ACVR Radiation Oncology

ACVR-RO Residency Program One-Time Re-Approval Application

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In April 2020, ACVR Executive Council approved updated radiation oncology residency training requirements outlined in RO Residency Program Essential Training Standards and Requirements. Residency programs approved before April 2020 that are not able to immediately implement these new requirements are eligible to apply for a one-time re-approval of the current program to include one more cycle of residents (i.e. one more year of resident enrollment with the program being on probation while that/those resident(s) complete their program). After that, submission of a new program application is required.

ONE-TIME RE-APPROVAL INSTRUCTIONS:
The application must be received by January 31st of the third year following initial program approval / last re-approval. The RO RSEC will evaluate the application and a vote will be taken. The results of the vote and the majority recommendation of the committee will be forwarded to the President of the Recognized Veterinary Specialty for consideration by Executive Council at one of the two annual meetings.

For the required ACVR and ACVIM (Oncology) Diplomates, please provide a brief, 2-page curriculum vitae up-to-date within one year.

When filling out the application, the first full page of information is entered and you hit next, the form will automatically save the information entered to the emailed link for the submitter to stop and start the application with the emailed link. Once a page is started it must be completed and next hit for that page to save.

ACVR-RO Residency Program One-Time Re-Approval Application

1. Date of Application	Wednesday, March 9, 2022
Date of Initial Program Approval	Friday, January 31, 2020
Date of Last Re-Approval	Friday, January 31, 2020

Your Name	Michael Deveau
Your Email Address	mdeveau@cvm.tamu.edu
Your Address	4474 TAMU College Station, TX, 77843-4474

2. Program Director:

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

First Name	Last Name	Title/Credentials	Email	Phone #	Number of weeks per year faculty member is available to resident on a daily basis	Fax #
Michael	Deveau	Clinical Associate Professor / DACVR-Radiation Oncology	mdeveau@cvm.tamu.edu	3522467754	48	9798456978

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

Do you have additional ACVR-RO Diplomates in support of the program?

Yes

Additional Radiation Oncologists in support of the program (Diplomate of ACVR recognized Veterinary Specialty of Radiation Oncology):

First Name	Last Name	Title/Credentials	Number of weeks per year each individual boarded ACVR-RO Diplomate is available to resident on a daily basis	Faculty Member on site (yes or no)?
Lauren	Smith	Clinical Assistant Professor / DACVR-Radiation Oncology	48	Yes

Upload CVs of the Program Director and any supporting Radiation Oncologists:

Deveau_CV_2021.docx

pdf Lauren Smith_CV_Nov 2021.pdf

Residents

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

Yes

Residents

First Name	Last Name	Dates of Training
Christian	Stocks	7/20-7/23
Ada	Naramor	7/21-7/24

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The following conditions define an Alternative Program:

- If the program is not at least a minimum two-year continuous radiation oncology training program which fulfills all the trainee requirements of the training program guidelines, it will be defined as an Alternative Program.
- If exemption from any other requirement for a Standard program is requested in the application, the program must be submitted as an Alternative Program.

4. Application is made for (check one):

Standard Program

5. Primary Site:

College of Veterinary Medicine

Hospital/University:

Veterinary Medical Teaching Hospital / Texas A&M University

Department:

Small Animal Clinical Sciences

Address:

4474 TAMU
College Station, TX, 77843-4474

Cooperating Institution Information

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Training Period

7. What is the total length of the training program? 36

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

Number of months dedicated solely to radiation oncology training (excluding time on Medical Oncology service, Radiology/Imaging, etc.) 24.5

8. Advanced Degree:

Masters	No
PhD	No

Upload calendar of resident's activities (24 or 36 month) including required rotations and vacation:

Example Calendar.xlsx

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9. Faculty

Essential Program Faculty:
*If dual-boarded, individual faculty member may serve in only one capacity
*Please list all qualified faculty in support of program

a. Diagnostic Radiologist(s):

Diagnostic Radiologist(s): (Must be Diplomate(s) of the ACVR or ECVDI):

