

**AMERICAN COLLEGE OF VETERINARY RADIOLOGY**

**RECOGNIZED VETERINARY SPECIALTY OF RADIATION ONCOLOGY (ACVR-RO)**

**RESIDENCY TRAINING PROGRAM RE-ACCREDITATION APPLICATION**

NOTE: Some questions in this form are included for data collection purposes. The inclusion of an item does not necessarily imply that the item is a program requirement for ACVR-RO residency program. Please refer to the current Radiation Oncology Training Program Guidelines for comprehensive residency training requirements. This document may be downloaded from Members Only Downloads section of the ACVR website at <http://www.acvr.org>.

**APPLICATION INSTRUCTIONS:**

Training program directors wishing to have their programs evaluated should submit this electronic form and appropriate attachments electronically to the Chair of the Residency Standards and Evaluation Committee (RSEC) and to the Assistant Executive Director of the ACVR. The application must be received by February 15 of the third year following initial program approval / last re-accreditation. The RSEC will evaluate the application, a vote will be taken, and the results of the vote and the majority recommendation of the committee forwarded to the President of the Recognized Veterinary Specialty for consideration at Executive Council at one of the two annual meetings.

For the required ACVR and ACVIM Diplomates providing consultation in medical oncology and imaging, that are new to the program, please provide a brief 2-page curriculum vitae and specify the number of weeks each year that the individual will be available to actively support the radiation oncology resident.

**ACVR-RO RESIDENCY STANDARD TRAINING PROGRAM  
REACCREDITATION APPLICATION**

1. Date of Application

3/4/09

Date of Initial Program Approval

1999

Date of Last Re-accreditation

2/10/06

2. Program Director(s): (Must be a Diplomate of ACVR Recognized Veterinary Specialty of Radiation Oncology)

Alain P. Théon

Program Director's Contact Information:

Work Phone:	530-753-2517	
Fax:	530-752-6042	
E-mail:	aptheon@ucdavis.edu	

3. Additional ACVR-RO Diplomates supporting the program (not Program Directors)

Michael S. Kent

Numbers of weeks per year an ACVR-RO Diplomate is available to resident on a daily basis.

52

4. Do you have a radiation oncology resident in training at this time?

Yes	No
x	

5. Name of resident(s)

Genevieve Hammond

Is/are the resident(s) in an approved Standard program or an Alternative program:

Standard	Alternative
x	

6. Dates of training program (Please list only those dates of the actual training program. Time spent by the resident at your facility prior to beginning or following the completion of the actual training program should not be included.)

Dates of training program for resident (1) (mm/dd/yy)

08/01/07 to 07/31/09

Dates of training program for resident (2) (mm/dd/yy)

7. Location of Primary Institution

Primary Site:

University of California-Davis, School of Veterinary Medicine, Davis, California 95616

Department

Hospital/University

Address

1, shield avenue, Davis, CA 95616

City, State Zip Country

Davis, CA 95616

8. Cooperating Institution(s) (If applicable):

Department

Hospital/University

Address

City, State, Zip, Country

For cooperating institutions, attach letters of agreement signed on behalf of the institution(s) by appropriate individual(s).

9. Length of Training Program (months):

24 months

If greater than 2 years, will this period include 24 months of continuous training in radiation oncology?

Yes	No

10. Number of months dedicated solely to radiation oncology training (excluding time on Medical Oncology service, Radiology/Imaging, etc.)

11. Advanced Degree:

	Yes	No	Optional
Masters:		x	
PhD:		x	

12. Essential Program Faculty: individual faculty member may serve in only one capacity

**Please list all qualified faculty in support of program**

a. Diagnostic Radiologist(s): (Must be Diplomate(s) of the ACVR)

Dr. Erik Wisner, Dr. Rachel Pollard, Dr. Sarah Puchalski, Dr. Allison Zwingenberger, Eric Johnson
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Number of weeks per year an ACVR – Radiology diplomate is available to resident on a daily basis.

52
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Faculty member on site?

Yes	No
x	

If off site, please explain relationship.

- b. Medical Oncologist(s): (must be Diplomate(s) of ACVIM, Specialty of Oncology)

Katherine Skorupski, Carlos Rodriguez, Robert Rebhun

Number of weeks per year an ACVIM-Oncology Diplomate is available to resident on a daily basis.

52

Faculty member on site?

Yes	No
x	

If off site, please explain relationship

- c. Surgeon(s): (must be Diplomate(s) of the ACVS)

Kei Hayashi, Amy Kapatkin, Michelle Steffey, Geraldine Hunt

Number of weeks per year an ACVS faculty member is available to resident on a daily basis.

