

ACVR Residency Training Program Application

Submission Date	2017-01-18 11:18:31
Institution Name:	Louisiana State University School of Veterinary Medicine Veterinary Clinical Sciences Skip Bertman Drive Baton Rouge, LA 70803
Succinctly state the objectives of the training program.	The residency program is designed to provide high-quality, in-depth clinical training in the areas of veterinary diagnostic imaging which will allow the resident to develop knowledge and clinical proficiency in the field. The program will provide an in-depth understanding of diagnostic radiology, ultrasonography and computed tomography as well as knowledge of the general principles and applications of nuclear medicine and, magnetic resonance imaging. The principles of radiation safety and biology and radiotherapy will be given. The training program will aim to produce veterinary radiologists proficient in the use of current imaging techniques for examination of a wide variety of diseases in animals, with regard for radiation safety, with an understanding of developing techniques, digital radiography, and the ability to contribute to the discipline through participation in research, congresses and publications. The resident will be expected to meet the training requirements of the ACVR required to take the ACVR board examination. Upon completion of the program and examinations the successful candidate will be able to pursue career goals in academia, industry or private specialty practice.
What is the total length of the training program?	48 months
If this is a four year program, during what year will the resident be eligible to take the ACVR Preliminary Exam?	3
If the resident is not eligible to take the exam during the beginning of the third year (September), please state the reason.	NA
What are the responsibilities of the resident in the remaining non-clinical portion of the program?	This time is scheduled for research and writing, elective subspecialty training, outside rotations and studying for the written board exam. This can also be used for vacation, conferences and optional Masters degree program. All of the required supervised training is completed in the first 36 months of the residency and will be accomplished on site. Six of the first 36 months of training are scheduled for research and writing, elective subspecialty training, outside rotations and studying for the written and practical board examinations. Four weeks of vacation are granted annually and is included in the elective weeks. The fourth year of training is scheduled the same as the first 3 years and allows time for an optional Masters degree through the Louisiana State University Graduate Studies Program according to the trainee's personal profile and goals.
Who is the Director of Residency training?	Nathalie Rademacher
What percentage of this individual's time is committed to clinical service and teaching of residents?	50%
Roentgen diagnosis	Nathalie Rademacher 50%
Diagnostic ultrasound	Lorrie Gaschen 50%

Computed Tomography	Nathalie Rademacher 50%
Magnetic Resonance Imaging	Abbi Granger 50%
Nuclear Medicine	Lorrie Gaschen 50%
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ACVIM	Kirk Ryan
ACVIM	Jon Fletcher
ACVS	Avery Bennett
ACVS	Kate Barnes
ACVP	Stephen Gaunt
ACVP	Ingeborg Langohr

Briefly describe how the program meets the facility requirements.

Radiographic equipment:

The section has two SA suites and one LA suite.

- Siemens special procedures suite: 800 mA tube with digital fluoroscopy
- Siemens: 500 mA tube for routing radiography
- Siemens: 800 mA tube which is ceiling mounted and synchronized to a dedicated ceiling mounted cassette holder.
- Portable unit is available for ambulatory work in the barn for patients in isolation, intra-operative exposures and for non-ambulatory horses (laminitis)

Ultrasonographic equipment:

1. Toshiba Aplio 300 SA US machine
 - a. Low and high frequency, curved and linear array probes (5 probes)
 - b. Cardio package and phase array probe
 - c. Elastography
2. Philips iu22 SA US machine
 - a. Low and high frequency, curved and linear array probes (6 probes)
 - b. Qlab contrast imaging software with dedicated contrast probes
 - c. Elastography software with dedicated linear probe
3. Hitachi Noblus (x2), Mobile Unit, Small and Large animal machines
4. Toshiba Viamo, Mobile Unit, Small and Large Animal machines
5. Mylab 50 US unit with two high frequency linear tendon probes, 2-5 MHz phased array probe for cardiac imaging and 2-5 MHz and 5-10 MHz curved for abdominal and thoracic work in horses and small animals

CT equipment:

GE Lightspeed 16-slice CT unit with pressure injector, Equipped for equine with a dedicated table and two 3-D GE Workstation for all reconstruction work

Nuclear medicine equipment:

MiE Equine Scanner HR with Scintron VI workstation including Camera control board and multi-tasking real time operating system; rectangular format gamma camera with a very large field of view (61cm x 39cm) mounted on a crane system with the ability to rotate the camera in 2 orthogonal planes high performance PMT, LEAP and pinhole collimator in a dedicated room for equine and small animal imaging.