First Name	Last Name	Title/Credentials	Number of weeks per year each individual boarded radiology Diplomate is available to resident on a daily basis	Faculty Member on site (yes or no)?
Lindsey	Gilmore	Clinical Associate Professor / DACVR	27.5	Yes
Christine	Gremillion	Clinical Assistant Professor / DACVR	27.5	Yes
Jay	Griffin	Associate Professor / DACVR	14.0	Yes
Gwendolyn	Levine	Clinical Associate Professor / DACVR DACVP	27.5	Yes
Lauren	Russell	Clinical Assistant Professor / DACVR	27.5	Yes

First Name	Last Name	Title/Credentials	Number of weeks per year each individual boarded radiology Diplomate is available to resident on a daily basis	Faculty Member on site (yes or no)?
Andr	Voge	Clinical Professor / DACVR	14.0	Yes

How many weeks per year is at least one boarded radiology Diplomate on site and available to a resident on a daily basis?

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Upload CVs (up-to-date within 1 year and maximum of 2 pages each) of diagnostic radiologists listed:

pdf Combined Rad CVs.pdf

b. Medical Oncologist(s):

Medical Oncologist(s): (Must be Diplomate(s) of the ACVIM, Specialty of Oncology:

First Name	Last Name	Title/ Credentials	Number of weeks per year each individual ACVIM-Oncology Diplomate is available to resident on a daily basis	Faculty Member on site (yes or no)?
Heather	Robles-Wilson	DACVIM Oncology	15	Yes
Shay	Bracha	DACVIM Oncology	19	Yes
Emma	Warry	DACVIM Oncology	36	Yes

How many weeks per year is at least one boarded ACVIM-Oncology Diplomate on site and available to a resident on a daily basis?

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Upload CVs (up-to-date within 1 year and maximum of 2 pages each) of medical oncologists listed:

docx Emma Warry CV Brief.docx

docx Shay Bracha CV Brief.docx

docx Wilson-Robles 2021 CV-Brief.docx

c. Surgeon(s):

Surgeon(s): (Must be Diplomate(s) of the ACVS:

First Name	Last Name	Title/Credentials	Faculty Member on site (yes or no)?
Kelley	Thieman Mankin	Associate Professor / DACVS	Yes
Jacquelin e	Davidso n	Clinical Professor / DACVS	Yes
Vanna	Dickers on	Assistant Professor / DACVS	Yes
Laura	Peycke	Clinical Associate Professor / DACVS	Yes
Brian	Saunder s	Associate Professor / DACVS	Yes
Kate	Barnes	Clinical Assistant Professor / DACVS	Yes

How many weeks per year is at least one boarded ACVS Diplomate on site and available to a resident on a daily basis?

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d. Pathologist(s):

Pathologist(s): (Must be Diplomate(s) of the ACVP:

First Name	Last Name	Title/Credentials	Drop down	Faculty Member on site (yes or no)?
Mark	Johnso n	Clinical Professor / DACVP	Clinical Patholo gy	Yes

First Name	Last Name	Title/Credentials	Drop down	Faculty Member on site (yes or no)?
Roy	Pool	Clinical Professor Emeritus / DACVP (honorary)	Anatomic Pathology	Yes
Unity	Jeffery	Assistant Professor / DACVP	Clinical Pathology	Yes
John	Edwards	Professor Emeritus / DACVP	Anatomic Pathology	Yes
Dominique	Wiener	Clinical Assistant Professor / DECVP	Anatomic Pathology	Yes
Bryan	Porter	Clinical Professor / DACVP	Anatomic Pathology	Yes
Karen	Russell	Professor / DACVP	Anatomic Pathology	Yes

How many weeks per year is at least one boarded ACVP Diplomate on site and available to a resident on a daily basis?

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10. All Other Board Certified Specialists:

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

Name	Certifying College/Board	Subspecialty (if applicable)	If offsite, please explain relationship
Courtney	Baetge	DACVA	
Bradley	Simon	DACVA	
Mauricio	Lepiz	DACVA	
Keila	Ida	DACVA	
Sonya	Gordon	DACVIM Cardiology	

