Tuesday, January 16, 2024

ACVR - RO New Residency Program Application

Please review the Radiation Oncology (RO) Residency Program Essentials Training Standards and Requirements document prior to completing this form.

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:
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    - 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	Tuesday, January 16, 2024
Your Name	Elias Gumpel
Your Address	Small Animal Specialist Hospital, 1 Richardson Place, Level 1 North Ryde, NSW, 2113
Your Email Address	egumpel@sashvets.com

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
Elias	Gumpel	DVM, MANZCVS, Diplomate ACVR (RO)	egumpel@sashvets.com	+61 02 9889 0289	47

*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.

Which of the Radiation Oncology Diplomates listed above will serve as the Residency Director? This individual will be the primary contact for the residency program and will be responsible for completing all necessary forms/reviews and notifying the RO RSEC of any changes to the program. The Residency Director must be a Diplomate of the ACVR and must be located at the primary training institution.

Elias Gumpel

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).

Yes

Comments:

My work schedule is Monday to Thursday from 8am to 6pm, thus a total of 40 hours per week which meets this requirement. During the resident's allotted 24 to 26 months of RO-specific activities, these will be my hours.

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 made for (check one):

Standard Program

Comments:

This is the first time this institution is applying for an ACVR Radiation Oncology residency program approval. We currently have an ACVIM board certified medical oncologist who is interested in pursuing ACVR-RO accreditation here should this residency program be approved by the ACVR Council. This particular medical oncologist will take on the radiation oncology residency full time while they undertake the radiation oncology residency. Therefore, this will still meet the Standard Program requirements and the resident will be able to complete the residency requirements within the 36 month time frame as per the attached proposed residency calendar.

Any future resident who is not already a board-certified medical oncologist with ACVIM or ECVIM will be required to fulfil all of the required medical oncology rotations and training as per the ACVR-RO Residency Essentials Training Standards document.

What is the total length of the training program? 36 months

Number of months dedicated solely to radiation oncology-specific activities as defined in the ACVR-RO Residency Essentials Training Standards document (RO-specific activities include primary case responsibility, treatment planning, 1 week/yr of therapist activities): 26

Primary Site: Small Animal Specialist Hospital

Department: Radiation Oncology

Address 1 Richardson Place, Level 1
North Ryde, NSW, 2113

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

Comments:

This institution where the resident will receive RO-specific training utilises an Elekta Synergy 6MV LINAC with onboard kv cone beam CT and MV portal imaging capabilities, multi-energy electron beams, a multi-leaf collimator, and Monaco planning software with 3D conformal, IMRT, and VMAT planning and dose delivery capabilities. The planning software is capable of both forward and inverse planning. Manual dose calculation is not generally performed here for patient treatment but will be taught to the resident and the training program will ensure the resident is proficient in manual dose calculation for both MV photon and electron plans.

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

Comments:

The resident will be allowed to see a multitude of cases during their residency, including initial consultations, follow-up revisits for patients that have already undergone radiotherapy which will include restaging with radiographs, ultrasound, CT scans, and MRI scans depending on the patient and tumor. The RO supervising the resident will have regular and ongoing discussions with the resident regarding recommendations for initial work-up, staging, and diagnosis, as well as treatment recommendations with various radiotherapy protocols and outcomes/prognoses, expected/potential/risk of acute, delayed acute (where applicable), and late RT side effects.

Initially, for at least the first 2 months of RO specific training in the residency program, the resident will shadow the RO during initial consultations and revisits. Primary case responsibility will be given to the resident starting in the 3rd month of RO specific training, unless it is determined by the Residency Supervisor that further shadowing is needed before allowing this.

In addition, the supervising RO will regularly shadow the resident during certain initial and follow-up consultations once the resident assumes full case responsibilities to ensure the resident's effectiveness in handling primary case responsibilities and providing feedback as needed. The supervising RO will use

their discretion on selecting which consultations they will attend/shadow the resident to cover a broad of array of patients and tumour types.

The resident's medical records will be reviewed by the RO for accuracy and clarity. The resident will perform regular communications with both clients and referring veterinarians.

