

ACVR-RO Residency Program Application

New Approval/Reapproval Form

Please review the

[Radiation Oncology \(RO\) Residency Program Essentials Training Standards and Requirements](#)

document prior to completing this form.

By clicking below, I acknowledge that I have reviewed the Radiation Oncology (RO) Residency Program Essentials Training Standards and Requirements.

I have reviewed the RO Residency Program Essentials Training Standards and Requirements.

The following documents will be needed to complete the application:

- CVs (current within 1 year and a maximum of 2 pages each) for radiation oncology, diagnostic imaging, and medical oncology Diplomates involved in the training program
 - **As a reminder, CVs will be publicly available on ACVR's website. We encourage you to NOT include personal information on the CVs that are uploaded with your application.**
- Syllabi for coursework in medical physics, cancer biology, and radiation biology (including internal and external courses)
- Letters of agreement from cooperating institutions
- Letter of agreement from medical physics support for clinical training
- Resident calendar that includes the following:
 - 24 months of RO-specific activities (primary case responsibility, treatment planning, 1 week/year of radiation therapist activities)
 - 8 weeks of medical oncology
 - 4 weeks of diagnostic imaging
 - 40 hours of medical physics
 - 40 hours of clinical pathology
 - 80 hours of anesthesia in minimum 1-week blocks
 - 2 weeks of neurology
 - 2-week minimum off-clinic time per year (study, research, etc) not including vacation
 - Vacation time as mandated by state/institution
 - Required outrotations at cooperating institutions
- Resident evaluation forms

Submission Date

Monday, July 14, 2025

Please select one of the following:

This is a NEW program application.

Program/Institution Name

University of Pennsylvania School of Veterinary Medicine

Date of Initial Program Approval

Monday, July 14, 2025

Do you currently have radiation oncology resident(s) in training?

No

Residency Director Name Thomas Ber-In Lee
Residency Director Email tlee14@vet.upenn.edu

Primary Training Institution Address 3900 Spruce Street, Philadelphia, PA 19104
Philadelphia, Pennsylvania, 19104

Radiation Oncologists in support of the program [must be Diplomate(s) of the ACVR]:

First Name	Last Name	Title/Credentials	Email	Phone	Number of weeks per year Diplomate is available to supervise* the resident
Thomas	Ber-In	DVM, DACV R-RO	tlee14@vet.upenn.edu		
Lili	Duda	VMD, DACV R-RO	dudal@vet.upenn.edu		

**Resident supervision is defined as being available on-site 40 hours/week (defined as a 4- or 5-day work week to equal a minimum of 40 hours) to support the resident in radiation oncology-related activities including patient consultation/management, review of treatment plans, position verification and participation in daily case-based rounds.*

Please confirm that during the minimum 24 months of RO-specific activities, a Supervising Diplomate will be present on site to supervise the resident as defined above for 40 hours/week (4-5 days).

A standard residency program is one that meets all of the residency program requirements set forth in the [ACVR-RO Residency Essentials Training Standards](#) document. An alternative or amended program is designed for one specific individual/resident and satisfactorily meets all of the residency program requirements, but is completed in an extended timeline (more than 3 years but fewer than 5 years).

This application is for (check one):

What is the total length (in months) of the training program? 36

Number of months dedicated solely to radiation oncology-specific activities as defined in the ACVR-RO Residency Essentials Training Standards document: 27

Primary Training Site: University of Pennsylvania School of Veterinary Medicine

Hospital/University Ryan Veterinary Hospital - PennVet

Department

Clinical Sciences and Advanced Medicine

Address3900 Spruce Street
Philadelphia, Pennsylvania, 19104**Advanced Degree and Research/Publication Requirement**

Masters	No
PhD	No
Research Project	Optional
Publication	Optional

Documentation of residency completion is required to obtain Diplomate status. Is receipt of residency certificate dependent on completion of advanced degree/research/publication?

No

It is required that a residency in veterinary radiation oncology provide the trainee with experience in formulation of radiation treatment plans, dose calculation, and treatment administration for veterinary patients with cancer. This includes generation of both manual and computer-based treatment plans for megavoltage external beam irradiation. External beam planning experience must include both forward and inverse planning, even if only one of those types is utilized for treatment at the primary facility. Does the program fulfill these requirements?

