

ACVR Residency Training Program Application Form:

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.

Note: All information is current as of January, 2006.

II. Objectives:

Succinctly state the objectives of the training program. **To provide training in large and small animal radiology, ultrasound, nuclear medicine, computed tomography and magnetic resonance imaging to fulfill the requirements of the American College of Veterinary Radiology (ACVR) and be able to perform successfully in either an academic or specialty practice.**

III. Training period:

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

What is the total duration of supervised clinical training in the program? **30**

What are the responsibilities of the resident in the remaining non-clinical portion of the program? **The 6 months off-clinics is spent preparing for the ACVR board examinations, completing a research project, vacation (14 days per year), and on externships (optional).**

IV. Direction and Supervision:

Program Director:

Who is the Director of Residency training? **Anthony P. Pease, DVM, MS, DACVR**

What percentage of this individual's time is committed to clinical service and teaching of residents? **60%**

Faculty:

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

Roentgen diagnosis:

Faculty: **Ian Robertson, BVSc, DACVR**

Percentage clinical service: **50%**

Diagnostic ultrasound:

Faculty: **Kathy Spaulding, DVM, DACVR**

Percentage clinical service: **65%**

Computed Tomography

Faculty: Anthony Pease, DVM, MS, DACVR
Percentage clinical service: 50%

Magnetic Resonance Imaging:

Faculty: Ian Robertson, BVSc, DACVR
Percentage clinical service: 50%

Nuclear Medicine:

Faculty: Anthony Pease, DVM, MS, DACVR
Percentage clinical service: 50%

List the names and percentage clinical commitment of additional imaging faculty in the program, and their area(s) of instructional responsibility. For each imaging faculty in the program please provide a one page CV documenting their expertise in the area(s) of assigned responsibility.

**Don Thrall, DVM, PhD, DACVR (Radiology and RO) – 25% clinical appointment
Instruction in Roentgen signs, Computed Tomography and Magnetic Resonance Imaging**

**James Douglass, DVM, MS, DACVR – 20% clinical appointment
Instruction in Roentgen signs and Ultrasound**

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

ACVIM

Adam Birkenheurer, DVM, PhD, DACVIM
Sally Bissett, BVSc, MVSc, DACVIM

ACVS

Elizabeth Hardie, DVM, PhD, DACVS
Duncan Lascelles, BSc, BVSc, PhD, DASA(ST), DECVS, DACVS

ACVP

Talmage T. Brown, Jr. DVM, PhD, DACVP
Keith Linder, DVM, PhD, DACVP

V. Affiliation agreement:

If all of the training will not be accomplished on-site, please attach a copy of the affiliations agreement(s). Include the scope of the training and amount of time the resident will be away from the home institution.

VI. Facilities:

Briefly describe how the program meets the facility requirements.

Small Animal Radiology

Room 1: Siemens Multix unit.

Room 2: Siemens Digital C-arm angiographic unit.

Room 3: Radon Digital Fluoroscopy room

Large Animal Radiology

1. Picker ceiling mounted x-ray tube with mechanical and electric interlocking with wall mounted fine line grid holder.
2. Picker ceiling mounted x-ray tube with extension capabilities to floor level
3. MinX-ray portable generator

Ultrasound

Two Siemens Antares Ultrasound Machines

Nuclear Medicine

Mirage Planar Imaging System interfaced with computer.

Computed Tomography

General Electric Syquest SRi CT scanner with helical capabilities.

Magnetic Resonance Imaging

1.5T Siemens Symphony MRI suite available on-site through Iams Pet Imaging Center.

Computed Radiography

1. Fuji CR plate reading system
2. Lumysis computed radiography input systems.
3. Custom-designed PACS system with 3 monochrome high-resolution monitors.