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

Comments:

This institution where the resident will undergo RO specific training employs 2 full time, credentialed Radiation Therapists who routinely perform these activities for patients undergoing radiotherapy. These 2 radiation therapists will be fully capable of training the resident in all of the above aspects for at least 1 week per year of the program as per the attached proposed attached residency calendar. During these specified weeks, the resident will purely function as a radiation therapist, performed daily LINAC QA and warm up, patient positioning for CT simulation and radiotherapy, acquisition of position verification imaging, and radiation delivery.

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.

Informally, the resident will receive in-person radiation biology training via review of the latest edition of Hall's Radiobiology for the Radiologist with the supervising RO. The resident will be required to produce notes from, and present the concepts outlined, in each chapter of Hall to the supervising RO to ensure they fully understand them in order to successfully complete the radiation biology portion of the Radiation Oncology certifying examination and become a competent radiation oncologist. For self-study, the resident will also work through the following Radiation Biology lectures freely available through the ASTRO website in the time allotted in the proposed residency calendar:

https://www.astro.org/Affiliate/ARRO/Resident-Resources/Educational-Resources/Physics-and-Biology-Resources/Radiation-Biology
Chicago Radiobiology Course by Gayle Woloschak, PhD (2020-2021)

This consists of 25 individual lectures and 4 additional topics as follows:
Lecture 1 The Physics and Chemistry of Radiation Absorption 2020-2021
Lecture 2 DNA Strand Breaks and Chromosomal Aberrations 2020-2021
Lecture 3 Cell Survival Curves 2020-2021
Lecture 4 Radiosensitivity and Cell Age in the Mitotic Cycle 2020-2021
Lecture 5 Repair of Radiation Damage and the Dose-Rate Effect 2020-2021
Lecture 6 The Oxygen Effect and Reoxygenation 2020-2021
Lecture 7 LET and RBE 2019-2020
Lecture 8 (Part 1) Acute Effects of Total Body Radiation 2020-2021
Lecture 8 (Part 2) Radiologic Terrorism 2020-2021
Lecture 9 Radioprotectors 2020-2021
Lecture 10 Radiation Carcinogenesis 2020-2021
Lecture 11 Hereditary Effects of Radiation 2020-2021

Lecture 12 Effects of Radiation on Embryo and Fetus 2020-2021
Lecture 13 Radiation Cataractogenesis 2020-2021
Lecture 14 Doses and Risks in Diagnostic and Interventional Radiology 2020-2021
Lecture 15 Radiation Protection 2020-2021
Lecture 16 Cancer Biology 2020-2021
Lecture 17 Dose-Response Relationships for Normal Tissues 2020-2021
Lecture 18 Clinical Response of Normal Tissues 2020-2021
Lecture 19 Model Tumor Systems 2020-2021
Lecture 20 Cell, Tissue, and Tumor Kinetics 2020-2021
Lecture 21 Time, Dose, and Fractionation in Radiotherapy 2020-2021
Lecture 22 Alternative Treatment Modalities 2020-2021
Lecture 23 Radiosensitizers and Bioreductive Drugs 2020-2021
Lecture 24 Gene Therapy 2020-2021
Lecture 25 Chemotherapy and Radiation 2020-2021
Additional Topic 1 Radiation Sensitivity Syndromes and Molecular DNA Repair 2020-2021
Additional Topic 2 Hyperthermia 2020-2021
Additional Topic 3 Molecular Imaging 2020-2021
Additional Topic 4 Predictive Assays 2020-2021

The supervising RO will undertake regular, scheduled reviews with the resident for each lecture/additional topic to ensure the resident fully understands the information presented to an appropriate level.

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

Elias Gumpel, DVM, MANZCVS, Diplomate ACVR (RO)

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.

The resident and supervising RO will undertake a chapter-by-chapter review of the latest edition of The Basic Science of Oncology (Tannock & Hill) as well as review of pertinent cancer biology scientific publications. The resident will prepare notes from each chapter of the text or scientific paper and present their understanding of the concepts in a regularly scheduled, Journal Club-like format to the supervising RO. Medical Oncology specialists at this institution will also be invited to participate in these discussions.

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

Elias Gumpel, DVM, MANZCVS, Diplomate ACVR (RO)

How will the resident be trained in medical physics? Please provide a description of formal and informal didactic (non-clinical) experiences, or indicate time allotted for self-study.

