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Today, some form of shelter animal medicine is taught at veterinary colleges or schools at Cornell, UC Davis, Auburn, Iowa State, Oklahoma State and Ohio State. Penn will begin its own shelter animal medicine program in the spring of 2006. It will impact all students, ensuring they not only master certain surgical techniques, but also learn about other issues facing companion-animal veterinarians and animal shelters, including emergency medicine, infectious disease, parasitology and behavior. And the surgical component, once implemented, could directly increase the number of companion animals spayed and neutered in the Philadelphia area.

“The School has been working with PACCA to obtain spay dogs for junior and senior surgery classes since 2002,” said **Dr. David Holt**, chief of surgery and Shelter Animal Medicine committee member. “Though the relationship with PACCA has been strained in the past, changes in PACCA management have led to a more productive relationship.”

This relationship is critical to the success of the program, because not only will it significantly enhance the surgical experience and skills of graduating students, it will also improve the adoptability of more than 1,000 of the dogs and cats received at PACCA every year.

To strengthen the relationship between the School and PACCA, Matthew J. Ryan Veterinary Hospital Director **Barry Stupine** recently joined PACCA’s Board of Directors. “As one of the only veterinary schools in an urban location, our active participation in animal welfare issues in the city is critical to our mission of teaching, healing and research,” he said.

The new program will impact every student at the School, from the addition of four hours to the core curriculum to elective lab courses that could be held at PACCA in the second or third year. PACCA has a never-ending supply of incoming animals with common problems, including dermatitis, cuts, bruises, ear infections, diarrhea and so forth, most of which are not often seen at the Ryan Hospital. In addition, a senior spay/neuter rotation would allow students to acquire more direct surgery experience, and an externship available in the senior year would allow other areas of shelter animal medicine to be studied in depth.

“While the academic focus of the program will be pet overpopulation, our program encompasses several important areas of potential study, including the interaction of animals and society and animal behavior, both of which are already disciplines within the School,” said Shelter Animal Medicine committee chair **Dr. Chuck Newton**, deputy associate dean. “The program would expose veterinary students to an important aspect of urban veterinary medicine that is not currently part of the curriculum. And a core teaching concept from the Shelter Animal Medicine program is the importance of pro bono work in the practice of any veterinarian.”

While effective spay/neuter programs are critical in the battle against pet overpopulation, the corresponding component is adoption. “Students in the junior surgery course have traditionally been very interested in ensuring their spay dogs are adopted,” said Dr. Holt. “To make that easier, we’re now allowing students to adopt PACCA dogs directly, so that they do not have to return to the shelter.” In addition, the School cooperates with all shelters in the city, and has recently joined the Alliance for Philadelphia’s Animals to help ensure the objectives of this component of the pet overpopulation equation are met successfully.

A world-class Shelter Animal Medicine faculty, coupled with a renovated student surgery suite and a partnership with city shelters, will ensure the School continues to provide the highest quality of education to future veterinarians, who as a result, will be better prepared to enter the profession and practice veterinary medicine, whether in private practices or in shelters. By partnering with the major players in animal welfare in Philadelphia and beyond, the School will not only develop a model program for students, it will be the force behind the rescue of the lives of thousands of adoptable animals in this city. ■

GOMME SHELTER:

Penn begins Shelter Animal Medicine Program

BY GAIL LUCIANI

The statistics are staggering. Each year, millions of unwanted pets are born in this country. According to the Humane Society of the United States, one female cat and her offspring can produce as many as 420,000 cats in seven years; a female dog and her offspring can produce 67,000 dogs in six years.

Animal shelters take in an estimated eight to 10 million animals each year, half of which, sadly, are euthanized for lack of permanent, caring homes, because of preventable behavior problems—or for nothing more than lack of space.

