

VSH Carolinas Diagnostic Imaging Residency Program

I. Introduction

This document will serve as the basis for the diagnostic imaging training program at the Veterinary Specialty Hospitals of the Carolinas located in Cary, Durham and North Raleigh, NC. The practice consists of three small animal specialty referral practices within the Raleigh/Durham NC area. The residency program will be affiliated with the University of Florida for training in the areas of large animal diagnostic imaging (radiology, CT, US and MRI), nuclear medicine and fluoroscopy/special procedures. The resident will spend a total of 18 weeks during the diagnostic imaging program (6 weeks per year) at the University of Florida.

II. Objectives

1. Advanced training in diagnostic imaging.
 - a. Develop clinical skills in diagnostic radiology.
 - b. Develop clinical skills in special procedures including fistulography, fluoroscopic evaluation of dynamic processes (swallowing, tracheal evaluation) and routine special procedures (evaluation of the gastrointestinal and urogenital systems).
 - c. Develop clinical skills in small and large animal diagnostic ultrasound, computed tomography, magnetic resonance and nuclear imaging.
 - e. Receive instructional training in the physics of radiography, alternate imaging modalities (including ultrasound, computed tomography, magnetic resonance imaging, and nuclear medicine), radiobiology, radiation protection, and radiation dosimetry and safety. Radiation safety, radiobiology and physics of diagnostic imaging are taught during the first year and will be taken in conjunction with the MD diagnostic imaging House Officers at the University of North Carolina, College of Medicine.
2. Training in critical current literature evaluation through the participation in weekly journal club.
3. Participate in the clinical training of veterinary interns during their radiology rotations.
4. Training in the presentation of current relevant research data through abstract submission and presentation at appropriate scientific presentations. This would include the presentation of a current research project at the Annual House Officer's seminar as well as the submission of an abstract and presentation at the Annual ACVR meeting.
5. Preparation for qualifying and certifying examinations offered by the American College of Veterinary Radiology by three Mock written examinations (taken at the end of the second year in preparation for the qualifying examination) and Mock oral examinations (Known Case Conference – in preparation for the certifying examination).
6. Develop appropriate communication skills with clinicians and referring veterinarians.

III. Training Period

The training program will consist of 3 years (36 months) of postdoctoral medical education in veterinary radiology, of which at least 30 months of training will be supervised clinical experience by ACVR and ECVDI board certified veterinary radiologists.

IV. Direction and Supervision

Program Director

Clifford R. Berry, DVM, DACVR

Courtesy Professor, University of Florida

Will have 80% clinical commitment with overlap of clinical training of the VSH diagnostic imaging resident and program. Dr. Berry will assume responsibility for the training of the residents in diagnostic imaging, diagnostic ultrasound, physics of medical imaging, nuclear medicine and computed tomography. Dr. Berry will also be responsible as resident coordinator and supervisor for the weekly journal club and known case conference for the resident's participation. Dr. Berry has successfully trained 24 diagnostic imaging residents (all of which are ACVR boarded at the present time) including two from private practice (Dr. Reid Tyson and Dr. Scott Tidwell, Affiliated Veterinary Specialists, Maitland, FL).

Faculty

VSH of the Carolinas

Maureen Levesque, VMD, DACVR – 80% clinical commitment

Stephanie Knapp, DVM, DACVR (section chief) – 80% clinical commitment; Dr. Knapp will be responsible for formal training in MRI

University of Florida

Erin G. Porter, DVM, DACVR – service chief of diagnostic imaging – 0.8 FTE

Clinical Assistant Professor, Diagnostic Imaging; Dr. Porter will be responsible for formal training in large animal radiology, computed tomography, MRI, nuclear medicine and ultrasound while at the University of Florida.

Federico Vilaplana Grosso, DVM, DECVDI – 1.0 FTE

Clinical Assistant Professor, Diagnostic Imaging

Aitor Gallastegui Menoyo, LV, MSc, DACVR – 1.0 FTE

Clinical Assistant Professor, Diagnostic Imaging

Matthew D. Winter, DVM, DACVR – 0.2 FTE

Clinical Associate Professor, Diagnostic Imaging

Additional Faculty – VSH of the Carolinas

ACVP (in house AnTech Pathology Services)

Dr. Nancy Collicutt

Dr. Rebecca Gunn-Christie

ACVA

Dr. Melody Gerratt

ACVIM (Internal Medicine)

Dr. Rae Hutchins

Dr. Ryan Dulaney

Dr. Sirima Yaemsiri

Dr. Kate Aicher

Dr. Laura Greene

ACVIM (Neurology)

Dr. Sarita Miles

ACVIM (Cardiology)
Dr. Michael Cocchiaro
Dr. Nicole Piscitelli

ACVIM (Oncology)
Dr. Karri Miller
Dr. David Ruslander
Dr. Laural Williams
Dr. Rebecca George

ACVS
Dr. Gary Spodnick
Dr. Brian Trumpatori
Dr. Meghan Kruse
Dr. David Lee
Dr. Meredith Kapler
Dr. Mischa McDonald-Lynch

ACVR (Radiation Oncology)
Dr. David Ruslander

ACEMCC
Dr. Scott Wells
Dr. Ben O'Kelly

ACVN
Dr. Lindsay Bullen

V. Affiliation Agreement

A letter of agreement with the *University of Florida* is attached in order to complete the large animal training, fluoroscopic training, and nuclear medicine training.