Image Archiving

1. Lumysis scanner and computer support equipment.
2. Polaroid slide maker.

Digital Radiography

Eklin Digital Radiography System 14X17 and 12X12 plates

Darkroom

1. Kodak M6A-N automatic film processor.
2. Duplication/subtraction unit.

VII. Clinical resources:

Indicate the approximate number of patients seen annually by the home institution? 18,400
What is the annual imaging caseload? 12,000

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

Small animals (canine, feline)	80%
Large animals (equine and food animals)	20%
Exotic animals	<1%

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

Small Animal Radiology: 6,300
Large Animal Radiology: 1,200
Abdominal Ultrasound: 3,000
Computed Tomography: 700
Nuclear Medicine: 300
Magnetic Resonance Imaging: 500
Other (specify):

VIII. Training content:

What percentage of imaging reports are typically available within 48 hours after the examination is conducted in typewritten or electronic form? 100%
If your answer is less than 75% please explain how reports are generated and how long it takes for the report to be available for review in typewritten form.
Of the preliminary reports generated from the imaging caseload what percentage are initially produced by the resident? 98%
What percentage of 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% - since the images are digital, rounds with two radiologist generally cover interesting cases from the prior day and the remainder of the reports are finalized by the radiologist on clinical duty for the day.

In full time equivalent months, as specified in the Essentials, during the entire course of the program, what is the distribution of the CLINICAL experience the resident receives in:

	Full time equivalent months	Approximate number of cases
Small Animal Radiology:	12	7,000
Large Animal Radiology:	4	600
Abdominal Ultrasound:	7	2,000
Computed Tomography:	3	700
Nuclear Medicine:	1	50
Magnetic Resonance Imaging:	2	300
Elective (any of above)	-	-
Required elective (specify):	1 (Cardiology)	50
Total	30	10,700

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:

Topic	Course number	Units
Radiobiology:	Course offered at UNC, Chapel Hill Medical School	2 Credits – Residents Audit Course
Radiation Physics:	Course offered at UNC Chapel Hill Medical School	2 Credits – Residents Audit Course

The Physics of:

Diagnostic Radiology:	Course offered at UNC, Chapel Hill Medical School	2 Credits – Residents Audit Course
Nuclear Medicine:	Course offered at UNC, Chapel Hill Medical School	2 Credits – Residents Audit Course
Ultrasonography:	Course offered at UNC, Chapel Hill	2 Credits – Residents Audit Course
CT:	Course offered at UNC, Chapel Hill	2 Credits – Residents Audit Course
MRI:	Course offered at UNC, Chapel Hill	2 Credits – Residents Audit Course
<p>If your program does not offer formal courses in any or all of these topics please indicate how these educational objectives for each are met. Use attached sheets if necessary.</p> <p>MRI is also taught in the form of biweekly rounds. At this rounds session, two ACVR board certified radiologists discuss the interesting cases presented to the Iams Pet Imaging Center over the last two weeks. Generally 15 cases are reviewed and imaging protocols as well as differential diagnoses and image interpretation are discussed.</p>		

IX. Research Environment:

Over the last 5 years, what is the average number of peer reviewed publications, on which the IMAGING faculty listed under Direction and Supervision in IV above, are included as authors? Average of 5 publications per year
What is the number of publications/submissions expected of a resident completing the program? At least one peer-reviewed publication
If this is an established program, what percentage of residents have made formal research presentations at the annual ACVR or equivalent national meeting? 100%
Is an advanced degree a requirement of the training program? No

X. Educational Environment:

How many lectures or scientific presentations are expected of each resident during the course of their training? Each resident is expected to present the findings of his or her research project at ACVR during their third year of training. In addition, each resident is required to give 3 presentations over the course of their training to house officers and faculty on topics relating to diagnostic imaging.
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XI. Evaluation:

During the program how often is resident performance evaluated in writing? **Each resident evaluated in December and April. This evaluation is submitted to Student Services at North Carolina State University College of Veterinary Medicine.**

XII. Teaching File:

What is the nature and scope of the teaching file available to residents? **There is a film archive of interesting cases and artifacts available to the residents on-site. In addition, most images from 2002 to present are in a digital format and available through the Radiology Information System (RIS). These cases have keywords as well as being able to search by assessments (diagnoses). These cases are added to automatically when a report is generated and directly linked to the PACS system for web-based image retrieval. In addition, most of the known case conferences that are presented to the residents are done using PowerPoint Presentations that are then made available on a communal server for the residents to access.**

