

Small Animal Diagnostic Imaging Mentorship I



VM 21500

Criteria
Logbook

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Clinical Mentorship Tasks

1. Video Verification of equipment and supplies
2. Produce a diagnostic thoracic series on a feline patient (Le Lat or Rt Lat, VD) ††
3. Produce a diagnostic thoracic series on a canine patient (Le Lat or Rt Lat, VD) ††
4. Produce a diagnostic abdominal series on a canine patient (Le Lat or Rt Lat, VD) ††
5. Produce a diagnostic abdominal series on a feline patient (Le Lat or Rt Lat, VD) ††
6. Produce a diagnostic Radiology log

ALL SKILLS MUST BE DEMONSTRATED ON LIVE ANIMALS. Models or cadavers are not acceptable.

Student Information

Contact Information

Questions regarding this mentorship (tasks, due dates, etc.) should be directed to:

Liane Shaw, MSHE, BS, RVT, VTS-DI

lkshaw@purdue.edu

Questions regarding the overall Clinical Mentorship process should be directed to:

Jennifer Smith, BS, RVT, LATG

Clinical Mentorship Coordinator

jpope@purdue.edu

Animal Use Guidelines

The student shall abide by the following guidelines when performing mentorship tasks:

1. All animals used for demonstration of mentorship skills must be appropriately restrained by another person, for the safety of the patient and the student.
2. A mentorship task may be performed only once on a single animal.
3. A student may perform a maximum of ten (10) minimally invasive tasks (denoted by one dagger symbol (†)) on a single animal within a 24-hour period.
4. A student may perform a maximum of three (3) moderately invasive tasks (denoted by two dagger symbols (††)) on a single animal within a 24-hour period.
5. When combining tasks, a student may perform a maximum of five (5) minimally and three (3) moderately invasive tasks on a single animal within a 24-hour period.
6. Tasks denoted with no dagger symbols do not involve live animal use.

For example, a student might perform the following tasks on an animal in a single day-

- Restrain a patient in sternal recumbency (†)
- Restrain a patient in lateral recumbency (†)
- Restrain a patient for cephalic venipuncture (†)
- Restrain a patient for saphenous venipuncture (†)
- Restrain a patient for jugular venipuncture (†)
- Administer subcutaneous injection(††)
- Administer intramuscular injection(††)
- Intravenous cephalic injection – canine(††)

Failure to comply with the Animal Use Guidelines will result in failure of the Clinical Mentorship.

Ensuring the welfare and safety of animals during handling and restraint is paramount. Proper techniques must be employed to minimize stress and prevent injury. This involves understanding the normal behavior of the animal, using humane methods, and applying the least amount of restraint necessary to achieve the desired outcome. Training in these techniques is essential for all personnel involved in animal care. The use of physical, mechanical, or pharmaceutical restraints should be carefully considered and monitored to ensure they are appropriate and effective.

With this in mind, the student is expected to utilize Fear Free® techniques for animal handling and restraint, as well as ensure that all patients are handled and restrained appropriately when they perform skills. Failure to do so will result in consequences ranging from loss of points or repeating the task, up to failure of the course and / or dismissal from the program.

By adhering to these principles, we can promote the health and well-being of animals while ensuring a safe environment for both patients and veterinary personnel.

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:

- 300MA / 125KVP x-ray machine (high-output machine for analog or digital radiography)
- X-ray machine technique chart and written standard operating procedures (SOP) for machine usage, and proof of current state certification
- Thyroid shields (2)
- 0.5mm lead aprons (2)
- 0.5mm lead gloves that provide 360 degree coverage of hands (2 pairs)
- Facility provided individual personal radiation exposure monitoring device (dosimetry badge) for all who participate in radiographs (student and each staff member)
- Right and left **lead** identification markers
- Patient identification labeling system for digital images that includes ALL the following information **prior to exposure**:
 - Patient first name
 - Patient last name
 - Facility name
 - Date image acquired

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-

1. Label all items submitted so that the materials submitted for evaluation and validation at Purdue are identified as the student's submission. No edited versions of the Task Verification Form (TVF) will be accepted. All submission must be original and unaltered.
2. Label all videos posted to Brightspace with the task number.
3. Submit materials by the deadlines listed in the course syllabus

Introduction to Special Projects

Certain mentorships will have required projects to complete in addition to the required tasks. Written projects should be typed and checked for correct grammar and spelling. Photos should be embedded into the related written documents.

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/points that need to be addressed and included in the written document.
4. If video 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.

1. VIDEO VERIFICATION OF REQUIRED EQUIPMENT AND SUPPLIES

Goal: Ensure that the student will have access to all equipment and supplies necessary to complete the skills in this course.

