



AVTDI ADVANCED SKILLS LIST

All qualified candidates will have demonstrated advanced diagnostic imaging skills in a variety of species for veterinary imaging patients.

To show knowledge and mastery of imaging techniques, advanced skills may be performed on a wide variety of species of veterinary patients. Appropriate veterinary patients for imaging include:

- a. Small animal species (Felines, Canines & Exotics)
- b. Large animal species (Equine, Camelids & Farm animals)
- c. A combination of small and large animal species

All qualified candidates must show proficiency in three (3) skills categories and must complete the veterinary diagnostic imaging skills form. The mastery of these skills is considered essential knowledge for diagnostic imaging technicians.

AVTDI defines mastery as: the candidate can perform the task safely and consistently, without being coached or directed, no less than three (3) times. Mastery requires having performed the task in a wide variety of patients and situations.

Candidates must complete a minimum of 75% of section A (general radiology), 50% of section B (advanced imaging and contrast examinations) and 50% of section C (nursing and pharmacology/supplemental imaging).

Skills performed can be in multiple species categories for imaging modalities. Applicants are encouraged to use non-manual restraint methods where applicable.

Section A (General Radiology) Skills:

- Minimum 75% skills must be completed
 - Small animal, large animal, or a combination of both may represent skills.
- Minimum ten (10) skills represented in case logs/report

Section B (Advanced Imaging and Contrast Examinations) Skills:

- Minimum 50% skills must be completed
- Minimum twenty (20) skills represented in case logs/report

Section C (Nursing and Pharmacology/supplemental Imaging) Skills:

- Minimum 50% skills must be completed
- No minimum requirement for case logs/reports

The approved signer on the skills sheet as well as the use of manual restraint verses non-manual restraint techniques should indicate mastery of a skill versus assisting where applicable.

The Organizing Committee acknowledges that there are certain skills that may not be allowable in certain states and therefore, assisting in those skills would be acceptable. Documentation of assistance in a skill for this reason should be noted on the corresponding case log.

Approved signers for mastery of skills include:

- A Doctor of Veterinary Medicine who is a Diplomat of the ACVR (American College of Veterinary Radiology) and/or a Diplomat of the ECVDI (European College of Veterinary Diagnostic Imaging).
- A Senior third year ACVR/ ECVDI Residents.
- A Doctor of Veterinary Medicine who is a Boarded Specialist in Internal Medicine, Neurology, Surgery, Oncology or Emergency and Critical Care that perform advanced imaging modalities will be acceptable.
- AVTDI members.
- If no AVTDI members are available then a NAVTA approved credentialed VTS technician of Internal Medicine, Neurology, Surgery, Oncology or Emergency and Critical Care that perform diagnostic imaging studies and/or advanced imaging modalities.

All AVTDI candidates shall show competency in the following Advanced Skills considered essential knowledge:

1. Safety

Applicants must demonstrate a working knowledge of radiation safety including the ALARA principle and how it applies to imaging of patients and personnel safety. They must understand the difference between non-ionizing vs ionizing radiation and the yearly dose parameter limits. They should be familiar with safety protocols required for special procedures with use of radiography, fluoroscopy, and advanced imaging modalities.

2. Physics

Applicants should understand the basic physics and imaging formats for radiology, fluoroscopy and advanced imaging modalities used in veterinary imaging.

3. Anatomy and Physiology

Applicants must demonstrate a working knowledge of anatomy and physiology for small, large and exotic species as it pertains to imaging and imaging procedures.

4. Pathophysiology

Applicants must demonstrate a working knowledge of basic pathophysiology and disease processes related to imaging procedures.

5. Terminology

Applicants must demonstrate understanding and appropriate use of imaging related and directional terminology as it relates to specific species and imaging studies.

6. Positioning

Applicants should demonstrate knowledge of common radiographic and advanced imaging modality techniques for positioning of large, small and exotic species.

7. Procedures

Applicants should demonstrate knowledge of common and special / contrast procedures performed through radiography with or without the use of

fluoroscopy. Applicants should have a basic understanding of advanced imaging modalities and their use in veterinary imaging.

8. Pharmacology

Applicants must demonstrate knowledge of commonly used anesthetic protocols for imaging studies including, but not limited to, sedatives, analgesics, gas anesthetics, and basic anesthetic monitoring. Applicants must demonstrate a knowledge of patient considerations as it pertains to anesthesia and imaging procedures.

