Teach • Heal • Discover • Serve
LETTER FROM THE DIRECTOR

Thank you for your continuing support of the University of Missouri Veterinary Health Center. The faculty, staff and students of MU’s Veterinary Health Center Hospital strive to provide excellent service for you, your clients, and their animals. In addition, your referrals help us train tomorrow’s veterinarians and develop new cures for animal disease. Your partnership in our mission is appreciated.

The Veterinary Health Center includes all the service units of the College of Veterinary Medicine and includes the Diagnostic Lab, Small Animal, Food Animal, and Equine Hospitals on the Columbia campus, and our facility in Wentzville.

This 17th edition of the Referring Veterinarians’ Guide is a resource to assist you in referring cases to the Veterinary Health Center. It provides:
- Information to facilitate referrals.
- A Pictorial directory of faculty, house officers (interns and residents), and technical support staff by specialty or species area.
- Information about each clinical specialty.
- A Referral form and map of the College of Veterinary Medicine campus (insert).
- A List of technical staff with referral communication responsibilities
- Clinic hours and toll-free telephone numbers.
- An index to help you conveniently find important information.

All of our faculty, staff, technicians and students do their utmost to provide an outstanding experience for your clients. Moreover, we strive to keep you ‘in the loop’ on the progress of your referral. We provide state-of-the-art diagnostic and therapeutic services using a team-based approach. To that end, we have recently welcomed the following new faculty members to our team:

- Dr. Brian Shoemake, Clinical Instructor, Food Animal
- Dr. Katie O’Brien, Clinical Instructor, Emergency and Critical Care
- Dr. Owen Skinner, Clinical Instructor, Surgical Oncology
- Dr. Michelle LeRoy, Adjunct Clinical Instructor, Dermatology
- Dr. Leon Tu, Clinical Instructor, Shelter Medicine
- Dr. Megan Rau, Adjunct Clinical Instructor, Community Practice

We are constantly changing and adapting to provide a better learning experience for our students and to provide better service to you and your clients. Here are a few highlights from 2017:
- 2017 has been a year of continued remodeling of Clydesdale Hall.
- Last year, we were fortunate to receive funding for a campus-wide initiative to expand our imaging capabilities. We added a PET/CT (Positron emission tomography/computed tomography) unit to our diagnostic suite. (See back cover for additional information) This equipment will provide cutting-edge diagnostic capabilities that will be especially valuable to oncology and internal medicine patients. Moreover, it will allow us to expand the clinical trial opportunities that we can offer to your clients.
- We have added a Radiation Isolation suite to better accommodate our patients that receive either diagnostic or therapeutic radioisotopes. The addition of this suite will also allow us to regain much needed space in our small animal hospital.
- Our hospital and diagnostic laboratory are in the process of switching our Hospital Information System from UVIS to VetView. We anticipate the conversion will be complete in December, 2018. Unfortunately, the conversion has led to some disruption in our Veterinarian and Client Portal. We anticipate the portal to be back in operation for the hospital once we complete the switch to VetView. We apologize in advance for any inconvenience this may cause you and your clients.
- With the addition of Dr. Owen Skinner, who has completed a fellowship in surgical oncology, we will be reorganizing our surgery service and will institute an oncologic surgery service that will allow streamlined processing of oncology cases and focused care for oncologic patients that require diagnostic or therapeutic surgical interventions.
- We continue to be leaders in cutting edge medicine and perform a variety of clinical trials that allow your clients access to treatments that are not yet available in most specialty centers. Our oncology, neurology, and internal medicine sections are the most active in this area.

We have a new website, www.vhc.missouri.edu, which we would like you to check out, bookmark, and use often. We hope you will direct your clients to our site if you are considering referring them to the VHC. While the website will continue to expand, we would like to share some of the features already available to you:

For our Referring Veterinarians:
- Detailed information on how to make a referral
- What your clients can expect when they arrive at the VHC
- Printable referral forms to send along with your clients, including a place for you to share requests and concerns
- Information on consultative services, including radiographic and nutritional consultation forms
- Details on our new overnight transfer service, which allows your patients to spend the night in our ICU and return to your hospital the following morning
- Links to the rDVM portal, which gives you access to your patients’ test results and discharge instructions
- A satisfaction survey

For clients:
- Short video overviews of the food animal, equine and small animal hospitals as well as information on what to expect during their visit
• Responses to a large number of FAQs, including the roles of students, intern and residents in the care of patients
• Information on billing and financing policies and a link to pay bills online
• Links to our veterinary social worker, who can counsel clients facing difficult decisions or dealing with grief
• Detailed information on each of the VHC services and sections, including biographies, as well as information on diagnostics or diseases treated by each service.
• Driving directions and parking, lodging, and dining information

For both you and your clients:
• Information on clinical trials
• Links to make donations in honor of either people or pets

We think you will find the new website useful, and we welcome feedback as we continue to make improvements to better serve our partners and clients. The VHC hospital continues to benefit from its close relationship with the Veterinary Medical Diagnostic Laboratory. The hospital and lab enjoy a strong synergy and work closely to solve complex problems for your clients. The laboratory offers a low cost pick up service for samples directly at veterinary clinics, and now offers next day service to Missouri, most of Illinois and Kansas and parts of Iowa, Nebraska, Kentucky and Indiana. Information on services provided by the laboratory can be found at www.wmdl.missouri.edu or by calling 1-800-862-8635.

We continue to upgrade our faculty, facilities, and equipment in order to provide your clients with excellent service and educate tomorrow's veterinarians. Your support of our mission through patient referrals, constructive feedback, and student mentorship is appreciated!