Description: The student will provide a narrated video showing equipment and supplies specific to this mentorship, to verify that required items are available to them and adequate for completion of tasks in their facility.

Criteria:

- The student ***donned in PPE*** showed their face clearly and introduced themselves and the task. **(CRITICAL)**
- The student showed and introduced the supervising mentor, who must be physically present and actively supervising the student for the ***entire task***. **(CRITICAL)**
- The student walked through the Imaging room and showed the following clearly: **(CRITICAL)**
 - VTDL-provided sign informing clients that students may be involved in patient care (it should be displayed in an area that is visible to clients).
 - 300MA / 125KVP x-ray machine (high-output machine for analog or digital radiography)
 - Current state certification showing machine maintenance and inspection (show date)
 - Technique chart for x-ray machine
 - Machine usage standard operating procedures (SOP) demonstrated and narrated
 - Thyroid shields (2)
 - 0.5mm lead aprons (2)
 - 0.5mm lead gloves that provide 360 degree coverage of hands (2 pairs)
 - Right and left ***lead*** identification markers
 - Individual personal radiation exposure monitoring devices for the student and all who assist with x-rays (dosimetry badge)
 - Demonstrate the patient identification labeling system for digital images that includes ALL the following information **prior to exposure**:
 - Patient first name
 - Patient late name
 - Facility name
 - Date image acquired
- The student provided live narration throughout the task in one continuous, unedited video.

1. VIDEO VERIFICATION OF REQUIRED EQUIPMENT AND SUPPLIES
(CONTINUED)

Number of Times Task Needs to be Successfully Performed: 1

Materials Submitted for Evaluation and Verification:

1. Task Verification Form for Video Verification of Required Equipment and Supplies, signed by the Clinical Mentorship supervisor who was physically and actively supervising the student for the full task.
2. One video showing the student as they introduced themselves and walked through the imaging room, showing the above listed items clearly. The student narrated the video live as they showed items.
3. A radiographic image showing the patient label. (JPG or PDF) labeled as **task1Rad**

Student Name: _____ **Date:** _____

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

I verify that the student will have access to the items shown for tasks in this course.

Signature of Clinical Mentorship Supervisor: _____

Date: _____

2. FELINE THORACIC IMAGING AND POSITIONING

Goal: To produce a complete diagnostic quality thoracic radiographic series (Le Lat or Rt Lat, VD) on a *feline* patient

Description: The student will position the animal in the required recumbencies and produce a complete Thoracic series of diagnostic quality while adhering to proper radiation safety regulations.

Note: *The student must practice this task at least once on another feline patient with the mentor before filming and submitting the task video. A complete thoracic series includes either the patient's left (Le) or right (Rt) Lat view and a ventrodorsal (VD) view.*

The student may NOT crop the image post-exposure or use computer-editing software. Appropriate collimation must be done when producing the image to decrease scatter radiation.

Criteria:

- *The student and all assisting donned full Radiation Safety PPE or utilized alternative restraint methods and left the room. (CRITICAL)*
- The student positioned the animal in Rt or Le lateral recumbency, and then in dorsal recumbency for the VD view. **(CRITICAL)**
- The student appropriately demonstrated collimation of the primary beam to include only the landmarks for thoracic radiographs as defined in the course materials creating diagnostic quality images **(CRITICAL)**
- The student utilized a proper lead identification marker (L or R).
 - ***Post-exposure digital markers are not accepted***
- The student made the radiograph at peak inspiration
- The student produced a diagnostic quality radiographic series **(CRITICAL)**
- The student recorded the full process (positioning through production) of the radiograph with a recorded post-production radiographic diagnostic quality (CALIPER) image self-evaluation (can be a separate video) that includes the following criteria: **(CRITICAL)**
 - Collimation
 - Artifacts
 - Landmarks
 - Identification
 - Positioning errors
 - Exposure techniques (radiographic contrast)
 - Radiographic presentation

2. FELINE THORACIC IMAGING AND POSITIONING (CONTINUED)

Number of Times Task Needs to be Successfully Performed: 2

Materials Submitted for Evaluation and Verification:

1. Task Verification Form (TVF) signed by the clinical mentorship supervisor who was physically and actively supervising the student for the full task (start to finish).
2. Submit **one unedited live video** that clearly shows the student correctly positioning the patient for the **entire radiographic series** (lateral and VD). The video must demonstrate proper anatomical landmarks and include the **image acquisition**, showing the **revealed radiographs** that are of **diagnostic quality** for the complete series.
3. A post-production verbally narrated CALIPER diagnostic quality image self-evaluation, as defined by the criteria outlined above for this task.
4. Radiographic image. (JPG or PDF) labeled as **task2Rad**

Student Name: _____ **Date:** _____

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

Patient Name: _____ **Date:** _____ feline

Patient Name: _____ **Date:** _____ feline

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

Signature of Clinical Mentorship Supervisor: _____

Date: _____

3. CANINE THORACIC IMAGING AND POSITIONING

Goal: To produce a complete diagnostic quality thoracic radiographic series (Le Lat or Rt Lat, VD) on a *canine* patient

Description: The student will position the animal in the required recumbencies and produce a complete thoracic series of diagnostic quality while adhering to proper radiation safety regulations.

