Shelter Medicine Residency 2009-2012
University of Florida

Overview

There is a critical shortage of shelter medicine specialists in the United States and an urgent unmet need for consultants to help shelters develop effective medical programs that keep animals healthy and facilitate their placement into homes. To meet this need, the Shelter Medicine residency will provide intensive training in epidemiology, infectious diseases, internal medicine, surgery, facilities management, data management, disaster response, behavior, animal welfare, environmental enrichment, forensics, and research methods. Residents will be dual-enrolled in a Masters of Public Health and will be qualified for board certification by the American Board of Veterinary Practitioners at the conclusion of their program.

Objectives of the Residency Program

- To provide advanced training in the multi-faceted discipline of Shelter Medicine
- To prepare Shelter Medicine specialists for careers in academic institutions, animal shelters, consultation services, and public service
- To train specialists in scientific research methods to contribute to new knowledge regarding issues of importance to animal shelters
- To develop strong teaching and communication skills in Shelter Medicine specialists
- To help veterinary students gain first-hand experience in Shelter Medicine
- To provide an opportunity for specialists to complete a Masters in Public Health
- To prepare specialists for board-certification by the American Board of Veterinary Practitioners

Description of the Program

The residency training program is three years. One new resident will enter the program each year starting in 2009. This will assure that there is always a first-, second- and third-year resident in the training program and will provide a critical mass for a robust training environment. Residents will participate in clinical rotations in the Veterinary Medical Center, journal clubs, seminar series, national on-line shelter rounds, and phone or email consultations with shelters. In addition, each resident is expected to visit at least 50 different shelters during the three-year program. A high priority will be placed on assuring visits to a variety of different sheltering models, including open admission, adoption-guarantee, private nonprofit, municipal, rural, urban, successful, and struggling shelters. A core component of the training program will be participation in detailed on-site shelter assessments alongside shelter medicine faculty. In the third year of the program, residents will take a leadership role in completing these shelter assessments under faculty supervision. Residents will participate in teaching veterinary professional students via didactic lectures, the Shelter Medicine clinical clerkship, and during shelter assessments in the field. Residents will also deliver continuing education programs for veterinarians, veterinary technicians, and shelter

staff. Each resident is expected to complete and submit for publication a research project on a topic of current importance to shelter medicine in addition to two other manuscripts. The Masters of Public Health may be completed at the University of Florida or at other institutions, including distance education programs.

Faculty in Direct Support of the Program

Julie Levy, DVM, PhD, DACVIM, Residency Coordinator
Cynda Crawford, DVM, PhD
Natalie Isaza, DVM

Additional Faculty in Support of the Program

Dr. Andre Shih	Anesthesia	Dr. Andrew Specht	Internal Medicine
Dr. James Bailey	Anesthesia	Dr. Colin Burrows	Internal Medicine
Dr. Luisito Pablo	Anesthesia	Dr. Kristin Cooke	Internal Medicine
Dr. Sheilah Robertson	Anesthesia	Dr. Michael Schaer	Internal Medicine
Dr. Terry Curtis	Behavior	Dr. Tom Schubert	Neurology
Dr. Amara Estrada	Cardiology	Dr. Richard Hill	Nutrition
Dr. Herb Maisenbacher	Cardiology	Dr. David Lurie	Oncology
Dr. Robert Prosek	Cardiology	Dr. Rowan Milner	Oncology
Dr. Heather Wamsley	Clinical Pathology	Dr. Caryn Plummer	Ophthalmology
Dr. John Harvey	Clinical Pathology	Dr. Dennis Brooks	Ophthalmology
Dr. Rick Alleman	Clinical Pathology	Dr. Kathleen Barrie	Ophthalmology
Dr. Roger Easley	Clinical Pathology	Dr. Matt Winter	Radiology
Dr. Michael Schaer	Critical Care	Dr. Shannon Holmes	Radiology
Dr. Alison Flynn-Lurie	Dermatology	Dr. Detlef Apelt	Surgery
Dr. Diane Lewis	Dermatology	Dr. Anthony Pozzi	Surgery
Dr. Rosanna Marsella	Dermatology	Dr. Dan Lewis	Surgery
Dr. Joy Barbet	Dermatology	Dr. Gary Ellison	Surgery
Dr. Carsten Bandt	Emergency/Critical Care	Dr. Jim Farese	Surgery
Dr. Amy Stone	General Medicine	Dr. Marije Risselada	Surgery
Dr. Julie Wuerz	General Medicine	Dr. Nick Bacon	Surgery
Dr. Barbara Sheppard	Gross Pathology	Dr. John Verstegan	Theriogenology
Dr. Lisa Farina	Gross Pathology	Dr. Karin Onclin	Theriogenology
Dr. Pamela Ginn	Gross Pathology	Dr. Malgorzata Pozor	Theriogenology
Dr. Scott Terrell	Gross Pathology	Dr. Margo MacPherson	Theriogenology
Dr. William Castleman	Gross Pathology		

Clinical Rotations (68%)

Residents will spend a large amount of time performing clinical and assessment services in Shelter Medicine rotations (42%). Additional required rotations include Internal Medicine, Community Practice, Dermatology, Ophthalmology, Surgery, Behavior, Pathology/Clinical Pathology, Radiology, Emergency, and Anesthesiology (12%). Elective rotations may be chosen from other services within the hospital or at other referral hospitals, other colleges, or human hospitals (13%). A minimum of two weeks must be spent in a high-quality high-volume spay/neuter program (1%).