52

Faculty member on site?

Yes	No
x	

If off site, please explain relationship.

d. Pathologist(s): (must be Diplomate(s) of the ACVP)

Robert Higgins, Linda Lowenstein, James MacLachlan, Charles Mohr, Peter Mohr, Linda Munson, Dennis Wilson, Stephen Griffey, Patricia Pesavento

Number of weeks per year an ACVP faculty member is available to resident on a daily basis.

52

Faculty member on site?

Yes	No
x	

If off site, please explain relationship.

Please list all additional board certified specialists in direct support of the program. If offsite, please explain relationship.

Name	Certifying College / Board
Mary Christopher, William Vernau, Jeanne George,	Clinical pathology
Richard LeCouteur, Peter Dickinson, Beverly Sturges, Karen Vernau, Maggie Snipe	ACVIM, Neurology
Larry Cowgill, Lynelle Johnson, Edward Feldman Stan Marks, Richard Nelson, Jane Sykes, Jodi Westropp	ACVIM
Steve Hollingsworth, David Maggs	ACVO
Frank Verstraete	AVDC
Peter Pascoe, Bruno Pypendop, Robert Brosnan, Carolyn Craig, Linda Barter	ACVA
Karl Jandrey, Matthew Mellema, Katrina Hoper	ACVECC
Michelle Hawkins, Joanne Paul-Murphy, Scott Larsen	

13. How does resident receive training in Medical Oncology? What is time allotted for this training. Please provide description of formal and informal training experiences?

The oncology service at UCD-VMTH includes medical and radiation oncology programs. The Radiation Oncology training program director is also chief of the Oncology service. The resident is directly integrated in the oncology service. The resident receives and manages patients as primary care clinician under the supervision of both medical and radiation oncology faculty members. The resident manages most cases undergoing radiation therapy whether they were seen primarily by the radiation oncology program or transferred from other services. Cases seen by the resident are discussed in oncology rounds and presented once a week in radiation oncology rounds. In addition the resident spends 4 weeks in medical oncology dealing strictly medical oncology cases and training in safe handling of chemotherapy.

The resident attends a series of seminars (Dr. Kent is course leader) of a series of lectures for medical and radiation oncology residents. The seminar list of topics is variable but entails the systematic review of tumor types with review of the veterinary literature. The course is attended by the medical oncology residents and oncology faculty and provides a basic understanding of the most commonly encountered neoplastic diseases in small animal companion animals. Dr. Théon teaches the large animal and exotics section of the course.

14. How is resident trained in diagnostic imaging? What is time allotted for this training. Please provide description of formal and informal training experiences?

Currently there are six board certified diagnostic radiologists that operate the clinical service including five tenure track faculty members (Dr. Erik Wisner, Dr. Rachel Pollard, Dr. Sarah Puchalski, Dr. Allison Zwingenberger, and Eric Johnson)

Additionally, there are four radiology residents. The radiology service provides support in radiology, ultrasound (B-mode color flow doppler), fluoroscopy, CT, MR and nuclear medicine. The CT and MR units are both on site.

A four week period in total is devoted exclusively to training in diagnostic radiology. During the rotation, the resident interprets and generates written reports of imaging studies performed on patients seen by the radiology service. This period allows the resident involvement in a multitude of imaging modalities including: CT, MR, ultrasound, nuclear medicine, and radiography. During this period the resident attend daily rounds and participate in the discussion and review of imaging studies, and attend and participate in the weekly unknown case conference provided by the radiology faculty.

In addition, during the residency program, pretreatment images of all potential patients are reviewed and discussed with a radiologist. Follow-up images made of patients having completed radiation therapy are also reviewed with a radiologist.

15. How is resident trained in radiation biology? Please provide description of formal and informal training experiences?

The resident attends a series of 10 lectures (2-hour lecture with a 2 units credit , P/F) on Radiation Biology (VSR 465) taught by Dr Theon . The course syllabus is attached. This course is offered once every two years in the Winter quarter and is attended by residents in radiation oncology, medical oncology, radiology and is open to graduate students

16. How is resident trained in cancer biology? Please provide description of formal and informal training experiences?

The resident attend 2 courses entitled “Veterinary Cancer Biology” led by Dr Kent (VMD 433) and “Clinical Veterinary Oncology” led by Dr Theon (VSR 424). Each course includes 10 1-hour lectures.

In addition the resident attends lectures on equine oncology taught by Dr Theon for veterinary students (VME 464, 2hours and VME 469, 2hours)

17. How is resident trained in radiation oncology physics? Please provide description of formal and informal training experiences?