Note: *The student must practice this task at least once on another canine patient with the mentor before filming and submitting the task video. A complete thoracic series includes either the patient's left (Le) or right (Rt) Lat view and a ventrodorsal (VD) view.*

The student may NOT crop the image post-exposure or use computer-editing software. Appropriate collimation must be done when producing the image to decrease scatter radiation.

Criteria:

- *The student and all assisting donned full Radiation Safety PPE or utilized alternative restraint methods and left the room. (CRITICAL)*
- The student positioned the animal in Rt or Le lateral recumbency, and then in dorsal recumbency for the VD view. **(CRITICAL)**
- The student appropriately demonstrated collimation of the primary beam to include only the landmarks for thoracic radiographs as defined in the course materials creating diagnostic quality images **(CRITICAL)**
- The student utilized a proper lead identification marker (L or R).
 - ***Post-exposure digital markers are not accepted***
- The student made the radiograph at peak inspiration
- The student produced a diagnostic quality radiographic series **(CRITICAL)**
- The student recorded the full process (positioning through production) of the radiograph with a recorded post-production radiographic diagnostic quality (CALIPER) image self-evaluation (can be a separate video) that includes the following criteria: **(CRITICAL)**
 - Collimation
 - Artifacts
 - Landmarks
 - Identification
 - Positioning errors
 - Exposure techniques (radiographic contrast)
 - Radiographic presentation

3. CANINE THORACIC IMAGING AND POSITIONING (CONTINUED)

Number of Times Task Needs to be Successfully Performed: 2

Materials Submitted for Evaluation and Verification:

1. Task Verification Form (TVF) signed by the clinical mentorship supervisor who was physically and actively supervising the student for the full task (**start to finish**).
2. Submit **one unedited live video** that clearly shows the student correctly positioning the patient for the **entire radiographic series** (lateral and VD). The video must demonstrate proper anatomical landmarks and include the image acquisition, showing the revealed radiographs that are of diagnostic quality for the complete series.
3. A post-production verbally narrated CALIPER diagnostic quality image self-evaluation, as defined by the criteria outlined above for this task.
4. Radiographic image. (JPG or PDF) labeled as **task3Rad**

Student Name: _____ **Date:** _____

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

Patient Name: _____ **Date:** _____ Canine

Patient Name: _____ **Date:** _____ Canine

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

Signature of Clinical Mentorship Supervisor: _____

Date: _____

4. FELINE ABDOMINAL IMAGING AND POSITIONING

Goal: To produce a complete diagnostic quality abdominal radiographic series (Le Lat or Rt Lat, VD) on a *Feline* patient

Description: The student will position the animal in the required recumbencies and produce a complete abdominal series of diagnostic quality while adhering to proper radiation safety regulations.

Note: *The student must practice this task at least once on another feline patient with the mentor before filming and submitting the task video. A complete thoracic series includes either the patient's left (Le) or right (Rt) Lat view and a ventrodorsal (VD) view.*

The student may NOT crop the image post-exposure or use computer-editing software. Appropriate collimation must be done when producing the image to decrease scatter radiation.

Criteria:

- *The student and all assisting donned full Radiation Safety PPE or utilized alternative restraint methods and left the room. (CRITICAL)*
- The student positioned the animal in Rt or Le lateral recumbency, and then in dorsal recumbency for the VD view. **(CRITICAL)**
- The student appropriately demonstrated collimation of the primary beam to include only the landmarks for abdominal radiographs as defined in the course materials creating diagnostic quality image series **(CRITICAL)**
- The student utilized a proper lead identification marker (L or R).
 - ***Post-exposure digital markers are not accepted***
- The student made the radiograph at peak expiration
- The student produced a diagnostic quality radiographic series **(CRITICAL)**
- The student recorded the full process (positioning through production) of the radiograph with a recorded post-production radiographic diagnostic quality (CALIPER) image self-evaluation (can be a separate video) that includes the following criteria: **(CRITICAL)**
 - Collimation
 - Artifacts
 - Landmarks
 - Identification
 - Positioning errors
 - Exposure techniques (radiographic contrast)
 - Radiographic presentation