The University of Florida Veterinary Medical Center houses state-of-the-art diagnostic equipment including endoscopy, laparoscopy, ultrasonography, CT, MRI, nuclear scintigraphy, and fluoroscopy. Unique strengths in therapy at the UFVMC include invasive cardiology, nuclear medicine, stereotactic radiation therapy, hemodialysis and feline kidney transplantation. Well-trained animal nurses function around the clock to provide excellent patient care in the intensive care unit. The University of Florida Shands Medical Center is located a short walk from the UFVMC, and provides a rich resource of collaborative and research opportunities.

The Shelter Medicine clinical clerkship for junior and senior veterinary students is based in a separate building from the VMC. This area houses three animal wards with cages and runs, a treatment area, am anesthesia induction and surgical preparation area, and a large surgical suite containing 28 surgical stations consisting of hydraulic operating tables and operating room lights.

<u>Clinical Rounds and Journal Clubs</u>

- The resident will attend daily clinical rounds when on service at regional shelters or on service at the Veterinary Medical Center
- The resident will participate in the following didactic rounds and journal clubs:
    - Pathophysiology rounds (Monday mornings)
    - National Shelter Medicine journal club (Monday evening teleconferences)
    - Resident and Intern seminars (Tuesday and Wednesday mornings)
    - Internal Medicine journal club (two Thursday mornings per month)
    - Shelter Medicine journal club (one Thursday morning per month)
    - Morbidity and Mortality rounds (one Thursday morning per month)
    - ECG rounds (two Friday mornings per month)
    - Seminars in Medicine (two Friday mornings per month)
- The resident will be an active member of the Association of Shelter Veterinarian's list serve.
- The resident will be an active member of the Shelter Medicine board on the Veterinary Information Network (VIN)

The wide breadth of intensive training experiences in multiple specialty services, the well-appointed facility, and the extensive didactic and small-group learning opportunities are expected to provide a solid environment for board certification by ABVP.

Teaching (2%)

Teaching skills are developed in the clinical rotations, in lectures prepared for the resident seminar series, in didactic lectures given to veterinary students, in student laboratories, during education of shelter staff involved in shelter assessments, and in presentation of continuing education seminars. The resident seminar series is presented once to twice weekly and is designed to provide residents an opportunity to review and present scientific material. Each resident will present one seminar yearly. The topic must be chosen at least three months in advance to allow ample time to prepare for this seminar and to practice with the Shelter Medicine faculty prior to presentation.

Continuing Education, Professional Development, Board Certification (5%)

The resident is expected to attend at least one national continuing education or research meeting annually.

The resident will also make presentations relevant to issues in Shelter Medicine at local, regional, and national continuing education meetings. Presentations at a minimum of five continuing education events must be completed by the end of the residency.

The resident will contribute or update content for the Shelter Medicine website, including disease summary sheets for at least six infectious diseases and shelter resource pages for at least six Shelter Medicine topics.

An application to the American Board of Veterinary Specialties for approval of a specialty college of Shelter Medicine is under development at this time. Since Shelter Medicine credentialing is not currently available, the residency has been designed to meet the requirements of the American Board of Veterinary Practitioners Canine/Feline specialty. The resident is allowed four weeks of board preparation in the third year of the program to prepare for the ABVP specialty board examination if their credentials are accepted to sit the exam in that year. The program also meets the requirements for board certification in Veterinary Preventive Medicine. It is anticipated that candidates who complete the residency will likely be eligible to sit for the certifying examination in the specialty of Shelter Medicine if approved by the AAVC, but the credentialing process has not yet been determined. In the event that a specialty college in Shelter Medicine is approved, it is anticipated that residents will pursue credentialing as a Shelter Medicine specialist in lieu of ABVP.

Research (6%)

All residents at the University of Florida are required to complete a research project on a topic relevant to Shelter Medicine. The form of such projects is highly variable and may include retrospective clinical studies. All projects involve a literature search, with subsequent development of a hypothesis and appropriate methodology to address the specific aims. A first-author manuscript on the project must be submitted

for publication in order to complete the residency program satisfactorily. Residents also present their projects with results and conclusions to the faculty and at a national meeting.

Intramural funding is available on a competitive basis in the fall of each year for residency research projects. Residents compete for these funds by researching literature and writing a grant proposal. These proposals are evaluated and ranked by the College Research Committee.

Submission of two additional first-author manuscripts is also required, one of which should be a review article.

Graduate Education (13%)

The Shelter Medicine specialist will be trained in a new disciple that combines skills common to small animal medicine and surgery with those of "herd health" production medicine and public health. Thus the resident will be required to have a solid understanding of epidemiology, disease outbreak investigation, and issues of public health protection. In light of this and to help address the profession's focus on One Health, residents will be required to complete graduate training in a related topic. It is anticipated that a Master's in Public Health will be the most appropriate path for most residents. This degree can be completed at the University of Florida or through one of the available distance learning programs. In some cases, the skills and interests of a resident may fit better with another kind of graduate training program, and reasonable accommodations will be made for alternate programs if approved by the Shelter Medicine faculty. Funding is available for reasonable graduate student tuition and fees.

Evaluation

The resident will complete contemporaneous case logs as required by the ABVP and a log of all shelter email, telephone, and on-site consultations.

Following a written self-evaluation of progress relative to the residency guidelines, the resident will meet with the Shelter Medicine faculty semiannually for a written review of performance. Failure to maintain adequate progress or violation of CVM policies may result in disciplinary action or termination of the resident's participation in the program. The resident will provide written evaluation of the program and its faculty on an annual basis in addition to a comprehensive evaluation at the end of the program.