Informally, the resident will receive in-person radiation physics training via review of the latest edition of Khan's Physics of Radiation Therapy textbook with the supervising RO. Additional physics education support will be available with the medical physicists who provide LINAC physics support to this institution over the 2 week medical physics rotation. The resident will also work through the Radiation Physics lectures and videos freely available through the ASTRO website in the time allotted in the proposed residency calendar:

A) RRO High Yield Review Videos (Invited lectures on topics by request from ARRO membership)
- 2022 RO Physics Review: High-yield Physics Review by Anthony Doemer, MS

https://vimeo.com/712082161/667ec751ca
- 2021 RO Physics Review: Radiation Interactions and Measurement Part I by Dr. Jay Burmeister of Wayne State University

https://vimeo.com/577720100/9691901e09
- 2021 RO Physics Review: Radiation Interactions and Measurement Part II by Dr. Jay Burmeister of Wayne State University

https://vimeo.com/577713310/ab9c020e8c
B) ROMPES Modules (Introductory lectures in radiation physics by leaders in the field including Drs. Patrick McDermott, Matthew Studenski, Timothy Ritter, Steven Sutlief, Arthur Boyer and Ying Xiao)

https://academy.astro.org/content/introductory-physics-modules#group-tabs-node-course-default1
Introductory Physics Videos for Radiation Oncology Residents
- Module 1 Topics:
1) Basic Physics
2) Electricity and Magnetism
3) Special Relativity

- Module 2 Topics:
1) Structure of Matter
2) Nuclear Forces
3) Wave and Quantum Models
4) Isotopes, binding energy
5) Mathematics of Decal
6) Modes of Decay
7) Sources of Radionuclides

- Module 3 Topics:
1) X ray generation - anode and cathode
2) X ray generation - transformers and rectifiers
3) X ray generation - therapy
4) Diagnostics vs. Therapy
5) X ray Spectra
6) Physics of X ray generation

- Module 4 Topics:
1) Production of Megavoltage 1
2) Production of Megavoltage 2
3) Production of Megavoltage 3
4) Production of Megavoltage 4
5) MLC

- Module 5 Topics:
1) Attenuation of Photon Beams
2) Attenuation Coefficient
3) Energy Absorption Coeff
4) Compton, Pair Production
5) Particulate Interactions

C) Primer on Radiation Oncology Physics Video Tutorials (Based on the textbook by Dr. Eric Ford)

D) HiPhy RadOnc Videos (High-yield animated physics education videos for radiation oncology residents by Drs. Gabby Peters, Suzanne B. Evans, Jay Burmeister and Eric Ford)

E) Radiological Society of North America online physics modules

https://www.rsna.org/education/trainee-resources/physics-modules
These modules cover the following topics:
Module topics
Developed by a team that includes at least one physicist and one radiologist, the modules undergo ongoing peer review to continually improve content and quality. Select modules offer CME credit.

Fundamentals
- Atoms, Radiation, and Radioactivity (2023)
- Interactions of Radiation and Tissue (2022)

- Radiation Measurements and Units (2023)
- X-Ray Tubes and Spectra (2023)

Basic Imaging Science and Technology
Image Display (2023)
- Image Perception and Performance Evaluation
- Image Processing and Reconstruction (2023)
- PACS

Radiation Biology
- Basic Radiation Biology
- Radiation Effects (2023)

Radiation Protection
- Estimating Cancer Risk from Imaging Procedures (2021)
- Fundamentals of Radiation Protection (2023)
- Radiation Dose and Risk (2022)
- Radionuclide Dosimetry and Nuclear Regulations

Projection X-Ray Imaging
- Basic Concepts in Radiography (2022)
- Digital X-Ray Imaging (2023)
- Image Quality and Dose in Radiography (2021)
- Mammography Image Quality and Dose (2023)
-Radiographic and Mammographic Systems for Radiology Residents (2023)
- Radiographic Image Receptors (2021)

Fluoroscopy
- Fluoroscopy Systems
- Radiation Dose and Safety in Interventional Radiology (2021)

Computed Tomography
- CT Image Quality and Protocols (2021)
- CT Systems (2023)
- Imaging Gently: Medical Imaging and Radiation Protection of Pediatric Patients (2023)
- Radiation Dose in CT (2023)

Ultrasound
- Basic Ultrasound Imaging and Display
- Image Quality, Artifacts, and Safety in Ultrasound
- Ultrasound – Concepts and Transducers (2022)
- Ultrasound Image Acquisition and Doppler Ultrasound (2023)