4. FELINE ABDOMINAL IMAGING AND POSITIONING (CONTINUED)

Number of Times Task Needs to be Successfully Performed: 2

Materials Submitted for Evaluation and Verification:

1. Task Verification Form (TVF) signed by the clinical mentorship supervisor who was physically and actively supervising the student for the full task (**start to finish**).
2. Submit **one unedited live video** that clearly shows the student correctly positioning the patient for the **entire radiographic series** (lateral and VD). The video must demonstrate proper anatomical landmarks and include the image acquisition, showing the revealed radiographs that are of diagnostic quality for the complete series.
3. A post-production verbally narrated CALIPER diagnostic quality image self-evaluation, as defined by the criteria outlined above for this task.
4. Radiographic image. (JPG or PDF) labeled as **task4Rad**

Student Name: _____ **Date:** _____

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

Patient Name: _____ **Date:** _____ Feline

Patient Name: _____ **Date:** _____ Feline

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

Signature of Clinical Mentorship Supervisor: _____

Date: _____

5. CANINE ABDOMINAL IMAGING AND POSITIONING

Goal: To produce a complete diagnostic quality abdominal radiographic series (Le Lat or Rt Lat, VD) on a *Canine* patient

Description: The student will position the animal in the required recumbencies and produce a complete abdominal series of diagnostic quality while adhering to proper radiation safety regulations.

Note: *The student must practice this task at least once on another canine patient with the mentor before filming and submitting the task video. A complete thoracic series includes either the patient's left (Le) or right (Rt) Lat view and a ventrodorsal (VD) view.*

The student may NOT crop the image post-exposure or use computer-editing software. Appropriate collimation must be done when producing the image to decrease scatter radiation.

Criteria:

- *The student and all assisting donned full Radiation Safety PPE or utilized alternative restraint methods and left the room. (CRITICAL)*
- The student positioned the animal in Rt or Le lateral recumbency, and then in dorsal recumbency for the VD view. **(CRITICAL)**
- The student appropriately demonstrated collimation of the primary beam to include only the landmarks for abdominal radiographs as defined in the course materials creating diagnostic quality image series **(CRITICAL)**
- The student utilized a proper lead identification marker (L or R).
 - ***Post-exposure digital markers are not accepted***
- The student made the radiograph at peak expiration
- The student produced a diagnostic quality radiographic series **(CRITICAL)**
- The student recorded the full process (positioning through production) of the radiograph with a recorded post-production radiographic diagnostic quality (CALIPER) image self-evaluation (can be a separate video) that includes the following criteria: **(CRITICAL)**
 - Collimation
 - Artifacts
 - Landmarks
 - Identification
 - Positioning errors
 - Exposure techniques (radiographic contrast)
 - Radiographic presentation

5. A CANINE ABDOMINAL IMAGING AND POSITIONING (CONTINUED)

Number of Times Task Needs to be Successfully Performed: 2

Materials Submitted for Evaluation and Verification:

1. Task Verification Form (**TVF**) signed by the clinical mentorship supervisor who was physically and actively supervising the student for the full task (**start to finish**).
2. Submit **one unedited live video** that clearly shows the student correctly positioning the patient for the **entire radiographic series** (lateral and VD). The video must demonstrate proper anatomical landmarks and include the image acquisition, showing the revealed radiographs that are of diagnostic quality for the complete series.
3. A post-production verbally narrated CALIPER diagnostic quality image self-evaluation, as defined by the criteria outlined above for this task.
4. Radiographic image. (JPG or PDF) labeled as **task5Rad**

Student Name: _____ **Date:** _____

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

Patient Name: _____ **Date:** _____ Canine

Patient Name: _____ **Date:** _____ Canine

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

Signature of Clinical Mentorship Supervisor: _____

Date: _____

5. RADIOLOGY LOG

Goal: To record accurate information for patient radiographs in a radiology-specific log

Description: The student kept a log of all the patients that were utilized for this mentorship to ensure that they are following the state regulations of radiographic logs.

Criteria:

- The student created a radiographic log that includes the following information:
 - Date image taken
 - Patient ID
 - Patient first and last name
 - Species
 - Anatomical region of interest
 - Caliper measurement (if applicable) or weight
 - kVp
 - mAs
 - The x-ray machine manufacturer and model (and the digital system make and model if different than the machine)
- The student accurately recorded information from all the thorax and abdomen series produced in this course

Number of Times Task Needs to be Successfully Performed: 1 Electronic Log

Materials Submitted for Evaluation and Verification:

1. Task Verification Form signed by the clinical mentorship supervisor.
2. Copy of the radiology log page for all thorax and abdomen images produced in this course in electronic form (PDF or word document)

Student Name: _____ **Date:** _____

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

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

Signature of Clinical Mentorship Supervisor: _____

Date: _____