Resident Selection

Residents will be recruited from high-quality internship programs or equivalent experience. A DVM degree or its equivalent is a prerequisite. Shelter Medicine faculty and house officers evaluate applications, and final selection of the resident is made through the Veterinary Intern-Resident Matching program (www.VIRMP.org). Selection is based on:

- The individual's curriculum vitae, including college transcripts.
- A letter of intent containing the applicant's statement of interest and goals.
- Reference letters from a minimum of three people.
- The quality of the internship and other prior veterinary experience.
- An optional interview. Candidates interested in interviewing with the faculty and visiting our hospital should contact Dr. Julie Levy, 352-392-2226 ext 5717, Fax 352-392-6125, levyj@vetmed.ufl.edu. Because we appreciate the high costs involved in interviewing, this is not required or expected of candidates. However, we welcome anyone wishing to spend time with us to meet the faculty and residents and to see the facilities.

Employment and Benefits

The starting stipend for residents is currently $25,250. Residents will receive medical insurance for themselves. Family insurance is available for an additional fee paid for by the resident. The College of Veterinary Medicine will provide Professional Liability Insurance (malpractice insurance coverage).

Residents accrue annual leave at the rate of 15 work days for each full year of employment. Annual leave may only be granted for the amount of time accrued but may be taken as earned. Leave must be taken in the year in which it was earned; unused leave does not "roll over" to the next year. Residents will not be paid for any unused leave at the time of their termination or completion of their program. Schedules for vacations should be established at times arranged by the Program Coordinator. Vacation time is to be taken when the resident is not scheduled to be on clinic or emergency duty. Requests must be made on the standard University Leave Form well in advance, and must be signed by the Shelter Medicine Residency Program Director and the Chair of the Department of Small Animal Clinical Sciences. Except in unusual circumstances, approval will not be granted for annual leave during the final 3 weeks of the residency.

The Veterinary Medical Center provides an academic development fund for each resident. These monies may be used to purchase journal subscriptions, to pay dues for annual veterinary society memberships, or to help defray the cost of attending national veterinary meetings.

Appendices

- Sample Time Allocation During the Residency
- Statement of the Need for Specialists in Shelter Medicine: Letter to the American Board of Veterinary Specialties
- ABVP Residency Requirements

Sample Time Allocation - Year One

RESEARCH, TEACHING, PROFESSIONAL DEVELOPMENT (weeks)	**10**
Orientation	1
Research	2
Vacation/Christmas Break	3
Graduate Studies	2
Teaching: Didactic Lectures	1
Professional Development: National Meeting	1
CLINICAL ROTATIONS (weeks)	**42**
Shelter Medicine	22
Small Animal Internal Medicine	2
Community Practice	2
Dermatology	2
Ophthalmology	2
Small Animal Surgery	2
Behavior	2
Pathology/Clinical Pathology	2
Radiology	1
Emergency, Critical Care, Triage	2
Anesthesiology	1
HVHQSN Spay/Neuter Clinic	2
TOTAL	**52**

Sample Time Allocation - Year Two

RESEARCH, TEACHING, PROFESSIONAL DEVELOPMENT (weeks)	**18**
Research	4
Vacation/Christmas Break	3
Graduate Studies	9
Teaching: Didactic Lectures	1
Professional Development: National Meeting	1
CLINICAL ROTATIONS (weeks)	**34**
Shelter Medicine	22
Elective Clinical Rotations	12
TOTAL	**52**

Sample Time Allocation - Year Three

RESEARCH, TEACHING, PROFESSIONAL DEVELOPMENT (wweks)	**22**
Research	4
Vacation/Christmas Break	3
Graduate Studies	9
Teaching: Didactic Lectures	1
Professional Development: Board Preparation	4
Professional Development: National Meeting	1
CLINICAL ROTATIONS (weeks)	**30**
Shelter Medicine	22
Elective Clinical Rotations	8
TOTAL	**52**

Statement of the Need for Specialists in Shelter Medicine: Letter to the American Board of Veterinary Specialties

To: Dr. Diane Gerken
Chair, American Board of Veterinary Specialties

From: Dr. Kate Hurley,
Chair of the Organizing Committee for a Veterinary Specialty in Shelter Medicine

Re: Letter of intent to form an AVMA-recognized veterinary specialty organization

June 10, 2005

Dear Dr. Gerken,

Please accept this letter of intent to form an AVMA-recognized veterinary specialty organization (RVSO) in Shelter Medicine. The members of the committee other than myself are Julie Dinnage, Dianne Dunning, Brenda Griffin, Michael Lappin, Julie Levy, Lila Miller, Karen Moriello, Jeanette O'Quin, Neils Pedersen, Annette Rauch, Jan Scarlett, Sheila Segurson, Miranda Spindel, and Ron Schultz. Please find their credentials on the additional pages. The committee is comprised of experienced educators and expert practitioners in the fields of Shelter Medicine, Epidemiology, Infectious Disease, Internal Medicine, Behavior and Surgery. Our vision is to develop a recognized veterinary specialty organization in Shelter Medicine, encompassing all aspects of veterinary practice uniquely important to the management of shelter animal populations.

Veterinarians have heretofore played a relatively limited and fragmented role in animal shelters and shelter disease problems, often restricted to spay/neuter surgery or individual patient treatment. Population-level health care, when it has been addressed at all, has commonly been the purview of shelter managers with little or no medical training. However, as an increasing proportion of pet animals come from shelters, veterinarians clearly see the disease impact of such environments. Public focus upon animal welfare in the United States necessitates a new, more cohesive role for veterinarians in animal shelters. Shelter medicine, and even surgery, is in essence “herd” related, whereas most companion animal veterinarians have been trained in “individual” animal medicine. Therefore, shelter veterinarians must be trained specifically with shelters in mind, starting with professional students, and extending through resident training.