The pet overpopulation problem is very real in the city of Philadelphia. The Philadelphia Animal Care and Control Association (PACCA), under the auspices of the city’s Department of Health, is responsible for animal control. It urgently needs assistance neutering dogs and cats to be put up for adoption. By conservative estimates, the facility receives between 11,000 and 21,000 animals annually that have been surrendered by city residents or picked up as strays. Of these, only 33 percent of the potentially adoptable animals are placed in homes (about 4,000 to 4,600 per year). The rest are euthanized.

What is the role of the veterinary profession when it comes to pet overpopulation and the care of animals in shelters? In the past, the shelter and veterinary disciplines were often at odds when it came to ideology, business practices and even agreement on what was best for animals. Over time, various social, economic and philosophical factors contributed to the evolution of a new cooperative environment. Interest in shelter animal medicine stirred in the past decade and continues to increase today. In addition to pro bono spay/neuter work performed by veterinarians across the country, veterinary schools are taking a hard look at how they can ensure their students understand issues associated with pet overpopulation.

As a discipline, shelter animal medicine is relatively new, covering many areas of both veterinary care and shelter management. Veterinary care encompasses population health, preventive medicine, epidemiology and infectious disease diagnosis, treatment and prevention, including appropriate vaccination. Behavioral assessment, treatment and counseling are critical components to increasing adoption rates at shelters. From the shelter management perspective, components include structural design, facilities management (including disinfection), community education and outreach, and management, marketing and public relations.

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Ginger joins, from left, Deirdre Weissman, V'08, Dr. David Diefenderfer, V'81, Dr. Carrie Gurnee, Dr. Chick Weisse, V'98 and Alison Seward.



Photos by Sabina Pierce

Ginger comes to Penn

At Penn, Ginger was placed under the care of **Dr. Chick Weisse, V'98**, assistant professor of soft tissue surgery, who determined that the dog required a liver shunt embolization to redirect the abnormal flow of blood through her liver. "The referring veterinarian from New York had suspected a liver shunt was present from Ginger's behavioral changes, blood work and ultrasonography," said Dr. Weisse. "These identified the presence of the congenital vascular anomaly (portosystemic shunt) within the liver."

Dr. Weisse performed

a special noninvasive procedure using catheters and guide wires to repair the abnormal blood vessel in Ginger's liver and fix the blood-flow problem. "Instead of performing traditional, invasive, open surgery, we used interventional radiology techniques under fluoroscopic guidance, similar to a video x-ray, to repair the problem through a small catheter placed in the neck," he said. "We were able to identify the shunt and place thrombogenic coils within the abnormal blood vessel to slowly close it off over time." Ryan is the only veterinary hospital in the country where procedures such as Ginger's are performed routinely; there have been only 35 to 40 cases using this or similar procedures to date.

At the time of Ginger's liver shunt procedure, no one could have known how many medical adversities the young dog would still need to overcome. While not as urgent as her liver condition, an angular limb deformity in her front left leg was observed by Penn veterinarians. With the threat of the condition worsening over time, Ginger underwent a second surgery; this time one that required breaking and resetting her afflicted leg. The surgery was performed by orthopedic surgeon **Dr. David Diefenderfer, V'81**.

"This case was interesting to me because of its multidisciplinary considerations," said Dr. Diefenderfer. "Ginger having had an intrahepatic shunt eliminated our ability to use non-steroidal anti-inflammatory drugs that we take for granted in orthopedic therapeutics. Then there were the behavioral issues that arose as Ginger became understandably more unhappy about the frequent inconveniences that were necessary for her care. The Behavior Service was helpful to us in explaining the nuances of handling that situation."

Ginger needs a home

Though Ginger had a foster home in New York, doctors at Penn were concerned about having their young patient live so far away. The Mayor's Alliance of New York allowed Ginger's medical team at Penn to look for a home that would keep her close to them. While several possible homes were being considered, Ginger became a popular patient at Ryan, making friends across the Hospital when she wasn't being fostered with members of the School staff.

Yet Ginger's personality suddenly began to change; the normally playful puppy sometimes refused to be roused and angrily growled at those attempting to touch her. She began having digestion problems. Doctors first assumed she was still recovering from her liver shunt surgery and needed more time to cope with the post-surgical stress. Others expressed concern that her repeated vomiting was a symptom of a more serious, underlying issue. More tests revealed nothing.