Again, please accept our heartfelt thanks for your support.

Sincerely,

David A. Wilson, DVM, MS, Dipl. ACVS
Professor and Chair
Department of Veterinary Medicine & Surgery

John R. Dodam, DVM, MS, PhD, Dipl. ACVAA
Professor and Chair
Department of Veterinary Medicine & Surgery

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AMBULATORY

The equine ambulatory program operates two trucks with two faculty veterinarians and two rotating interns. The ambulatory team offers a full spectrum of services.

- Upper airway endoscopy
- Digital ultrasound
- Digital radiography
- Lameness examinations
- Preparation of IRAP, PRP and stem cell therapy
- Routine and advanced dentistry
- Electronic Coggins and health certificates available by email the next day
- Vaccinations

MEDICINE

The medicine service provides emergency and elective care for a wide variety of conditions, including gastrointestinal problems, neurologic conditions, endocrinopathies, cardiac disease, respiratory problems, hepatic and renal diseases, foal disorders and geriatric horse conditions.

- Board-certified equine internal medicine specialists
- Board-certified equine practice specialists
- 24-hour adult and neonatal critical care
- Abdominal & thoracic ultrasonography
- Computed tomography (CT scan)
- Respiratory tract endoscopy
- Gastroscopy
- Equine dermatology
- Equine oncology
- Infectious disease management
- Cervical myelography
- On Site testing for Pituitary Pars Intermedia Dysfunction (PPID or ‘Cushing’s syndrome’)

SURGERY

A full spectrum of elective and emergency surgery and lameness services are available including arthroscopy, abdominal surgery, wound treatment, fracture repair, respiratory surgery, laparoscopy, sinus and dental surgery, tendon/ligament surgery, podiatry services and regenerative therapies.

- Board-certified equine surgeons
- State-of-the-art hospital facilities
- Cutting-edge lameness diagnosis and therapy
- Advanced diagnostics and instrumentation
- 24-hour critical care

The Equine Hospital provides all aspects of patient care from on-farm preventive medicine to complex referral care. The MU Veterinary Health Center is on the cutting edge of lameness diagnosis and treatment. A team of specialty clinicians, residents, interns, veterinary students, veterinary technicians and assistants provide your client’s horse with the best veterinary medical care.

EQUINE MEDICINE AND SURGERY FACULTY

- Philip Johnson
  BVSc (hons), MS, MRCVS, DAVCO, DECIM
  Professor
  Internal Medicine

- Joanne Kramer
  DVM, MS, DACVS
  Associate Teaching Professor
  Surgery

- Shannon Reed
  DVM, MS, DACVS
  Associate Teaching Professor
  Surgery

- David A. Wilson
  DVM, MS, DACVS
  Professor Surgery, Director of the Veterinary Health Center Hospital

- Kevin Keegan
  DVM, MS, DACVS
  Professor Surgery, Director of E. Paige Laurie Endowed Equine Lameness Program

- Alison LaCarrubba
  DVM, DABVP
  Associate Teaching Professor
  Internal Medicine
  Ambulatory

- Martha Scharf
  DVM
  Clinical Instructor
  Ambulatory

EQUINE RESIDENTS

- Lynn Martin
  DVM, MPH
  Medicine

- Jael Pitts
  DVM
  Surgery

- Joanne Kramer
  DVM, MS, DACVS
  Associate Teaching Professor
  Surgery

- Shannon Reed
  DVM, MS, DACVS
  Associate Teaching Professor
  Surgery

- Kevin Keegan
  DVM, MS, DACVS
  Professor Surgery, Director of the Veterinary Health Center Hospital

- Martha Scharf
  DVM
  Clinical Instructor
  Ambulatory

EQUINE INTERNS

- Kile Townsend
  DVM

- Deanna Biendo Bell
  RVT, BS

- Melody Canope
  VTA, BS

- Jane Ebben
  RVT, VTS

- Joyce Guthrie
  RVT

- Jay McCallie
  AT

EQUINE MEDICINE & SURGERY TECHNICIANS

- Philip Johnson
  BVSc (hons), MS, MRCVS, DAVCO, DECIM
  Professor
  Internal Medicine

- Joanne Kramer
  DVM, MS, DACVS
  Associate Teaching Professor
  Surgery

- Shannon Reed
  DVM, MS, DACVS
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  Surgery

- David A. Wilson
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  RVT, BS

- Melody Canope
  VTA, BS

- Jane Ebben
  RVT, VTS

- Joyce Guthrie
  RVT

- Jay McCallie
  AT

*head of section
The VHC Food Animal Hospital is one of the busiest food animal hospitals in North America. The bulk of the caseload consists of traditional agricultural animals, including beef cattle, dairy cattle, swine, sheep and goats. The clinic also provides services to nontraditional livestock owners.

Services at the Veterinary Health Center

- Board Certified medicine and surgery specialists
- Full service hospital that caters to both inpatients and outpatients
- 24-hour emergency service
- 24-hour intensive care available for inpatients
- Indoor animal handling facility including rotating chute, squeeze chute with scale, and cattle transport chutes
- State of the art surgical facility
- Diagnostic imaging capability (radiography, ultrasound, CT, & MRI)
- Endoscopy
- Access to in-house specialists/experts in radiology, oncology, cardiology, ophthalmology, neurology, emergency and critical care, dentistry, dermatology, nutrition, and surgery

Ambulatory/Production Medicine

- Full service ambulatory service equipped for routine and emergency care of healthy and sick animals or groups of animals
- Board Certified medicine specialists
- Board Certified preventive medicine specialist
- 24-hour emergency service
- Preventive medicine
- Regulatory medicine (Certificates of Veterinary Inspection, TB testing, Brucellosis testing and vaccination)
- Disease outbreak investigation
- Herd-level production medicine consultation (Cow/Calf, Dairy, Feedlot, Swine, Sheep, Goats and Camelids)
- Reproduction