Complete veterinary care of shelter animals requires focused expertise combining elements of epidemiology, infectious disease control, behavioral care, surgery, and shelter management. More specifically the shelter medicine specialist must have an expanded understanding in areas including, but not limited, to: shelter facility design and operation; husbandry (including housing, nutrition, sanitation and disinfection); vaccination; infectious disease prevention, diagnosis and treatment; resource management and risk analysis; strategies for control of companion animal overpopulation; personnel management; companion animal welfare and public health protection. Shelter medicine specialists must also be well versed in legal, regulatory and ethical aspects of shelter animal care. This is in addition to a solid foundation in traditional medical and surgical veterinary disciplines.

A specialty board would consolidate these diverse sources of information; establish post-graduate training, fellowship and research opportunities (and legitimize those that currently exist); and determine criteria for, and administration of the process for certification. The overall goals of the specialty are to:

- Provide communities and the animals they shelter with exceptional veterinary care from highly trained individuals.
- Establish standards for post-doctoral training and experience needed to certify veterinarians as specialists in Shelter Medicine.
- Advance competency and scientific progress in Shelter Medicine, and encourage research benefiting shelter animals.

- Disseminate knowledge and provide support and training for veterinary students and practicing veterinarians in all areas of Shelter Medicine.

Similar veterinary specialties exist for the care of animals in laboratory and zoological settings. There is also overlap between aspects of the proposed Shelter Medicine specialty and the American College of Veterinary Preventive Medicine, as well as some components of Internal Medicine, Surgery and other specialty areas. We will draw on the established criteria for these specialties to develop a general framework for the proposed specialty in Shelter Medicine.

The field of Shelter Medicine is rapidly growing and the interest among professional students and veterinarians is high. In addition to practicing veterinary medicine within shelters, veterinarians increasingly serve as consultants, shelter directors, and leaders within the animal sheltering profession. Since its establishment in 2002, the Association of Shelter Veterinarians has grown to include over 400 members, with student chapters at almost half the veterinary schools in the United States. At least nine veterinary schools have incorporated formal Shelter Medicine training into their curricula, including Auburn, Colorado, Cornell, UC Davis, Florida, Iowa, Illinois, North Carolina and Ohio Colleges of Veterinary Medicine. A textbook on Shelter Medicine has recently been published.[1] Shelter Medicine courses have been offered on the Veterinary Information Network since 2003 with capacity enrollment, and Shelter Medicine tracks are now included at numerous veterinary and shelter conferences, including the North American Veterinary Conference, Midwest Veterinary Conference, Western States Veterinary Conference, Humane Society of the United States Expo, and many others. Research conducted within shelters is seen in the literature with increasing frequency. Appendix A includes a selection of shelter-specific articles published recently. A handful of post-graduate training programs have already been developed, including a formal Shelter Medicine fellowship (Colorado), internship (North Carolina State) and residencies (Auburn and Davis). Shelter-Medicine-focused masters and PhD programs have been undertaken by veterinarians within closely related fields. Development of a certified specialty would greatly enhance post-graduate training opportunities.

State Veterinary Boards and Legislatures are increasingly asked to provide expert opinions on medical, ethical and paraprofessional service issues in shelters that go beyond the scope of their education and experience in this emerging field, and yet they must act on behalf of the public and the veterinary profession on these issues. Regulating the practice of veterinary medicine in shelters has significant public and animal health ramifications. A Veterinary Specialty Board would be the best source for advice and scientific guidance on these developing issues, just as it has been in other recognized specialty fields.

A specialty in Shelter Medicine would provide a pool of experts to serve and guide this rapidly expanding field of veterinary medicine, and would create an organized training and certification protocol for veterinarians that have an interest in this field. Ultimately, it would serve to establish veterinarians as leaders in providing quality care for the millions of companion animals passing through shelters in the United States each year.

Thank you very much for your kind consideration in this matter.

Sincerely,

- **Kate Hurley**, DVM, MPVM, Assistant Clinical Professor, Shelter Medicine Program Director, Center for Companion Animal Health, School of Veterinary Medicine, University of California, Davis, Davis, CA
- **Claudia J. Baldwin**, DVM, MS, Diplomate ACVIM (Internal Medicine), Associate Professor, Director, Maddie's Shelter Medicine Program, President, ISU Faculty Senate, Department of Veterinary Clinical Sciences, College of Veterinary Medicine, Ames, IA
- **Julie Dinnage**, Director of Animal Protection Medicine, MSPCA-Angell, Boston, MA

[1] Miller, L. and S. Zawistowski (2004). Shelter Medicine for Veterinarians and Staff. Ames, Iowa, Blackwell Publishing.