Magnetic Resonance
- Basic Principles of Nuclear Magnetic Resonance (2022)
- MRI: Image Artifacts (2022)
- MRI: Image Characteristics (2023)
- MRI: Image Formation (2022)
- MRI: Instrumentation (2021)
- MRI: Gadolinium-based Contrast Agents (2021)
- MRI: Pulse Sequences (2023)
- MRI: Quality/Bioeffects/Safety
- MRI: Siting and Environmental Protection
- MRI: Special Acquisition Methods (2021)

Nuclear Medicine
- Gamma Cameras / Image Quality (2023)
- PET/PET-CT/Image Quality (2022)
- Radiation Detection Instrumentation in Nuclear Medicine Practice (2023)
- Radioisotopes and Radiopharmaceuticals for Nuclear Medicine (2021)
- SPECT/SPECT-CT/Image Quality (2021)

The resident will also be strongly encouraged and allotted time off to attend the UC Davis physics bootcamp for veterinary radiation oncology residents

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

Elias Gumpel, DVM, MANZCVS, Diplomate ACVR (RO)
Matthew Sobolewski – MSc. MedPhys, RO CMPS
Aaron Fetin – MSc. MedPhys, RO CMPS

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.

The resident will spend a 1 week block (40 hours total) shadowing the medical physicist that supports SASH, at the primary institution of that medical physicist. During this 1 week block, the resident will receive hands-on instruction and experience with radiation physics, manual photon, and manual electron planning and setups to solidify the pertinent concepts they are required to know and master for successful completion of the radiation physics portion of the RO certifying examination and to become a competent radiation oncologist.

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

First Name	Last Name	Title/Credentials	Physicist on-site? Y/N
Matthew	Sobolewski	MSc. MedPhys, RO CMPS	No
Aaron	Fetin	MSc. MedPhys, RO CMPS	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:

The Medical Oncology and Radiation Oncology doctors at this institution hold a weekly joint journal club to review recent and/or relevant oncology publications. In addition to this, the resident will have a separate monthly Radiation Oncology specific journal club with the supervising RO to review recent and/or relevant publications specific to the field of veterinary radiation oncology.

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:

The Australian and and New Zealand College of Veterinary Scientists (ANZCVS) hosts an annual veterinary conference in July called Science Week. The Oncology chapter of the ANZCVS has a dedicated Oncology stream of presentations at every Science Week conference, and the resident would be required to present at least 1 scientific presentation over a veterinary radiation oncology topic of their choosing (with approval by their residency supervisor) at this conference during any of the 3 years of their residency. The resident may choose to present at 2 Science Week conferences in order to fulfil this requirement.

Otherwise, the resident would also have the opportunity to present a lecture in the form of either a webinar or in-person seminar hosted by this institution to general practice veterinarians, should the resident choose to only present a scientific presentation or lecture at 1 Science Week conference.

The program must include an external beam radiation therapy machine in the megavoltage range and 3D computerized radiation treatment-planning capabilities to create treatment plans used for treatment delivery. Residents must have on-site access to treatment planning systems capable of forward and inverse planning even if both types of planning techniques are not deliverable at that institution.

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

Elekta Synergy Dual Energy 6MV/10MV x-ray linear accelerator with 6MeV, 9MeV, 12MeV, and 15MeV electron beam capabilities

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:

Elekta Monaco TPS version 6.1.2.0 capable of both forward and inverse planning. The vast majority of patients here are planned with inverse planning, although in a very small number of select cases, forward planning may be utilised instead.

The clinical training requirements in the following six questions, described on pages 15 and 16 of the RO Essentials document can be fulfilled at a cooperating institution if the primary institution lacks resources to accomplish them. Training at cooperating institutions must be supervised by a Supervising or Supporting ACVR-RO Diplomate and a letter of agreement from the cooperating institution is required. The training requirements can be combined into a single minimum 2-week learning experience at the cooperating institution.

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?

The resident will be trained and will develop expertise and self-sufficiency in manual setups and manual treatment planning with photons under the instruction and supervision of the off-site medical physicist during the 1 week block dedicated to medical physics training.

In addition, the resident will be given mock patient set-up problems to work out manual setups and treatment planning with photons periodically throughout their residency in order to demonstrate proficiency in this requirement. Additional time will be set aside during the 36 month residency as per the attached proposed residency calendar to work on manual photon setup mock cases/problems.