FOOD ANIMAL MEDICINE AND SURGERY FACULTY

- Pamela Adkins
  DVM, MS, PhD, DACVIM
  Assistant Professor

- John Middleton
  DVM, PhD, DACVIM
  Professor; Assistant Director Agriculture Experiment Station

- Rachel Oman
  DVM, DACVIM
  Assistant Teaching Professor

- Shannon Reed
  DVM, MS, DACVS
  Associate Teaching Professor

- Brian Shoemake
  DVM, MS
  Clinical Instructor

- Pedro Melendez
  DVM, MS, PhD
  Associate Professor

- Dusty Nagy
  DVM, MS, PhD, DACVIM
  Associate Teaching Professor

- Patrick Pithua
  BVetMed, MSc, PhD
  Associate Professor Public Health, Epidemiology

- Loren Schultz*
  DVM, MS, DACVPIM
  Associate Teaching Professor; Director MPH Veterinary Concentration Area

FOOD ANIMAL MEDICINE AND SURGERY TECHNICIANS

- Elizabeth Blair
  “Tribbie” McKinnon
  BVMS, MRCVS

- Alba Stavri
  DVM

- Kelsey Walker
  DVM

- Julie Holle
  RVT

- Kaitlyn Webb
  RVT

*head of section
The theriogenology service provides routine and advanced breeding services for all domestic animals.

- Synchronization
- Artificial insemination
- Pregnancy diagnosis
- Breeding soundness examinations
- Embryo transfer
- Semen freezing
- Semen collection and shipment
- Diagnostic service for animals that suffer reproductive disease or infertility
- Emergency service for animals in dystocia

**THERIOGENOLOGY FACULTY**

- **Dawna Voelkl**
  DVM, DACT
  Assistant Teaching Professor

- **Dietrich Volkman**
  BVSc, MMedVet, DACT
  Teaching Professor

**THERIOGENOLOGY TECHNICIAN**

- **Sia Miller**
  RVT

**EXTENSION SERVICES**

The extension faculty serves the State of Missouri by providing veterinarians and producers with up-to-date information on the practice of veterinary medicine as it relates to production agriculture.

**EXTENSION FACULTY**

- **Corinne Bromfield**
  DVM
  Assistant Extension Professor of Swine Production Medicine

- **Scott Poock**
  DVM, DABVP
  Associate Extension Professor (Dairy)

- **Craig Payne**
  DVM, MS
  Associate Extension Professor (Beef)

**THERIOGENOLOGY FACULTY**

- **Dawna Voelkl**
  DVM, DACT
  Assistant Teaching Professor

- **Dietrich Volkman**
  BVSc, MMedVet, DACT
  Teaching Professor

**THERIOGENOLOGY TECHNICIAN**

- **Sia Miller**
  RVT

**COLLEGE OF VETERINARY MEDICINE**

**STAFF**

- **Stephanie Adams**, Communications
- **Karen Atkinson**, Equine Caretaker
- **Amanda Bednarek**, AH SA Receptionist
- **Nathanial Blair**, Food Animal Caretaker
- **Jason Brandow**, Facility Supervisor
- **Megan Britton**, Pharmacy Support Staff
- **Makayla Brown**, Equine Caretaker
- **Kelly Burns**, Cashier
- **Serena Copeland**, SA Caretaker
- **Janiene Dey**, Large Animal Medical Records
- **Carrie Duran**, DVM, PharmD, Pharmacist
- **Teresa Egbert**, Supervisor, Small Animal Staff
- **Patrick Ege**, Pharmacy Technician
- **Becky Elias**, Supervisor, Large Animal Front Desk
- **Cheryl Elliott**, Business Support Specialist II
- **Cheryl England**, Office Support Assistant
- **Debbie Evans**, Medical Records
- **Lori Freie**, Business Support Specialist II
- **Cathy Harmon**, Small Animal Billing
- **Billy Jamison**, Grants and Contracts
- **Sasha Lister**, Stores Clerk
- **Brian McGinty**, Small Animal Caretaker
- **Kim Morrison**, Business Support Specialist II
- **Kevin Nelson**, Office Support Associate
- **Michael Perkins**, PharmD, Pharmacist
- **Bobby Rankin**, Equine Caretaker
- **Raquel Riddle**, Office Support
- **Megan Salmon**, SA Receptionist
- **Nicholas Seidel**, Pharmacy Technician
- **Connie Sievert**, Department Assistant
- **Leslie Simmons**, Executive Staff Assistant
- **Dee Dee Smith**, Call Center
- **Madison Spadarotto**, LA Receptionist
- **Jessica Taylor**, Small Animal Receptionist
- **Jennifer Terrock**, Call Center
- **Kim Terry**, Instrument Technician
- **Ruth Tesfai**, Pharmacy Technician
- **Francesca Tocco**, Grief Counseling
- **Nora Vance**, Call Center
- **Davida Wade**, Billing
- **Amanda Willis**, Medical Records
From kittens to the largest draft horses, patients at the Veterinary Health Center require the services of the anesthesia section.

- The sophisticated patient services provided by the other areas of the hospital require equally sophisticated anesthesia for the highest quality in patient care.
- We anesthetize specialized cases as well as routine procedures performed as part of our local practice.
- We provide pain management and critical care for hospitalized patients.