- **Dianne Dunning**, DVM, MS, DACVS, Clinical Associate Professor, Director, The Animal Welfare Program, College of Veterinary Medicine, North Carolina State University
- **Brenda Griffin**, DVM, MS, DACVIM, Director, Maddie's Shelter Medicine Program, College of Veterinary Medicine, Auburn University, AL 36849
- **Michael R. Lappin**, DVM, DACVIM, Professor, Department of Clinical Sciences, College of Veterinary Medicine, University of Colorado, Fort Collins, CO
- **Julie Levy**, DVM, PhD, DACVIM, Associate Professor, Small Animal Internal Medicine, College of Veterinary Medicine, University of Florida, Gainesville, FL
- **Lila Miller**, DVM, Veterinary Advisor, Senior Director, Animal Sciences, American Society for Prevention of Cruelty to Animals (ASPCA), New York, NY
- **Karen A. Moriello**, DVM, Diplomate, American College of Veterinary Dermatology, Clinical Professor of Dermatology, Department of Medical Sciences, School of Veterinary Medicine, University of Wisconsin-Madison
- **Jeanette O'Quin**, DVM, Clinical Instructor and Director, Shelter Medicine and Surgery Program, Department of Veterinary Clinical Sciences, Ohio State University College of Veterinary Medicine, Columbus, Ohio 43210
- **Neils Pedersen**, DVM, PhD, Director, Center for Companion Animal Health, Professor, Department of Medicine and Epidemiology, School of Veterinary Medicine, University of California, Davis, Davis, CA
- **Annette Rauch,** DVM, MS, Research Assistant Professor, Tufts Center for Animals and Public Policy, Tufts Cummings School of Veterinary Medicine, North Grafton, MA
- **Jan Scarlett**, DVM, MPH, PhD, Associate Professor, Department of Population Medicine and Diagnostic Sciences, College of Veterinary Medicine, Cornell University, Ithaca, NY
- **Sheila Segurson**, DVM, Completed residency in Behavior with Shelter Medicine emphasis, May, 2005, Associate Veterinarian, Shelter Medicine Program, School of Veterinary Medicine, University of California, Davis, Davis, CA
- **Miranda Spindel**, Director of Veterinary Services, Larimer Humane Society, 6317 Kyle Avenue, Ft. Collins, CO 80525
- **Ronald D. Schultz**, Professor and Chair, Department of Pathobiological Sciences, School of Veterinary Medicine, University of Wisconsin-Madison, Madison, WI 53706

Appendix A: Recently published journal articles specifically pertaining to shelter medicine

Bannasch, M. J. and J. E. Foley (2005). "Epidemiologic evaluation of multiple respiratory pathogens in cats in animal shelters." J Feline Med Surg **7**(2): 109-19.

Edinboro, C. H., M. P. Ward, et al. (2004). "A placebo-controlled trial of two intranasal vaccines to prevent tracheobronchitis (kennel cough) in dogs entering a humane shelter." Preventive Veterinary Medicine **62**(2): 89-99.

Hurley, K. F. (2005). "Feline infectious disease control in shelters." Vet Clin North Am Small Anim Pract **35**(1): 21-37.

Kuehn, B. M. (2004). "Shelter medicine: A budding field that is helping to raise the standard of care in animal shelters." Javma-Journal of the American Veterinary Medical Association **224**: 1412-1413.

McCobb, E. C., G. J. Patronek, et al. (2005). "Assessment of stress levels among cats in four animal shelters." Javma-Journal of the American Veterinary Medical Association **226**(4): 548-555.

Pedersen, N. C., R. Sato, et al. (2004). "Common virus infections in cats, before and after being placed in shelters, with emphasis on feline enteric coronavirus." J Feline Med Surg **6**(2): 83-8.

Reeve, C. L., S. G. Rogelberg, et al. (2005). "The caring-killing paradox: Euthanasia-related strain among animal-shelter workers." Journal of Applied Social Psychology **35**(1): 119-143.

Ruch Gallie, R., M. E. Spindel, et al. (2004). Efficacy of Amoxicillin and Azithromycin for the empirical treatment of cats with upper respiratory infections, American College of Veterinary Internal Medicine Forum.

Spain, C. V., J. M. Scarlett, et al. (2004). "Long-term risks and benefits of early-age gonadectomy in cats." J Am Vet Med Assoc **224**(3): 372-9.

Spain, C. V., J. M. Scarlett, et al. (2004). "Long-term risks and benefits of early-age gonadectomy in dogs." J Am Vet Med Assoc **224**(3): 380-7.

American Board of Veterinary Practitioners Residency Requirements

I. Objectives

A. To promote expertise and proficiency in all disciplines associated with the practice of veterinary medicine in a species specialty area.

B. To provide instruction and guidance for the resident in the basic science and clinical practice disciplines in a species related area.

II. Summary of the ABVP Residency Program

An ABVP residency program shall consist of a minimum of two years (104 weeks) of supervised training and clinical experience in the science and practice of all disciplines and related disciplines in a species specialty.

Each residency program must be supervised by at least one ABVP diplomate or a diplomate of another AVMA recognized specialty who has been approved by the ABVP Council of Regents.

Resident candidates will be required to have completed at least 12 months of training in clinical veterinary medicine and surgery in a rotating internship or clinical practice.

Graduate studies may be included in the residency program for achievement of an advanced degree; however, a total of 104 weeks must be devoted specifically to training in the species specialty area including case responsibility.

An evaluation of the resident shall be performed by the program supervisor at 6 month intervals. Residents are also required to submit materials to the ABVP Residency Committee every 6 months for evaluation of the program the progress of the resident.

Application for credentialing can be made during the second year of the training program. The application is made to the ABVP Credentials Committee to determine eligibility for certification by examination.

The examinations are given in November each year and all residency requirements must be completed and approved one month prior to examination.

III. Detailed Description of the ABVP Residency Program

A. Scope of the training program:

Rotation of the resident through various disciplines in a species specialty must provide the development of knowledge and skill by exposure to a wide variety of clinical diseases and problems of the species involved. In the case where more than one species or subspecies is involved an attempt should be made to provide exposure to each.