MRI equipment:

1.5T Hitachi Echelon, in hospital for small and large animal (with custom equine table) with Diffusion Tensor Imaging capabilities

Other:

1. Digital Radiography: All rooms are equipped with the Eklon DR panels: Large format in the small animal rooms and small and large panels in the large animal radiographic suite. All images from all modalities are archived in the Antech Imaging PACS for retrieval and archiving using Efilm software. In addition, an equine Eklon NEXT panel is available with a small wireless DR panel in large animal.
2. A total of 8 triple head, 3 megapixel greyscale medical grade workstations are available for image viewing in the reading room, conference room, US room and MRI in addition to 1 single head conventional color monitor and a dual head Mac Station.
3. Radiology reporting system and Mini "RIS" (Filemaker based)
4. Dragon Dictation software and Microphones were added on all work stations.
5. 2 HD Smart boards in reading and conference room for student teaching and resident training
6. Large reading room to accommodate students and residents for rounds with HD smart board.
7. Large conference room for journal club and book review, resident rounds and case discussions with viewing workstation and HD smart board.
8. 45 image viewing stations with access to the PACS throughout the hospital
9. Radiotherapy: the oncology service maintains a Varian 21EX linear accelerator with photons and electrons, a multileaf collimator, On-board imaging (OBI) and a cone beam CT. In addition, 3D treatment planning system (TPS) and record and verify system (R&V) for advanced techniques such as IMRT, SBRT, SRS is available.
10. Radioactive iodine therapy ward for treatment of cats with hyperthyroidism.
11. Isolation wards for cats and dogs for holding post-nuclear medicine scans.
12. Isolation stalls for horses post nuclear medicine scans.

Indicate the approximate number of patients seen annually by the home institution?	21,351
What is the annual imaging caseload?	10,400
	Small Animals (canine, feline): 17,795 Large Animals (equine and food animals): 2,534 Exotic Animals: 1,022
	Small Animal Radiology: 4700 Large Animal Radiology: 1600 Abdominal Ultrasound: 2300 Computed Tomography: 320 Nuclear Medicine: 100 Magnetic Resonance Imaging: 270 Other (specify): 110 Large Animal Ultrasounds, 500 US guided procedures, 400 Wildlife and exotics, 100 Radiotherapy
What percentage of imaging reports are typically available within 48 hours after the examination is conducted in typewritten or electronic form?	100%
If your answer is less than 75%, please explain how reports are generated and how long it takes for the report to be available for review in typewritten form.	NA
If your answer is less than 75%, please explain how reports are generated and how long it takes for the report to be available for review in typewritten form.	NA
Of the preliminary reports generated from the imaging caseload what percentage are initially produced by the resident?	98%
What percentage of the resident reports are reviewed by the imaging faculty prior to finalization of the report?	100%
When preliminary resident reports are reviewed and edited by the imaging faculty responsible for training, what percentage of the time are two or more faculty present?	60%

Small Animal Radiology: 7000
Large Animal Radiology: 950
Abdominal Ultrasound: 1500
Computed Tomography: 500
Nuclear Medicine: 150
Magnetic Resonance Imaging: 500
Elective (any of above): 300
Required elective (specify): RT 20, Cardio 150
Total: 11,075

Radiobiology

MDEP 7121 ~38.5 hours

Nuclear Medicine

MDEP 7121, Nuc med short course ~28 hours

Ultrasonography

MDEP 7121, US course for rDVMs ~ 20 hours

CT

MDEP 7121 ~ 4.5 hours

MRI

MDEP 7121 ~8 hours

If your program does not offer formal courses in any or all of these topics please indicate how these educational objectives for each are met. Use the "Upload Files" button to upload additional information as necessary.

Radiological Physics for Residents:

Formal course work is provided by the Medical physics Department in Baton Rouge, Louisiana in association with the Ochsner Health Group (hospital) in New Orleans. Dr. Kip Matthews is the course instructor. The course is taken with human radiology residents in that program and the course covers the topics of Radiography, CT, MRI, Neuroimaging, Ultrasound and Nuclear Medicine and Radiobiology. They also visit a radiopharmacy to learn how a molybdenum generator functions. The resident will attend the course via videoconference in the first year of the residency.

Residents also are sent to the Nuc med short course. This course is intended as a general review of nuclear medicine. It will include: reviews of the basic principles of nuclear medicine and image processing, common nuclear medicine imaging procedures, interpretative principles and case examples. The course will focus on small animal nuclear medicine, with a brief review of equine nuclear medicine (specifically, bone scintigraphy). The course is targeted towards radiology residents, with a focus on ACVR board objectives. - See more at:

<http://www.cpe.vt.edu/numed/index.html#sthash.stneiFif.dpuf>

In addition, residents attend the US course offered to RDVMs at LSU (8 hours of lectures) and student lectures when applicable.

