

**BIOMEDICAL & VETERINARY SCIENCES
GRADUATE PROGRAM**



ANNOUNCES

The Master of Science Seminar and Examination of

Elizabeth Hiebert

**“Determining ideal staple size for small intestinal
surgery in cats”**

Friday, January 14, 2022

8:00 am

Vet Med Phase 1 Classroom 100

Zoom link is:

<https://virginiatech.zoom.us/j/7952951818>

Bio



Dr. Hiebert received her Bachelor's degree in Poultry Science and her Doctorate of Veterinary Medicine at Mississippi State University. Postgraduate training included a rotating small animal internship at Virginia-Maryland Regional College of Medicine (VMCVM), small animal surgical internships at both Central Texas Veterinary Specialty Hospital in Austin, TX and Sierra Veterinary Specialists in Reno, NV, and a small animal surgical residency at VMCVM. She looks forward to continuing her veterinary career with BluePearl in Milwaukee, WI.

Funded by

VMCVM Office of Research and Graduate Studies

Lay Language Abstract

Despite the regularity of feline small intestinal surgery, few reports exist of stapled anastomoses in cats, in part due to stapler size limitations. However, the recently developed endoscopic gastrointestinal anastomosis (EndoGIA) stapler shows promise as a future surgical tool for cats because it fits into cat intestine. In dogs, 3.5mm staples are often chosen for intestinal surgery; however, dog intestine is considerably thicker than cat intestine. The study goal was to evaluate not only intestinal burst pressures (the pressure at which cut intestine leaks), but also the ability of fluids to flow through blood vessels that cross the staple lines of four stapler cartridge types from two staple lineages (EndoGIA 2.0/2.5/3.0mm, EndoGIA 3.0/3.5/4.0mm, TA 2.5mm, and TA 3.5mm). The central hypothesis was threefold. First, smaller stapler cartridge sizes (the EndoGIA 2.0/2.5/3.0mm and TA 2.5mm) would have higher intraluminal burst pressures when compared to the larger sizes (the EndoGIA 3.0/3.5/4.0mm). Second, larger stapler cartridges (the EndoGIA 3.0/3.5/4.0mm and the TA 3.5mm) would allow for increased flow of fluids in blood vessels past the stapler lines compared to the smaller cartridges (the EndoGIA 2.0/2.5/3.0mm and the TA 2.5mm). Finally, stapler cartridges with staggered staple sizes (the EndoGIA units) would have increased fluid flow past the staple lines when compared to the single height stapler cartridges (the TA units). Two cats were included in the study. Trends in the data suggested that all components of the hypothesis might be proven with further data. However, due to the low number of cats acquired during the study period, the hypotheses could not be verified with statistics. Future research should focus on acquiring more cats to have the ability able to perform statistical analyses (and prove the hypothesis), before proceeding with additional related studies.

Publications

Hiebert EC, Barry SL, Sawyere DM, et al. Intestinal dehiscence and mortality in cats undergoing gastrointestinal surgery. *J Fel Med Surg.* 2021 Oct 19; 1098612X211048454. doi: 10.1177/1098612X211048454.

Beasley MJ, **Hiebert EC**, Alcott C, et al. Verminous myelopathy secondary to aberrant *Dirofilaria immitis migrans* was detected in the cervical subarachnoid space of four dogs using MRI and CT. *Vet Radiol Ultrasound.* 2021 Feb 1. doi: 10.1111/vru.12954

Hiebert EC, Panciera DL, Boes KM, et al. Platelet function in cats with hyperthyroidism. *J Fel Med Surg*. 2020 May 21:1098612X20920585

Hiebert EC, MacLellan JD. What is your diagnosis? Congenital bronchogenic cyst inducing spontaneous pneumothorax in a young adult Klee Kai. *J Am Vet Med Assoc*. 2019;254:809-811

Beasley MJ, **Hiebert EC**, Daw DN, et al. Neurolymphomatosis caused by T-cell lymphosarcoma in a cat: imaging description and treatment review. *J Fel Med Surg Open Rep*. 2019;5(1):2055116919833534

Hiebert EC, Wills RW, Lathan P. Mucous membrane color assessment variability of veterinary students using either colorimetric or word-based scales. *J Vet Med Educ*. 2019;46:77-80

Tollefson CR, **Hiebert EC**, Lee AM, et al. What is your diagnosis? Foreign body aspiration with pharyngeal entrapment in a cat. *J Am Vet Med Assoc*. 2018;253:1405-1407

Gilley RS, **Hiebert E**, Clapp K, et al. Long-term formation of aggressive bony lesions in dogs with mid-diaphyseal fractures stabilized with metallic plates: incidence in a tertiary referral hospital population. *Front Vet Sci*. 2017;4:3

Gambino J, **Hiebert E**, Johnson M, et al. Diagnosis of *Aelurostrongylus abstrusus* verminous pneumonia via sonography-guided fine-needle pulmonary parenchymal aspiration in a cat. *J Fel Med Surg Open Rep*. 2016;2(1):2055116916646584

Hiebert E, Gambino J, Kepler D, Beasley M. What is your neurologic diagnosis? Intervertebral Disk Disease. *J Am Vet Med Assoc*. 2016;248:59-62

Hiebert E, Clarke K, Fleming S, et al. What is your diagnosis? Congenital intrapulmonary bronchogenic cyst. *J Am Vet Med Assoc*. 2015;247:1007-1009

Gambino J, Sivacolundhu R, Delucia M, **Hiebert E**. Repair of a sliding (type 1) hiatal hernia in a cat via herniorrhaphy, esophagoplasty and floppy Nissen fundoplication. *J Feline Med Surg Open Rep*. 2015;1(2)2055116915602498

Hiebert EC, Gambino JM, Hutcheson KD, et al. What is your neurologic diagnosis? Aortic thromboembolic disease (ATE) and hind limb ischemia. J Am Vet Med Assoc. 2015;246:1293-5

Presentations

Hiebert E, Fisher SC, Syrcle J. Combined ventral midline celiotomy and transdiaphragmatic thoracotomy for treatment of dogs with chylothorax. Presented at the ACVS Surgery Summit October 25-27, 2018, in Phoenix, AZ

Hiebert E, Bevan J. Outcomes of ventral slot decompression for canine cervical intervertebral disc herniation: 239 cases. Presented at the ACVS Surgery Summit October 25-27, 2018, in Phoenix, AZ

Awards and Academic Achievements

Magna Cum Laude, Mississippi State University College of Veterinary Medicine, 2014

American College of Veterinary Surgeons Student Surgery Award for Excellence in Small Animal Surgery, Mississippi State University, 2014

Alexander "Bam" Williams Endowed Scholarship for Academic Achievement and Leadership Ability, Mississippi State University, 2014

Summa Cum Laude, Mississippi State University, 2011

Examination Graduate Committee

Major Advisor/Chair:

Stefanie M. DeMonaco, DVM, MS, DACVIM
Assistant Professor
Department of Small Animal Clinical Sciences

Graduate Advising Committee Members:

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Dominique Marie Sawyere, BVSc, MS, DACVS-SA
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