Name	Certifying College/Board	Subspecialty (if applicable)	If offsite, please explain relationship
Ashley	Saunders	DACVIM Cardiology	
Sonya	Wesselowski	DACVIM Cardiology	
Johnathon	Dodd	DAVDC	
Justine	Heinz	DACVECC	
Christine	Rutter	DACVECC	
Igor	Yankin	DACVECC	
Bonnie	Beaver	DACVB	
Audrey	Cook	DACVIM/DECVIM/DABVP	
Kate	Creevy	DACVIM	
Johanna	Heseltine	DACVIM	
Johnathan	Lidbury	DACVIM/DECVIM	
Jorg	Steiner	DACVIM/DECVIM	
Katie	McCool	DACVIM	
Alison	Diesel	DACVD	
Adam	Patterson	DACVD	
Erin	Scott	DACVO	
Lucien	Vallon	DACVO	
Genna	Atiee	DACVIM	
Emily	Gould	DACVIM	
Carly	Patterson	DACVIM	
Sean	Collins	DACVO	
Johnathan	Levine	DACVIM Neurology	

Name	**Certifying College/Board**	**Subspecialty (if applicable)**	**If offsite, please explain relationship**
Joe	Mankin	DACVIM Neurology	
Sharon	Kerwin	DACVIM Neurology	
Beth	Boudreau	DACVIM Neurology	
Nicholas	Jeffery	DECVN/DECVS/FRCVS	

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Course Overview

11. Please describe the role of the radiation oncology resident and the radiation oncology service in the daily clinical management of patients and clients:

We are a fully integrated service and while their focus will be radiation oncology cases, they are oncologist and will be trained and prepared to manage the spectrum of cases an oncologist would see irrespective of subspecialty (med onc vs rad onc vs sx onc) focus. In addition to senior faculty, they will work typically with three medical oncology residents, one surgical oncology intern, and various rotating house officers from other services. They will initially start working along the side of senior radiation oncology faculty with three full receiving days leaving two remaining days for radiation planning. On non-receiving days, they will act predominantly in a consultation role on service. On all days, they are expected to provide supervision and consultation to the radiotherapist.

During the weeks of clinical training, the resident will be expected to satisfactorily complete the following: 1) Participate in clinical activities and accept primary case responsibility for oncology cases. This includes but not limited to: history taking, physical examination, formulation of lists of deferential diagnosis, suggestion and performance of appropriate diagnostic tests and procedures, selection of medical/surgical/radiological therapy, development and maintenance of patient-specific medical records, follow-up, and communications with clients and referring veterinarians. The resident will be expected to consult and discuss cases with oncology faculty on a daily basis and will obtain consultation with other faculty at the VMTH on a case and service-specific basis. 2) Participate in daily case rounds with oncology faculty to discuss and ensure all cases are reviewed, evaluated, and an integrated consensus is constructed for optimal treatment of each case. While students are present, these rounds are designed to discuss and explore a more in-depth understanding of how each subspecialty within oncology plays a role in the management of the case. 3) Participate in and develop teaching skills through instruction of senior veterinary students, as well as more junior students (years

1-3 as appropriate) who spend time on the oncology service. This will include but is not limited to participation in case discussions with the students during receiving, daily case and topic rounds, and supervising routine diagnostic procedures performed by the student on the oncology service. 4) Provide in-house oncology consultations for both small and large animal hospitals. Additionally, the resident will be responsible for participation in phone/e-mail consultations with referring veterinarians as competency develops. 5) Participate in treatment plan design by means of computer and or manual computation that will deliver a prescribed radiation dose and field placement technique in accordance with the faculty radiation oncologist's prescription to a defined tumor volume and dose-limiting structures. 6) Document all pertinent information in the electronic patient medical record and verify the mathematical accuracy of all calculations using a system established by the medical physicist. 7) Participate and coordinate treatment plan simulations and tumor localization on dedicated devices, including CT, MRI, and PET when indicated for treatment planning and diagnostics. 8) Provide physics and technical support to the medical physicist and therapist in radiation protection, qualitative machine calibrations, quality assurance of radiation oncology equipment, application of specific methods of patient and plan dosimetry, and the correct use of immobilization devices, compensators, patient-specific bolus, and other beam modifying devices.