The anesthesia faculty welcomes both companion and large animal consultations as well as anesthesia-related questions from private veterinarians. The anesthesia faculty can be reached by calling 573-882-7821.

The neurology and neurosurgery service is led by faculty members who are board certified in veterinary neurology by the American College of Veterinary Internal Medicine (ACVIM). The service offers the latest in diagnostic tests, and medical and surgical treatments.

- Advanced imaging such as MRI or CT to view the brain or spinal cord
- Electrodiagnostic testing to identify seizure disorders and diseases of the muscles and peripheral nerves
- CSF analysis to detect infections of the nervous system
- DNA testing for genetic diseases
- Full-service rehabilitation center including underwater treadmill
- Surgical procedures involving the spine, brain and nerves to include decompressive and stabilization procedures
The radiology section provides comprehensive services to the Veterinary Health Center in all types of imaging.

- Radiography
- Ultrasound
- Computed tomography for large and small animals
- Magnetic resonance imaging for horses and small animals
- Nuclear scintigraphy
- Positron emission tomography
- Through its referral interpretation and telephone consultation services, the radiology section provides support and individual continuing education to Midwest veterinarians.

The radiology section is one of fewer than five services in the country that provides comprehensive radiation therapy service for clinical patients including external beam, implantable and injectable radiation therapy. The section has been instrumental in the initial development of at least two products (Quadramet (intravenous drug for treatment for metastatic bone cancer) and Theraspheres (transarterial treatment of liver cancer) that are now approved for and commonly used in both veterinary and human medicine.
**CARDIOLOGY**

The cardiology service of the University of Missouri Veterinary Health Center offers evaluation of heart disease specializing in the diagnosis and treatment of congenital and acquired heart disease in companion animal, food animal, and equine species.

- Complete echocardiographic, radiographic, and electrocardiographic evaluations
- 24-hour ambulatory electrocardiography, event monitors, implantable loop recorders
- Cardiac catheterization procedures including Amplatz occlusion of patent ductus arteriosus, pulmonic stenosis valvuloplasty and heartworm retrieval
- Pacemaker implantation
- Cutting-edge medications for heart disease

**CARDIOLOGY FACULTY**

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<tr>
<th>Name</th>
<th>Title/Position</th>
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<tbody>
<tr>
<td>Stacey Leach*</td>
<td>DVM, DACVIM Assistant Teaching Professor</td>
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<tr>
<td>Cecil Moore</td>
<td>DVM, MS, DACVO Professor Emeritus</td>
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**CARDIOLOGY RESIDENTS**

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<tr>
<td>Lyndsay Kong</td>
<td>DVM</td>
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<tr>
<td>Kelly Wiggen</td>
<td>DVM</td>
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**CARDIOLOGY OPHTHALMOLOGY**

Complete veterinary ophthalmology diagnostic, medical and surgical services are provided for companion animal, food animal and equine species.

- Treatment for eye disorders of domestic and non-domestic species including ocular trauma, dry eye, glaucoma, inflammation of the eye (uveitis), cataracts, tumors, eyelid abnormalities and retinal diseases
- Breed certification eye examinations of purebred dogs and horses via annual diagnostic screenings for inherited or congenital eye disorders
- Special research focus at the MU College of Veterinary Medicine includes corneal wound healing, therapies for corneal fibrosis, novel treatments for eyelid tumors in horses, and heritable retinal diseases in cats

**OPHTHALMOLOGY FACULTY**

<table>
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<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Rajiv Mohan</td>
<td>MS, PhD, FARVO Professor Ophthalmology and Molecular Medicine Ruth M. Kraeuchi Missouri Endowed Chair Professor of Ophthalmology Director, Ophthalmology One-health One-medicine Research Program Director, Resident Research Mason Eye Institute</td>
</tr>
<tr>
<td>Elizabeth Giuliano*</td>
<td>DVM, MS, DACVO Professor</td>
</tr>
<tr>
<td>Cecil Moore</td>
<td>DVM, MS, DACVO Professor Emeritus</td>
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**OPHTHALMOLOGY RESIDENTS**

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<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Kayla Banks</td>
<td>DVM</td>
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<td>Elizabeth Schaefer</td>
<td>DVM</td>
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**OPHTHALMOLOGY TECHNICIAN ASSISTANT**

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<th>Name</th>
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<td>Abigail Rainwater</td>
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*head of section
The oncology service provides advanced, compassionate cancer care for animals. We coordinate and provide surgery, chemotherapy, radiation therapy and immunotherapy for animals with cancer. Clinicians and house officers strive to advance evidence-based cancer medicine among all species with an emphasis in comparative medicine research. Clinical trials may be available to help subsidize the costs of some cancer treatments.

http://cvm.missouri.edu/oncology/current.html

- Consult service for veterinarians that handles approximately 1,000 consult calls annually
- Published academic literature by VHC oncologists is available through PubMed and a great resource for finding the latest treatment and diagnostic information for your patients
- Individualized treatment plans to meet the needs of both the client and the patient
- Access to cutting-edge imaging and therapy options through clinical trials
- Positron emission tomography (PET) imaging for detecting and staging tumors
- The latest CT and MRI scanners for accurate treatment planning
- Radiopharmaceuticals for diagnosis and treatment of various cancer types—only a few veterinary hospitals worldwide offer the variety of agents available at VHC
- State of the art linear accelerator for highly focused, effective radiation treatment for mast cell tumors, soft-tissue sarcomas, brain, and other tumor types
- Client support service available to assist clients with the emotional side of their pet’s disease and helping them manage the challenges of caring for a cancer patient
- Knowledgeable, compassionate and skilled oncology and radiation therapy nurses
The Community Practice Section at the MU Veterinary Health Center serves many functions for its patients and clients. As generalists (similar to family practice MDs) our veterinarians see dogs and cats for medical and surgical problems as well as for maintenance of wellness, prevention of disease and maximizing quality of life for our patients and their owners. We have special interests in nutrition, dentistry, skin and ear infections, parasite prevention and treatment, and behavior problems.

