

# Animal **LIFE**

VETERINARY MEDICAL TEACHING HOSPITAL



## Inside

Cancer is no match for this inspiring couple

Amputee has great leg to stand on

Foal lays to rest  
tough question:  
Trailer in to the  
VMTH or not?

And More!



The two words "animal" and "life" share the "L" because—just like our pets—they are a seamless part of our lives.



Patrice Scott, "AnimalLIFE" editor, with Clyde.

## Live and Learn

I often joke the only way I gained entry into the select world of veterinary medicine was "through the window of the human-animal bond." Since joining the teaching hospital, I have had access to incredible specialists and been afforded opportunities to learn every day.

The stories in this edition of AnimalLIFE challenged me in every way possible. I learned a great deal about medicine and myself. When I first heard about Sissy T, an amputee who needed a total hip replacement on her only remaining hind limb, my thought was "uh oh." When I interviewed Dr. Mary Lynn Higginbotham about cancer patients with recurring words like "lymphoma, basal cell and aggressive," I erroneously concluded "that's it." What I learned was this: I didn't know what I thought I knew and made assumptions. Fear strikes at the heart when you are concerned about a loved one. Fortunately, all of these owners relied on the guidance of the specialists, heeded their advice and made the commitment to see it through. The results speak for themselves.

To our faithful readers, I must apologize for the lapse in production. I'm certainly not the only person capable of producing this magazine, but I need to send a special thank-you to Dean Ralph Richardson, Dr. Roger Fingland and Chris Gruber, for making me feel like I am. The support they provide animals is truly something to behold. They are equally phenomenal when it comes to humans. I hope you enjoy reading this magazine as much as I appreciate the chance to write it.

So, enjoy these stories. Hug your pets and the people closest to you. And rest easy knowing if you ever need us, we're only a phone call away. As always, if you'd like to share a story, please contact me!

All the best,

*Patrice*

Patrice Scott  
Marketing and Development Officer  
Veterinary Medical Teaching Hospital  
1700 Denison Ave., 103 Trotter Hall  
Manhattan, KS 66506-5601  
Phone: 785.532.4046  
E-mail: pscott@vet.k-state.edu

## Contents

Pg. 2 AnimaLIFE Editor's column

Pg. 4 VMTH Director's column  
Challenging times reveal character.

Pg. 17 Referring Veterinarian  
Dr. David Whetstone believes in supporting his alma mater.

Pg. 5 CHAMPioning a Cause

Mysteries of Chronic Kidney Disease call for Dr. Greg Grauer and some animal champions.



Pg. 6 Inspiring Lives

These special patients prove that age isn't a disease, and life can be wonderful – even with a severe illness.

Pg. 9 The Gift of a Lifetime

The Louis A. and Norma Jane Ball Scholarship in Veterinary Medicine will change lives forever.



Pg. 10 A Golden Opportunity

The "T" in Sissy T's name describes one of her physical attributes. Should it also stand for "triumphant"?

Pg. 14 Critical Decisions

Thanks to an experienced trainer, a committed owner and the hospital's equine team, Erika is home once again.



Pg. 18 Dr. Michele Borgarelli

Dr. Borgarelli sets a goal to create a heart failure center at the Veterinary Medical Teaching Hospital (VMTH).

### About the Cover

Jim and Kathy Speier at home with their dogs Max and Tara. Both dogs are living proof that there is a wonderful life after a cancer diagnosis.

#### Editor

Patrice Scott  
1700 Denison Ave.  
103 Trotter Hall  
Manhattan, KS 66506-5601  
785.532.4046  
pscott@vet.k-state.edu

#### Photography

Digital Instruction, Support and Creative Services  
College of Veterinary Medicine  
Kansas State University  
Dave Adams  
Patrice Scott  
Personal family photos

#### Publisher

AnimalLIFE is published by the Veterinary Medical Teaching Hospital at Kansas State University, Manhattan, KS 66506. For advertising information contact Patrice Scott at 785.532.4046.

All rights reserved.

Contents of this magazine may not be reproduced in any manner without the written consent of the publisher.