12. How will the resident receive training in Medical Oncology? What is the time allotted to this training? Please provide description of formal and informal training experiences as well as description of the resident's role while rotating on a medical oncology service:

In addition to the training paradigm detailed above for the integrated service,radiation oncology residents will see only medical oncology cases during their protected medical oncology time but they will still participate in daily case rounds where the team discusses the optimality of the various modalities for each case. Additionally, radiation oncology residents will be didactically trained as all of our oncology residents dividing the three years into six (6) semesters. Each semester will be dedicated and focused on covering required texts for medical oncology certifcation. The most current editions of textbooks to be reviewed in their entirety include: Immunology - Cellular and Molecular Immunology (Abbas), Cancer Biology - The Basics Science of Oncology (Tannock), Veterinary Tumor Types and Clinical Literature Review - Small Animal Clinical Oncology (Withrow) - 2 Semesters, Radiation Oncology - Radiation Biology for the Radiologist (Hall), and Chemotherapy - Cancer Chemotherapy, Immunotherapy, and Biotherapy (Chabner). An example format has been uploaded under the syllabi section. Note: All instruction has been developed in-house and although mimics the university year schedule, it is not part of a formal class. Residents will be given a series of study principles or questions to consider prior to each weeks topics. Each topic as outlined will be discussed predominantly by the residents under the guidance and direction of an oncologist (appropriate for the material) and at the end of the semester will be administered a series of questions to gauge understanding and retention.

13. How will the resident be trained in diagnostic imaging? What time is allotted for this training? Please provide description of formal and informal training experiences:

The primary objective of the cumulative six-week diagnostic imaging service rotations is to ensure the radiation oncology resident has sufficient exposure to and appreciation of the principles of diagnostic imaging, the technical requirements necessary to perform diagnostic imaging, an understanding of the equipment used during diagnostic with special focus on the oncology patient, and the ability to interpret information obtained from that equipment. This will be accomplished by the following: 1) The resident will participate in weekly radiology rounds and through the use of study case files, gain an understanding of how the different imaging modalities and procedures positively or negatively impact the quality and resolution of the clinical cases imaged. 2) The resident will work closely with faculty radiologists with committed time of no less than three weeks dedicated to CT, two weeks dedicated to MRI, and at least 1 week dedicated to plain film radiography interpretation. It is unlikely that any modality would be under represented during their training period but should something unanticipated result, such as a major part malfunction disabling a modality for an extended period of time, the focus will be shifted to any deficient time remaining on the other modalities or the rotation will be dynamically rescheduled for a time when said deficiency is no longer an issue. 3) The resident will demonstrate an understanding of volumetric imaging and how to recognize common abnormalities,

artifacts, and properly orient MRI and CT images 4) The resident will be assigned cases (both canine and feline) and be required to construct a report detailing their findings, interpretations, and ultimate conclusions. In these reports, the resident will be expected to demonstrate an understanding of the normal and pathologic anatomy of the axial and appendicular skeleton, normal and pathologic anatomy of the thorax, normal and pathologic anatomy of the abdomen, and the use of various contrast studies used in small animal radiology. 5) During this time,
the resident will also work with the technical staff learning how to properly positioning patients for volumetric imaging as well as obtain diagnostic quality radiographs of the skeleton, abdominal cavity, and thoracic cavity. Textbooks to be reviewed and supplement this time include the most current editions of Textbook of Veterinary Diagnostic Radiology and The Essential Physics of Medical Imaging.

14. Will the resident be provided with training in anesthesia? If yes, please include a description of the training:

Yes. During the two weeks of anesthesia training, the resident will be rotating through the anesthesia service and expected to satisfactorily complete the following: 1) Participate in anesthesia activities and accept primary case responsibility for anesthesia cases when under the supervision of the service. This includes but not limited to: demonstrate competency in placing a catheter, demonstrate the ability to successfully intubate a dog and cat without iatrogenic trauma, accurately assess and be able to verbally describe criteria of anesthetic depth for each anesthetic agent used, accurately assess information obtained from an arterial catheter and recommend an intervention plan, demonstrate an understanding of the utility of assisted ventilation and placement of an animal on an anesthetic ventilator, demonstrate an understanding of respiratory physiology including ventilation and gas exchange, demonstrate the ability to identify causes, consequences, and treatment for common conditions including hypothermia and hypertension, demonstrate the basic understanding of an anesthesia machine, demonstrate understanding and interpret data from monitoring equipment including capnography, pulse oximetry, blood pressure, and electrocardiography, and demonstrate the ability to produce an anesthetic record and maintain a drug log. 2) Participate in daily case rounds with anesthesia senior faculty to discuss and ensure all cases being managed are reviewed and evaluated for optimal treatment of each case. 3) The resident should successfully induce, maintain, and recover a minimum of ten patients in ASA class 1 or 2 and a minimum of at least three patients in ASA class 3 while having primary case responsibility. The resident should have exposure to at least two patients in ASA class 4 or 5 while working along the side of the anesthesiologist. They will be exposed and be expected to manage a wide variety of presentations and complexities related and unrelated to radiation oncology.