DENTISTRY
We offer a complete range of veterinary dentistry services.
- Intra-oral digital dental radiography
- Surgical exodontics
- Endodontics, including root canal therapy
- Orthodontics
- Oral fracture repair
- Tumor removal
- Periodontics

Appointments are needed for general dentistry, consultations and oral surgery services.

DERMATOLOGY
Dermatologists are the best resource in veterinary medicine for dogs and cats with skin and ear problems that are difficult to resolve.
- The VHC has board-certified dermatologists on staff in both Columbia and Wentzville.
- We provide a complete range of veterinary dermatology services including expertise in veterinary dermatohistopathology.

DERMATOLOGY FACULTY
Michelle LeRoy  
DVM, DACVD  
Adjunct Assistant Professor
David Senter  
DVM, DACVD  
Adjunct Assistant Professor

COMMUNITY PRACTICE TECHNICIANS
Christina Guthrie  
RVT
Krista Huscher  
RVT
Kacey Lundy  
RVT

SHELTER MEDICINE
The College’s shelter medicine program provides educational benefits to students while helping residents and animals in local communities. The services provided by faculty and students have a direct and positive effect on under-resourced humane societies. The College’s participation helps them reach their goals of controlling the population of unwanted animals while maximizing the adoptability of animals in their care.

The College has converted a building at its Middlebush Farm to provide space for animal holding, laboratory procedures, a surgery suite and animal examination. Additionally, a fully equipped mobile surgical trailer allows students to provide spay and neuter services to shelter animals around Missouri with limited access to veterinary care.

Services include:
- Anesthesia
- Surgery
- Physical examination
- Veterinary dermatology
- Infectious disease management
- Behavioral assessment
- Small animal community practice

COMMUNITY PRACTICE FACULTY
Meagan Brophy  
DVM  
Adjunct Clinical Instructor
Carrie Duran  
DVM, PharmD  
Adjunct Assistant Professor
Jackie Kleypas  
DVM  
Clinical Instructor
Leon Tu  
DVM  
Clinical Instructor

Amie Burling  
DVM, DACVPM  
Assistant Teaching Professor
Alisa Hutchison  
DVM  
Clinical Instructor
David Senter  
DVM, DACVD  
Adjunct Assistant Professor
Richard Meadows*  
DVM, DABVP  
Curators Teaching Professor
Eva Ulery  
DVM  
Clinical Instructor
The Veterinary Health Center is open and fully staffed to receive emergencies 24 hours a day, 365 days a year. Patients admitted on emergency are triaged upon arrival and provided with lifesaving emergency care as necessary.

All patients receive a complete evaluation by the emergency veterinarian on duty, and the client is informed of the findings of the examination. Diagnostic and treatment plans are recommended and a complete estimate for emergency stabilization is provided to the client. Routine diagnostics such as lab work and plain-film radiographs can be performed at any time, and stabilization, intensive care hospitalization and 24-hour monitoring are provided as needed.

More complex diagnostic and therapeutic procedures can be performed on an emergency basis when indicated. Emergency diagnostic, surgical, and treatment decisions are made on a case-by-case basis and in consultation with the appropriate specialty service.

For critically ill small animal patients that require immediate clinical decisions by a veterinarian, the critical care service is prepared to deliver round-the-clock specialty care, including providing mechanical ventilation or peritoneal dialysis if indicated.

Communications with the primary care veterinarian for each patient seen during evenings and weekends include a fax or e-mail sent the next day to inform the pet’s veterinarian of initial findings.
MINIMALLY INVASIVE INTERVENTIONAL PROCEDURES

We are pleased to offer new minimally invasive procedures to treat blockages, shunts, some tumors and tracheal collapse. The small animal internal medicine service, cardiology and soft tissue surgery are now providing the following procedures:

- Tracheal stenting
- Urethral stenting
- Ureteral stenting
- Intrahepatic portosystemic shunt occlusion
- Patent ductus arteriosus occlusion
- Chemooembolization of intrahepatic tumors
- Temporary nephrostomy drainage catheters for renal obstruction with pyelonephritis
- Nasopharyngeal stenting
- Colonic stenting
- Holmium laser lithotripsy.

INTERNAL MEDICINE

The small animal internal medicine service provides secondary and tertiary care to animals with complex disease processes. We work with your practice to form a health care team for the management of long term medical problems. We use specialized modalities including rhinoscopy, bronchoscopy, gastrointestinal endoscopy, and cystoscopy to facilitate disease diagnosis and treatment. Examples of diseases that our internists evaluate and treat include:

- Respiratory disease, such as asthma in cats or chronic nasal discharge in dogs
- Gastrointestinal disease, such as pancreatitis or inflammatory bowel disease
- Liver disease, such as hepatic lipidosis or cirrhosis
- Kidney disease, such as urinary stones, chronic urinary infection, or renal failure
- Endocrine disease, such as Cushing’s disease or diabetes mellitus
- Hematologic disease, such as hemolytic anemia or thrombocytopenia
- Infectious diseases, such as histoplasmosis, cytomegalovirus, and antibiotic-resistant bacterial infections.