Yes

It is required that a residency in veterinary radiation oncology provide the trainee with experience in primary case responsibility, including new referrals, ongoing radiation patients, and follow-up visits. This includes receiving patients, clinical rounds, client/referring DVM communications, and medical records keeping. Does the program fulfill these requirements as described on page 12 of the RO Essentials document?

Yes

It is required that a residency in veterinary radiation oncology provide the trainee with a minimum of 1 week per year of radiation therapist activities to include daily linear accelerator quality assurance and warm up, patient positioning for treatment planning CT and therapy, radiation delivery (as allowed by the state/province), and acquisition of position verification imaging. Does the program fulfill these requirements?

Yes

How will the resident be trained in radiation biology? Please provide a description of formal and informal training experiences, or indicate time allotted for self-study.

The resident will be able to audit a graduate course (MPHY 6070) offered annually in radiation biology through Penn's Perelman School of Medicine. This graduate course covers fundamental knowledge of mechanisms and biological responses of human beings to ionizing and non-ionizing radiation through the study of effects of radiation on molecules, cells and humans; radiation lesions and repair; mechanisms of cell death; cell cycle effect, radiation sensitizers and protectors; tumor radiobiology; relative sensitivities of human tissue and radiation carcinogenesis. Informally, clinical applications of radiobiology will be discussed and emphasized during daily patient care.

Please provide instructors' names and credentials for radiation biology formal and informal training:

Keith A. Cengel, M.D., Ph.D.
Professor of Radiation Oncology
University of Pennsylvania
Director, Photodynamic Therapy
Executive Director, Penn Mesothelioma

How will the resident be trained in cancer biology? Please provide a description of formal and informal training experiences, or indicate time allotted for self-study.

Several formal and informal learning opportunities in cancer biology are available to residents throughout the duration of their training. A course in comparative cancer biology and immunology (CCBI) is offered yearly in the fall, focusing on the molecular, biochemical, cellular, and histopathologic changes of cancer and instrumental features in the diagnosis, prognosis, and therapy of neoplastic diseases.

Residents are encouraged to attend the Comprehensive Cancer resident led book club covering foundational textbooks of cancer biology, e.g. Tannock and Hill, The Basic Science of Oncology and Withrow and MacEwen's, Small Animal Clinical Oncology.

Training in cancer biology is also accomplished through weekly journal club/topic rounds with the full complement of faculty in medical and radiation oncology and all the house officers.

Please provide instructors' names and credentials for cancer biology formal and informal training:

Comparative cancer biology and immunology (CCBI)
Course Leaders
- Serge Fuchs, MD, PhD, Professor of Oncology
- Jennifer Lenz, DVM, DACVIM (Oncology), Assistant Professor of Oncology
- Wojciech Panek, DVM, DACVIM (Neurology), Assistant Professor of Neurology

Please provide instructors' names and credentials for didactic (non-clinical) medical physics formal and informal training:

The resident will be able to audit a graduate course (MPHY 6060) offered annually in medical physics through Penn's Perelman School of Medicine. This graduate course covers clinical radiation oncology

physics; principles of radiation- producing equipment; photon and electron beams; ionization chambers and calibration protocols; brachytherapy, dose modeling and calculations; treatment planning.

Stephen M. Avery, Ph.D., FAAPM
Professor of Radiation Oncology
University of Pennsylvania

Residents will have the opportunity to attend the University of California – Radiation Oncology Physics Boot Camp (annually in June) once during their residency training period.

Medical physics training requires 1 week or 40 hours of clinical contact with a qualified medical physicist. Please provide a description of the training experience.

This is done through weekly interactions with our medical physicists and by completing a one week rotation with either one of our medical physicists, at our hospital and/or at another University of Pennsylvania hospital on campus they cover.