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

Basic radiobiology learning rounds will be held once a week for one hour with either one or both preceptors. Prior to these round sessions, directed readings will be assigned along with study guide questions to allow for better understanding of the material. Textbooks from the ACVR Radiation Oncology exam reference guide will be included for the review. Textbooks to be reviewed in their entirety at least one time during the three-year period (unless noted otherwise) include the most current editions of Basic Clinical Radiobiology, Radiobiology for the Radiologist, and selected chapters focusing on radiobiology in Principles and Practices of Radiation Oncology. Informal training experiences will happen as opportunities present within clinical practice utilizing foundational radiobiologic principles to justify radiotherapeutic approach. Radiobiology Topics to be covered (example): History of radiation injuries in humans, radiation interactions in cells/tissues, radiation injury to DNA, repair of DNA damage, indirect effects of radiation chromosomal damage and repair, target theory and cell survival curves, free radical formation, apoptosis, reproductive cell death, cell kinetics, cell recovery processes, cell cycle sensitivity, radioprotectors, radiosensitizers, RBE, OER, LET, tissue injuries, acute effects of radiation, delayed effects of radiation, radiation carcinogenesis, radiation mutagenesis, radiation teratogenesis, other embryo/fetal effects, risk estimates of radiation, history of linear no-threshold theory, predictions of cancers in populations, radiation epidemiology

evidence of cancers in populations, concept of radiation hormesis, tumor radiobiology, time-dose-fractionation, and molecular mechanisms of drug/radiation interactions.

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

As mentioned in sections 12 and 15, in addition to the training paradigm detailed above for the integrated service, radiation oncology residents will be didactically trained as all of our oncology residents dividing the three years into six (6) semesters. Each semester will be dedicated and focused on covering required texts for medical oncology certification. Two entire semesters will be dedicated to topics and textbook chapters covering cancer biology.

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

Basic radiation physics learning rounds will be held at least once a week for at least one hour with either one or both preceptors. Prior to these round sessions, directed readings will be assigned along with study guide questions testing specific concepts and/or actual sample calculation problems to allow for better understanding of the material. Textbooks independent of (for a deeper understanding of specific concepts) and from the ACVR Radiation Oncology exam reference guide will be included for the review. Textbooks to be reviewed in their entirety at least one time during the three-year period (unless noted otherwise) include the most current editions of The Physics of Radiation Therapy, Khan's Lectures Handbook of the Physics of Radiation Therapy, and Treatment Planning in Radiation Oncology. Selected chapters from textbooks to be reviewed to solidify specific radiophysical concepts include Introduction to Radiological Physics and Radiation Dosimetry, The Essential Physics of Medical Imaging, Radiation Therapy Planning, and Practical Radiation Oncology Physics. Additionally, monthly Radiological Physics Exams (RAPHEX) will be utilized as a quantitative assessment of the resident's understanding of concepts both theoretical and clinically applied. Medical physics support is provided by Dr. Deveau (one of the preceptors) who is not only a boarded veterinary radiation oncologist but also formally trained (MS in medical physics) as a human medical physicist with specific focus in external beam radiotherapy. The facility houses a helical tomotherapy unit which is maintained to recommended standards presented in "QA for helical tomotherapy: Report of the AAPM Task Group 148, 2010" and the more recent updated code of practice "Quality Assurance for Tomotherapy Systems Report 27 of the Netherlands Commission on Radiation Dosimetry, 2017. The resident will be expected to demonstrate several competencies in the following major areas of responsibility: acceptance and commissioning testing of various linacs (helical tomotherapy (TG- 148) vs c-arm style linacs (TG-40, 100, 142, 198, etc.)), quality assurance of radiotherapy and radiotherapy-related imaging equipment, the measurement and verification of output of ionizing radiation from radiotherapy treatment equipment, the ability to develop, implement, and oversee radiotherapy procedures (treatment planning and simulation) and techniques, and the familiarity to develop and oversee quality assurance and radiation safety measures for radiotherapeutic procedures pertaining to personnel, patients, and the public. Radiation Physics Topics to be covered (example): radiological physics and dosimetry, atomic and nuclear structure, classification of radiation quantities and units to describe radiation fields, quantities and units to describe radiation interactions, indirectly ionizing radiation: photons-exponential attenuation, photon interactions, indirectly ionizing radiation: neutrons, neutron interactions, directly ionizing radiation (electrons, protons, others) interactions of directly ionizing radiation, radioactive decay, charged particle equilibrium, radiation dosimetry – general, radiation dosimetry – calorimetry, radiation dosimetry – chemical, cavity theory, ionization chambers, calibration of photon and electron beams with ionization chambers, dosimetry and phantoms for special beams, in vivo dosimetry (TLD, OSL), relative dosimetry methods, neutron dosimetry, radiation protection and safety-introduction and historical perspective, interaction physics applied to radiation protection, protection principles (time, distance, shielding), handling radiation and radioactive sources, radiation survey/contamination equipment, personnel monitoring, radiation dose limits, protection regulations, shielding Principles: beams and sources, application of statistics, external exposure, internal exposure, environmental dispersion, computed tomography-Basic data acquisition principles and scanning modes, basic reconstruction modes, in-plane spatial resolution, slice thickness, image noise, dose, artifacts, cone-beam computed tomography, performance testing and equipment QA, CT scanning technique and