In Diagnostic Imaging

1. Formal case discussion daily, all modalities
2. Journal Club: residents distribute and prepare in advance journal articles using power point format followed by an open forum discussion or topic discussions resulting from compiled journal articles for a particular topic
3. Board Examination review: residents prepare in advance an assigned reading from pertinent texts summarized in a power point that follow the syllabus of the ACVR for the board examination covering all topics, including physics, physiology, pathophysiology, anatomy, and all modalities.
4. Path rounds: held monthly, review of cases with final diagnosis from histopathology prepared and presented by residents

Outside of Diagnostic Imaging

5. During the 30 months of training, 6 weeks total will be spend in the Cardiology service to cover the basics of echocardiography and principles of interpretation and patterns of disease.
6. During the 30 months of training, 2 weeks total will be spend in the Oncology service to cover the basics of radiation treatment planning, radiobiology and radio-oncology.
7. Resident and Intern Seminar (i.e. all interns and residents of the hospital). These are held weekly on Friday and are formal 30 minute presentations by the resident either to review a subject area in internal medicine, surgery, neurology, exotics, anesthesia, oncology or radiation oncology or to present the resident's research project or case reports. Both large and small animal is covered.
8. Large Animal House Officer Rounds: 1 hour on Wednesday mornings. Additional large animal topics are covered through presentations by the residents. Either case presentations or mortality and morbidity cases are made. Also, research topics in the Equine Division are presented, occasionally by invited speakers.
9. Dean's Grand Rounds. 1 hour. Held once a month. Invited speakers covering a variety of topics.
10. Small animal internal medicine rounds. Held once weekly to discuss topics in internal medicine and neurology. The internal medicine group sees numerous neurology cases on a daily basis.
11. Graduate Courses. As part of the graduate studies program, three, three hour long courses are held annually with in depth teaching of specific imaging topics in both small and large animal.

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Over the last five years, what is the average number of peer reviewed publications, on which the IMAGING faculty listed under Direction and Supervision in IV, are included as authors?	Lorrie Gaschen: Total of 30 publications Nathalie Rademacher: Total of 20 publications Abbigail Granger: Total of 10 publications
What is the number of publications/submissions expected of a resident completing the program?	Residents are required to submit two first-author manuscripts during the residency, one of which must be completed by the second year. One manuscript must originate from the resident's research project, the other a case report or retrospective study. Two manuscripts from the research project are also acceptable. At least one abstract is to be presented at an annual imaging conference meeting. Sufficient time and support is given by the faculty to complete this work and the faculty will aid the resident with developing collaborations and obtaining funding if necessary.
If this is an established program, what percentage of residents have made formal research presentations at the annual ACVR or equivalent national meeting?	70%
Is an advanced degree a requirement of the training program?	No
How many lectures or scientific presentations are expected of each resident during the course of their training?	The resident will be expected to hold 2 formal intramural lectures per year. At least one lecture at a veterinary congress will be required, usually during the second year of the program. Depending on the resident's level, they will begin leading student rounds in a formal setting where the student's have the opportunity to discuss the cases they were assigned to as well as introduction on the topic morning rounds given to students. Residents will also assist in all laboratories in the diagnostic imaging courses of the years 1-3 as well as the anatomy teaching labs. In their 4th year, they will be expected to give lectures in the years 1-3 courses. This will be no more than 1 lecture per student year.
Did all of your current resident(s) adequately complete the last six months of training?	Yes
If no, please explain:	NA
List the current members of the residents' review committee.	Nathalie Rademacher Lorrie Gaschen Abbi Granger
List the internal mechanisms in place to protect your resident if conflicts arise.	A departmental house officer committee of the School of Veterinary Medicine is in place to protect and help the resident in cases of conflicts and issues that might arise. Member are residency directors of each section.

What is the nature and scope of the teaching file available to residents?

A searchable database is available. A teaching file is saved in this database and (currently contains approximately 2000 cases, 1500 electronic, rest film) is maintained for review by residents and students. It consists of large animal, small animal and exotic cases, 60 percent small animal, 30 percent large animal and 10 percent exotic cases. Both normal and abnormal examples are available. CT and MRI cases are included. Large animal cases include appendicular and axial skeleton and thorax. Small animal includes thorax, abdomen, extremities, special procedures, computed tomography and magnetic resonance imaging. Exotics are mainly whole body radiographic studies.

How is it maintained/updated?

The cases are updated yearly and the electronic teaching file is updated on a weekly basis.

On average how many Known Case Conferences are conducted annually?

30

What is the geographic relationship between the nearest medical library and the training program?

The resident has access to the veterinary journals and reference books listed in the reading list of the syllabus. The School of Veterinary Medicine maintains a complete library with up-to-date textbooks and journals in all specialty fields. The main veterinary journals for all specialty fields are also available and most all are available electronically. In addition, the radiology section maintains its own library of the most recent anatomy and diagnostic imaging textbooks. The nearest human medical library is 1 hour away by car.

Provide the pass rate for first time, second time, etc for both the preliminary and certifying exams for your residents for the past 5 years. For example, for all residents finishing your program 5 years ago (Year 5): x number passed prelim 1st time, y number passed certifying exam 1st time, z number was unsuccessful.

	Year 5	Year 4	Year 3	Year 2	Year 1
Passed preliminary exam 1st time		1	1		1
Passed preliminary exam 2nd time					1
Passed preliminary exam after 2nd time					
Passed certifying exam 1st time			1	1	
Passed certifying exam 2nd time					
Passed certifying exam after 2nd time					
Unsuccessful in all attempts					

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