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?

The resident will be trained and will develop expertise and self-sufficiency in manual setups and manual treatment planning with electrons under the instruction and supervision of the off-site medical physicist during the 1 week block dedicated to medical physics training.

In addition, the resident will be given mock patient set-up problems to work out manual setups and treatment planning with electrons periodically throughout their residency in order to demonstrate proficiency in this requirement. Additional time will be set aside during the 36 month residency as per the attached proposed residency calendar to work on manual electron setup mock cases/problems.

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

The resident will be required to successfully complete a training module with a dedicated Elekta TPS training representative on the use of Monaco TPS for 3D conformal radiotherapy planning.

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

The resident will be required to successfully complete a training module with a dedicated Elekta TPS training representative on the use of Monaco TPS for IMRT inverse planning, as well as being involved on a regular basis with the on-site radiation therapists who routinely perform these plans for patients undergoing radiotherapy at this institution. The resident will be asked to periodically prepare IMRT inverse plans for patients to demonstrate ongoing working knowledge of IMRT treatment planning techniques using the on-site Monaco TPS.

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?

The Elekta Synergy linac at this institution is equipped with on-board kilovoltage cone beam CT imaging, which is utilised prior to each treatment delivery for positioning verification. The resident will be trained on the use of this equipment as well as image interpretation and patient positioning/couch shifts and will

perform these duties during the specified weeks where the resident will act as a radiation therapist.

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

The Elekta Synergy linac at this institution is equipped with on-board kilovoltage digital radiography imaging capabilities. While this feature is not routinely used at this institution for patient positioning verification (kv cone beam CT is used instead), this feature will be utilised in various select patients during the residency in order to familiarise the resident with its use for patient positioning verification.

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

The Elekta Synergy linac at this institution is equipped with on-board megavoltage digital radiography imaging capabilities for portal imaging. While this feature is not routinely used at this institution for patient positioning verification (kv cone beam CT is used instead), this feature will be utilised in various select patients during the residency in order to familiarise the resident with its use for patient positioning verification.

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
Katharina	Flatz	Dr. med. vet., DipECVDI	Yes
Andrew	Adezio	DVM, 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?

This institution has on-site ACVR and ECVDI board certified diagnostic imaging specialists present full-time to provide diagnostic imaging support to fulfil this requirement.

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 complete the required 4 weeks formal training in diagnostic imaging with the on-site Diagnostic Imaging specialists and service at this institution, under the direct supervision of the ACVR/ECVDI diagnostic imaging specialists. These imaging specialists will provide written confirmation upon completion of the 4 week block that the resident has completed the block to their satisfaction.

The resident will be trained on patient anatomy as it pertains especially to CT and MRI for veterinary cancer patients for the purposes of tumor volume identification and contouring. During their rotation, the resident will focus on image interpretation for any oncology patient coming through the service, as well as participating in daily diagnostic imaging rounds and receiving formal training in the basic principles of the physics of diagnostic radiology, CT, MRI, gamma scintigraphy, PET scanning, and diagnostic ultrasound.

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?

This institution has the following imaging modalities available on-site:
Digital radiography
Computed tomography
Ultrasound
Magnetic Resonance Imaging

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
Spela	Bavcar	DVM DipECVIM-CA (Onc) FHEA MANZCVS MRCVS	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?

This institution has multiple board-certified veterinary medical oncology specialists present full-time on site to provide medical oncology support in order to fulfil this requirement. Of these, Dr Spela Bavcar is the only one boarded by a certification body recognised by ACVR for the purposes of this residency application. Dr Veronika Langova is a registered specialist in Medical Oncology by the Australian & New Zealand College of Veterinary Scientists and is therefore not included in this application.

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:

If the resident is already ACVIM board certified in medical oncology, they are exempt from this requirement. The RO RSEC will be provided a specific request for this residency candidate to exempt them from the 8 week medical oncology training requirement.

If the resident is not ACVIM board certified in medical oncology, they will complete the requisite 8 week medical oncology clinical rotation under the direct supervision of the ACVIM or ECVIM medical oncology specialists at this institution. The trainee will function as a primary clinician during the 8 week Medical Oncology rotation. Formal training will be provided in the use of combination chemotherapy & radiation therapy for appropriate cases, potential complications/risks of combining chemotherapy with radiotherapy either concurrently, neoadjuvantly, or adjuvantly, specific side effects (ie radiation recall) will be reviewed. The resident will be taught the various chemotherapy drugs commonly utilised in veterinary oncology, their typical doses and dosing frequency, potential side effects and management thereof, and proper handling and administration thereof.