VI. Facilities

VSH of the Carolinas

Diagnostic Imaging: Four 50 kW generators x-ray tubes and tables with 125 kvP and 500 mA output. All four are linked with DR Canon plates. All images are reviewed in PACS (Keystone, Asteris) using three high end work stations with 3 MP monitors (3, 2, 2 for Cary, Durham and North Raleigh).

Ultrasound machines:

- GE Logic S8 with 5 diagnostic probes (3 linear and two convex)

 - Samsung S80A with 5 diagnostic probes (3 linear and two convex – one of which is capable of shear wave elastography)

- Toshiba (Canon) i700 Aplio with four diagnostic probes (one of which is capable of shear wave elastography)

Contrast ultrasound is available on all three machines.

Computed Tomography: GE 16 slice CT scanner with multiplanar rendering at the GE workstation
MRI: 1.5 T Siemens Avanto MRI Scanner with 6 different coils with 16 channel receiver capability.

University of Florida

Facilities include small (5 rooms) and large animal (2 rooms) diagnostic radiology, interventional suite with DR video fluoroscopy and digital subtraction, complete digital radiography system (6 DR Canon Plates), portable radiology units (2 equine and 1 DR plate portable unit for small animal surgery), two real-time B-mode ultrasound with pulsed wave Doppler, power and color Doppler and elastography, 160 slice Toshiba Aquilion Prime helical multidetector-row computed tomography and 1.5 T Toshiba magnetic resonance imaging is available. The CT and MR have both small and large animal capabilities. The imaging service remains paperless and filmless department with 7 fully integrated

diagnostic imaging workstations (two of which have [4] 3MP monitors and five of which have [2] 3 MP monitors). The hospital uses a mature PACS (Merge® PACS) and RIS (Empiric® Fuji) system for full integration of all imaging modalities and reporting. Direct dictation systems are used for each workstation based on a server driven Dragon Medical Nuance software program.

Ultrasound

Philips Epic V with 4 transducers (C8-5 MHz, Lio12-15 MHz, L8-15 MHz and C9-4 MHz probes)
Philips iU22 with 4 transducers (C8-5 MHz, Lio12-15 MHz, L8-15 MHz and C9-4 MHz probes)
Hitachi Prierus with 4 transducers, shear wave elastography and CT/US fusion

Computed tomography

Toshiba Aquilion Prime®, 160 Multi-detector helical CT unit with CT fluoroscopy

Small animal radiography

SA Radiography room one

Quantum Medical Imaging overhead tube, CPI generator (1000 mA ,150 kVp) with Control X floating bucky table and wall bucky. Canon DR 17" x 17" plate. Routine small animal radiography.

SA Radiography room two

Sedecal x-ray machine (800mA, 125 KVp) with floating table-top. Canon DR 17" x 17" plate. Routine small animal radiography.

SA Radiography room three

Sedecal x-ray machine (800mA, 125 KVp) with floating table-top. Canon DR 17" x 17" plate. Routine small animal radiography.

SA Radiography room four

Sedecal x-ray machine (800mA, 125 KVp) with floating table-top. Canon DR 17" x 17" plate. Routine small animal radiography.

SA Radiography room five

Sedecal x-ray machine (400mA, 125 KVp) with floating table-top. Canon DR 17" x 17" plate.
Emergency/ICU small animal radiography.

SA Post-operative surgery portable mobile x-ray unit

One Sedecal portable high frequency mobile x-ray unit with Canon DR 17" x 17" plate. Full Dicom integration with PACS and RIS.

SA Special procedures

Phillips radiographic/fluoroscopic system with overhead tube (1000 mA 125 kVp). Medrad Mark-IV® and Mark VII pressure/power injectors for CT angiography and interventional radiography. Routine small animal radiography and special procedures.

Large animal radiography

LA Radiography room one

CPI Indico high frequency generator (1000 mA, 150kVp) all-purpose machine with a custom slaved cassette holder system. Routine large animal radiography and special procedures.

LA Radiography room two

Sedecal high frequency generator (800 mA, 150kVp) all-purpose machine with a custom slaved cassette holder system.

Routine large animal radiography and special procedures with wall Bucky tray for horizontal beam thorax and other radiographic procedures.

Routine large animal radiography.

Two portable high frequency machines are available for stall side and intraoperative radiography.

Magnetic Resonance Imaging

Toshiba Titan 1.5 T, 16 channel, 33 mT/m gradient MRI unit.

In addition, there are 3T, 4.7T, and 11T units available for small animal (rodent) imaging at the University of Florida McKnight Brain Institute.

Nuclear Medicine

MIE Scintron® VI with mobile stand for equine and small animal nuclear medicine. Large field of view gamma camera with dedicated computer system and software (Scintron® dedicated nuclear medicine acquisition and processing software).

