

RADIOLOGY RESIDENCY

Supplement

I. Introduction

- A. The radiology residency program of VA-MD Vet Med is designed to enable residents to: 1) gain proficiency in the art and science of veterinary radiology, 2) fulfill application requirements for the Preliminary and Certifying Board Certification Examinations of the American College of Veterinary Radiology, 3) complete the ACVR certification examinations, and 4) fulfill requirements for a Master of Science degree.
- B. Implementation of the radiology residency program is the direct responsibility of the faculty in the Radiology Section and, to a lesser degree, all VA-MD Vet Med faculty.

II. Objectives

As per Departmental Program.

III. Prerequisites

As per Departmental Program. Candidates should aim to pursue diplomate status in the ACVR.

IV. Resident Advisor

- A. A Resident Advisor will be appointed by the Department Head and will be responsible for insuring that the ACVR Residency Program Guidelines are met.
- B. The Resident Advisor will direct the resident in scheduling clinical duties and teaching assignments; choosing a Graduate Advisor; preparing manuscripts for publication; and preparing for board certification examinations. Additional responsibilities include assessing the resident's performance in the activities described herein and providing general mentoring and counseling where needed.
- C. The Resident Advisor will work closely with the Graduate Advisor (Major Professor) in order to coordinate the resident's clinical and graduate program responsibilities.

V. Graduate Advisor

- A. The resident will select a Graduate Advisor (Major Professor) by the end of the first Fall Semester.
- B. The Graduate Advisor will be responsible for insuring that the Graduate Program Guidelines for the Master of Science degree are met. The Graduate Advisor will direct the resident in selecting a Graduate Committee, formulating a Graduate Plan of Study, submitting a proposal for funding the Master's thesis research, preparing manuscripts for publication, and completing the Master's thesis. Additional responsibilities include assessing the resident's performance in the activities described herein, and providing general mentoring and counseling where needed.

VI. Resident/Intern Committee

As Departmental Program

VII. Residency Program

A. First Year

1. Clinical Program

a. Time allocation

9 weeks:	radiographic techniques and orientation
35 weeks:	radiology and ultrasound clinics/course work
3 weeks:	research/scholarly activity
2 weeks:	vacation (10 business days)
52 weeks:	total

- b. The first 9 weeks will be spent developing competency in radiographic techniques, patient positioning, and use of equipment. For the initial 3 weeks, the resident will serve as an assistant rad tech, helping in the small animal radiology rooms. For the following 3 weeks, the resident will have primary technical responsibility and oversight of all small animal procedures in a radiology room. For the final 3 weeks, the resident will acquire expertise in equine radiographic positioning techniques. The campus radiation safety examination will be completed during the initial week.
- c. After the initial 9 weeks, the majority of the clinical program will be spent in radiology clinics, actively participating in the regular operation of the Radiology Section of the Veterinary Teaching Hospital. The resident will rotate through floor duty (diagnostic radiology, computed tomography MRI), and ultrasound duty. The resident will attend nuclear medicine procedures while assigned to either modality. The resident will begin emergency duty starting at the beginning of the first year. Initially, the resident will be accompanied by a faculty radiologist or senior resident. As the resident becomes more independent, the faculty/senior resident will have more a backup role.
- d. The resident will participate in daily morning film reading sessions when on clinic duty.. The first 6 weeks (2 clerkships) will be spent participating in radiology student rounds. Beginning the 3rd clerkship of the first year and continuing throughout the residency, daily radiology resident rounds will be held. These rounds will be supervised primarily by the floor duty radiologist, along with participation of all available radiology faculty and residents.
- f. The resident will be excused during the rotation to attend classes and/or labs. The resident will be responsible for submitting a written class schedule to the on duty radiologists at the beginning of each clerkship.
- g. Attendance at weekly necropsy rounds is strongly encouraged.
- h. Three weeks are scheduled for resident research/scholarly activity. It is expected that this time will be used for preparation of a retrospective study and seminar presentation. This time must be scheduled when the resident is scheduled to be on Ultrasound duty
- i. Two weeks (ten business days) of vacation are allocated for the resident. This time must be approved by the Resident Advisor and primary duty radiologist to assure proper coordination

of service activities. Vacation should not be taken when assigned to emergency or floor duty. Unused vacation time may not be carried over from year to year.