INTERNAL MEDICINE FACULTY

Leah Cohn, DVM, PhD, DACVIM
Professor
Associate Department Chair

Amy DeClue, DVM, MS, DACVIM
Associate Professor

Carol Reinero, DVM, PhD, DACVIM
Professor

POST-DISSERTATION FELLOW

Megan Grobman, DVM, MS

INTERNAL MEDICINE RESIDENTS

Jarred Jaffey, DVM, MS
Kristen Merrill, DVM, MS
Megan vanEeden, DVM
Aida Vientos-Plotts, DVM

INTERNATIONAL MEDICINE TECHNOLOGISTS

Matt Haight, RVT
Savannah Smith, RVT

2018 REFERRING VETERINARIANS’ GUIDE
Physical rehabilitation is a proven modality for improving patient outcomes after surgery, restoring mobility, evaluating athletic performance, and most importantly, enhancing quality of life. The clinicians and technicians of the Physical Rehabilitation Service are part of the Veterinary Health Center team dedicated to providing exceptional care for your pet. Our service is co-directed by faculty members of the neurology/neurosurgery, nutrition, and orthopedic surgery services. The care of your pet is provided by a licensed veterinarian and a team of certified canine rehabilitation practitioners to ensure quality patient care and efficient client communications. We have a full-service rehabilitation center including an underwater treadmill, electric stimulation, therapeutic ultrasound, and low level laser for both in-patient and out-patient care. Since obesity can have a negative impact on a pet’s mobility and lifespan, we also offer comprehensive weight loss plans formulated by our veterinary nutritionist to complement our physical therapy program. Our goal is to maximize your pet’s recovery process and well-being through state-of-the-art physical rehabilitation techniques and optimal nutrition.

**FACULTY COORDINATORS**

- Robert Backus*  
  MS, DVM, PhD, DACVN  
  Associate Professor  
  Director  
  Nestle-Purina Program in Small Animal Nutrition

- Derek Fox  
  DVM, PhD, DACVS  
  Professor Orthopedic Surgery

- Bryan Torres  
  DVM, PhD, DACVS, ACVSMR  
  Assistant Professor  
  Orthopedic Surgery, Motion Analysis Laboratory

**NUTRITION FACULTY**

- Robert Backus*  
  MS, DVM, PhD, DACVN  
  Associate Professor  
  Director  
  Nestle-Purina Program in Small Animal Nutrition

**NUTRITION RESIDENTS**

- Tabitha Hookey  
  DVM

- Catherine Ruggiero  
  DVM

**POST-DOCTORAL FELLOW**

- Lauren Young  
  DVM

**REHABILITATION TECHNICIANS**

- Stephanie Gilliam  
  Co-Coordinator  
  RVT, VTS (Neurology)  
  BS, CCRP

- Adrienne Siddens  
  Co-Coordinator  
  RVT, CCRP

We offer various services to assist with patient care which include:

- **Recommendations on therapeutic diet selection, implementation and follow-up plans.**
- **Custom diet formulation when an appropriate commercial therapeutic diet is not available, accepted or tolerated.**
- **Assisted feeding recommendations, including parental nutrition and indwelling tube feeding.**

Initiation of consultation is requested by phone (573-882-7821), in person, by email (mucvmnutrition@missouri.edu), or by fax (573-884-7563). A consultation request form can be downloaded from the VHC website (http://www.vhc.missouri.edu/clin_nu.htm). A fee is charged once it is agreed that our services would be useful in management of a case. Our fees vary with amount of time required for evaluation and formulation of recommendations. Because we are consultants we must provide services to owners through a primary-care veterinarian who has a client-veterinarian relationship and has evaluated the pet to be managed. Pertinent medical records should be submitted with consultation request forms. Agreed upon fees are to be paid by a referring veterinarian, who typically in turn requests payment from owners.
SMALL ANIMAL SURGERY

ORTHOPEDICS

The veterinary orthopedics section is led by three internationally recognized faculty members. They have developed many cutting-edge procedures, including numerous minimally invasive fracture repair techniques, arthroscopic treatments, correction of limb deformities, and cartilage repair strategies. An outstanding group of resident and intern veterinarians also provide excellent care. The team includes registered veterinary technicians that help to ensure quality patient care and communication. They are all dedicated to improving the lives of their patients and providing exceptional customer service.

SOFT TISSUE & SURGICAL ONCOLOGY

The small animal soft tissue surgery and surgical oncology services offer advanced surgical procedures including abdominal, thoracic, reconstructive, head and neck, upper and lower airway, rectal and perianal, wound management, and oncologic surgeries. These services see patients referred directly from veterinarians, but a large percentage of clinical activity is helping manage patients presented to other clinical services (such as oncology, internal medicine, and emergency/critical care) that require surgical opinions and operative procedures. The University of Missouri is now one of a small group of universities to be able to offer a dedicated surgical oncology service. Both the surgical oncology and soft tissue surgery services work closely with medical oncology and radiation oncology, where necessary, to help find the best options for cancer patients.

- CO2 Laser surgery
- Minimally invasive surgery capabilities, such as laparoscopy and video-assisted thoracic surgery
- Advanced wound management and reconstructive procedures
- Minimally invasive urinary tract stone management
BEHAVIOR
Our American College of Veterinary Behaviorist residency trained clinician provides personalized plans for owners of many different types of species to assist them in treating their animals’ problem behaviors, improving the quality of their pets’ lives, and restoring the rewarding human-animal bond between pets and people.

DERMATOLOGY
Our board-certified dermatologist treats allergies, bacterial and fungal infections, ear infections, parasitic skin diseases, endocrine and metabolic disorders, immune-mediated diseases, skin tumors, nail and nail bed diseases and other dermatoses.