VII. Clinical Resources and Case Load

VSH of the Carolinas

The overall caseload for the three hospitals at VSH for all three hospitals is dogs and cats annually. The overall imaging case load for VSH for all three hospitals is dogs and cats annually with the following breakdowns. All three radiology diagnostic work stations have access to a centralized PACS/RIS set up with the ability to report and the resident to submit a preliminary report that is then reviewed by the radiologist. All reports are reviewed by an ACVR Diplomate with immediate feedback to the resident.

Time Frame	Jul 14 – Jun 15* (only partial year counted)	Jul 15 – Jun 16	Jul 16 – Jun 17
Radiology	1970	6028	6761
Ultrasound	689	2554	3189
CT	114	424	457
MRI		0	350
Total	2773	9006	10757

Currently at VSH we are in the process of installing a 1.5 T Siemens Avanto magnet in house. Currently we are using the magnet at NCSU with an estimated 6 to 8 cases per week.

University of Florida

Case material is available from those animals referred to the UF | Veterinary Hospitals. Overall caseload has averaged approximately 15,500 over the past three years (including both large and small animal). Approximately 70% of the animals presented to UF | Veterinary Hospitals will get an imaging study. In addition to the numbers reported below there is a three-year average of 198 dogs and cats each year that present for fluoroscopic evaluation, including but not limited to special procedures, interventional studies and tracheal fluoroscopic evaluations.

Number of patients seen at UF | Veterinary Hospitals: 35,660 for 2017.

Annual Imaging Caseload (all services and modalities combined): 15,218 for 2017

Breakdown by species:

Small Animal 11,112

Large Animal 2,410

Exotics 1,696

All reports are dictated directly into RIS and finalized in formal rounds setting the same day or the next day. Percentage of reports reviewed with the residents and finalized within 24 and 48 hours:

24 hours – 90%

48 hours – 100%

Table 1: Average annual distribution of cases by species and modality based on caseload from July 2013 to June 2016.

Small Animal

Time Frame	Jul 14 – Jun 15	Jul 15 – Jun 16	Jul 16 – Jun 17	Total
Radiology	6777	6577	7168	20522
Ultrasound	2624	2850	2949	8426
CT	964	978	1075	3017
MRI	411	398	447	1256
NM	48	71	83	202
Fluoroscopy/IR	203	196	218	610
Total	11027	10999	11940	34033

Large Animal

Time Frame	Jul 14 – Jun 15	Jul 15 – Jun 16	Jul 16 – Jun 17	Total
Radiology	825	1020	876	2721
Ultrasound	0	0	55	55
CT	49	47	144	240
MRI	105	124	59	288
NM	28	26	25	79
Total	1007	1217	1159	3383

Exotics

Time Frame	Jul 14 – Jun 15	Jul 15 – Jun 16	Jul 16 – Jun 17	Total
Radiology	285	240	301	821
Ultrasound	51	47	55	153
CT	178	189	165	532
MRI	72	7	6	90
NM	0	0	0	0
Total	586	483	527	1596

VIII. Training Content

Formal didactic classes or organized self-study modules will be included for each of the following:

1. Radiobiology
2. The physics of diagnostic imaging to include:
 - diagnostic radiology
 - nuclear medicine
 - ultrasonography
 - CT
 - MRI
3. Diagnostic nuclear medicine (will attend the nuclear medicine short course)
4. Echocardiography (resident will spend two weeks on cardiology service during the second year)
5. Large animal ultrasound – obtained during case reviews at the University of Florida
6. MRI – daily rounds
7. CT – daily rounds
8. Board objective reviews using the current and old qualifying and certifying board objectives.

A tentative training schedule will be as follows:

YEAR 1

July 15 – start residency training. Spend first two weeks helping to make small animal radiographs. Start Journal Club and objective review rounds. Start Known case conference.

August 1 – start dictating small animal radiology reports and ultrasound reports. Spend time in diagnostic imaging and ultrasound with the goal of doing a complete abdominal scan in a reasonable time frame by the end of the year. Start review of Medical Imaging Physics and Radiobiology in conjunction with medical diagnostic imaging program at the University of North Carolina at Chapel Hill.

October 1 – spend three weeks at the University of Florida. Review Large Animal anatomy and small animal anatomy with anatomy specimens that are being dissected by the first-year veterinary students. Obtain large animal radiographs during the rotation to get comfortable with positioning and views

acquired during routine large animal studies. Help with special procedures including fluoroscopic studies of the small animal trachea, gastrointestinal and urinary systems.

December 15 – Mock examinations in anatomy and medical physics of diagnostic imaging. The expectation is that the resident will pass these mock examinations for satisfactory progression in the residency program.

January 15 – 6-month review with formal submission to RESC/ACVR; Continue studying board objectives (pathophysiology and alternate imaging). Start dictating CT and MRI studies.

February 15 – spend three weeks at the University of Florida (same expectations)

March 15 – submit proposal with study hypothesis and objectives to resident review committee for resident research project. Establish time line to complete project and data review by April 15 of the following year.