The resident attends a series of 10 lectures (2-hour lecture with a 2 units credit , P/F)) on Radiation Physics and Dosimetry by Dr Théon. This course is offered once every two years in the Fall quarter and is attended by residents in radiation oncology, medical oncology, radiology and is open to graduate students.

In addition, Dr. Randall Holt, PhD, certified diagnostic and therapeutic radiological physicist provides support for the calibration and physics of the equipment and reviews all treatment plans with the faculty and resident every other week. On an informal basis he also reviews physics topics with the resident.

18. Please list any formal courses and their instructors included in the residency training curriculum. Please attach syllabi and instructor credentials for each listed course.

Radiation Biology and Practice of Veterinary Radiation Oncology at the University of California, School of Veterinary Medicine. Instructor: Théon. The course syllabus is attached (VSR 465).

Principles of Radiation Physics, Dosimetry and Treatment Planning at the University of California, School of Veterinary Medicine. Instructor: Théon. The course syllabus is attached (VSR 464).

Veterinary Cancer Biology at the University of California, School of Veterinary Medicine. Instructor: Kent. The course syllabus is attached (VMD 433).

Clinical Veterinary Oncology at the University of California, School of Veterinary Medicine. Instructor: Théon. The course syllabus is attached (VSR 424).

Veterinary Oncology Seminars at the University of California, School of Veterinary Medicine. Instructor: Kent. The list of topics varies from quarter to quarter but entails the systematic review of tumor types with review of the veterinary literature. The list of topics from last quarter is included

Veterinary Radiation Oncology journal club at the University of California, School of Veterinary Medicine. Instructor: Théon. This provides an in-depth review and critical analysis of published studies in veterinary radiation oncology. The list of topics varies from quarter to quarter and is based on tumor location, tumor type and species (small animal, equine and non-domesticated animals).

19. Does the resident participate in clinical rounds on a daily basis while on clinical rotations? Is a supervising Diplomate available for the majority of rounds? If no, please describe how rounds are attended and supervised.

Yes	No
x	
Comments:	Daily, each of the cases seen on the service will be reviewed by the supervising diplomate with the trainee. When students are on the rotation they will participate in these rounds.

20. Are formal conferences, such as clinicopathologic conferences, journal clubs, or seminars held on a weekly basis?

Yes	No
x	
Comments:	

21. Please provide a description of the conferences, etc., that are provided and the typical schedule.

<ul style="list-style-type: none"> <li>• Radiation Oncology rounds (weekly): current radiation oncology patients are discussed. The cases discussed include both medical and radiation oncology patients. The rounds are attended by the medical and radiation faculty and residents, as well as veterinary students currently on the rotation.</li> <li>• Radiation chart rounds (weekly): these rounds are attended by the radiation oncology faculty, and the radiation and medical oncology residents. Treatment plans, port films are reviewed as well as treatment set-ups and calculations.</li> <li>• Imaging rounds (weekly): Past cases seen at the teaching hospital are reviewed and</li> </ul>
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participants read the films without prior knowledge of findings. These rounds are also attended by the medical oncology residents.

- Grand rounds (monthly): These rounds are run by the internal medicine service and are open to all services at the teaching hospital. It is expected that the radiation oncology resident present one case every four months, which includes the making of a formal powerpoint presentation.
- Cytology rounds (weekly): these rounds are held weekly for the medical oncology residents to review cytologic preparations of interest acquired during the week.
- Pathology rounds (weekly): these rounds are held by the pathology department and occur weekly.
- Case Conference (weekly): there are both large animal and small animal case conferences held weekly during the academic year.

22. Is the resident required to give one or more formal presentations at a conference or in an educational setting on a yearly basis? If yes, please describe these conferences or educational settings.

Yes	No
x	
Comments:	The resident is required to present at the annual house officers day at the school of veterinary medicine at UC Davis. They also do formal case presentations, which includes a power point presentation, four times a year at grand rounds. The radiation resident also gives one lecture each year to the DVM students in the second year oncology course.

23. How many major veterinary medical or medical meetings is each resident able to or expected to attend during his/her training program? Please list the meetings attended.

None	One	Two	> Two
		x	
Comments:	ACVR annual meeting ASTRO annual meeting VCS annual meeting		

24. Does the training program require a research project? Please indicate the number of research projects required.

Yes	No	Optional	Number
x			
Comments:	It is expected that the resident publish the work from the required research project		

25. Are one or more publications required as part of the training program?

Yes	No	Number
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x		
Comments:	It is expected that the resident publish the work from the required research project	

26. Please indicate the availability of the following facilities or equipment. Indicate if these are available at the primary training site, or at a different location. For facilities that are not on-site, please describe the situation and availability in the space at the end of this section.