Services include:
- Intradermal testing to identify allergies
- Injectable and oral allergen-specific immunotherapy
- Video otoscopy for deep ear flushes, myringotomies, bulla cultures and removal of foreign bodies and polyps from the ear canal

EDUCATIONAL PRESENTATIONS
In addition to its primary role as a cancer diagnostic and treatment center, VHC-Wentzville serves as a site for educational presentations by MU College of Veterinary Medicine faculty members to St. Louis-area veterinarians and pet owners.

LOCATION
1092 Wentzville Parkway
Wentzville, Mo 63385
(636) 332-5041
vhcw.missouri.edu/wentzville
email: vhcw@missouri.edu

RADIATION ONCOLOGY & IMAGING
Radiation therapy can be utilized to treat tumors, to shrink tumors and to try to prevent the redevelopment of tumors. This improves clinical signs associated with tumors and veterinary patient quality of life. The Wentzville radiation oncology service offers this state of the art therapy conveniently located for St. Louis metro area pet owners.

VHC-Wentzville offers cutting-edge diagnostic capabilities and treatment options in state-of-the-art facilities:
- Diagnostic x-ray
- Computed tomography (CT)
- Radiation Therapy
- Clinical trials of newly developed anti-cancer drugs
Together In Grief, Easing Recovery (TIGER) Program

The Together In Grief, Easing Recovery (TIGER) Program at the Mizzou Veterinary Health Center offers support to clients, students, faculty, and staff around non-medical decision making, grief and bereavement, compassion fatigue, and wellness.

Providing a safe space, assistance, and support to individuals and families during the emotional period from diagnosis through illness progression to death of a pet.

Areas in which the TIGER Program can assist:

- End of life concerns
- Strong emotional reactions in a veterinary clinic setting
- Anticipatory Grief
- How to talk to children about animal health and death
- Ways to Memorialize the special bond with a companion animal
- Resources to help people cope with loss of their animal
- Grief Counselor available to talk with clients
- Training for students, staff, & faculty
- Providing assistance and support
- Twice a month Pet Loss Support and Grief Group

Program services offered free of charge and available to clients of RDVM offices.

Contact: Francesca Tocco, MSW, Program Coordinator
Phone: 573-884-1295
Email: CVMGriefSupport@missouri.edu

Francesca Tocco
Grief Counselor
573-823-9405
toccof@missouri.edu
RESEARCH CENTER FOR HUMAN-ANIMAL INTERACTION (RECHAI)

Founded in 2005, ReCHAI’s mission is to study & promote the health benefits of human-animal interaction (HAI) for people and companion animals.

RESEARCH PROJECTS
- Dog Presence and Children’s Stress during Forensic Interviews for Child Abuse
- Puppies for Parole: Shelter Dog Training and Prison Inmate Behavior Outcomes
- Exploring Human-Companion Animal Interaction for Families of Children with Autism
- Effects of Shelter Dog Obedience Training on Veterans’ PTSD Levels
- Owner Perceptions of Visits with their Hospitalized Dogs
- ICU Owner Visitation and Clinical Effects in their Hospitalized Dogs
- Seniors Fostering Shelter Dogs: Improving Health and Well-Being Together
- Walk a Hound, Lose a Pound and Stay Fit for Older Adults
- Effects of Equine Assisted Activities on PTSD Symptoms in Military Veterans
- Human-Animal Interaction for People in Transition
- Shelter Cat Adoption in Families of Children with Autism: Impact on Cat Stress and Children’s Social Skills and Anxiety. Human Animal Bond Research Institute Foundation & Winn Feline Foundation

COMMUNITY PROGRAMS
- TigerPlace Pet Initiative (facilitating pet ownership for older adults in a retirement residence through a pet care assistant and regular house calls by a MU faculty veterinarian)

UNDERGRADUATE COURSE
- Human-Companion Animal Interaction (PSYCH 2830): The course is taken by approximately 100 students per semester

PUBLICATIONS

RESEARCH CENTER FOR HUMAN-ANIMAL INTERACTION

FACULTY & STAFF

Top from left to right:
Hu Wang, Wilton Fedelis-Nwaefulu, Will Morrison, Rebecca Craigg, Dr. Gretchen Carlisle.

Bottom left to right:
Taryn Parker, Sarah Hinson, Madison Stuart, Sandra Crowder, Dr. Rebecca Johnson, Dr. Bradley Ferguson, Winnie.

Gretchen Carlisle
PhD, MED, RN
(Research Scientist)
Sandra Crowder
Coordinator, TigerPlace Pet Initiative
Bradley Ferguson
PhD

Pia Gomez
VM2 & Veterinary Research Scholar
Rebecca Johnson
PhD, RN, FAAN, FNAP, Professor and Director of ReChai
Taryn Parker
ReChai’s TigerPlace Pet Initiative

Sandra Crowder
Coordinator, TigerPlace Pet Initiative
Gretchen Carlisle
Research Scientist
Bradley Ferguson
PhD


Calls from referring veterinarians and identified as an emergency will be accepted at any time. However, during the times listed below, clinical services may not be available for consult calls from veterinarians.