June 15 – take mock examinations in pathophysiology and alternate imaging

YEAR 2

July 15 – annual review with formal submission to RESC/ACVR. Continue studying for qualifying examination focusing on special procedures and radiation safety/radiobiology. Continue with dictations with daily review with ACVR diplomates. All reports will be reviewed within 24 hours of submission, except for week end cases that will be reviewed with faculty on Monday after the week end.

October 1 – spend three weeks with the radiology service at the University of Florida. Continue progress on research project.

December 15 – Mock examinations regarding special procedures, contrast media and radiobiology/radiation safety.

January 15 – 6-month review with formal submission to RESC/ACVR. Continue studying for boards. Apply with ACVR for qualifying examination.

February 15 – spend three weeks at the University of Florida (same expectations)

April 15 – submit initial rough draft of project and data for abstract submission for the ACVR annual conference in June and journal submission in the fall of Year 3.

May 1 – spend two weeks in cardiology service at VSH.

June 15 – August 15 – take three written examinations that includes all material as will be seen on the qualifying examination in September

YEAR 3

July 15 – annual review with formal submission to RESC/ACVR.

August 1 – Sept 10 – board examination study time. Take qualifying examination labor-day week.

October 1 – spend three weeks with the radiology service at the University of Florida.

January 15 – 6-month review with formal submission to RESC/ACVR. Apply with ACVR for certifying examination.

February 15 – spend three weeks at the University of Florida (same expectations). Complete feedback for the University of Florida faculty on the pros and cons of the joint program.

March 15 – increase KCC time so that starts to look more like boards (time allotment, number of cases, lack of feedback, etc.). Continue through July 15.

July 15 – finish residency program. Stay connected with a Diplomate until the certifying examination to continue to receive KCC.

NOTE: The resident will take 2 weeks of vacation each year. In addition, during Years 2 and 3, the resident will spend 4 months' total in rotations of their choice and in outside rotations in nuclear medicine and MRI. The goal of this time is to provide additional training in areas of interest for the resident.

IX. Research Environment

The resident will be provided with an appropriate mentoring environment in which they will be required to engage in research, in the form of a retrospective or prospective, clinical or basic science hypothesis driven research. This project will be presented, if selected, during the resident's third year at the annual ACVR conference in the fall. Published papers are provided in the one page CV for the current faculty at VSH and the University of Florida.

X. Educational Environment

The resident will be a part of the intern training program within the radiology section at VSH and the Junior/Senior clerkships while at the University of Florida. The resident will make three presentations (1 each year) on a topic related to diagnostic imaging or results of a research project at either VSH or the University of Florida.

XI. Evaluation

Evaluation of resident performance and progress will be documented every 6 months through appropriate techniques, including faculty reviews, oral (KCC) or written (practice qualifying) tests throughout the course of the residency program. The residency directors will confirm every 6 months that their listed residents have satisfactorily completed the previous 6 months of the residency program based on an internal review. This will be signed by the residency director and the resident and submitted to RSEC chair every 6 months. If the resident has policy-based concerns, they will be directed to contact the Executive Director of the ACVR. Any interpersonal conflicts will be moderated by the University and Human Resources Department as appropriate.

XII. Teaching File

Currently, the teaching file at the University of Florida includes a RIS database with over 7,000 cases (small animal, large animal and exotics) of all imaging modalities. The University of Florida RIS database and PACS systems will be accessible by the resident throughout the 3 years of the program.

XIII. Conferences

The resident will participate in conferences and teaching rounds each day for diagnostic imaging. In addition, Journal Club and Known Case Conference will be provided to the resident for 48 weeks of each year. Attendance at interdepartmental conferences will be encouraged weekly for the disciplines of internal medicine, oncology and surgery. These interdepartmental conferences are already established within the VSH core curriculum for the current interns and small animal surgery residents.

XIV. Literature Resources

The resident will have access to all e-journals as provided by the Gator Link access to the University of Florida Healthcare Library system. This access will start the day of the residency program.



Veterinary Hospitals
Diagnostic Imaging

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March 13, 2018

Clifford R. Berry, DVM, DACVR
Courtesy Professor, Small Animal Clinical Sciences
Diagnostic Imaging, VSH Carolinas
Cary, NC 27518

Dear Kip:

I am pleased to inform you that the University of Florida will partner with you in your endeavors with Veterinary Specialty Hospital of the Carolinas for a residency program in diagnostic imaging for compliance with the residency and standards as put forth by the ACVR. We will accept your resident 6 weeks a year (presumably 3 in the fall and 3 in the spring) for large animal diagnostic imaging including US, CT and MRI.

Your resident will have access to PACS and RIS and the teaching file throughout the year. Review of nuclear medicine cases will also be part of the didactic training while here at the University of Florida. In addition, your resident will be able to participate in the daily activities while at the University of Florida, including rounds, journal club and known case conference. They will be dictating cases and have their cases reviewed.

We are excited to proceed forward, pending review and approval by RESC and ACVR Council. Please keep us posted.

Sincerely yours,

A handwritten signature in black ink that reads 'Erin Porter'.

