ACVR Residency Training Program Application

This document is to act as a guide for institutions desiring ACVR accreditation of their residency training program. It should be used in concert with the requirements set out in the ACVR Essentials of Residency Training document and it follows the headings of that document. It is intended to streamline the application process and help define what information the RSEC needs to evaluate the program. All terms used in this application have same definitions as defined in the Essentials.

Institution Name:

University of Pennsylvania, New Bolton Center
(proposal for EDI residency)

Email

kwulster@upenn.edu

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Objectives:

Succinctly state the objectives of the training program.

The residency training program is designed to provide supervised training in equine diagnostic imaging in an atmosphere conducive to learning clinical diagnostic imaging with an introduction to clinical investigation. The residency is also designed to prepare the trainee for certification by the American College of Veterinary Radiology-EDI. The residency is designed to provide thorough training in all facets of equine diagnostic imaging with exposure to complementary training

including small animal radiology, equine sports medicine, surgery, medicine, pathology and cardiology.

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Training Period:

What is the total length of the training program?

36 months

If this is a four year program, during what year will the resident be eligible to take the ACVR Preliminary Exam?

3

What are the responsibilities of the resident in the remaining non-clinical portion of the program?

A prospective or high-quality retrospective research project is required. A faculty member must be chosen by the resident to be a primary consultant on each investigational project. The results of these investigational projects will be presented at the annual ACVR meeting and/or AAEP or other relevant conference. Application for any research money must be made to the appropriate funding agency through the faculty consultant who assumes responsibility for performance of the work.

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Direction and Supervision:

Program Director:

Who is the Director of Residency training?

Kathryn Wulster

What percentage of this individual's time is committed to clinical service and teaching of residents?

90

Faculty:

Please list the faculty member of the program accepting PRIMARY responsibility for training in each of the following core areas:

Roentgen diagnosis

Kathryn Wulster 90

Diagnostic ultrasound

Cris Navas 70

Computed Tomography

Kathryn Wulster 90

Magnetic Resonance Imaging

Kathryn Wulster 90

Nuclear Medicine

Kathryn Wulster 90

List the names and percentage clinical commitment of additional imaging faculty in the program, and their area(s) of instructional responsibility.

Tim Manzi - Rad, CT, MR, NM (taking EDI exam in March 2021) - 90%
Myra Barrett via affiliation agreement - Rad, US*, CT, MR*, NM - 50%
Kurt Selberg via affiliation agreement - Rad, US*, CT, MR*, NM - 50%
Cris Navas de Solis - US - 70%
Joann Slack - US - 70%
Claire Underwood - US - 40%

*emphasis

Using the button below, please provide a one page CV documenting their expertise in the area(s) of assigned responsibility for each imaging faculty in the program.

 pdf CV PennVet Navas for EDI (1).pdf

 pdf abbreviated CV KW.pdf

 pdf 157_CV PennVet Navas for EDI (1)_8349.pdf

 pdf TM.pdf

 pdf ABBREVIATED CURRICULUM VITAE 2020.pdf

For each speciality colleges listed below pleas list at least two Diplomates of these colleges who can be expected to regularly interact with radiology residents:

ACVIM

Amy Johnson

ACVIM

Rose Nolen-Walston

ACVS

Kyla Ortved

ACVS

David Levine

ACVP

Julie Engiles

ACVP

Susan Bender

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Affiliation Agreement:

Using the button below, provide a copy of the affiliation agreement(s) in place if all of the training will not be accomplished on-site. Include the scope of the training and amount of time the resident will be away from the home institution.

| pdf | Penn EDI affiliation.pdf |

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Facilities:

Briefly describe how the program meets the facility requirements.

The facilities at New Bolton Center reflect state-of-the-art diagnostic imaging. The diagnostic imaging department uses a web-based Radiology

Information System (RIS) and PACS system (iSite Phillips). Diagnostic imaging has the following assigned rooms:

Veterinary teaching hospital:
Large Animal Radiology: 1 examination room
Equine Ultrasound   3 examination rooms
CT (fan beam)   Mobile
CT (cone beam)   1 examination room
NM   1 examination room, 1 radiopharmaceutical lab (both shared with PET)
PET   1 examination room, 1 radiopharmaceutical lab
Equipment:

Large Animal Radiography
One Sedecal overhead ceiling-suspended longitudinal and transverse rail systems to support two telescoping cranes for high powered Varex X-ray tube and Canon 701C panel with or without a grid attached.
Vet Rocket Canon Digital Radiography System with Canon 801C wireless active capture panel, and Canon 701C wireless active capture panel.
Varex Rad 92 Sapphire X-ray tube
Sedecal 80 kw generator, 800 mA

One Vet Rocket X3 Digital Radiography System with Canon 801C panel, MinXray TR90+ generator
One Vet Rocket X1 Digital Radiography System that shares 801C and/or 701C panels from overhead system in radiology suite, MinXray HF8015 generator

Ultrasound:
esaote MyLab 50, MyLab 70, MyLab 30 Gold
GE VIVID E95, VIVID IQ
2X Canon APLIO i700

Computed Tomography (CT) - fan beam
Neurologica Ceretom CT (8-slice) using Neurologica acquisition software

Cone beam CT
Varex x-ray tube (G892 insert / B147 housing)
Varian 4343CB detector running Varian Nexus DRF acquisition software
Orimtech CBCT AceClubs reconstruction software
4 x Vicon Bonita 10 cameras using Nexus 2 software (for equine skull / cervical spine motion correction)
1 x CPI Indico 100 80KW generator
2 x ABB IRB 6700 robots

Magnetic Resonance
esaote O-scan (0.31T), MRI EVOlution acquisition

Nuclear Medicine:
Rapid Scan gamma camera with a secondary in-floor camera for solar views. Oasis acquisition / processing software

PET
LONGMILE MILE-PET standing PET scanner.
Proprietary acquisition / fusion software

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Clinical Resources:

Indicate the approximate number of patients seen annually by the home institution?