Equipment / Service	Available?		On-Site?	
	Yes	No	Yes	No
Megavoltage Teletherapy Machine Please specify manufacturer and model: Varian 2100C MLC	x			
3D - Computer based treatment planning system Please specify manufacturer and model: Varian Eclipse	x			
2D/2.5 D - Computer based treatment planning system Please specify manufacturer and model:		x		
LDR Brachytherapy treatment and planning		x		
HDR Brachytherapy treatment and planning		x		
Diagnostic Radiology / Imaging Services	x			
Conventional Radiography	x			
Fluoroscopy	x			
Ultrasound	x			
Nuclear Medicine	x			
Computed Tomography	x			
Magnetic Resonance Imaging	x			
Positron Emission Tomography				

Intensive Care Facility - 24 hours	x			
Clinical Pathology capabilities: (includes CBC, serum chemistries, blood gases, urinalysis, cytology, parasitology, microbiology, and endocrinology)	x			
Veterinary Library w/Literature Searching Capabilities	x			
Medical Library w/Literature Searching Capabilities	x			

27. If any of the above equipment or facilities are available off-site, please explain how the resident can access them for case management, research, or study.

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28. Please list numbers of patients treated in the last 12 months using the listed radiation treatment modalities.

Modality	Number Treated
Megavoltage Gamma / X-ray Teletherapy	193
LDR Brachytherapy	
HDR Brachytherapy	
Injectable Radionuclide therapy	
Radioiodine	17

Other (please specify)

<sup>90</sup>Strontium Pleiotherapy

36

Other - please specify

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29. Describe procedures for resident record recording of radiation treatment details of all patients.

The resident enters pertinent information into the electronic medical record for each patient visit. A separate record is kept by the radiation oncology service for each patient receiving therapy. Records of the treatment plan, set-up instructions, patient history, diagnostic tests, and acute reactions. The trainee keeps a log of patients treated through use of the patient database. Tumor type, tumor location, tumor stage, dates of treatment, number of beams, beam configuration, and use of blocks/wedges will be archived, as well as follow up information.

30. What procedures are in place to facilitate collection of follow up information of patients treated?

At the completion of a course of external beam radiation therapy it is recommended that patients return for a recheck evaluation at 2 weeks, 1 month, 2, 3, 6, 9, and 12 months. At the time of all rechecks at the VMTH a written comment is made in the radiation record and photographs of the irradiated site are acquired. Data regarding all patients receiving radiation therapy is archived in a computer database. The radiation oncology resident will be required to do complete follow up of their cases during the residency training program including recheck physical examinations, and follow-up phone calls to owners and/or referring veterinarians of patients that do not return to the VMTH for rechecks. Information regarding tumor response, radiation side effects, etc. will be recorded

31. By what mechanisms and how often are residents evaluated? Please attach form used in this evaluation (required).

All trainees are formally evaluated twice a year by use of the VMTH standard evaluation form, which is followed by a meeting with the program director.

32. Please list the residents who have completed the training program including the year that each individual's training program ended. If at all possible, please provide an address, and any information you have on the status of each individual with respect to the board certification process.

Michael Kent  
3204 Oyster Bay Ave  
Davis, CA 95616  
530-756-5695  
mskent@ucdavis.edu  
Finished training 2003, Passed Board Examination in 2004

David Lurie  
University of Florida  
LurieD@mail.vetmed.ufl.edu  
Finished Training 2005, Passed Board Examination in 2005

Ira Gordon  
10 Center Drive Building 10,  
Rm B3B100 Bethesda, MD 20892  
gordoni2@mail.nih.gov  
301-451-3701  
Finished training 2007, Passed Board Examination in 2007

33. Please list any additional information of interest in support of this residency re-accreditation application.

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**Attachments:**

Please attach the following documents to the application if applicable. Please mark box to indicate which documents are included. Please list any additional documents attached in support of this application.

<b>Attached?</b>	<b>Documents</b>
No change	Twenty-four (24) month calendar of resident's activities - <b>Required</b>
No change	CV - ACVR-RO Diplomate - Program Director(s) - <b>Required</b>
No change	CV - ACVR-R Diplomate(s) - <b>Required</b>
Attached	CV - ACVIM-O Diplomate(s) Dr. Rebuhn and Dr. Skorupski- <b>Required</b>
No change	Syllabi of formal course work included in the training program - <b>Required</b>
No change	Credentials of instructors providing formal course work - <b>Required</b>
No change	Forms used in resident evaluation - <b>Required</b>
N/A	Letters of agreement from cooperating institutions - <b>Required</b>