Erin G. Porter, DVM, DACVR
Service Chief, Diagnostic Imaging
College of Veterinary Medicine
University of Florida
Gainesville, FL 32610

BIOGRAPHICAL SKETCH

NAME		POSITION TITLE	
Berry, Clifford R DVM, DACVR		Courtesy Professor, Department of Small Animal Clinical Sciences Diagnostic Imaging, VSH of the Carolinas	
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
DePauw University	B.A.	1980	Zoology (cum laude)
University of Florida	D.V.M.	1984	Veterinary Medicine (cum laude)

A. Positions and Honors**Positions and Employment**

1990-1991	Assistant Professor, Department of Small Animal Clinical Sciences, College of Veterinary Medicine, University of Florida.
1991-1997	Associate Professor, Department of Anatomy, Physiology and Radiology, College of Veterinary Medicine, North Carolina State University.
1996	Merck Teaching Award, NCSU.
1997-1998	Associate Professor and Section Chair, Department of Clinical Sciences, College of Veterinary Medicine, University of Missouri.
1999-2000	Associate Professor, Department of Anatomy, Physiology and Radiology, College of Veterinary Medicine, North Carolina State University.
2000	North Carolina State University, Class of 2001, Teacher for didactic course work for Class of 2001.
2000-2008	CEO, Central Florida Veterinary Radiology, Winter Park, Florida.
2008-2017	Professor, Department of Small Animal Clinical Sciences, College of Veterinary Medicine, University of Florida.
2017-present	Courtesy Professor, Dept of SACS, CVM, UF, Gainesville, FL and Diagnostic Imaging, VSH of the Carolinas, Raleigh, NC

Other Experience and Professional Memberships

1980	American Veterinary Medical Association
1987	American College of Veterinary Radiology (ACVR)
1989	Radiological Society of North America
1990	Society of Nuclear Medicine
1993-1996	Executive Council, ACVR
2009-2012	Executive Council, ACVR
2012	President-elect, ACVR
2013	President, ACVR
2014-2018	Examination Committee, ACVR

B. Selected peer-reviewed publications (in chronological order).

1. Huynh E, Tinga S, Berry CR. What is Your Diagnosis? J AM Vet Med Assoc. 2017 Oct 1; 251(7):783-785.

2. Johnson KL, Porter EG, Berry CR. Analysis of feline splenic radiographic measurements and their correlation to ultrasonographic measurements. *J Feline Med Surg*. 2017 Oct;19(10):985-991.
3. Tenenbaum S, Garcia-Pereira FL, Berry CR, Obert T. Comparison of cardiac output measured by use of computed tomography and thermodilution in dogs. *Am J Vet Res*. 2017 Aug;78(8):906-909.
4. Winter MD, Barry KS, Johnson MD, Berry CR, Case JB. Ultrasonography and computed tomographic characterization and localization of suspected mechanical gastrointestinal obstruction in dogs. *J Am Vet Med Assoc*. 2017 Aug 1;251(3):315-321.
5. Mostafa AA, Berry CR. Radiographic assessment of the cardiac silhouette in clinically normal large- and small-breed dogs. *Am J Vet Res*. 2017 Feb;78(2):168-177.
6. Porter EG, Winter MD, Sheppard BJ, Berry CR, Hernandez JA. Correlation of articular cartilage thickness measurements made with MRI, MR arthrography and computed tomographic arthrography with gross articular cartilage thickness in the equine metacarpophalangeal joint. *Vet Radiol Ultrasound*. 2016 Sep;57(5):515-525.
7. Wallace ML, Ellison GW, Giglio RF, Batich CD, Berry CR, Case JB, Kim SE. Assessment of the attenuation of an intra-abdominal vein by use of a silicone-polyacrylic acid gradual venous occlusion device in dogs and cats. *Am J Vet Res*. 2016 Jun;77(6):653-7.
8. Winter MD, Giglio RF, Berry CR, Reese DJ, Maisenbacher HW, Hernandez JA. Associations between 'valentine' heart shape, atrial enlargement and cardiomyopathy in cats. *J Feline Med Surg*. 2015 Jun; 17(6):447-52.
9. Vander Hart D, Berry CR. Initial influence of right versus left lateral recumbency on the radiographic finding of duodenal gas on subsequent survey ventrodorsal projections of the canine abdomen. *Vet Radiol Ultrasound*. 2015 Jan-Feb;56(1):12-7.
10. Winter MD, Londono L, Berry CR, Hernandez JA. Ultrasonographic evaluation of relative gastrointestinal layer thickness in cats without clinical evidence of gastrointestinal tract disease. *J Feline Med Surg*. 2014 Feb;16(2):118-24.
11. Berry CR, Garg P. Perspectives in molecular imaging through translational research, human and veterinary medicine. *Semin Nucl Med*. 2014 Jan;44(1):66-75.
12. Lande R, Reese SL, Cuddy LC, Berry CR, Pozzi A. Prevalence of computed tomographic subchondral bone lesions in the scapulohumeral joint of 32 immature dog with thoracic limb lameness. *Vet Radiol Ultrasound*. 2014 Jan-Feb;55(1):23-8.
13. Jacobson ER, Reese DJ, Berry CR, Brock P, Agnew DW, Toplon DE, Abbott JR, Kridel HA, Alleman AR, Dunbar MD. What is your diagnosis? Granulosa cell tumor. *J Am Vet Med Assoc*. 2013 Dec 1;243(11):1533-5.
14. vanderHart D, Winter MD, Conway J, Berry CR. Ultrasound appearance of the outer medulla in dogs without renal dysfunction. *Vet Radiol Ultrasound* 2013 Nov-Dec;54(6):652-8.
15. Giglio RF, Winter MD, Reese DJ, Thrall DE, Abbott JR, Graham JP, Berry CR. Radiographic characterization of presumed plate-like atelectasis in 75 non-anesthetized dogs and 15 cats. *Vet Radiol Ultrasound*. 2013 Jul-Aug;54(5):326-331.