5000 total, ~4300 equine

What is the annual imaging caseload?

4000 (equine only). This is not separated per region (e.g. a study with images from 10 joints is only counted here as "1")

Indicate in percentages the approximate breakdown of the patient population according to species.

Type a question

Small Animals (canine, feline): 0

Large Animals (equine and food animals): 99+%

Exotic Animals: less than 1%

What is the approximate annual imaging caseload of the program in:

Type a question

Small Animal Radiology: NA

Large Animal Radiology: 2150 - This is not separated per region (e.g. a study with images from 10 joints is only counted here as "1")

Abdominal Ultrasound: 1050 - not just abdominal (MSK, ocular)

Computed Tomography: 670

Nuclear Medicine: 220

Magnetic Resonance Imaging: 75 - single accession (typically multiple regions are imaged)

Other (specify): PET - 30

Please check which of the following types of imaging cases the residents will have exposure to during the residency:

Large Animal Ultrasound

Nonabdominal Small Animal Ultrasound (i.e. cervical, musculoskeletal)

Food Animal

Exotics

Teleradiology/Referral Imaging

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Training Content:

What percentage of imaging reports are typically available within 48 hours after the examination is conducted in typewritten or

electronic form?

75

Of the preliminary reports generated from the imaging caseload what percentage are initially produced by the resident?

Residents are at NBC for 1 month per year, during that time they produce 50% of the reports. For the EDI resident, they will be expected to produce 75-100% of the reports depending on the modality and point in training

What percentage of the resident reports are reviewed by the imaging faculty prior to finalization of the report?

100

When preliminary resident reports are reviewed and edited by the imaging faculty responsible for training, what percentage of the time are two or more faculty present?

50% of the time

For each category below, approximate the number of cases a single resident will be involved in the interpretation of during the course of the entire program.

Type a question

Small Animal Radiology: NA

Large Animal Radiology: 6000

Abdominal Ultrasound: 250

Computed Tomography: 1500

Nuclear Medicine: 600

Magnetic Resonance Imaging: 200 (individual accessions, most often each accession includes multiple regions)

Elective (any of above):

Required elective (specify): MSK US 250

Total: 8800

Please indicate the course number and unit assignment residents are required to take to meet the educational objectives for formal instruction as outlined in the Essentials in the following:

Radiobiology

RAD 611 1

Nuclear Medicine

RAD 621 1

Ultrasonography

RAD 622 1

CT

RAD 611 1

MRI

RAD 622 1

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Research Environment:

Over the last five years, what is the average number of peer reviewed publications, on which the IMAGING faculty listed under Direction and Supervision in IV, are included as authors?

average of 8 publications per person over the last 5 years. NB - one faculty member is in year 1.

What is the number of publications/submissions expected of a resident completing the program?

1

If this is an established program, what percentage of residents have made formal research presentations at the annual ACVR or equivalent national meeting?

NA

Is an advanced degree a requirement of the training program?

No

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Educational Environment:

How many lectures or scientific presentations are expected of each resident during the course of their training?

3

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Evaluation 'Evaluation of residents and protection mechanisms':

Did all of your current resident(s) adequately complete the last six months of training?

No current residents

List the current members of the residents' review committee.

The future committee will be Kathryn Wulster, Tim Manzi, Cris Navas, Myra Barrett

List the internal mechanisms in place to protect your resident if conflicts arise.

An ombudsman assigned to New Bolton Center is available to speak with house officers experiencing professional or interpersonal conflicts with their peers, staff, or faculty. The ombudsman then coordinates with the appropriate administrator (Dept Chair or Hospital Director) and can organize mediation or escalates to the appropriate central department within the

University.

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Teaching File:

What is the nature and scope of the teaching file available to residents?

Philips PACS has an internal file structure that allows tiered categorization of cases. These are separated by species (and age, where appropriate), modality, body part, individual disease process

How is it maintained/updated?

The teaching files are updated by manual drag/drop as animals are imaged. House officers and imaging faculty all contribute to adding cases to the teaching file structure.

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Conferences:

On average how many Known Case Conferences are conducted annually?

24 for equine KCC

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Literature Resources:

What is the geographic relationship between the nearest medical library and the training program?

The library on the New Bolton Center campus is well stocked with books and journals covering both veterinary and human medicine. Also available is an extensive online library database through the University of Pennsylvania which gives access to hundreds of relevant journals.

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Appendix:

Provide the pass rate for first time, second time, etc for both the preliminary and certifying

exams for your residents for the past 5 years. For example, for all residents finishing your program 5 years ago (Year 5): x number passed prelim 1st time, y number passed certifying exam 1st time, z number was unsuccessful.

	Year 5	Year 4	Year 3	Year 2	Year 1
Passed preliminary exam 1st time	NA	NA	NA	NA	NA
Passed preliminary exam 2nd time	NA	NA	NA	NA	NA
Passed preliminary exam after 2nd time	NA	NA	NA	NA	NA
Passed certifying exam 1st time	NA	NA	NA	NA	NA
Passed certifying exam 2nd time	NA	NA	NA	NA	NA
Passed certifying exam after 2nd time	NA	NA	NA	NA	NA
Unsuccessful in all attempts	NA	NA	NA	NA	NA

Provide a clinical schedule for your resident(s). This schedule should provide a weekly or monthly outline of the resident's clinical responsibilities. This may be in the form of a master schedule or duty roster for your entire radiology section if desired. Use the button below.

📄 pdf DRAFT EDI schedule.pdf