Medical Physicist(s) in support of clinical training in the residency program:

First Name	Last Name	Title/Credentials	Physicist on-site? Y/N
Christopher	Fox	PhD, DABR	No
Valentina	Dolney	M.S., DABR	No

A minimum of 1 hour of medical literature review with an ACVR-RO Diplomate is required monthly. Please describe this experience, and any additional formal or informal conferences available to the resident (including journal clubs, seminars, book reviews, etc.) that are not already listed above:

In addition to the seminars and book reviews, residents will attend a weekly Comprehensive Cancer Center (CCC) journal club/topic review, which will be attended by at least one ACVR-RO Diplomate, as well as an ACVIM/ECVIM medical oncologist(s) and all other CCC house officers.

The resident is required to present at least 2 lectures or scientific presentations during the course of the residency. Please describe how the program will fulfill this requirement:

Residents will have various opportunities to meet this requirement through different media and settings. They will be expected to prepare a didactic lecture or a radiation oncology topic review presentation, accompanied by written notes, for delivery to a generalist or non-oncology specialist audience. This will model a typical continuing education opportunity. Additionally, residents will be required to present the design or results of a scientific project at the local, national, or international level. While national and international conference presentations are supported, they are not mandatory. Local presentation opportunities include the PennVet Research Retreat, Cancer Symposium, and the Keystone Seminar (hospital grand rounds).

A standard residency program is one that meets all of the residency program requirements set forth in the [ACVR-RO Residency Essentials Training Standards](#)

document. An alternative or amended program is designed for one specific individual/resident and satisfactorily meets all of the residency program requirements, but is completed in an extended timeline (more than 3 years but fewer than 5 years).

Please list the manufacturer and model of the on-site external beam radiation therapy delivery system:

Varian Clinac 2100

Please list the manufacturer and model of the on-site radiation therapy treatment planning system(s). Please indicate whether they are capable of forward or inverse planning, or both, and whether or not they are used clinically to deliver treatments:

Varian Eclipse v13.7.2 with forward and inverse planning capabilities

The clinical training requirements in the following six questions, described on pages 15 and 16 of the

Essentials

The residency program requires hands-on clinical experience to develop expertise and self-sufficiency in manual setups and manual treatment planning with photons. How does the program fulfill this requirement?

Supporting documentation and a letter of agreement from the cooperating institution is required. The training requirements will have been completed in a single photon manual week learning experience as part of our typical clinical caseload (~24-36 cases/year)

The residency program requires hands-on clinical experience to develop expertise and self-sufficiency in manual setups and manual treatment planning with electrons. How does the program fulfill this requirement?

Residents will have opportunities for electron manual setups and treatments as part of our typical clinical caseload (~ 6-12 cases/year).

The residency program requires hands-on clinical experience with forward planning for 3D conformal radiotherapy (non-IMRT). How does the program fulfill this requirement?

Under the direct supervision of a RO diplomate, residents will gain hands-on experience and proficiency in forward planning for 3D-CRT and commonly utilized beam-modifying devices, understanding the advantages and disadvantages of this planning method.

The residency program requires hands-on clinical experience with inverse planning for IMRT. How does the program fulfill this requirement?

Under the direct supervision of a RO diplomate, residents will gain experience and proficiency in inverse planning for IMRT, understanding the advantages and disadvantages of this planning method.

The residency program requires hands-on clinical experience in on-board imaging verification with MV or KV CT. How does the program fulfill this requirement?

Residents will have hands-on experience with our kV-CBCT throughout the duration of their residency. CBCT acquisition and verification will be part of their daily/weekly clinical workload, as well as dedicated time for hands-on experience during their required yearly radiation therapist activities week(s).

The residency program requires hands-on clinical experience in on-board imaging verification with kV digital radiographs. How does the program fulfill this requirement?

Our Varian Clinac has kV digital radiography capabilities, which will be utilized, albeit infrequently, throughout their clinical training.

The residency program requires hands-on clinical experience in on-board imaging verification with MV portal imaging. How does the program fulfill this requirement?

Our Varian Clinac has mV digital radiography capabilities and hands-on clinical experience with this OBI is commonly utilized for manual plan cases.

Radiologist(s) in support of the residency program [Must be Diplomate(s) of the ACVR or ECVDI]

First Name	Last Name	Title/Credentials	Diplomate on-site? Y/N
Wilfried	Mai	DVM, PhD, DA CVR, DECVDI	Yes
Alessia	Cordella	DVM, PhD, DECVDI	Yes
Jennifer	Reetz	DVM, DACVIM, DACVR	Yes

The residency program requires at least 26 weeks/year of on-site diagnostic imaging support from a ACVR or ECVDI Diplomate and availability for remote support for at least 45 weeks/year. How will the institution fulfill this requirement?