C. Research Support.

Ongoing support

Davenport P (PI), Winter MD (CoI), Berry CR (CoI), Giglio R (CoI), Saunders F (CoI). Traumatic blast injury in a pneumatic induced injury in the rodent model: Novel approaches to MR imaging. Department of Defense grant.

MAUREEN LEVESQUE VMD, DACVR

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EDUCATION

University of Pennsylvania, School of Veterinary Medicine <i>Veterinariae Medicinae Doctoris (Summa Cum Laude)</i>	Philadelphia, PA May 2008
University of Illinois at Urbana-Champaign <i>Bachelor of Science, Animal Science</i>	Urbana, IL May 2004

VETERINARY WORK EXPERIENCE

Veterinary Specialty Hospital of the Carolinas <i>Radiologist</i>	Cary, NC 2015 – present
Veterinary Specialty Center <i>Radiologist</i>	Buffalo Grove, IL 2012 – 2015
Tufts Cummings School of Veterinary Medicine <i>Diagnostic Imaging Resident</i>	North Grafton, MA 2009 – 2012
Alamo Pintado Equine Medical Center <i>Intern</i>	Los Olivos, CA 2008 – 2009

ADDITIONAL TRAINING

Infiniti Medical Tracheal and Urethral Stenting Lab	October 2014
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PEER REVIEWED PUBLICATIONS

Holowinski M, Solano M, Garcia-Lopez J, Maranda L. Magnetic resonance imaging characteristics of confirmed navicular bursa adhesions and response to treatment. *Vet Radiol Ultrasound* 2012; 53(5): 566-572.

Holowinski M, Judy C, Saveraid T, Maranda L. Resolution of lesions on STIR images is associated with improved lameness status in horses. *Vet Radiol Ultrasound* 2010; 51(5): 479-484.

Stephanie N. M. Knapp, DVM, DACVR

EDUCATION

2014	Diplomat, American College of Veterinary Radiology	
2010-2014	Radiology Residency, University of Missouri, Columbia, College of Veterinary Medicine	GPA: 3.9/4.0
2003-2007	DVM, University of Missouri, Columbia, College of Veterinary Medicine	GPA: 3.5/4.0
1998-2002	BS and BA Biology, Truman State University (Kirksville, MO), <i>cum laude</i>	GPA: 3.6/4.0

EMPLOYMENT

2014-current	Veterinary Specialty Hospital of the Carolinas Veterinary Radiologist, Chief of Service	Cary, NC
2010-2014	University of Missouri, College of Veterinary Medicine Veterinary Radiology Resident	Columbia, MO
2008-2010	Various Small Animal Practices Relief and Emergency Veterinarian	Northern CA
2007-2008	Sacramento Veterinary Referral Center VCA Rotating Small Animal Intern	Sacramento, CA

TEACHING

2014-current	Veterinary Specialty Hospital of the Carolinas Instruction of rotating interns. Continuing education to referral community (CT).	Cary, NC
2010-2014	<u>University of Missouri, College of Veterinary Medicine Veterinary Radiology Resident.</u> Taught in a variety of clinical and classroom settings to a spectrum of students, including: Radiographic anatomy (first year veterinary students, lectures and laboratories), Radiology physics and safety (clinical veterinary students, lectures and rounds discussions), Clinical topics in veterinary radiology (clinical veterinary students/interns/residents, various topics as encountered on a daily basis in a clinical setting). Delivered formal resident seminars (qualifying for veterinary continuing education) on image-guided tissue sampling techniques, imaging in canine osteosarcoma, and positron emission tomography (PET).	Columbia, MO

RESEARCH and PUBLICATIONS

¹⁸F-FDG-PET/CT as adjunctive diagnostic modalities in canine fever of unknown origin.
Grobman M, Cohn L, Knapp S, Bryan JN, Reiner C. Vet Radiol Ultrasound. 2018 Jan;59(1):107-115. doi: 10.1111/vru.12562. Epub 2017 Sep 18.

2010-2014 Focused residency research on multi-modality imaging of canine osteosarcoma, with special emphasis on PET (FDG and F18). Applied as the primary author for two separate grants for PET studies.