patient dose, nuclear medicine imaging modes and processes of radioactive decay, basics of nuclear reactions and radioactivity, muclear counting statistics, counting systems and gamma cameras, image quality and reconstruction, physics of SPECT and PET systems, radiotracer techniques, radiopharmaceutical design and mechanisms of localization, performance testing and equipment QA magnetic resonance imaging, magnetization, precession, Larmor equation, rotating frame of reference, spin tipping T1 and T2 relaxation, pulse sequences and image formation (slice selection, phase encoding, frequency encoding), spin echo image formation, image contrast (proton density, T1, T2 and T2*), definition of common acquisition parameters (TE, TR, field of view, spatial resolution) and signal-to-noise ratio, rapid imaging techniques (gradient echo, fast spin echo), magnetization preparation techniques (inversion recovery, saturation), artifacts, performance testing and equipment QA, MR contrast agents, safety and biological effect, radioactive waste management

18. Please include a description of the medical physics support available at your institution and any role medical physics support may provide in training of the resident:

See section 17.

19. Please list any formal courses and their instructors included in the residency training curriculum. Please attach syllabi and instructor credentials for each listed course. NOTE: Please ensure syllabi are up-to-date within the last year:

Not applicable.

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Ancillary Training Opportunities and Research

20. Will the resident participate in clinical patient rounds on a daily basis while on clinical rotations?

Yes

Please describe clinical patient rounds:

It is expected that all residents on service will participate in two sets of daily patient rounds. The first set of patient rounds is in the morning prior to client arrivals. This time will be spent familiarizing the team (including students) with emergency transfers from overnight, current hospitalized patients, current daily radiotherapy patients, and incoming daily cases. The second set of rounds is in the afternoon. This time will be spent collating and interpreting diagnostic information and discussing each case from a multimodality perspective. A faculty member from each subspecialty (sx onc, rad onc, med onc) will be involved within these discussions.

21. Is a supervising Radiation Oncology Diplomate available for the majority of rounds?

Yes

Please describe how rounds are attended and supervised:

See section 20.

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

Yes

Comments:

Residents are expected to attend, and where appropriate, participate in several formal journal rounds. Organized rounds and seminars in support of the residency training program include daily student rounds, weekly house officer rounds, ECG interpretation rounds, oncology journal club, oncology board review rounds, clinical pathology cytology rounds, histopathology rounds, and other rounds and seminars throughout the Hospital. Selected “out” rotations in imaging or clinical pathology, or at other institutions at which oncology is practiced (e.g., M.D. Anderson Hospital and Tumor Institute in Houston, other veterinary oncology programs) are encouraged. Out-rotation days will replace days within the current training block where appropriate or fall within independent study/vacation should the interest lay outside the core training requirements.