1. The Canine/Feline or Feline residency training must involve all phases of practice i.e. medicine, anesthesiology, dermatology, surgery, radiology/diagnostic imaging, ophthalmology, theriogenology, population based preventative medicine, and clinical and gross pathology.
2. The Equine residency must involve all phases of equine practice, i.e. medicine, anesthesia, dermatology, surgery, radiology/diagnostic imaging, ophthalmology theriogenology, population based preventative medicine, and clinical and gross pathology.
3. The Food Animal residency must involve medicine, surgery, and theriogenology. There must be adequate exposure to diagnostic pathology, clinical pathology, clinical nutrition, epidemiology, preventative medicine, and microbiology. Herd data analysis including disease prevention and control should be included. The food animal residency is designed for multi-species in-house and field experiences. This program should include exposure to individual animal medicine and surgery as well as population medicine and management.
4. The Beef Cattle, Dairy, and Swine residency programs must include adequate exposure to economics, reproduction, nutrition, growth, mortality, epidemiology, her records, statistics, ventilation, milking systems, milk quality, food safety (dairy) and immunology, disease diagnosis/prevention/treatment, environmental studies, animal welfare, genetics, and regulatory issues. Herd data analysis is essential. Although the treatment of individual animals may be a part of this program, the major emphasis should be on herd or population-based medicine and management.
5. The Avian Practice residency must involve medicine, surgery, anesthesiology, radiology/diagnostic imaging, ophthalmology, clinical and gross pathology, clinical nutrition, epidemiology, preventive medicine, population-based preventive medicine and avi-cultural medicine. This experience should include exposure to a wide variety of avian species.

B. Duration of the residency program

1. The ABVP Residency Program is based on the common clinical residency duration of 24 months. A minimum of 70% of the resident's time should be devoted to rotations crucial to advanced training in the particular species specialty (core rotations); the remaining 30% of time can consist of related rotations. Since the 24 month program includes 2 weeks of vacation per year, the program must contain at least 16 months of core training and 7 months of related rotations for a total of 23 months of supervised clinical training and practice.
2. Residencies with advanced degree (minimum of 36 months) should base calculations on a minimum of 23 months even through various disciplines may be scheduled over the entire three year period. This will leave time for the formal course work and research projects as required by the graduate training.

IV. Resident Responsibility

A. Case responsibility

Case responsibility will be determined by the nature of the case and resident's level of training. The resident will be expected to have responsibility in all aspects of case management including receiving, examination, diagnosing, daily management, client communication, clinical teaching, discharging, and follow-up communications. Residents are expected to participate in emergency case management. Residents in some species categories are responsible for population-based case studies, client contact, investigation, diagnosis, follow-up communications and recommendations.

B. Continuing Education

1. Residents are required to obtain fifty hours (50 hrs.) of continuing education per year in the candidate's specialty area. This requirement may be met by attendance at local, academy, regional or national meetings.
2. Formal university lectures, rounds and journal clubs can help fulfill this requirement; however, greater than 50% of the requirement must be fulfilled by formal CE meetings. [See logs in Appendix B]
3. Bi-monthly formal rounds, case presentations, journal clubs or lectures are required as well (recommended on a weekly basis). [See logs in Appendix B]
4. Residents must make a minimum of two presentations of at least 15 minutes duration in a formal setting per year. These may be given to faculty or students in a teaching institution or to local, regional or national professional meetings. An ABVP diplomate or designated substitute must be present to critique each presentation and provide a written evaluation for the semi-annual report.

C. Case logs

1. A case log must be maintained by the resident which must list the following:
    a. Running total of the cases
    b. Date assigned or examined
    c. Case number
    d. Signalment
    e. Diagnoses
    f. Surgical and medical procedures performed
    g. Responsibility of the resident as primary or secondary, elective or emergency
    h. Board certified diplomate or advisor present
    i. Disposition of the case on discharge and a systems code (SC). [See logs in Appendix B]
2. The case log for specialties in which population based medicine is a major portion may have an alternative log format. This log must list the following:
    . Running total of the number of herd visits
    a. Date
    b. Case number
    c. Signalment
    d. Diagnosis

e. Analysis performed
f. Resident responsibility as primary or assistant
g. Supervisor or diplomate present.

3. A resident is considered primary when he/she can document a significant role in the examination, diagnosis, determination of treatment, implementation of treatment and care, client communication and follow-up on progress.

D. Procedures log

1. The resident is required to maintain a separate procedure log which must list a running total of special procedures performed, including the case number, signalment, procedure performed, and results. [See Appendix B]
2. Special procedures are those diagnostic or treatment procedures required beyond routine physical examination, such as ultrasonography, endoscopy, scintigraphy, spinal tap, arthrocentesis, etc.
3. Routine radiographic examinations should not be included, only those special examinations such as contrast studies, CAT scans, MRI, myelogram, etc.

E. Morbidity/mortality log

The resident is responsible for maintaining a separate morbidity/mortality log which must contain case number, signalment, date, diagnosis, complications/reason for mortality, and post mortem diagnosis, if applicable. [See Appendix B]

F. Program summary

Every 6 months, the resident must submit a Resident Log and Program Summary form. This form is a summary of the resident's activity over a 6 month period and includes time spent in various disciplines, presentations given, total number of cases by system, emergency cases, summary of resident's role in all cases, degree of supervision by advisor, and progress on case reports and manuscript. [See form in Appendix B]

G. Semi-annual evaluation

1. Every 6 months residents must submit materials which include three copies of the following:
    a. Case logs
    b. Special procedures log
    c. Morbidity/mortality logs
    d. Residency summary sheet
    e. Documentation of continuing education
    f. Documentation or oral presentations
    g. Resident log and program summary form
    h. A letter from the residency supervisor indicating satisfactory or unsatisfactory progress over the last six months.