How is it maintained/updated? **The artifacts section of the teaching file is maintained and updated by the residents. The remaining teaching file is updated by the faculty by adding keywords at the time that the report is finalized and by making the known case conferences, administered weekly, available to the residents electronically.**

XIII. Conferences:

On average how many Known Case Conferences are conducted annually? **Known case conferences are performed every Friday from 8 am to 10 am. Therefore, approximately 49 known case conferences are given per year accounting for holidays that fall on Fridays.**

XIV. Literature resources:

What is the geographic relationship between the nearest medical library and the training program? **The Veterinary Medical Library is located on-site.**

(b) 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.

	1st year resident	2nd year resident	3rd year resident
Week 1	Radiology	Elective, CT /Nuclear Medicine /MRI or off-clinics	Ultrasound
Week 2	Ultrasound	Radiology	Elective, CT /Nuclear Medicine /MRI or off-clinics
Week 3	Elective, CT /Nuclear Medicine /MRI or off-clinics	Ultrasound	Radiology
Week 4	Radiology	Elective, CT /Nuclear Medicine /MRI or off-clinics	Ultrasound

All radiology residents rotate on-call every week. Therefore, each resident is on call one week out of every three.

	Monday	Tuesday	Wednesday	Thursday	Friday
Standard week	8 am-9 am: MRI rounds or Resident case presentation 9 am-10 am: Resident Rounds reviewing dictations from Thursday, Friday and the weekend. 10 am-6 pm: Clinic duty	8 am-9 am: Resident objective review 9 am-10 am: Resident Rounds reviewing dictations from Monday. 10 am-6 pm: Clinic duty	8 am-9 am: Resident Journal review 9 am-10 am: Resident Rounds reviewing dictations from Tuesday. 10 am-6 pm: Clinic duty	8 am-9 am: House officer Seminar 9 am-10 am: Resident Rounds reviewing dictations from Thursday. 10 am-6 pm: Clinic duty	8 am-10 am: Known Case Conference 10 am-6 pm: Clinic duty

Master Schedule

Month	Year 1	Year 1-2	Year 2-3	Year 3-4
January		Attend all lectures and review sessions for Radiology Course VMB 960 for the 3 rd year veterinary students. Board Preparation: Anatomy Written Examination		
February				
March			Board Preparation: Alternate Imaging Written Examination	
April		Board Preparation: Physics Written Examination		
May				Recommended to apply for the clinical instructor position
June			Board Preparation: Pathophysiology Written Examination	
July	Begin residency Assigned to the floor to help technicians acquire radiographs and learn to work the CT.	Complete resident research project and begin writing manuscript to report results	Study time for board preparation	RESIDENCY COMPLETE
August	Perform all special procedures to prepare to start being on-call	Board Preparation: Radiobiology Written Examination	Study time for board preparation	
September	Placed on-call with the other residents	Submit manuscript for publication	WRITTEN BOARD EXAMINATION	ORAL BOARD EXAMINATION
October				
November				
December	Identify an area of research and write grant proposal for resident research project	Board Preparation: Special Procedures Written Examination	Present Research at the ACVR Annual Meeting	

House Officer Evaluation Summary

Name _____ Program _____

Evaluator(s) _____

Period covered by this evaluation: December 1 April 1

Year of program: I II III

CATEGORY

SCORE*

	ES	MS	DMS	NA
<u>Clinical Ability</u>				
1. Knowledge (theory/principle, current literature)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Application of knowledge, logic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Quality of patient management (diagnosis, treatment, follow-up)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Patient care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Diagnosis/surgical skill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Instructional skill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Oral and written presentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sense of Responsibility

1. Initiative, motivation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Judgement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Reliability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Attendance at rounds and seminars	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Punctuality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Interpersonal Skills

1. Communication with:				
a. Clients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Faculty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Technical and administrative staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Referring veterinarians	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Other House Officers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Performance under stress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Receptiveness toward guidance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Other _____				

Hospital policies and procedures

1. Medical records, including reports (timeliness, accuracy, completeness)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Procedures (clinician order form, anesthesia scheduling, admin/discharge)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Progress on residency and board requirements