2. Didactic Teaching

- a. As Departmental Program
- b. The resident will attend didactic radiology lectures, and participate in preclinical radiology laboratories, as directed by the Resident Advisor. The Resident Advisor will obtain a schedule of radiology laboratories from the course leaders annually.
- c. Participation in radiology continuing education short courses as appropriate will be expected.

3. Research and Scholarly Activities

- a. Seminar program: as per Departmental Program
- b. Three weeks are allocated for resident research/scholarly activity, under the direction of the Resident and Graduate Advisors. The resident will work with the Section Chief to schedule these off-clinic blocks in advance. It is expected that this time will be used for preparation of a retrospective study and seminar presentation
- c. The Resident Advisor will be responsible for advising the resident in design and completion of a case series or retrospective study. Results will be presented as a poster or abstract at the first year's departmental seminar program.
- d. The Graduate Advisor will be chosen by the end of the first fall semester. The Graduate Advisor will help the resident assemble a Graduate Advisory Committee. These advisors will supervise the resident in designing a prospective study for the Master's thesis.
- e. Attendance at regional and national meetings will be encouraged, as clinical responsibilities and funding availability permit.
- f. Attendance at the Nuclear Medicine Short Course in Knoxville, TN, is expected. The resident will be excused from clinic duty during these courses.

4. Graduate Program

- a. As Departmental Graduate Program
- b. Advanced Anatomy I and II will be taken in the Fall and Spring semesters of the first year. Other courses will be as per the Graduate Plan of Study.
- c. The Resident Advisor will supervise selection and registration for other graduate courses in Fall and Spring semesters of the first year (see Template of Courses)
- d. By the end of the first Fall Semester, the resident will choose a Graduate Advisor. The Graduate Advisor will then assume responsibilities for directing the resident's Graduate Program with written plan of study for coursework in the remaining 3 years. This plan will be submitted to the Graduate School for approval by the end of the first Spring Semester.

B. Second Year

1. Clinical Program

a. Time allocation

43 weeks:	radiology clinics
4 weeks:	research/scholarly activity
3 weeks:	off-site specialty elective (optional)
2 weeks:	vacation
52 weeks:	total

- b. The resident will rotate among radiology clinical duties as per the previously submitted schedule. Responsibilities will be similar to the first year with increased emphasis given to primary supervision and interpretation of radiographic and other imaging procedures. The resident will be responsible for the majority of radiology reports, and will have them ready for presentation at the next morning rounds session. The resident will perform primary emergency duties, with an assigned faculty/senior resident backup.
- c. Four weeks have been allocated for resident research/ scholarly activity. The resident is expected to complete a proposal for funding for the masters project during this time, as well as prepare for resident seminar and research symposium abstract submission. This off-clinic time must be scheduled when the resident is assigned to Ultrasound duty rather than Floor duty.
- d. Three weeks are available for an off-site residency specialty elective. During this time, the resident may obtain additional training in a specialty area of interest (equine radiography, radiation therapy, nuclear medicine, magnetic resonance imaging, echocardiography, etc.) at another veterinary school, a medical school or a private practice. This off-site elective must be approved by the Resident Advisor, so that any necessary arrangements can be made and the Section Chief can be notified of any clinical scheduling changes. Departmental funding may be requested but is not guaranteed. If the resident declines this elective, the time allocation will revert to radiology clinics.
- e. A three week in-house cardiology rotation will be performed during either the second or third year.
- f. The resident will perform a limited number of student rounds sessions, primarily in the area of musculoskeletal topics.
- g. Two weeks (ten business days) of vacation are available.

2. Didactic Teaching

- a. Preclinical laboratory and continuing education responsibilities as appropriate, similar to first year.
- b. Presentation of 2 preclinical radiology lectures will be required, as directed by the Resident Advisor and as per the Departmental Program.

3. Research and Scholarly Activity

- a. Seminar Program: as per Departmental Program
- b. four weeks are allocated for resident research/scholarly activity, as directed by the Graduate Advisor. The resident will work with the Section Chief to schedule these off-clinic blocks in advance.
- c. The resident will submit a proposal to a funding agency during Spring Semester of second year.
- d. The resident will present their Master's thesis research proposal at the Departmental Seminar program.
- e. Attendance at regional and national meetings will be encouraged, as clinical responsibilities and funding availability permit. An abstract or poster of research will be submitted in July for consideration in VA-MD Vet Med's Research Days. Attendance at the annual ACVR meeting is encouraged to present the results of the first year retrospective study project.
- f. Submission of a paper from the first year's retrospective study or case series will be expected.