23. Please provide a description of the conferences, etc., that are provided and the typical schedule. Please specify which conferences are mandatory vs. optional:

Daily student rounds: Mandatory
ECG interpretation rounds: Optional
Weekly Gyton Rounds (Internal Medicine): Optional
Weekly oncology journal club: Mandatory
Weekly radiobiology rounds: Mandatory
Weekly physics rounds: Mandatory
Every other week cytology rounds: Mandatory
Every other week histopathology rounds: Mandatory
Weekly Friday seminar rounds (variable topics): Mandatory
Weekly oncology book club: Mandatory

If yes, please describe these conferences or educational settings:

Prepare and deliver one podium presentation of the resident’s research project at an annual ACVR meeting (or equivalent conference) during the second or third year of residency, depending on research project completion. The resident will additionally be required to attend weekly house officer seminars as part of the Intern-Resident Seminar Series (spring semester, 1 hour/week). The resident will be required to deliver a 45 to 50-minute presentation yearly as part of this series.

25. How many major veterinary medical or medical meetings is each resident able to or expected to attend during his/her training program?

Two

Please list the meetings attended:

Residents will be afforded the ability and encouraged to attend, participate, and/or present at least two meetings or training seminars. Meetings and seminars attended will be balanced around clinic schedule, meeting/seminar schedule, and area of deficiency in training of the resident. Typical conferences or seminars available (but not limited) for consideration will be: ACVR Annual Scientific Meeting, Veterinary Cancer Society Annual Conference, ASTRO Annual Meeting, AAPM Annual

Meeting. The resident will be encouraged to attend ACVR or VCS at least once per year. Funds are available to the resident for travel and registration costs.

26. Does the training program require a research project? Yes

Please indicate the number of research projects required:

. Residents are not required to have a project in mind, however if a resident has a special interest and the project can be completed within the allotted time of the residency, the resident will be free (with guidance) to pursue said project. If a resident is unfocused, a project will be assigned. Project focus areas can range from bench top up to and including short-term prospective clinical trials. There are several funding streams available for research support and while extramural funding is encouraged, it will not be required for successful completion.

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

Comments:

Complete and submit a first-authored publication of the research project executed during the course of the residency. The publication must be accepted for review (but not for publication) by an approved peer-reviewed journal. Although not required, completion of a second manuscript suitable for publication is highly encouraged during the residency program. If the publication (must be under review) requirement is not fulfilled prior to the exam in September, RO-RSEC will be notified.

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28. Facilities and Equipment

Do you have a megavoltage teletherapy machine available? Yes

Is the megavoltage teletherapy machine on-site? Yes

Please specify the manufacturer and model: Accuray Tomotherapy H Series

Do you have a multileaf collimator available? Yes

Is the multileaf collimator on-site?	Yes
Please specify number of leaves and width of leaves:	64 - 6mm at isocenter, binary
Do you have on-board portal or CT imaging available?	Yes
Is the on-board portal or CT imaging on-site?	Yes
Please specify type:	helical MVCT
Do you have a 3D - computer (non-IMRT) based treatment planning system available?	No
Do you have intensity modulated radiation therapy available?	Yes
Is intensity modulated radiation therapy on-site?	Yes
Do you have stereotactic radiation therapy or radiosurgery available?	Yes
Is stereotactic radiation therapy or radiosurgery on-site?	Yes
Do you have strontium-90 plesiotherapy available?	Yes
Is strontium-90 plesiotherapy on-site?	Yes
Do you have LDR brachytherapy treatment and planning available?	No
Is LDR brachytherapy treatment and planning available on-site?	No
Do you have HDR brachytherapy treatment and planning available?	No
Is HDR brachytherapy treatment and planning available on-site?	No
Do you have diagnostic radiology/imaging services available?	Yes
Is diagnostic radiology/imaging services available on-site?	Yes

