**, and examine carefully

**→Note: If the musculoskeletal system, central nervous system and eyes are not of particular interest in the patient, dissection of these is not required.
The necropsy procedure may stop at this point.**

Examination of the Musculoskeletal System

1. Open the stifle, hock and humero-scapular joints
 - To open the stifle, cut the straight patellar ligament 1/3 of the way proximal to the tibial tuberosity and medial to the trochlea of the femur, and reflect the patella
 - Observe synovia, articular surfaces, articular cartilages, and synovial membranes
2. Examination of the muscular system
 - Examine and incise the muscles of various parts of the body, especially lumbar and thigh muscles; check development, color, etc.
3. Examination of the skeletal system
 - Examine body for broken bones or healed fractures
 - For marrow inspection, remove femoral head with shears and crack femur longitudinally

Examination of the Eyes

1. Remove the eyeball from the orbit if indicated (not routine)
 - Incise periorbital tissues and avoid direct contact with the eye
 - Look for corneal opacities, cataracts, tumors, etc.

Examination of the Central Nervous System

1. Remove the head from the body at the atlanto-occipital articulation
 - Incise the spinal cord before excessive traction is placed on the skull
2. Reflect skin and muscles of the head and examine skull for traumatic lesions
3. Remove the brain as described below
 - Make a transverse cut behind the orbits (exact location varies in species) using a hacksaw
 - Make lateral cuts from the ends of the transverse cuts just medial to the occipital condyles (leave room for brain to be removed intact)
 - List off bony cap carefully with a chisel
 - Incise the dura over the dorsal brain surface and incise the tentorium cerebelli
 - Hold the skull with the nose pointing upward and tap it gently on the table

- Carefully cut the olfactory tracts and other cranial nerves and allow the brain to slip out
 - Avoid traction on the brain
 - Remove the pituitary gland by cutting diaphragmatic sella on both sides, clipping the bony projection posterior to the gland, and cutting soft tissues around the gland with scissors
4. Observe the dura
 5. Incise the brain transversely (1-cm slices) and look for lesions
 - When entire brain is to be fixed, make only one transverse cut into lateral ventricles so fixative may enter tissues

Species-Specific Procedures

1. Horse
 - When the abdomen is opened, move the left parts of the large colon cranially so that the pelvic flexure is lying anterior; move the cecum dorsocranially, the small intestine over the right flank, and the small colon posterior and down
 - The mucosa of the guttural pouches is examined when the head is disarticulated
 - The cranial mesenteric artery should be opened from the aorta past the ilealcecal and colic artery bifurcations
2. Ruminants
 - When the abdomen is opened, place small intestine and colon over the right lumbar area; examine the forestomachs and abomasums for position and adhesions
 - Remove forestomachs and abomasums as a unit; separate serosal attachments to stretch the organs out. Open and examine each organ. Remove ingesta and rinse the rumen mucosa with water to examine.

Guidelines for Packing and Shipping of Samples

1. Label all sample containers with the following information, using indelible ink:
 - Client name
 - Animal name
 - Case number (if used)
 - Date of collection
 - Site of collection (e.g. liver, right kidney)
2. Ship in plastic containers whenever possible
3. Be sure that lids are tight on containers that contain liquid. The ratio of formalin to soft tissue should be at least 10:1. If the sample is bone, the ratio should be at least 20:1.
4. Containers with liquid should be placed into zippered plastic bags separate from submission forms to prevent forms from becoming damaged and unreadable in case of leaks. Sufficient absorptive material should be placed inside the bag to absorb all the liquid if it should leak.
5. Complete submission forms, including all requested information. Paperwork should be placed in a separate bag from the samples.
6. Include address, phone number and FAX number for your clinic to facilitate return of results
7. Pack container and submission form in box for mailing, allowing room for packing materials such as foam peanuts, bubble plastic, or newspaper as appropriate
8. Check with lab to determine if sample must be received at room temperature, cool, or frozen and include coolant source if needed

1. ASSIST IN PROSECTON OF NON-PRESERVED ANIMAL

Goal: To assist a DVM in performing basic prosection techniques on a non-preserved animal for purposes of necropsy and sample collection.

Description: The student will assist a DVM in performing basic prosection techniques on a non-preserved animal, identifying internal structures as they are exposed.

Criteria: The student checked and recorded signalment for the patient.

The student reviewed the patient history and clinical diagnosis.

The student reviewed laboratory data submitted with the animal.

The student examined and recorded the patient's external appearance, including:

- Body condition
- Mucous membranes
- Body orifices
- General conformation
- Superficial lesions (tumors, dermatitis, etc.)
- Hair coat
- Parasites
- Lips, gums, cheeks and teeth

*Note: External examination should be done with the DVM present, or the DVM should examine the animal before proceeding.

The student placed the animal in left lateral or dorsal recumbency.

The student correctly identified the following structures during the prosection:

Note: If the listed structures are too small to identify, or absent, the student should state such verbally and point out the location where the structure would normally be found.

- Exposed superficial lymph nodes (mandibular, popliteal, superficial cervical)
- Jugular veins
- Mammary glands or testes
- Prepuce and penis (male animal)
- Diaphragm
- Pericardial sac
- Mandible
- Tongue
- Larynx
- Tonsils
- Esophagus
- Trachea
- Bronchi
- Lungs
- Pulmonary vessels
- Heart
- Aorta
- Vena cava
- Omentum
- Spleen

- Pancreas
- Liver
- Gall bladder
- Kidneys
- Adrenal gland
- Ureters
- Urinary bladder
- Stomach
- Pyloric region
- Duodenum
- Jejunum
- Ileum
- Cecum
- Colon
- Rectum
- Mesentery

The student collected initial samples for microbiology as directed by the DVM.