Erin Gordon Porter, DVM, DACVR

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CURRENT POSITION

Clinical Assistant Professor, Radiology
Dept. of Small Animal Clinical Sciences
University of Florida, Gainesville, FL
July 2013-present

EDUCATION

University of Florida, Gainesville, FL, 2009-2013
Residency in Diagnostic Imaging
University of Florida, Gainesville, FL, 2003-2007
Doctor of Veterinary Medicine
Florida state license # VM10335
University of Florida, Gainesville, FL, 1998-2002
Bachelor of Science (Zoology), *Cum Laude*

WORK EXPERIENCE

Diagnostic Imaging House Officer

University of Florida College of Veterinary Medicine, Gainesville, FL, July 2009- July 2013

Equine lameness and Imaging Intern

University of Florida College of Veterinary Medicine, Gainesville, FL, July 2009- July 2010

Associate Veterinarian

Orlando Equine Veterinary Care, Orlando, FL, July 2007- July 2009

ACADEMIC SERVICES

Image Guided Interventional Service (IGIS) member, 2014-present
Veterinary Hospital Research Review Committee (VHRRC) member, 2014-present
Small Animal Surgery Search Committee member, 2014
Diagnostic Imaging Search Committee member, 2015, 2016, 2017
Radiation Control Committee, 2016, 2017

PROFESSIONAL ORGANIZATIONS

Ultrasound Society, ACVR
Large Animal Diagnostic Imaging Society, ACVR
American Veterinary Medical Association

PROFESSIONAL SERVICES

2018 Program chair, Large Animal Diagnostic Imaging Society, ACVR
2017 Website Advisory Committee, ACVR

GRADUATE STUDENTS

- Dr. Fritha Saunders Co-advisor for Master's candidate in Veterinary Medicine. Evaluation of different traumatic injuries on the rat brain. Completed, Defended and Graduated: Spring 2017
- Dr. Elisa Spoldi Committee Member for Master's candidate in Veterinary Medicine. Evaluation of traumatic brain injury using MRI in the rat model over time. Project completed. Anticipated Graduation: Spring, 2018.
- Dr. Patricia Mendoza Committee member for Master's candidate in Veterinary Medicine. Anatomic description of sub-lobar fissures in the normal canine lung lobes. Project completed. Anticipated Graduation: Spring, 2019
- Dr. Andrew Smith Committee member for Doctoral candidate in Veterinary Medicine. Completed 2017.
- Dr. Robert Schnurr Committee member for Master's candidate in Veterinary Medicine.

RESEARCH/ PUBLICATIONS

Original Investigation

St. Mary, CM, **Gordon, EL**, Hale, RE. Environmental effects on egg development and hatching success in *Jordanella floridae*, a species with parental care. Journal of Fish Biology. 2004; 65:760-768.

Porter, EG, Winter, MD, Sheppard, BJ, Berry, CR. Correlation of Magnetic Resonance Imaging and Computed Tomographic Arthrography with Gross Cartilage Thickness in the Equine Metacarpophalangeal Joint. Veterinary Radiology and Ultrasound. 2016; 57 (5): 515-25. PMID:27478155

Johnson, K, **Porter, EG**, Berry, CR. Analysis of Feline Splenic Radiographic Measurements and its Correlation with Ultrasound. Journal of Feline Medicine and Surgery. Early View: published online ahead of the online publication of the journal issue, 2016.

Book Chapters

Porter, EG, Werpy, NM. New Concepts in Standing Advanced Diagnostic Equine Imaging. Vet Clin North Am Equine Pract 2014; 30: 239-268.

Case Reports

Porter, EG, Cuddy, LC, Graham, AS, Reese, DJ, Porter, MB, Morton, AJ, Lewis, DD. Hinged

Circular Fixator Construct For Correction of Congenital Metatarsal Deformity In A Foal. *Veterinary and Comparative Orthopaedics and Traumatology*. 2014; 27: 1-7.

Porter, EG, Brokken, MT, Holmes, SP. Diagnosis and treatment of carpometacarpal desmopathy in a horse. *Equine Veterinary Education*. 2016; 28: 426-430.

Barry, KS, Lewis, DD, **Porter, EG**. Mandibulo-zygomatic synostosis in a dog, *J Am Vet Med Assoc*. 2016; 249(7):743-745.

Case, JB, Boston, S, **Porter EG**, Toskich, B. Endovascular management of chronic mesenteric venous hypertension secondary to a high flow intrahepatic arteriovenous malformation using staged transarterial coil and nbutylcyanoacrylate embolization in a dog. *J. Am.Vet Med Assoc*. 2017; 1; 251 (7): 824-828. PMID 28967816

Jones, SC, Tinga S, **Porter, EG**, Lewis, DD. Surgical Management of Dorsal Scapular Luxation in Three Dogs. *Veterinary and Comparative Orthopaedics and Traumatology*. 2017; 16; 30(1):75-80.PMID: 27977028

ABSTRACTS AND PRESENTATIONS

Oral presentation (M Winter), American College of Veterinary Radiologists annual conference, 2017
Smith, A.D. Morton, A.J., **Porter, E.G**, Winter, M.D., Colahan, P.T., Ghivizzani, S. Hernandez, J.A.
Reliability and validity of a magnetic resonance imaging osteoarthritis scoring system using an equine model of posttraumatic osteoarthritis.