Our institution has 52 weeks a year of on-site coverage from an ACVR or ECVDI Diplomate.

How will the resident be trained in diagnostic imaging? Please provide a description of formal and informal training experiences as well as a description of the resident's role while rotating on a diagnostic imaging service:

The resident will spend four weeks on the diagnostic imaging (DI) service, under the direct supervision of an ACVR or ECVDI diplomate. During these formal training weeks in DI, residents will gain a deeper understanding of the principles of diagnostic imaging as they relate to radiation oncology. During this time residents will focus on 1) the physics of diagnostics imaging, 2) the application of various medical imaging equipment in the diagnosis and treatment of cancer, 3) the ability to recognize common acquisition or imaging registration issues and artifacts, and 4) to gain further training in image interpretation (priority to cross-sectional imaging) under the supervision of a DI diplomate. Residents will be expected to attend all DI rounds/seminars (i.e., case-based and didactic) while rotating on their service.

Informally, radiologists are available daily for review and discussion of radiation oncology cases.

The program must have on-site access to modern radiographic equipment, including digital or computed radiography, ultrasound, and CT. Does the institution fulfill this requirement?

Yes.

Please provide a list of the equipment that is available:

PennVet Ryan Hospital has digital radiography, ultrasound, CT, and MRI.

Medical Oncologist(s) in support of the residency program [Must be Diplomate(s) of the ACVIM, Specialty of Oncology]

First Name	Last Name	Title/Credentials	Diplomate on-site? Y/N
Pascale	Salah	DVM, DACVIM	Yes
Matthew J.	Atherton	BVSc, PhD, DECVIM	Yes
Jennifer	Lenz	DVM, DACVIM	Yes
Ester	Yang	VMD, DACVIM	Yes

The residency program requires at least 26 weeks/year of on-site medical oncology support from an ACVIM (Oncology) Diplomate. How will the institution fulfill this requirement?

Our institution has 52 weeks a year of on-site coverage from an ACVIM (Oncology) Diplomate.

How will the resident receive training in medical oncology? Please provide a description of formal and informal training experiences as well as a description of the resident's role while rotating on a medical oncology service:

The Comprehensive Cancer Care (CCC) is a cross-disciplinary approach to the diagnosis and treatment of cancer at PennVet. PennVet's CCC includes a core team of specialists in radiation oncology, medical oncology, surgical oncology, and interventional radiology working together to provide comprehensive patient assessments and multi-disciplinary discussions on patient's diagnostic and therapeutic plans. Residents in radiation oncology will have daily opportunities to work with and informally learn from our medical oncologists through twice daily patient-based case rounds, daily consultations, and through co-management of cancer patients. As part of their required 8 weeks of formal training in medical oncology, the resident will have primary case responsibility under the direct supervision a medical oncology diplomate. Additionally, our weekly CCC journal provides a wonderful opportunity for residents in radiation oncology to learn more about foundational topics medical oncology, e.g. cytotoxic chemotherapy

mechanisms of action, indications for use, dose calculations, side effect profiles, and toxicity management.

Surgeon(s) in support of the residency program [Must be Diplomate(s) of the ACVS]

First Name	Last Name	Title/Credentials	Diplomate on-site? Y/N
Kimberly	Agnello	DVM, DACVS, DACVSMR	Yes
Lillian	Aronson	VMD, DACVS	Yes
Marie	Burneko	VMD, DACVS	Yes
Erin	Gibson	DVM, DACVS	Yes
David	Holt	BVSc, DACVS	Yes
Anna	Massie	DVM, DACVS	Yes
Jason	Syracle	DVM, DACVS	Yes
Susan	Volk	VMD, PhD, DACVS	Yes

The residency program requires at least 26 weeks/year of on-site surgical support from an ACVS Diplomate. How will the institution fulfill this requirement?

Our institution has 52 weeks a year of on-site surgical support coverage by an ACVS Diplomate.

