

Veterinary Students Making a Difference

Student Program at University of Florida Benefits Cats and Dogs

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University of Florida College of Veterinary Medicine students recently initiated a program which will decrease students' dependence on involvement with terminal surgeries for tissue handling and live animal surgical experience. The program allows students to perform ovariohysterectomies every month at a clinic for stray and feral cats.

As part of the small animal soft tissue surgery curriculum, the University of Florida requires students to take course VEM 5402: Introduction to Surgery of Domestic Animals, and offers an elective course, VEM 5432: Advanced Small Animal Surgery. The laboratory portion of the advanced small animal surgery elective is offered during the fourth year and consists of five four-hour lab sessions, involving terminal surgeries in two of the sessions. Senior students are given the option of working on cadavers instead of terminal surgeries. While this is an attractive option, most students still choose to perform terminal surgeries on live animals. They cite two reasons for their choice: First, the hemostatic and tissue handling characteristics of live tissue are different from dead tissue; and second, the belief that sacrificing a few animals in a training situation will save many more animals later on. We can certainly debate the latter — surgical capability cannot rely solely on the experience gained from two four-hour lab sessions in which several complicated procedures are shared among students. Unfortunately, we can't argue the validity of the former claim — indeed live tissue sometimes handles differently than dead tissue.

The University of Florida Student Chapter of the American Association of Feline Practitioners (SCAAFP) recently initiated a program which will decrease students' dependence on perceived need of terminal surgeries to get tissue handling experience.

In March 2002, the SCAAFP initiated a partnership program with Operation



Student surgeons participating in the Student Spay Program in partnership with Operation Catnip gain valuable hands-on surgical experience, increase their confidence with live tissue handling, and help reduce the overpopulation problem. Clearly a WIN-WIN-WIN-WIN situation for the students, veterinary school, the community, and, most importantly, the cats.

Catnip to provide an opportunity for veterinary students to obtain more experience performing ovariohysterectomies. Operation Catnip is a free trap-neuter-release program for stray and feral cats. It was originally started by Dr. Julie Levy at North Carolina State University. She expanded the program to the University of Florida in 1998. Operation Catnip clinics are held once a month at the University of Florida in space donated by the College of Veterinary Medicine. The clinics are staffed completely by volunteers; supplies and funds come from grants and donations. In the past, veterinary students performed the castrations, but the rapid pace and high volume of the clinics, which average 130 cats per clinic, prevented novice student surgeons from performing the ovariohysterectomies. However, under this new SCAAFP initiative, known as the Student Spay Program (SSP), students hire residents from the small animal surgery service to supervise them, much in the same way they do during surgery labs and clinical rotations.

The SSP is open to all veterinary

students who have successfully completed the basic small animal surgery class and clinical rotation and have participated in at least two Operation Catnip clinics in some other capacity, so that they have a familiarity with how the clinics are run. In addition, participating students are required to perform a "review" spay on a cadaver the day before the Operation Catnip clinic. First- and second-year students can also participate by monitoring the cats and providing surgical assistance.

The SSP affords students an opportunity to get monthly hands-on surgical experience, increase their confidence level about handling live tissue, *and* perform a procedure that helps reduce the overpopulation problem. Although the actual technique of performing an ovariohysterectomy is different from a splenectomy, intestinal anastomosis, or any other soft tissue surgery, the surgical skills are the same: Students still have to deal with bleeding vessels, handle, ligate and resect live tissue, and manage emergencies that may

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arise. Because of the tissue handling experience gained from the SSP, in the Fall 2002 semester, three additional students chose cadavers over live animal terminal surgeries during the advanced small animal surgery elective. According to fourth-year veterinary student Allison Cannon, "Even though we're performing only spays, they're still very invasive surgeries. I became comfortable enough with the repeated live tissue handling and hemostasis during the Operation Catnip clinics that I didn't feel I needed to perform a terminal surgery to gain this experience." We're fortunate at University of Florida because we have Operation Catnip, which is tailor-made for such a program in that it provides a steady source of animals. In addition to helping students, the program also helps Operation Catnip by relieving some of the work load on the volunteer veterinarians.

The University of Florida Student Chapter of the American Veterinary Medical Association showed its support for the SSP by providing funds to compensate a supervising veterinarian. In addition, Pfizer has provided funding for the students, and Surgivet has donated two anesthesia machines. The SSP is seeking additional corporate sponsorship in anticipation of program expansion. In March, the students held the first "all student surgeon" Operation Catnip clinic to celebrate the one-year anniversary of the SSP. At this clinic alone, 19 student surgeons spayed 60 cats in three hours! At the time of this writing, the SSP has involved 34 student surgeons who have performed 232 ovariohysterectomies during 12 clinics. The program clearly benefits the students, the school, the community, and, most of all, the cats. In addition, as more students become comfortable with live tissue handling through repeated SSP surgeries, they may continue to decline live animal terminal surgeries during the elective course. The program can then claim another benefit — saving the lives of many dogs who will not be subject to a terminal surgery. Given the growing popularity of this program, these benefits will only increase with time.

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These advantages look good on paper, but how well do they stand up in practice? Since 2000, several studies of Immersion medical simulators have been published in the medical literature. This research shows that these simulations not only significantly improve performance (Rowe & Cohen 2002, Colt et al. 2001), but that they exceed traditional training methods in the acquisition of procedural skill (Ost et al. 2001). Other studies confirm that these devices measure what they are intended to measure (Wong et al. 2001), and can discriminate users based on procedural experience (e.g., Mehta et al. 2000, Datta et al 2002).

Has the time arrived for the use of VR simulators in veterinary training? Not quite yet, but it may not be far off. It is not a giant leap from VR simulators that present human patients to those that present nonhuman animal patients, for the technology is already in place. Since 2002, the first two veterinary endoscopy training centers have been opened in the United States: Colorado State University's Veterinary Endoscopy Teaching Center and the University of Georgia's Endoscopy Training Center. These facilities use a combination of models, training videos, and practice with anesthetized animals (typically dogs).

In May 2003, a small group of faculty from Tufts University School of Veterinary Medicine will gather at Beth Israel Hospital in Boston for a demonstration of Beth Israel's AccuTouch® Endoscopy simulator. Given the similarities between performing endoscopies on humans and nonhuman animals, AccuTouch® Endoscopy could immediately add value

to veterinary training, without any prior modification. However, it seems likely that in the next few years, the first virtual dog or horse will undergo endoscopic examination at one of the nation's veterinary schools. Both students and other animals will benefit.

To learn more about the pioneering medical products available from Immersion Medical, visit their Web site at <http://www.immersion.com/products/medical/overview.shtml>.

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