Poster presentation (K Peper), American College of Veterinary Radiologists annual conference, 2017
Peper, K, Cole, J, Werypy, NM, **Porter, EG**, Johnson, R. The radiographic appearance of enthesopathy of the abaxial palmar/plantar ligaments of the proximal interphalangeal joint and oblique distal sesamoidean ligaments on the equine proximal phalanx.

Poster presentation (K Johnson), American College of Veterinary Radiologists annual conference, 2016
Johnson, K, **Porter, EG**, Berry, CR. Analysis of Feline Splenic Radiographic Measurements and its Correlation with Ultrasound.

Poster presentation (KChapman), American Associations of Equine Practitioners annual conference, 2015
Chapman, KA, **Porter, EG**, Saunders, FC. Radiographic Anatomy of the Equine Distal Tibia.

Poster presentation (KChapman), American College of Veterinary Radiologists annual conference, 2015
Chapman, KA, **Porter, EG**, Saunders, FC. Radiographic Anatomy of the Equine Distal Tibia.

Oral presentation, American College of Veterinary Radiologists annual conference, 2015
Porter, EG, Winter, MD, Sheppard, BJ, Berry, CR. Correlation of Magnetic Resonance Imaging and Computed Tomographic Arthrography with Gross Cartilage Thickness in the Equine Metacarpophalangeal Joint.

Poster presentation (B Taylor), ACVP/ASVCP/STP combined annual meeting, Minneapolis, MN, October, 2015. Taylor, B, Conway, J, **Porter, EG**, Matyjaszek, S, Easley, JT. Computed tomographic findings of a severely destructive mandibular osteosarcoma in a horse.

Oral presentation (NM Werpy), American College of Veterinary Radiologists annual conference, 2012
Werpy, NM, **Porter, EG**, Graham, AS. Identification of Medial and Lateral Osteophytes of the Metacarpophalangeal Joint Using Radiography and Magnetic Resonance Imaging.

Scholarship recipient and poster presentation, Equine Laminitis Conference, 2009.

Gordon, EL, Morton AJ, Brokken MT. Magnetic Resonance Diagnosis of Lameness Involving the Equine Distal Limb.

GRANT PROPOSALS

Hughes, N., McCarrel, TM, **Porter, EG**., Freeman, D., Translaryngeal approach to the sphenopalatine sinus in the horse.

Awarded 2016-2017 CVM Fall Consolidated Faculty Research Grant

Porter, EG, Winter, MD, Sheppard, BJ, Berry, CR. Correlation of Magnetic Resonance Imaging and Computed Tomographic Arthrography with Gross Cartilage Thickness in the Equine Metacarpophalangeal Joint.

Submitted for the American College of Veterinary Radiologists resident research grant, 2011 and 2012.

AWARDS

Consolidated Faculty Research Grant, 2016-2017. Hughes, N., McCarrel, TM, **Porter, EG**, Freeman, D.
Translational approach to the sphenopalatine sinus in the horse.

Second place, American College of Veterinary Radiologists poster competition, 2015: Chapman, KA, **Porter, EG**, Saunders, FC. Radiographic Anatomy of the Equine Distal Tibia.

Federico VILAPLANA GROSSO – DVM –Dipl. ECVDI

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Education:

- **2015:** Diplomate of the European College of Veterinary Diagnostic Imaging, ECVDI.
- **2002-2007:** Doctor in Veterinary Medicine. Faculty of Veterinary Medicine of Córdoba, Spain.
- **2005-2006:** ERASMUS Internship. Faculty of Veterinary Medicine of Liege, Belgium.

Work experience and academic appointments

- **2017- 2018:** Clinical Assistant Professor of Diagnostic Imaging. University of Florida, College of Veterinary Medicine, Gainesville, FL, USA.
- **2016-2017:** Visiting Assistant Professor of Diagnostic Imaging. Purdue University College of Veterinary Medicine, West Lafayette, IN, USA.
- **2016-2017:** Collaborating Radiologist in the Section of Diagnostic Imaging. Faculty of Veterinary Medicine, Utrecht University, the Netherlands.
- **2015-2016:** Radiologist. Section of Diagnostic Imaging. Faculty of Veterinary Medicine, Utrecht University, the Netherlands.
- **2012-2015:** Residency European College of Veterinary Diagnostic Imaging. Faculty of Veterinary Medicine, Utrecht University, the Netherlands.
- **2011-2012:** Specialized Internship in Small Animal Diagnostic Imaging. National Veterinary School of Maisons-Alfort, Paris, France.
- **2011-2012:** Emergency Veterinarian. Clinique Vétérinaire du Mesly, Paris, France.
- **2010-2011:** Specialized Internship in Small Animal Internal Medicine. National Veterinary School of Maisons-Alfort, Paris, France.
- **2009-2010:** Rotating Internship in Small Animal Medicine and Surgery. National Veterinary School of Maisons-Alfort, Paris, France.
- **2007-2008:** Internship in Medicine and Surgery. Faculty of Veterinary Medicine of Córdoba, Spain.