Pathologist(s) in support of the residency program [Must be Diplomate(s) of the ACVP (Anatomic or Clinical Pathology) or ECVP (Clinical Pathology)]

First Name	Last Name	Title/Credentials	Diplomate on-site? Y/N	Clinical or Anatomic...
Charles-Antoine	Assenmacher	DVM, Mac, DACVP	Yes	
Charles	Bradley	VMD, DACVP	Yes	
Molly	Church	MS, VMD, PhD, DACVP	Yes	
Elizabeth	Mauldin	DVM, DACVP, DACVD	Yes	
Kathleen	Mulka	DVM, PhD, DACVP	Yes	
Martina	Piviani	DVM, DACVP	Yes	

First Name	Last Name	Title/Credentials	Diplomate on-site? Y/N	Clinical or Anatomical
Enrico	Radaelli	DVM, PhD, DECVP	Yes	
Amy	Durham	VMD, MEd, DACVP	Yes	

The residency program requires at least 45 weeks/year of anatomic and clinical pathology support by ACVP Diplomates. If not on-site, a letter of support must be submitted. How will the institution fulfill this requirement?

Our institution has 52 weeks a year of on-site anatomic and clinical pathology coverage by an ACVP Diplomate.

At least 1 week or 40 hours in a clinical rotation or rounds with a clinical pathologist are required during the residency program. If off-site, a letter of agreement must be submitted. How will the institution fulfill this requirement?

This rotation is included in our '3 Year Residency Calendar.'

Anesthesia Specialists in support of the residency program [Must be Diplomate(s) of the ACVAA or ECVAA, or Veterinary Technician Specialists (VTS)]

First Name	Last Name	Title/Credentials	Diplomate on-site? Y/N
Ciara	Barr	VMD, DACVAA	Yes
Carly	Carpenter	CVT, VTS (Anesthesia and Analgesia)	Yes
Giacomo	Gianotti	DVM, DVSc, DACVAA	Yes
Dario	Floriano	DVM, DACVAA	Yes
Amy	Dowling	CVT, VTS (Anesthesia and Analgesia)	Yes
Noah	Pavlisko	DVM, DACVAA	Yes

The residency program requires two 1-week (40-hour per week) clinical rotations (80 hours in total) in anesthesia with an Anesthesia Specialist, as defined above. Please provide a description of this training experience and the resident's role on this rotation.

The resident will have primary case responsibility, under the direct supervision of an Anesthesia Specialist. The resident will be expected to provide individualized patient assessments and anesthetic protocol development, work to further development their technical skills related to sedation, anesthesia, and analgesia delivery, anesthetic monitoring, and patient recovery. While on rotation, the resident will be expected to attend Anesthesia Service related didactic and clinical-based learning opportunities.

Neurologist(s) in support of the residency program [Must be Diplomate(s) of the ACVIM, Specialty of Neurology or ECVN]

First Name	Last Name	Title/Credentials	Diplomate on-site? Y/N
Leontine	Benedicenti	DVM, DACVIM	Yes
Evelyn	Galban	DVM, MS, DACVIM	Yes
Wojciech	Panek	DVM, DACVIM	Yes

The residency program requires a 2-week clinical rotation supervised by a Diplomate of the ACVIM (Neurology) or ECVN. Please provide a description of the training experience and resident's role on this rotation.

The resident will have primary case responsibility, under the direct supervision of an ACVIM (Neurology) Diplomate. The resident will be expected to further their neurological examination and neuroanatomical localization skills, develop a working prioritized differential diagnoses list, and diagnostic approach to neurological diseases. Residents should expand on their neurosurgical knowledge basis as it relates to the treatment of neoplasms of the nervous system. Clinical based medical imaging interpretation will be an additional focus of this rotation.

While on rotation, the resident will be expected to attend Neurology Service related didactic and clinical-based learning opportunities.