9. Contrast Media

Applicants should understand commonly used contrast media, dosing considerations, possible side effects and contraindications.

10. Records and Storage

Applicants must understand HIPPA compliance, and PACS administration requirements as it applies to diagnostic imaging in medical records. Applicants must understand digital imaging storage and formatting.

AVTDI Diagnostic Imaging Skill List

Section A: General Radiography

- Perform the following diagnostic quality, radiographic studies.
- Demonstrate knowledge of basic anatomy, margins/landmarks and correct positioning for the radiographic study.
- Demonstrate execution of the study (including appropriate exposure settings and restraint technique)

SMALL ANIMAL (CANINE/FELINE)				
	Species	Modality	Case #	Signed
Thorax		X-Ray		
Thorax DV		X-Ray		
Thorax humanoid view		X-Ray		
Abdomen		X-Ray		
Abdomen horizontal beam		X-Ray		
Femur		X-Ray		
Tibia/fibula		X-Ray		
Stifle		X-Ray		

TPLO		X-Ray		
TTA		X-Ray		
Longbone		X-Ray		
Humerus		X-Ray		
Elbow		X-Ray		
OFA or flexed elbow		X-Ray		
Antebrachium		X-Ray		
Horizontal beam extremity		x-Ray		
Carpus		X-Ray		
Tarsus		X-Ray		
Manus/pes		X-Ray		
Shoulder		X-Ray		
Scapula		X-Ray		
Skyline of shoulder or stifle		X-Ray		
Stress/flexed/extended of a joint		X-Ray		
Obliques of a joint		X-Ray		
Skull		X-Ray		
Mandibular or maxillary intraoral		X-Ray		
Cervical spine		X-Ray		
Thoracolumbar spine		X-Ray		
Lumbosacral spine		X-Ray		
Pelvis		X-Ray		
OFA or PennHip pelvis		X-Ray		
SMALL ANIMAL (EXOTICS)				

	Species	Modality	Case #	Signed
Whole-body (or thorax or abdomen)		X-Ray		
Whole-body (or thorax or abdomen) (second species)		X-Ray		
Whole-body (or thorax or abdomen) (third species)		X-Ray		
Pectoral limb/wing		X-Ray		
Pectoral girdle (H-view)	Avian	x-Ray		
Pelvic limb		X-Ray		
LARGE ANIMAL				
	Species	Modality	Case #	Signed
Elbow		X-Ray		
Shoulder		X-Ray		
Radius		X-Ray		
Femur		X-Ray		
Pastern		X-Ray		
Fetlock		X-Ray		
Distal phalanx/hoof		X-Ray		
Carpus		X-Ray		
Tarsus		X-Ray		
Splint bones		X-Ray		
Stifle		X-Ray		
Pelvis/hip		X-Ray		
Cervical spine		X-Ray		
Guttural pouch		X-Ray		
Larynx/pharynx		X-Ray		

Nasal		X-Ray		
TMJ		X-Ray		
Maxilla/mandible		X-Ray		
Poll		X-Ray		
Dorsal spinous processes (withers)		X-Ray		
Thorax		X-Ray		
Abdomen		X-Ray		

**Section B:
Advanced Imaging and Contrast Examinations**

- Demonstrate knowledge of common conditions/disease processes associated with the imaging study.
- Demonstrate an understanding of basic patient risks associated with the imaging study.
- Demonstrate knowledge of basic anatomy, scan margins/landmarks and proper positioning for the imaging study.
- Demonstrate execution of the study including setting modality specific parameters.
- Demonstrate knowledge of contrast administration and contraindications if applicable

	Species	Modality	Case #	Signed
Perform a skull examination				
Perform a nasal / sinus / orbit examination				
Perform an inner ear examination				
Perform a mandibular/TMJ or dental arcade examination				
Perform a brain examination				
Perform a thoracic or lung examination				

Perform a thoracic or lung examination (second species)				
Perform a thoracic angiography examination				
Perform an abdominal examination				
Perform an abdominal examination (second species)				
Perform an abdominal angiography examination				
Perform a brachial plexus examination				
Perform a cervical (soft tissue) / neck examination				
Perform a cervical spine examination				
Perform a thoracolumbar spine examination				
Perform a lumbosacral spine examination				
Perform a stifle examination				
Perform an elbow examination				
Perform a shoulder examination				
Perform a pelvic examination				
Perform a carpal examination				
Perform a tarsal examination				
Perform a metacarpal or proximal/middle phalanx examination				
Perform a distal phalanx examination				
Perform a navicular examination				
Perform a suspensory ligament examination				