The supervising medical oncologist will provide written confirmation that the resident has completed their medical oncology rotation to their satisfaction.

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
Tristram	Bennett	BVSc (distinction), MANZCVS (small animal surgery), DACVS-SA, Dipl ECVS, ACVS Fellow in Surgical Oncology	Yes

First Name	Last Name	Title/Credentials	Diplomate on-site? Y/N
Julia	Sumner	BVSc (Hons I) MANZCVS Diplomate ACVS – Small Animal	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?

This institution has multiple board-certified surgery specialists on-site full time, including an ACVS Fellow in Surgical Oncology (Dr Tristram Bennett) who is employed full time here, to provide surgical support and fulfil this requirement.

Other registered/board certified specialist surgeons at SASH North Ryde are boarded through the Australian & New Zealand College of Veterinary Scientists, including Dr Martin Havlicek and Dr Amanda Miller. Their CV's are therefore not included in this residency application.

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
Stephen	Yeomans	BSc(Vet) BVSc MVSc MANZCVS DACVP(AP/CP)	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?

Dr Stephen Yeomans is ACVP certified in both anatomic and clinical pathology, and is employed on-site full time at this institution in order to provide pathology support and fulfil this requirement.

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?

The resident will be allotted and scheduled for a 1 week clinical rotation during the residency with the on-site pathologist which will be entirely dedicated to pathology training in order to fulfil this requirement. The resident will participate directly with the pathologist during their review of cytology and histopathology samples, discussion of possible differential diagnoses, and appropriate additional pathology testing modalities (ie immunocytochemistry, immunohistochemistry, etc).

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
Emma	Johnson	BVSc, MVS (Murdoch), MVSc, MVS (Melbourne), MANZCVS, DACVAA	Yes
Keaton	Schmidt	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 complete the requisite total of 80 hours clinical rotation with the on-site anaesthesia service at this institution under the direct supervision of the ACVAA boarded anaesthesia specialists. The resident will directly participate in the review of cases and preparation of an appropriate anaesthetic plan for patients under going CT, MRI, and radiotherapy procedures. The resident will perform patient pre-medication, induction, intubation, and anaesthetic monitoring of these patients. The resident will receive formal training from the anaesthesia specialists in anaesthetic drugs/protocols and monitoring, specifically in relation to patients undergoing imaging procedures (CT/MRI) and radiotherapy procedures.

The supervising anaesthesia specialists will provide written confirmation that the resident has completed the anaesthesia rotation to their satisfaction.

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
Patrick	Kenny	BVSc (Hons) DipACVIM (Neurology) DipECVN FHEA MRCVS	Yes
Stacey	Brady	BVSc (Hons I) MSc (AABAW) DipECVN	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 be allotted and scheduled for a 2 week clinical rotation with the on-site neurology service at this institution in order to receive neurology training and fulfil this requirement. During this rotation, the resident will be expected to demonstrate proficiency with neurologic examination and assessment, lesion localisation, differential diagnoses and diagnostics/therapeutic recommendations especially for patients with presumptive neurologic neoplastic conditions.

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?

The supervising RO will schedule and hold biannual resident assessments using a combination of faculty appraisal and oral questioning/examination. RAPHEX exams will be obtained and used for assessment of mastery of radiation physics, radiobiology, radiation therapy, and diagnostic imaging concepts that the resident is expected to be proficient in. The supervising RO will complete and submit the ACVR RO Resident Biannual Assessment forms every 6 months during the residency program.

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 possible, provide the status of each individual with respect to the board certification process.

This institution has not previously had a Radiation Oncology residency program prior to this application.

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

Julia Sumner CV.pdf

Adezio CV 2023.pdf

CV Flatz.pdf

Elias Gumpel CV 2023.pdf

SB CURRICULUM VITAE short….pdf

Tristram Bennett CV 2023.pdf

Resident Calendar

Revised Proposed residency ….xlsx

Letter of Agreement from Medical Physics Support for Clinical Training

ACVR Council Supporting Let… .pdf

Residency Evaluation Forms

Radiation Oncology Resident ….pdf