Do you have conventional radiography available?	Yes
Is conventional radiography available on-site?	Yes
Do you have fluoroscopy available?	Yes
Is fluoroscopy available on-site?	Yes
Is ultrasound available?	Yes
Is ultrasound available on-site?	Yes
Do you have computed tomography available?	Yes
Do you have computed tomography available on-site?	Yes
Do you have magnetic resonance imaging available?	Yes
Do you have magnetic resonance imaging available on-site?	Yes
Do you have positron emission tomography available?	Yes
Do you have positron emission tomography available on-site?	No
Do you have an intensive care facility (24 hours) available?	Yes
Do you have an intensive care facility (24 hours) available on-site?	Yes
Do you have clinical pathology capabilities (includes CBC, serum chemistries, blood gases, urinalysis, cytology, parasitology, microbiology and endocrinology) available?	Yes
Do you have clinical pathology capabilities (includes CBC, serum chemistries, blood gases, urinalysis, cytology, parasitology, microbiology and endocrinology) available on-site?	Yes

Do you have a veterinary library with literature searching capabilities available? (Electronic or in-person)	Yes
Do you have a veterinary library with literature searching capabilities available on-site? (Electronic or in-person)	Yes
Do you have a medical library with literature searching capabilities available? (Electronic or in-person)	Yes
Do you have a medical library with literature searching capabilities available on-site? (Electronic or in-person)	Yes
Do you have computerized medical records with searching capabilities available?	Yes
Do you have computerized medical records with searching capabilities available on-site?	Yes

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:

Not applicable.

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

Megavoltage Gamma/X-ray teletherapy:	180
LDR brachytherapy:	0
HDR brachytherapy:	0
Radioiodine:	0
Stronium plesiotherapy:	5

ACVR-RO Residency Program One-Time Re-Approval Application

Procedures

30. Describe procedures for recording of radiation treatment details of all patients. Is a record and verify system used? If so, please specify.

All patient medical records are maintained within the Veterinary Medical Information System (VMIS) developed onsite at Texas A&M University, College of Veterinary Medicine. All radiation therapy patients utilize a modern computerized treatment planning workflow with a helical tomotherapy-specific record and verify system (Precision). All records are electronic and maintained in triplicate, one composite set in VMIS, rad onc-specific in Tomo record and verify, and finally off-platform backup.

31. What procedures are in place to facilitate collection of follow up information of patients treated? What is a standard recheck schedule for patients? In the absence of routine patient rechecks at the facility, is there a system in place to obtain follow-up?

VMIS has been developed and service-personalized around feedback provided by the various services at the VMTH. As an information system it is robust enough to accommodate the various scoring metrics (CTCAE, VRTOG, RTOG, etc.) used on the oncology service. RDVMs and clients are educated on the benefits of and encourage to adhere to a fairly strict recheck schedule. Typical schedules consist of restaging every 3 months for the first year and every 6 months the second and beyond years. Several modes of communication such as email, phone, text, and social media are utilized by service and hospital staff to encourage ease in information collection. Routine service questionnaires and recheck appointment reminders are sent to every client.

32. By what mechanisms and how often will trainees be evaluated? Please comment on radiation therapy specific evaluation as well as general clinical evaluation.

Trainees will be evaluated by service faculty every 2 weeks using a web-based in-house evaluation. Radiation oncology-specific evaluations will be performed quarterly.

Please upload form used in evaluations.

Radiation Oncology Faculty Evaluation of Res...

33. If applicable, please list the residents who have completed the training program within the last five years, 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.

Not applicable.

34. Please list any additional information of interest in support of this residency application.

External rotations are provided for training on traditional c-arm style linacs and electron beam.

35. How is the resident training experience presently impacted by the COVID-19 pandemic? Please comment on the following:

- **On-site presence of residents and radiation oncology faculty**
- **Caseload**
- **Faculty oversight of radiation treatment planning and patient management**
- **Rounds/seminars/journal club and other didactic courses**
- **Non-radiotherapy clinical rotations**
- **External rotations**

TAMU CVM was considered essential throughout the pandemic. The hospital and service was staffed with in-person personnel. The major difference was with off-clinic individuals who were asked to work from home. This restriction was removed several months ago. Rad Onc caseload was reduced (n=3-7 cases/day) (although oncology caseload overall increased)primarily due to logistical constraints of support services (anesthesia, radiology, ecc, etc.) but is returning to normal levels (10-15 cases/day). On service functions (rounds, seminars, journal club, etc) were maintained with a strong reliance on remote communication (Zoom). External rotations were moved around as needed to fit but no loss of time on rotation compromised.