H. Referreed publication

1. In addition to the 2 case reports which are required of all applicants at the time of submission of credentials, residents must prepare a manuscript, as first author, to be submitted for publication in a refereed journal.
2. The manuscript topic must be in the species specialty for which the resident is seeking certification.
3. The manuscript format will depend on the journal to which it will be submitted.
4. Evidence of publication or official acceptance for publication must be in the hands of the Resident Committee chairperson by one month prior to expected examination date.
5. Official acceptance for publication means that the resident must have in his/her possession a letter from the journal indicating that the manuscript has been accepted for publication.
6. Beginning January 15, 2008, residents will have the option of submitting a publication in lieu of one of the case reports. If this option is elected, this publication must fit the above criteria, and in addition:
    a. The journal in which it is published must either be included in the recommended reading list for that species specialty, or approved by the Regent prior to submission.
    b. The format and approximate length of the publication must also be approved by the Regent prior to submission.
    c. As a general guideline, publications in a refereed veterinary journal will be considered if they are:
        i. Original research,
        ii. Comprehensive retrospective study
        iii. Case Reports similar in depth and content to those submitted for credentialing.
7. A publication that is accepted for credentialing in lieu of one case report will also serve as the resident's required publication (See I [1-3] above).
8. When this option is elected, the subject/topic of the publication and that of the case report must be distinct.
9. Proof of acceptance or publication of the manuscript substituted for one of the case reports must be submitted to the ABVP by October 1 of the year in which the examination is taken.

I. Independent study

Independent study is highly encouraged. Development of a suitable research project, including its design, execution, evaluation, and publication is encouraged. However, the time required to complete such a project should not reduce the recommended time to be spent in the necessary core disciplines. Advanced degree programs require a minimum of three years.

J. Submission of credentials

1. The resident is responsible for submission of all materials for credentials evaluation for the examination process set forth by the ABVP credentials application procedure.
2. The application for credentials and examination approval for a residency track candidate, for the most part, is the same as that for a practice track candidate.
3. Case reports:
    a. Residents must prepare two case reports in their species specialty area of certification.
    b. Case reports must adhere to ABVP format as set forth by the Credentials Committee.
    c. Beginning January 15, 2008, residents will have the option of submitting a publication in lieu of one of the case reports. See guidelines above.
4. Applications and all other materials must be in the hands of the Credentials Committee by January 15th of the year in which the candidate desires to sit for the examination. The examination is given the following November.
5. Most residency programs end in July. Candidates who complete their training programs at this time may submit their credentials application by January 15th of their last year in the program. Those whose program will end after October 1st and before January 15th will not be able to apply in their last year, but will be able to submit their credentials the following January to sit for the exam in November of that year. If a candidate does not complete their program before January 15th, they will have to submit their credentials the following January.
6. Some candidates may elect to apply after the completion of their program and take the examination at a later date. It is recommended that the candidate sit for the examination within 2 years of completion of the residency program.

V. Responsibilities of the Program Advisor

A. In-house supervision and appropriate case consultation. Direct supervision of the candidate is required by a diplomate of ABVP or a diplomate of another specialty group approved by the AVMA and approved by the Council of Regents of the ABVP. Supervision must include consultations, discussions, and help in management of actual cases. Daily supervision does permit the intermittent absence of the supervising diplomate when other faculty that may be in charge of a particular service are present. Other faulty in direct support of the program and their credentials should be supplied with information concerning the extent of their supervision.

B. Verification of all resident logs, oral presentations, and continuing education

C. Evaluation of resident’s progress via semi-annual resident evaluation letters.

VI. Responsibilities of the Residency Committee

A. Reviewing proposed residency programs.

B. Evaluating each resident’s progress with communication of any deficiencies to the resident and resident supervisor.

C. Final evaluation of the resident’s program.

D. Reviewing credentials submitted by the resident for ABVP certification and approving or disapproving of the candidate for the credentials process.

VII. Review of Proposed ABVP Residency Program

A. Application for approval of new residency program

1. Institutions and private practices wishing to establish an ABVP species specialty residency program must apply to the Chairman of the Residency Committee of the ABVP . Please note, it is no longer necessary for a residency candidate to be identified at the time of the initial application for approval of the program.
2. Applications for approval must include the following:
    a. A description of the facilities, equipment and developing technologies.
    b. A description of the total case load and other various aspects of the case load.
    c. A general outline or schedule of the resident's activity for the entire program and should include the approximate number of weeks in each discipline and the total length of the residency program.
    d. Identification of the residency advisor and inclusion of that person's current curriculum vitae.
3. Whenever a residency candidate for the program has been identified, a letter introducing the residency candidate along with a copy of the candidate's current curriculum vitae must be sent to the Chair of the Residency Committee prior to the commencement of the residency program.

B. Continuation of existing ABVP residency programs

Institutions and private practices who have approved ABVP residency programs must send a letter to the Chair of the Residency Committee prior to enrolling a new resident. This letter must include the following:

1. Changes in the facilities, caseload, schedule, program length, advisor or any other aspect of the residency program. If no changes have occurred then the letter should indicate that the program will continue without change.
2. The letter should also introduce the new resident and a copy of that person's curriculum vitae should be included.
3. Without such notification the program is not considered officially continued by ABVP.

C. Dual residency programs:

Residencies to prepare a candidate for more than one specialty board are not feasible unless the length of such a program allows completion of the specific requirements of all pertinent specialties. For instance, it would be difficult to fulfill ABVP species specialty requirements concurrently with ACVIM requirements because ABVP residency programs require some surgical experience not required by internal medicine. Conversely, a surgical residency does not require the amount of internal medicine needed to complete an ABVP program.

