

# CLINICAL CASE

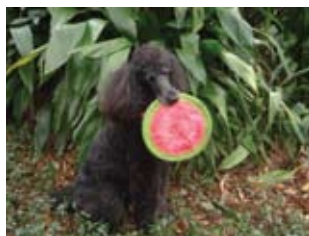


## BREATHE EASY

### POODLE RECEIVES NASOPHARYNGEAL STENT

**M**aggie loves to catch Frisbees. However, after a dental cleaning at her veterinarian's office, the 10-year-old black Standard Poodle began to discharge large amounts of thick mucus out of her nose. This made it impossible for her to breathe out of her nose, and she began to gradually decline. Thanks to a procedure done at the LSU School of Veterinary Medicine, Maggie can breathe through her nose again and is back to catching Frisbees. "She's a different dog," said Maggie's owner, Susan Strait of Lafayette, La.

In August 2008, Maggie went to her veterinarian for a dental cleaning. She was anesthetized for the procedure (which is standard practice), but she regurgitated or vomited during the recovery phase. This vomiting resulted in gastric fluid accumulation inside her nose and throat. The highly acidic gastric material damaged her nasal passages and caused a build-up of scar tissue. The scar tissue almost completely blocked Maggie's nasal passage, causing difficulty breathing and a large amount of mucus to build up behind the scar tissue. "She would cough up these soft-ball-sized balls of mucous," said Strait. "At first we thought it was an infection, so we tried antibiotics, but they didn't work."



Maggie was referred to LSU, where she was diagnosed by Dr. Kirk Ryan, assistant professor of veterinary medicine. "Anesthesia is generally very safe, but some harmful anesthesia reactions can occur. What's remarkable in this case is the type of complication that we saw with Maggie. It's really a very uncommon problem," said Dr. Ryan. "Our internal medicine resident, Dr. Ashley Martin (LSU 2006), advocated a new procedure where a stent is inserted into the nasal passage to open it back up." The procedure had been done successfully a few other times, but it had never been performed at LSU.

In July 2009, Maggie received a nasopharyngeal stent. In the cool, dimmed laboratory, Maggie lay sedated on a table, while a guidewire was inserted through her nose and passed through a 1 millimeter opening to span the area of scar tissue. Using the guidewire, Dr. Romain Pariaut, assistant professor of veterinary cardiology, inserted a balloon catheter through the stent and centered it over the stricture (the area of narrow scar tissue). Dr. Pariaut inflated the balloon to open the stricture, while doctors, technicians, and students watched the procedure on the fluoroscope. "We used some high pressure balloons to open the narrowed area to 14 mm," said Dr. Ryan. Once the stenosis was open, the team members



**TOP LEFT: Dr. Kirk Ryan holds the nasopharyngeal stent. BOTTOM LEFT: Maggie with her Frisbee. TOP: From left, Dr. Lorrie Gaschen, Dr. Romain Pariaut, Dr. Kirk Ryan, and Dr. Ashley Martin work together to insert a nasopharyngeal stent into Maggie, a 10-year-old Standard Poodle.**

placed the custom-made stent on a balloon and passed it over the guidewire where it was inflated under pressure to deploy the stent. Dr. Lorrie Gaschen, associate professor of radiology, helped verify proper stent placement on the x-ray and on the endoscope prior to Dr. Pariaut removing the placement equipment.

This stent is a wire mesh tube to hold the nasal passages open and prevent scar tissue recurrence. These stents were originally designed for humans but modified for veterinary purposes. In consultation with specialists across the country, the procedure was performed in the LSU Veterinary Teaching Hospital's Cardiac Catheterization Laboratory so that both endoscopy and fluoroscopy could be used. Endoscopy is a visual examination of interior structures of the body with an endoscope (essentially a special camera with a light source that can be inserted into the mouth or nose). Fluoroscopy allows examination using a fluoroscope, an instrument that uses an x-ray to project moving images onto a screen. "The mobile fluoroscopy equipment available in the Cardiac

Catheterization Laboratory is a highly maneuverable compact system that provides a large field of view for intra-operative images without interfering with the work of the doctor performing the procedure," said Dr. Pariaut.

Drs. Ryan and Pariaut performed the procedure, assisted by Lee Ann Eddleman, veterinary technician; Dr. Martin; and Dr. Gaschen. "As a veterinary cardiologist involved in cardiac catheterizations, I am very familiar with the instruments, balloons, and guidewires used to treat this problem and the various steps of the procedure. Indeed, this is very similar to the treatment of stenosis of the pulmonic valve, a common congenital defect in dogs," said Dr. Pariaut.

"It took six months to research and plan this procedure and order the equipment, but Maggie is doing great," said Dr. Ryan. ■

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