OVERALL EVALUATION

*ES = Exceeds Standards, MS = Meets Standards, DMS = Does Not Meet Standards,
NA = not applicable

COMMENTS

House Officers are expected to achieve an MS in each category. For categories with an ES score, residents should be acknowledged and commended. Suggestions for improvement with a reasonable time frame should be addressed for categories with a DMS score. There should be evidence of improvement at the time of the next evaluation in each category receiving a DMS. If an overall score of DMS is given at any time, a review of the House Officer by the House Officer Committee and the Associate Dean and Director of Veterinary Medical Services is required within two (2) weeks to determine whether or not the House Officer will continue in his/her program.

I have read and understand this evaluation.

Signed,

Resident _____
Intern

Advisor _____

Advisor _____

Advisor (outside discipline) _____

Date _____

Anthony Paul Pease, DVM, MS, Dipl. ACVR

North Carolina State University
Department of Molecular Biomedical Sciences
Email: Tony_Pease@ncsu.edu
Abbreviated Curriculum Vitae

Professional Position:

Assistant Professor, North Carolina State University August 2004-present

Education

Diplomate in the American College of Veterinary Radiology September 2005

Resident in Veterinary Medical Imaging July 2001- July 2004
Cornell University Hospital for Animals, Ithaca, NY.

Master's Degree in Veterinary Medical Science June 2000

Novel approaches to evaluate osteoarthritis in the rabbit lateral meniscectomy model

Doctor of Veterinary Medicine May 1999
Virginia-Maryland Regional College of Veterinary Medicine

Bachelor of Science May 1995
University of Maryland College Park

Publications

Pease A, Berry C, Mott J, et al. Radiographic, computed tomographic and histopathologic appearance of a presumed spinal chordoma in a dog. *Veterinary Radiology and Ultrasound*, Vol. 43, 4, 2002: 388-342.

Pease A, Scrivani, P, Erb, H, Cook, V, Accuracy of increased large-intestine wall thickness during ultrasonography for diagnosing large-colon torsion in 42 horses. *Veterinary Radiology and Ultrasound*, Vol. 45, Issue 3, 2004:200-224.

Pease A, Van Biervliet J, Divers T, Ducharme N, Complication of the partial stylohyoidectomy for treatment of temporohyoid osteoarthropathy and an alternative surgical technique, *Equine Veterinary Journal*, Vol. 36, Issue 6, 2004,: 546-550.

Pease A, Nykamp S, Yeager A, Chapter 2: Diagnostic imaging in the food animal, *Farm Animal Surgery*, ed. Fubini S, Ducharme N, *W.B. Saunders*, 2004, pp 15-22.

Pease A, Sullivan S, Olby N, Galano H, et al. Value of a single-shot turbo spin echo pulse sequence for assessing the architecture of the subarachnoid space and the constitutive nature of cerebrospinal fluid. *Vet Radiol Ultrasound*, Accepted for publication 5/20/05.

Ian Douglass Robertson, BVSc Dipl ACVR

North Carolina State University
Department of Molecular Biomedical Sciences
Email: Ian_Robertson@ncsu.edu
Abbreviated Curriculum Vitae

DATE OF BIRTH 8 June 1958

CITIZENSHIP New Zealand

EDUCATION

Graduate BVSc, Massey University, New Zealand. 1976 - 1980, graduated May 1981.

Post Graduate RESIDENCY IN RADIOLOGY, North Carolina State University, College of Veterinary Medicine Raleigh, North Carolina, USA
July 1986 - June 1989, Certificate awarded June 1989.

DIPLOMATE, AMERICAN COLLEGE OF VETERINARY RADIOLOGY, August 1989

PROFESSIONAL EXPERIENCE

ASSISTANT PROFESSOR OF RADIOLOGY, North Carolina State University,
College of Veterinary Medicine. January 2000 to present.

RADIOLOGY SERVICE CHIEF, Veterinary Teaching Hospital, November 2000 to present.