Ginger's luck changed when **Deirdre Weissman, V'08**, president of the Veterinary Business Management Association, began a search for a "vet's dog," meaning one with so many issues that only a veterinarian would be compelled to accept the challenge. Ginger clearly fit the bill. "I heard all about Ginger and her story," Deirdre said. "I also learned of how she is so well loved by so many people here at Penn. I wanted to give Ginger the life she deserved because she had been through so much."

Ginger went home with Deirdre, but all was not well. The pup's indoor accidents increased, and blood appeared in her urine. "That began the long quest to find a cause," said Deirdre. **Dr. Carrie Gurnee**, medicine resident, ordered a cystoscopy that revealed a lesion in Ginger's left ureter, allowing blood to leak into her urine. With her digestive issues still a factor, a second cystoscopy was performed so doctors could evaluate possible repercussions from her liver shunt surgery. They discovered that Ginger's duodenum, the part of the intestine leading out of the stomach, was ulcerous.

Ginger needs more surgery

A date was set to repair Ginger's ureter lesion. In the weeks before this surgery, she faced a series of vomiting episodes and high ammonia levels. She was placed on intravenous fluids, and the extended hospital stays worsened her mood and behavior. A "caution" sign hung on her cage door. Finally, on the day of the surgery, several Penn veterinarians looked on as a physician from Thomas Jefferson University Hospital performed a procedure never before done on dogs. Unfortunately, the navigating probe caused so much bleeding and trauma in the ureter that the doctor could not tell if he

had reached the lesion. With too much uncertainty and Ginger's well-being at stake, the doctors decided to stop the procedure. Deirdre was given the option of having the dog go through a second attempt at the procedure in six to eight weeks or removing the kidney. The decision was made for Deirdre when a subsequent ultrasound identified a blood clot in Ginger's ureter, rendering her kidney functionally dead. Ginger underwent surgery to remove the kidney.

Ginger finally goes home

In the following days, Ginger's strength returned, as did her normally playful personality and mischievous behavior. "I am extremely grateful to the entire Penn Veterinary Medicine staff for all the care Ginger has received. That support structure has been the driving force behind her recovery. It's nice to know what an incredible network of people Ginger has at Penn who support her and ensure that she receives the best care possible," Deirdre said.

Ginger has retained her popularity at Penn. "So many people say 'Hi Ginger' when we're in the Hospital, and I know that she recognizes them," she said. "Everyone, from fourth-year students to the nurses, to the surgeons, to the medicine folks, knows her, and I can tell she's happy to see them, too." The dog's celebrity status increased further when she was chosen as the poster puppy for the School's new Shelter Animal Medicine program.

"Bringing Ginger into my life has been one of the best decisions I've ever made," said Deirdre. "Ginger has taught me so much, not only about veterinary medicine, but about how to appreciate life and how to make time to enjoy the things you love." ♥

THE STORY OF GINGER:

Penn Vets Save a New York Puppy

BY ALAN ATCHISON

Plucked from a New York City animal shelter, the six-month-old puppy barely had time to settle into her new foster home before she began having seizures. Little Ginger, a female shepherd mix, had a condition that medication and TLC couldn't fix—she was diagnosed with having an abnormal blood vessel in her liver. The condition, if left untreated, would quickly create a lethal buildup of toxins.

Volunteers from the Mayor's Alliance of New York, an alliance of animal rescue groups, contacted their sister organization, the Alliance for Philadelphia's Animals, for help. The only place that could save Ginger was the Matthew J. Ryan Veterinary Hospital at the University of Pennsylvania. The School had recently become a member of the Philadelphia Alliance, which has a mission of working toward a time when no adoptable pet in Philadelphia is killed merely because it does not have a home. Special arrangements were made for Ginger's transportation and hospital care by both organizations.



Dr. Weisse and Brandy Uhl, V'06, perform a diagnostic procedure.