Please list all additional board certified specialists in direct support of the residency program. [e.g., ACVIM(internal medicine, cardiology), ACVO, etc.] If offsite, please explain relationship:

Name	Certifying College/Board	Subspecialty (if applicable)	Explain Relationship if offsite
Dana L. Clarke	VMD, DACVECC		
Carlo Siracusa	DVM, PhD, DACVB, DECAWBM		
Lena R. Provoost	DVM, DACVB		
Anna R. Gelzer	DVM, PhD, DECVIM, DACVIM	Cardiology	
Alexandra V. Crooks	VMD, DACVIM	Cardiology	
Marc K. Kraus	DVM, DACVIM, DECVIM	Cardiology	
Mark A. Oyama	DVM, DACVIM	Cardiology	
Ana C. Castejon Gonzalez	DVM, PhD, DAVDC, DEVDC		

Name	Certifying College/Board	Subspecialty (if applicable)	Explain Relationship if offsite
Daniel O. Morris	DVM, MPH, DACVD		
Christine L. Cain	DVM, DACVD		
Kathryn A. Rook	VMD, DACVD		
Mary Beth Callan	VMD, DACVIM	Internal Medicine	
Elizabeth M. Lennon	DVM, PhD, DACVIM	Internal Medicine	
Nicola J. Mason	BVetMed, PhD, DACVIM	Internal Medicine	
Mark P. Rondeau	DVM, DACVIM	Internal Medicine	
Ariel S. Mosenco	DVM, DACVIM	Internal Medicine	
Megan E. McClosky	DVM, DACVIM	Internal Medicine	
Paolo Silvestrini	DVM, PhD, DECVIM	Internal Medicine	
Brady Beale	VMD, DACVO		
William A. Beltran	DVM, MSc, PhD, DECVO		
Valerie L. Dufour	DVM, DECVO		
Elaine Holt	DVM, DACVO, DECVO		
Mary E. Lassaline	DVM, PhD, DACVO		

Evaluation of resident performance and progress must be documented every 6 months through appropriate techniques, including faculty appraisal, or oral or written tests, or a combination of these. Institutional resident evaluation forms should be submitted as part of the residency application. How will the program fulfill this requirement?

Faculty appraisal. Radiation Oncology faculty will utilize the RO Residency Standards and Evaluation Committee (RSEC) Form.

Additionally, supporting faculty members outside of the Radiation Oncology service will fill out the UPenn Oncology Resident Evaluation Form to evaluate the progression of the residents.

Upload the Following Information

- CVs (current within 1 year and maximum of 2 pages) for each radiation oncologist, radiologist and medical oncologist involved in the training program
- Resident calendar that includes the following:
 - 24 months of RO-specific activities (primary case responsibility, treatment planning, 1 week/year of radiation therapist activities)
 - 8 weeks of medical oncology
 - 4 weeks of diagnostic imaging
 - 40 hours of medical physics
 - 40 hours of clinical pathology
 - 80 hours of anesthesia in minimum 1-week blocks
 - 2 weeks of neurology
 - 2-week minimum off-clinic time per year (study, research, etc) not including vacation
 - Vacation time as mandated by state/institution
 - Required outrotations at cooperating institution(s)
- Letters of agreement from cooperating institutions
- Letter of agreement from medical physics support for clinical training
- Residency evaluation forms
- Syllabi for any formal or informal coursework

CVs

Biosketch Template Fox.docx

Biosketch Template VDolney.docx

Biosketch EY 080625.pdf

Lee Biosketch 20250610.docx

biosketch Duda 03.2025[10].docx

Biosketch Cordella.docx

NIH biosketch Wilfried MAI May 202... .docx

CV_short biosketch_Reetz JA_5.2025.docx

Lenz BioSketch RO.pdf

biosketch-MJA-NIH May2025[10].pdf

Salah Biosketch_Jan-2025_R01.docx

Resident Calendar

ACVR-RO-RSEC-Calendar-Template-Fil... .pdf

[DOWNLOAD THE RESIDENT CALENDAR TEMPLATE](#)

Letter of Agreement from Medical Physics Support for Clinical Training

MP support letter_draft.docx

Resident Evaluation Forms

RSEC Resident evaluation template-... .docx

UPenn Oncology Resident Evaluatio... .docx

Syllabi for Coursework

PhysicsClass 2025-2026 schedule.xlsx

CCBI 2024 Syllabus.docx

Radiation Biology Syllabus 2024 v1.pdf