Refereed Journals

S Ramirez, J Douglass, I. D Robertson. The Ultrasonographic Features of Canine Abdominal Malignant Histiocytosis *Vet Radiol Ultrasound*. 2002 Mar-Apr;43(2):167-70.

HL Thomas, BM Pressler, ID Robertson,. Radiographic Diagnosis: Polyostotic Lymphoma in a 5 month old dog. *Vet Radiol Ultrasound*. 2001 Nov-Dec;42(6):521-3.

FJ Allan, WG Guilford, I D Robertson, Jones BR. Gastric emptying of solid radiopaque markers in healthy dogs. *Veterinary Radiology and Ultrasound*, Vol 37, 336-344, 1996.

N J H Sharp, M Cafone, I D Robertson, A DeCarlo, G K Smith, D E Thrall. Computed Tomography in the evaluation of Caudal Cervical Spondylopathy of the Doberman Pinscher. *Veterinary Radiology*, Vol 36, No 2 1995.

K Mason, E A Stone, DN Biery, I D Robertson, D E Thrall. Surgery of Ectopic Ureters. Pre and Post operative radiographic morphology. *JAAHA*, Vol 26, No 1 1990.

Kathy A. Spaulding, DVM, Dipl ACVR

North Carolina State University
Department of Molecular Biomedical Sciences
Email: Kathy_Spaulding@ncsu.edu
Abbreviated Curriculum Vitae

Professional Position: Clinical Professor, North Carolina State University

Specialty Certification: Diplomate, American College of Veterinary Radiology 1983.

Selected Publications:

Spaulding KA. A Review of Sonographic Identification of Abdominal Blood Vessels and Juxtavascular Organs. *Vet Radiol & Ultrasound*: 1997;38:4-23.

Spaulding K.A., Kissner M, Kim EK, Pretorius DH, Rose SC, Garroosi K, Nelson TR. 3-Dimensional Gray Scale Ultrasound Imaging Of The Celiac Axis: A Preliminary Report. *J Ultrasound Med* 1998;17:239-248.

Kyles AE, E.A. Stone, Em Clary, K Wylie, **KA Spaulding**, JA Gookin, G Spodnick. Diagnosis And Management Of Ureteral Calculi In 10 Cats. Accepted April 1998 *J Am Vet Med Assoc*.

Spaulding K.A., Alison Dickie J. Levine. Histologic Correlation of the Sonographic Appearance of the Ileum in the Cat. Submitted *Vet Rad&Ultrasound*. Nov 1998.

Matteucci ML, **KA Spaulding**, C Dassler, D Lee. Ultrasound Diagnosis: Intra-abdominal Wood Foreign Body. Accepted *Vet Rad&Ultrasound* 1999;40:513-516.

DeOdorico I, **KA Spaulding**, DH Pretorius, A Lev-Toaff, TB Bailey, TR Nelson. Normal Splenic Volumes Estimated using Three-Dimensional Ultrasonography. *Jour of Ultrasound in Medicine*. 1999;18(3):231-236.

Grants (selected)

Spaulding K.A. Salutar Inc.; Sonographic Evaluation of an Enhancing Agent on Naturally Occurring Tumors in the Dog. 11-01-91; \$500.00.

Spaulding K.A. (co-investigator),C Godshalk, C. Layton, D.A. Williams: Mark Morris Foundation; Kansas State University; Diagnosis Of Portosystemic Shunts In The Yorkshire Terrier With Ultrasonography; 10/01/92-09/30/94; \$7,250 (NCSU). FAS# 5-36061. Godshalk C. (Kansas State)P.I., (total). \$23,310.00

SE Vaden, **K.A. Spaulding**, C. Berry , J.F. Levine, and S.D. Van Camp; American Kennel Club Canine Health Foundation ; Mode Of Inheritance And Method For Early Detection Of Protein-Losing Enteropathy And Nephropathy In Soft Coated Wheaten Terriers; 01/01/96 - 12/31/99; \$140,939; Accepted.