Perform a tendon examination				
Perform a thyroid examination				
Perform a cardiac examination				
Perform a first pass cardiac examination				
Perform a transcolonic or trans-splenic portal examination				
Perform a GFR renal examination				
Perform a mucociliary clearance examination				
Perform a hepatobiliary examination				
Perform an optical examination				
Assist with or perform a cystogram or urethrogram				
Assist with or perform an esophogram				
Assist with or perform an upper GI barium study				
Assist with a myelogram				
Assist with or perform an intravenous pyelogram/urogram				
Assist with or perform a tracheal or tracheal stenting procedure				

**Section C:
Supplemental Skills/ Nursing and Pharmacology**

SUPPLIMENTAL SKILLS	Species	Modality	Case #	Signed
Demonstrate use of positioning or restraint devices for hands free radiography				
Demonstrate knowledge and use of digital				

imaging storage.				
Demonstrate the ability to export or email digital images				
Demonstrate the ability to identify and correct for a technique-based imaging artifact				
Demonstrate the ability to identify and correct for a movement related imaging artifact				
Demonstrate the ability to identify and correct for an anatomical related imaging artifact				
Demonstrate the correct use of a portable x-ray unit				
Correctly label oblique radiographic images				
Assist with or perform imaging guided fine needle aspirate				
Prepare slides for cytology				
Assist with or perform imaging guided tru-cut biopsy				
Prepare samples for histology				
Demonstrate knowledge and use of modality compatible anesthetic and monitoring equipment				
Demonstrate knowledge of modality specific safety for patient				
Demonstrate knowledge of modality specific safety for personnel				
Demonstrate knowledge of patient dose reporting and recording				
Perform an MPR or 3D reconstruction				
Use a power injector for an imaging study				
Assist with an interventional imaging study				

Perform an emergency shutdown procedure or spill safety clean				
Perform an imaging guided cystocentesis				
Assist with or perform an imaging guided abdominocentesis				
Assist with or perform an imaging guided thoracocentesis				
Assist with an imaging guided pericardial tap				
Assist with an imaging guided bone biopsy				
Assist with an imaging guided soft tissue/organ biopsy				
Demonstrate patient preparation for an imaging study				
Perform quality control of imaging machine				

I, the undersigned, declare that I have read the entire AVTDI application packet. I further attest that the above-named applicant has achieved the AVTDI definition of mastery for the above skills that are marked with my signature.

_____/_____
Printed Name and Degree Signature

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Printed Name and Degree Signature

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Printed Name and Degree Signature

Please provide the names and credentials of all persons who have signed this form attesting to your mastery of advance skills in clinical practice.

A qualified candidate will have demonstrated advanced expertise and ability in the field of Diagnostic Imaging. AVTDI requires that a boarded veterinary specialist or credentialed veterinary technician/nurse specialist (VTS) attest to your knowledge and mastery of the skill. Each person verifying your tasks must complete the bottom of the skills list form to validate their signature. AVTDI has the right to contact any person that has verified a skill. Skills that are marked as mastered must include at least one case number associated with the skill (if applicable).

AVTDI defines mastery as: the candidate can perform the task safely and consistently, without being coached or directed, no less than 3 times. Mastery requires having performed the task in a wide variety of patients and situations.

Candidates must demonstrate knowledge and mastery of 75% of the skills listed in Section A (General Radiology), 50% of the skills listed in Section B (Advanced Imaging and Contrast), and 50% of the skills listed in Section C (Nursing and Pharmacology/Supplemental Imaging).

General Radiology:

Total skills (#) 59 Mastered skills (#) _____ Percentage reached _____ (%)

Advanced Imaging and Contrast:

Total skills (#) 41 Mastered skills (#) _____ Percentage reached _____ (%)

Nursing and Pharmacology/Supplemental Imaging:

Total skills (#) 28 Mastered skills (#) _____ Percentage reached _____ (%)

I (printed name) _____ verify the above information and following checklist is true to the best of my ability.

Signature of applicant

Date