4. Graduate Program

Courses as per the Graduate Plan of Study. The Graduate Advisor and Graduate Committee will assume primary responsibility for directing and monitoring the resident's graduate studies.

C. Third Year

1. Clinical Program

- a. Time allocation
 - 38 weeks: radiology clinics
 - 4 weeks: research/scholarly activity
 - 7 weeks: ACVR preliminary exam preparation
 - 2 weeks: vacation
 - 52 weeks: total
- b. The resident will be given increased responsibility in overall service activities while rotating among floor/US/CT/NM/MRI, under the supervision of radiology faculty. The resident will be responsible for the majority of radiology reports, and will have them ready for presentation at the next morning rounds session.
- d. Thirteen weeks are available for off-clinic activities. This provides:
 - 7 weeks for Preliminary exam preparation
 - 4 weeks for research activity
 - 2 weeks for vacation
- e. The resident will perform a limited number of student rounds sessions, primarily in the topic of the thorax

2. Didactic Teaching

- a. As Departmental Program
- b. Participation in preclinical radiology laboratories, lectures and continuing education courses will be similar to the second year.

3. Research and Scholarly Activities

- a. Seminar Program: as Departmental Program
- b. Eleven weeks are allocated for resident research/scholarly activity/ board exam preparation, as directed by the Graduate Advisor.
- c. Preliminary results for the Master's thesis research will be presented at the Departmental Seminar program.
- d. An abstract/poster of research will be submitted in July for consideration in VA-MD Vet Med's Research Days.
- e. Attendance at regional and national meetings will be encouraged, as clinical responsibilities and funding availability permit. Presentation at the annual ACVR meeting will be encouraged.

4. Graduate Program

As per Graduate Plan of Study. An effort should be made to coordinate graduate courses with Primary duty radiologist responsibilities to avoid class schedule conflicts during these times of maximum responsibility.

D. Fourth year

1. Clinical Program

- a. Time allocation

44 weeks: radiology clinics
6 weeks: research/scholarly activity
2 weeks: vacation
52 weeks: total

- b. The resident will be assigned to clinic duty for a total of 44 weeks. A formal faculty supervisor is not assigned for 4th year residents. However, any available faculty member should be consulted as needed.
- c. Six weeks are allocated for research/scholarly activity. This time must be taken when assigned to Ultrasound duty rather than Floor duty.
- d. Two weeks of vacation are available.
- e. The resident will participate in student rounds sessions throughout the fourth year, teaching in

all radiology topics.

2. Didactic Teaching

- a. As Departmental Program
- b. Participation in pre-clinical radiology laboratories and CE courses is encouraged. Two didactic lectures will be given.

3. Research and Scholarly Activities

- a. Seminar Program: as per Departmental Program
- b. Six weeks are allocated for resident research/scholarly activity or off-site residency specialty electives, as directed by the Resident and Graduate Advisors. The resident will work with the Section Chief to schedule these off-clinic blocks in advance
- c. Under the supervision of the Resident Advisor and the Graduate Advisor, the resident may take off-site specialty electives to expand their clinical, teaching, or research skills. During this time, the resident may obtain additional training in a specialty area of interest (equine radiography, radiation therapy, nuclear medicine, magnetic resonance imaging, echocardiography, etc) at another veterinary school, medical school, or a private practice. The electives must be approved by the Graduate Advisor, Resident Advisor, and Section Chief. Departmental funding may be requested, but is not guaranteed.
- d. By the end of the 4th year, requirements for the residency program and Master's program must be completed. The final results of the Master's thesis research will be presented at the Departmental Seminar program, and the Master's thesis will be completed and defended. Submission of the manuscript from the Master's thesis research will also be required.
- e. Presentation of the Master's thesis research at VA-MD Vet Med's Research days and the annual ACVR meeting will be required. Funding will be sought to support the resident's attendance at the ACVR meeting.

4. Graduate Program

As per Graduate Plan of Study. The resident will complete all requirements for the Master of Science degree by the end of the fourth year.

VIII. ACVR Board Certification Examination

- A. As per ACVR Residency Program Guidelines.
- B. The resident will submit all necessary applications to take the Preliminary and Certifying sections of the ACVR Board Certification Examinations.
- C. Residents sit the Preliminary ACVR Exam in September, at the beginning of their 3rd year. If successful in the Preliminary exam, residents will take the Certifying exam in September of the 4th year.