Donald E. Thrall, DVM, PhD, Dipl ACVR (Radiology and RO)

North Carolina State University
Department of Molecular Biomedical Sciences
Email: Don_Thrall@ncsu.edu
Abbreviated Curriculum Vitae

Degrees:

- 1969 D.V.M., Purdue University
- 1971 M.S., (Radiology) Colorado State University
- 1974 Ph.D., (Radiation Biology) Colorado State University

Professional Positions:

Adjunct Professor of Radiation Oncology, Duke University Medical Center,
Durham, North Carolina, September 1995 – present.

Professor of Radiology, College of Veterinary Medicine, North Carolina State
University, Raleigh, North Carolina, August 1982-present

Selected Publications:

Poulson, J.M., Vujaskovic, Z., Gaskin, A.A., LaRue, S.M., Meyer, R.E., Prescott, D.M.,
Samulski, T.V., **Thrall, D.E.**, and Dewhirst, M.W.: Effect of Calcitonin Gene Related
Peptide vs Sodium Nitroprusside to Increase Temperature in Spontaneous Canine
Tumours During Local Hyperthermia. *Int. J. Hyperthermia* 20:477-489, 2004.

McEntee, M.C., Page, R.L., Theon, A., Erb, H.N. and **Thrall, D.E.**: Malignant Tumor
Formation in Dogs Previously Irradiated for Acanthomatous Epulis. *Vet Radiol &
Ultrasound* 45:357-361, 2004.

Pruitt, A.F., and **Thrall, D.E.**: Use of Photon Fields with Noncoincident Isocenters to Improve
Homogeneity of Dose Distribution. *Vet. Radiol & Ultrasound* 45:471-475, 2004.

Williams, L.E., Johnson, J.L., Hauck, M.L., Ruslander, D.M., Price, G.S., and **Thrall, D.E.**:
Chemotherapy followed by Half-Body Radiation Therapy for Canine Lymphoma. *J. Vet.
Int. Med.* 18:703-709, 2004.

Prather, A.B., Berry, C.R., and **Thrall, D.E.**: Use of Radiography in Combination with
Computed Tomography for the Assessment of Noncardiac Thoracic Disease in the Dog
and Cat. *Vet. Radiol. Ultrasound* 46:114-121, 2005.

Thrall, D.E., LaRue, S.M., Yu, D., Samulski, T.V., Sanders, L., Case, B., Rosner, G., Azuma,
C., Poulson, J., Pruitt, A.F., Stanley, W., Hauck, M.L., Williams, L., Hess, P., and
Dewhirst, M.W.: Thermal Dose is Related to Duration of Local Control in Canine
Sarcomas Treated with Thermoradiotherapy. *Clin. Cancer Res.* 11:5206-5214, 2005.
Featured on Journal Cover.

James P. Douglass, DVM, MS, DACVR

North Carolina State University
Department of Molecular Biomedical Sciences
E-mail: jim_douglass@ncsu.edu
Abbreviated Curriculum vitae

Education

Purdue University – Bachelor of Science	1975
Purdue University – Doctorate in Veterinary Medicine	1979
University of Guelph – Radiology Internship	1980
University of Georgia – Radiology Residency	1981
Diplomate – American College of Veterinary Radiology	1985
University of Georgia – Masters of Science	1986

Current Professional Position

Clinical Assistant Professor, North Carolina State University	1991 – present
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Selected Publications

Douglass, JP. ULTRASOUND CORNER BLADDER WALL MASS EFFECT CAUSED BY THE INTRAMURAL PORTION OF THE CANINE URETER, *Veterinary Radiology & Ultrasound* Volume 34, Issue 2, Page 107-107, Mar 1993

Douglass, JP, Berry CR, James S. ULTRASONOGRAPHIC ADRENAL GLAND MEASUREMENTS IN DOGS WITHOUT EVIDENCE OF ADRENAL DISEASE, *Veterinary Radiology & Ultrasound* Volume 38, Issue 2, Page 124-130, Mar 1997

Douglass JP, Berry CR, Thrall DE, Malarkey DE, Spaulding K, RADIOGRAPHIC FEATURES OF AORTIC BULB/VALVE MINERALIZATION IN 20 DOGS, *Veterinary Radiology & Ultrasound* Volume 44, Issue 1, Page 20-27, Jan 2003