D. Retroactive approval of residency programs:

The Residency Committee does not encourage the submission of existing non-ABVP residency programs for retroactive approval. However, requests for conversion of a program from another specialty board residency to an ABVP residency program can be made to the Residency Committee of ABVP and will be reviewed by that committee. In some cases, conversion may be allowed if there is sufficient time to assure that all of the time requirements in core disciplines can be achieved. All the requirements of ABVP residency programs must be fulfilled, including, but not limited to, the continuing education, oral presentation, and the case log requirements. Case logs from other specialty programs must be converted to ABVP format. Logs must also be retro-active to the beginning of the program from which the candidate is converting.

E. Description of facilities and equipment:

Those who desire to establish a residency program must describe the physical plant and equipment available at the institution or practice. The general areas that should be described should include, but are not limited to:

1. Physical plant.
2. Equipment.
3. Professional and ancillary staff
4. Diagnostic laboratory.
5. Records.

For more specific requirements, please see the individual sections on species specialties (Appendix A). The facilities and equipment should be applicable to the individual practice category. The facilities should be adequate to support a satisfactory education environment. This information should be included in the residency proposal.

F. Case Accession and Case Management

1. Caseload: The following information must be supplied.
    a. Total accessions in the particular practice area. In beef, dairy, and swine total herds and average number or animal per herd may be more appropriate.
    b. Average daily number of accessions presented to the hospital.
    c. Average number of accessions treated as outpatients.
    d. Average number of patients in the hospital daily.
    e. Average number of surgeries performed daily.

f. Average number of anesthetic procedures performed daily.
g. Number of faculty in direct support of the residency program.

2. The caseload of the institution or practice must be large enough to afford the candidate adequate exposure to all phases of practice within the specialty. The minimum acceptable number of accessions will depend upon the difficulty of the problem and the extent of the treatment provided.
3. While a minimum caseload is necessary to develop clinical experiences, the candidate must also be provided with sufficient time to evaluate patients properly, study, and participate in rounds and lectures.
4. In the case where a resident may spend time on an external experience at another site, information should be provided concerning the experience at that site including all details that are being submitted for approval of the primary site.

G. General Estimation of Activities

1. The residency proposal should include a general outline or schedule of the resident's activity for the entire residency program. This outline should include the approximate number of weeks spent in each discipline or area. The percentage of time in each area should be determined.
2. A minimum of 70% of the resident's time should be spent in core rotations (rotations crucial to adequate, advance training in the particular species specialty). A maximum of 30% of the resident's time may be used for ancillary-related training areas, CE, projects, lectures, manuscript preparation, etc.
3. Residencies associated with an advance degree (minimum 36 months) should base calculations of minimum time on 23 months even though the rotations through various disciplines maybe scheduled over the entire three year period. This will leave time for formal course work (as it becomes available), projects, etc.

VIII. Program Evaluation

A. Initial Proposal Submission:

The intended residency supervisor at the institution or in the practice must submit a proposal based on these guidelines. The proposal should include the vitae of the residency candidate, the vitae of the advisor, and a letter of introduction of the candidate sent by the advisor. This information must be sent to the Chair of the Residency Committee and the program must be approved by the ABVP Residency Committee before the resident begins the program.

B. Semi-Annual Reports

1. Progress reports must be submitted to the Residency Committee semi-annually. These reports must include all of the following in triplicate:

a. Case logs, herd visit logs, copies of herd reports.
b. Procedures log.

c. Morbidity/mortality logs.
d. Residency summary sheet which also summarizes the above logs.
e. Documentation of CE.
f. Documentation of presentations.
g. A letter from the residency supervisor or mentor, indicating satisfactory or unsatisfactory progress of the candidate in the program.

2. Semi-annual reports must be submitted every 6 months from the date that the candidate started in the program. In most teaching institutions this is a July, January cycle. However, programs do not always start in July. We would like to have everyone on the same cycle if possible. Those programs that begin after July should turn in reports from the starting date to January. Those starting after January should turn in reports from the start date to July.
3. The final semi-annual report at the end of the program will contain all of the above materials. The advisor's letter should indicate successful or unsuccessful completion of the entire program.

Addendum—Equipment and Facilities

Companion Animal Practice

A. Physical Plant

1. Examination rooms must be sufficient in number and size to accommodate the caseload.

2. Treatment areas, areas for intensive care, special procedures, isolation, and good nursing care must be available.

3. Surgery suites must be of sufficient number and size to accommodate caseload.

4. Necropsy space must be available.

B. Equipment

1. Radiology - a 300 MA 125 KVP x-ray machine is a minimum for adequate examination.

2. Anesthesia equipment - gas anesthesia with adequate scavenging system is mandatory. Routine monitoring of anesthetized patents with respiratory and cardiac monitors is required.

3. Intensive care equipment for triage and monitoring of critical cases is required.

4. Ophthalmology equipment - equipment essential to perform a thorough examination of the eye is required.

5. Orthopedic instrumentation - must be appropriate for the management of all orthopedic cases.

6. Ultrasound, ECG, and endoscopy are required.

7. Professional and ancillary staff must be adequate to handle the caseload.

8. Diagnostic laboratory - rapid hematology, chemistry and, microbiologic tests must be available.

9. Records - a system of record keeping must be in place and must insure adequate documentation and rapid retrieval of information about any client. The problem oriented medical record system is recommended (POMR).