The student accurately documented all observations made by the DVM.

Number of Times Task Needs to be Successfully Performed: 1

Materials Submitted for Evaluation and Verification:

1. Task Verification form for the Assisting in Prosection on a Non-Preserved Animal task, signed by the clinical mentorship supervisor.
2. One video showing the student assisting with a prosection procedure. The video will clearly show all criteria for the task, and the student will narrate the procedure, including identification of all required structures. The camera should be zoomed in as needed to show each structure clearly.
3. Copy of written documentation of findings by student and DVM during the prosection.

Student Name: _____

Supervisor Name: _____ RVT, CVT, LVT
DVM, VMD

Patient Name: _____ **Date:** _____

I verify that the student performed these tasks under my supervision.

Signature of Clinical Mentorship Supervisor: _____

2. COLLECTION, PRESERVATION AND SHIPPING OF SAMPLES

Goal: To collect, preserve, and ship samples collected during a necropsy procedure.

Description: The student will collect samples of liver, kidney and intestine during a necropsy procedure, and properly preserve and ship the samples for histopathologic evaluation according to laboratory and practice protocols.

Criteria: The student examined the liver grossly and collected samples of lesions and adjacent normal tissue, ½ cm thick and 1 cm x 1 cm square. If the liver was grossly normal, the student collected a representative sample (1/2 x 1 x 1 cm)

The student examined the kidneys grossly and collected samples of lesions and adjacent normal tissue in longitudinal wedge sections ½ cm thick. If the kidneys were grossly normal, the student collected a representative sample (1/2 cm longitudinal wedge).

The student examined the intestines grossly and collected samples of lesions and adjacent normal tissue in ½ cm cross-sections. Care was taken not to touch the mucosal surface, and the sample was rinsed gently under water to remove ingesta and feedstuffs. If the intestine was grossly normal, the student collected a representative sample (1/2 cm cross-section).

The student placed the tissue samples into separate formalin jars, one jar per site/organ. The kidney samples were separated by left or right kidney.

The student labeled each formalin jar with the following information:

- Client name
- Animal name
- Case number (if used)
- Date of collection
- Site of collection (e.g., liver, right kidney)

The student completed submission forms for samples collected and properly packaged the samples for shipping.

Number of Times Task Needs to be Successfully Performed: 1

Materials Submitted for Evaluation and Verification:

1. Task Verification form for the Collection, Preservation and Shipping of Samples task, signed by the clinical mentorship supervisor.
2. One video showing the student collecting samples and properly preserving and packaging them. The video will clearly show all criteria for the task, including labels on jars.
3. Copy of submission form completed by the student to be sent with samples to a laboratory (even if samples will not actually be sent to the lab).

Student Name: _____

Supervisor Name: _____ RVT, CVT, LVT
DVM, VMD

Patient Name: _____ **Date:** _____

I verify that the student performed these tasks under my supervision.

Signature of Clinical Mentorship Supervisor: _____

3. SAFE HANDLING OF RABIES SUSPECT BODIES AND SAMPLES PROJECT

The student will provide a written paper detailing the clinic SOP for handling of rabies suspect bodies. The first section will be for a patient that needs to be tested for rabies only. The second section will be for a patient that needs a necropsy performed but is a rabies suspect. There will also be a section on human exposure to rabies. The paper will be typed and checked for spelling and grammar.

Section 1 – Testing Animal for Rabies Only

Address the following:

1. Describe your clinic SOP for a stray dog of unknown history brought to your clinic for euthanasia after biting a human. Include how clinic personnel protect themselves from possible exposure to rabies.
2. Describe how the dog is submitted for rabies testing, including how the brain is collected, preserved and submitted. Include PPE used by staff.
3. Evaluate the above protocol and describe changes that you would make in the protocol, and why.

Section 2 – Necropsy on Rabies Suspect

Address the following:

1. Describe your clinic SOP for a dog that was a patient in your clinic, was a rabies suspect but had not bitten anyone, and died in your clinic. The cause of death is unknown and the owner requests a necropsy. Include how clinic personnel protect themselves from possible exposure to rabies.
2. Describe how the dog is submitted for rabies testing, as well as how the necropsy is accomplished safely.
3. Evaluate the above protocol and describe changes that you would make in the protocol, and why.

Section 3 – Human Exposure to Rabies

Discuss what action should be taken if a patient that was treated at your hospital tests positive for rabies. What should a human healthcare provider recommend for the staff who handled the patient? For more information, visit the website for the Center for Disease Control at <http://www.cdc.gov/> and look for rabies under "Health Topics A-Z".

4. STORAGE AND DISPOSAL OF DECEASED ANIMALS PROJECT

The student will provide a written paper detailing the clinic SOP for storage and handling of deceased animals. The paper will be typed and checked for grammar and spelling. The following should be addressed:

1. Describe storage of deceased animals that are for disposal only, not to be necropsied. Include storage “containers” used and where the storage area is located. Discuss labeling methods.
2. Describe storage of deceased animals that require necropsy. Include storage “containers” used and where the storage area is located. Discuss labeling methods.
3. Describe disposition options available to an owner whose pet has died (cremation, burial, return body to owner, etc.) Include storage and labeling methods during the holding period until disposition occurs.
4. Describe the clinic SOP for disposal of deceased animals that do not have owners or whose owners do not have a preference for how the body is disposed. Include storage and labeling methods during the holding period until disposition occurs.
5. Evaluate the clinic’s protocol for the handling of deceased animals. Describe changes that you would make in the protocol and why.