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>MON-FRI</th>
<th>MON-TH</th>
<th>FRIDAY</th>
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<tbody>
<tr>
<td>SMALL ANIMAL INTERNAL MEDICINE</td>
<td>8-9 am</td>
<td></td>
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<tr>
<td></td>
<td>1:30-3:00 pm</td>
<td></td>
<td></td>
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<tr>
<td>COMMUNITY PRACTICE, DENTISTRY, DERMATOLOGY</td>
<td>MON-FRI 8-9:30 am</td>
<td></td>
<td></td>
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<tr>
<td>ORTHOPEDIC SURGERY</td>
<td>MON &amp; WED 8-9 am, 1-5 pm</td>
<td>TUES &amp; THURS 9 am - 6 pm</td>
<td>8-9 am 4-6 pm</td>
</tr>
<tr>
<td>SOFT-TISSUE SURGERY</td>
<td>4-5 pm</td>
<td></td>
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<tr>
<td>SMALL ANIMAL EMERGENCY CRITICAL CARE</td>
<td>Always available for emergency calls and cases.</td>
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<tr>
<td>NEUROLOGY</td>
<td>8-9 am</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>4-5 pm</td>
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<tr>
<td>ONCOLOGY</td>
<td>MON 8-10 am</td>
<td>TUES 8-9 am</td>
<td>WED 8-9 am</td>
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<td></td>
<td>THUR 8-8:30 am</td>
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<td>FRI 8-10 am</td>
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<td></td>
<td>MON-FRI 3-4 pm</td>
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<tr>
<td>OPHTHALMOLOGY</td>
<td>8-9 am</td>
<td>1-2 pm</td>
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<tr>
<td>CARDIOLOGY</td>
<td>8-10 am</td>
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<tr>
<td>RADIOLGY</td>
<td>8-10 am</td>
<td>1-2 pm</td>
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<tr>
<td>FOOD ANIMAL MEDICINE &amp; SURGERY</td>
<td>8-9 am</td>
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<tr>
<td>EQUINE MEDICINE</td>
<td>9-10:30 am</td>
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<tr>
<td>EQUINE SURGERY</td>
<td>8:30-9:30 am</td>
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</tbody>
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WHO WILL TREAT MY CLIENT’S ANIMAL?
This is a teaching hospital where students in their final two years of veterinary education have the opportunity to learn from our care of patients. They participate in patient care, but in no instance do they determine patient care. Indeed, clinical faculty supervise all student involvement with our patients. If an animal’s illness requires hospitalization, a student who is knowledgeable about the animal will call the owner daily to update the owner on the animal’s condition.

WHAT CAN OWNERS EXPECT DURING THEIR APPOINTMENT?
We try our best to stay on schedule. Please ask clients to notify us as soon as possible if they are unable to keep an appointment. Completion of new patient forms may take a little extra time, so arriving a few minutes early for the first appointment is advisable. We will start a permanent record for each animal on their first visit. We ask the owner to complete a health history questionnaire on their animal and a registration form. Please send your client with a copy of the Patient Referral Form inserted into this guide, as well as a copy of the patient’s records and radiographs. During the first visit, we will perform a complete examination. Following that, we will discuss with the client any treatment needed for current illnesses.

WHAT CAN I TELL MY CLIENT ABOUT THE VHC FEES?
The VHC now offers a financing option to owners of animals being treated at its Columbia and Wentzville facilities. UAS Finance, of Kansas City, Mo.; provides financing for any approved VHC client with an estimated bill between $300 and $10,000. Owners can conveniently pre-qualify by calling the VHC at 573-882-7821 in advance of their appointment. Charges for office visits and procedures are determined by the time spent, materials needed, severity, and complexity of the problem. If an animal is hospitalized, we will provide a written estimate and keep the client apprised of costs by daily phone calls. Fees are payable upon discharge unless other arrangements are made in advance. Cases with estimates more than $300 require a deposit of one-half of the high end of the estimate. We hope to make your client’s visit to our Veterinary Health Center a pleasant experience. If your client would like to direct comments or concerns to us, they may call 573-882-7821 first and then complete the Customer Satisfaction Survey at www.vhc.missouri.edu.

WHO NEEDS A REFERRAL APPOINTMENT?
An appointment is needed for all referral medicine and surgery cases. In order to schedule a referral appointment, please see the phone numbers on the left column of this page. Emergency cases do not require an appointment; however, information pertaining to the case from the referring veterinarian is helpful. It is not necessary to discuss the case with a clinician before a referral appointment; however, the care of the animal is enhanced when you send a letter summarizing previous tests and treatments (see enclosed Patient Referral Form). Referral cases are seen by either the faculty member on service or by a senior house officer under the guidance of a senior faculty member.

HOW CAN I ACCESS MY REFERRED PATIENTS’ INFORMATION?
Visit portal.cvm.missouri.edu to retrieve information on your referred patients from our Referring DVM Portal.

WEBSITE
Please suggest that your clients look at our website (vhc.missouri.edu) prior to their visit to learn much more about our hospital.
At the University of Missouri Veterinary Health Center, we know that successful healing depends on accurate diagnosis. Our state-of-the-art imaging equipment makes the most advanced diagnostic tools in veterinary medicine available to your clients.

Computed tomography (CT) uses X-rays to create detailed 2-D cross-sectional images and 3-D image reconstructions of the inside of a body. With our new CT scanner, we can collect images significantly faster and with greater resolution than our previous CT scanners.

Our new linear accelerator, a state-of-the-art machine used for cancer therapy, will allow for better and more precise delivery of the high energy X-ray beam to the tumor, resulting in more precise treatment of the tumor and less damage to the surrounding tissues.

The Veterinary Health Center is one of only four institutions in the United States that can offer veterinary positron emission tomography (PET) scans. The PET scanner requires only minimal anesthesia and is one of several imaging tools MU veterinarians can now use to detect cancer in dogs and cats and assess the efficacy of therapy or whether the disease has spread.

The addition of the 3T MRI greatly enhances our clinical and research imaging capabilities. The new MRI is faster and provides improved anatomic detail of soft tissues compared to our previous MRI and is housed in a new addition to Clydesdale Hall which also allows us to accommodate larger animals such as horses.