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[Rosettes and Ribbons](#)

[Gifts](#)

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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.

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.



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

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."