

# SPOTLIGHT ON Lincoln Memorial University Veterinary Medicine

Advancing animal health and welfare through research

## Advancing veterinary education through a different kind of research

Julie Hunt, DVM, MS, and Stacy Anderson, DVM, MVSc, PhD, DACVS-LA\*

Richard A. Gillespie College of Veterinary Medicine, Lincoln Memorial University, Harrogate, TN

\*Corresponding author: Dr. Anderson (stacy.anderson@lmunet.edu)

doi.org/10.2460/ajvr.22.12.0205

© 2023 THE AUTHORS. Published by the American Veterinary Medical Association

Lincoln Memorial University's Richard A. Gillespie College of Veterinary Medicine (LMU-CVM) is committed to meaningful research that advances human and animal health. The Center for Innovation in Veterinary Education and Technology (CIVET), one of LMU-CVM's research centers, was developed early in the college's existence with the mission to enhance veterinary education. This mission is achieved, in part, through research on veterinary educational topics of relevance worldwide. Rigorous, well-designed educational research informs teaching and assessment practices, directly impacting the quality of treatment of animals by graduates of a veterinary program.

### See one, do many, and learn from the result

New veterinary graduates are often characterized as lacking hands-on experience and possessing weak surgical skills. Clinical skills are learned through repetitive practice. Simulators are not meant to replace live animal experience, but rather they allow students to practice skills repetitively until competence is achieved, leading to greater confidence when the skills are performed on a live animal for the first time. An experiential learning process using simulators helps students to emerge from veterinary school with the hands-on skills they need to treat their patients safely and effectively, without threatening animal welfare, during their education.

LMU-CVM's research has developed and validated a portfolio of simulators that permit students to practice their medical and surgical skills, including simulators for ovariohysterectomy, canine and bovine castration, canine dentistry, and venipuncture and intramuscular injections for multiple species. In each case, rubrics assessing student performance of these tasks were published along with a description of the simulator, allowing other veterinary educators to construct their own version and utilize it in the teaching and assessment of their students. Most of these simulators are cost efficient and can be constructed by educators in settings with limited resources.

### Teaching and learning—improved

Having the appropriate tools, such as simulators to prepare students for live animal work, is only 1 part of the equation. *How* educators teach using these simulators—and while



Use of the validated canine castration model leads to increased confidence and competence.

providing instruction in other courses, such as those teaching didactic material—is also critical. CIVET has also supported research evaluating teaching methods and assessment practices, resources provided to students, instructor-to-student ratios, instructor behavior during teaching sessions, and how students retain skills-based training. Taken together, these research findings help veterinary educators utilize targeted, evidence-based teaching and assessment practices to help their students graduate as competent veterinarians.

LMU-CVM and CIVET look forward to continually advancing veterinary educational research as a discipline worthy of additional study. The college also supports research in other critical areas, including population medicine studies on human and animal health in Appalachia; research on infectious, zoonotic, and vector-borne diseases; veterinary clinical research; and metabolomics and lipidomics, which can advance diagnostic testing and define new therapeutic targets for existing diseases.

Further information on research at LMU-CVM is available at <https://www.lmunet.edu/college-of-veterinary-medicine/research/index>.