## Pushing Beyond CHALLENGES

**I**t's wonderful to talk to you again about events at our teaching hospital. Thank you for your patience with our production schedule. We're happy to be back on track!

We've enjoyed many, many successes in the last year; and like most of you, we've experienced challenges. The economic downturn has had an impact on our hospital, our college and our clients. I am immensely appreciative of the outstanding effort made by our faculty and staff as they faced these challenges with an unwavering commitment to patient care and teaching. The result was a modest increase in caseload and revenue in FY09 which is remarkable given our challenges. Great thanks to our clients and referring veterinarians for continuing to support our teaching program.

I'd like to call your attention to a feature article about a client of the teaching hospital who decided to make a difference in the world. How lucky we are that he chose us. I am blessed to have the opportunity to know Lou Ball. He is more than a friend, he is family. The love and commitment he had for his wife Norma Jane and their pets is an inspiration to us all. What Lou has done for veterinary students is unprecedented in veterinary education in the United States. His gift will improve the lives of veterinarians and pets for eternity. Thank you, Lou.

We continue to push forward to offer the best patient care possible. Since we've visited last, we've replaced our oncology service's linear accelerator. The hospital's radiography equipment was upgraded to the latest technology available, and the endoscopy suite underwent a sweeping renovation.

Our commitment to advance the profession of veterinary medicine is visible in every aspect of patient care. In doing so, we will be ready when you need us. Maybe you never thought you'd need to visit a veterinary teaching hospital. That's OK, we've just spent every waking hour preparing for you, just in case.

Thank you for supporting our hospital, and thank you for caring about animals. 🐾

Warmly,

Roger B. Fingland, DVM, MBA, DACVS  
Associate Dean, Clinical Programs  
Director, Veterinary Medical Teaching Hospital

Dr. Greg Grauer

Story by Patrice Scott  
Photo by Dave Adams

## CHAMPioning a Cause

Chronic Kidney Disease plagues geriatric patients

A clinical researcher has been awarded more than \$500,000 to help unlock the mysteries of the second leading natural cause of death in dogs and cats.

Dr. Greg Grauer, professor and Jarvis Chair of Medicine, in the Department of Clinical Sciences, is studying chronic kidney disease (CKD), a progressive disease that primarily affects geriatric animals. As many as 7 percent of older dogs and 20-35 percent of older cats are afflicted with CKD. This disease can lead to kidney failure, which occurs when three-quarters of the tissue of both kidneys has been damaged.

Dr. Grauer has a long-standing interest in kidney disease but began his current investigations in 2006. "Kidney disease is a major cause of morbidity and mortality in cats and dogs," Dr. Grauer says. "In veterinary medicine, we don't have widespread, affordable access to dialysis and kidney transplantation like human kidney disease patients, so we focus on treatments that help protect and preserve the remaining normal kidney tissue."

### About CKD

There are four stages of chronic kidney disease, and specific staging is determined by assessing the patient's history, physical exam status, and performing blood, urine and imaging tests. In blood tests for example, high serum creatinine and urea nitrogen levels (these are waste products excreted from the body by the kidneys) can indicate decreased kidney function. Determining the specific gravity of the urine as well as the amount of protein present also helps determine the severity of the disease process. Measuring the patient's blood pressure is important since hypertension is common in kidney disease and can damage the patient's eyes as well as cause the kidney disease to progress. "The etiology (cause) of the kidney disease in each animal may never be known, but correctly staging the kidney disease



Dr. Greg Grauer and Gizmo, a patient enrolled in an investigative study. Gizmo's owner is a senior veterinary student.

helps us link appropriate diagnostic tests and therapies to each individual animal," Dr. Grauer says.

### Investigative Studies

Dr. Grauer is conducting two CKD studies: One in dogs and one in cats. The canine study focuses on assessing the safety of a newer non-steroidal anti-inflammatory drug (NSAID) in dogs with CKD. NSAIDs have been very successful in improving the quality of life in dogs with arthritis, but in some cases, these drugs can cause kidney tissue damage. "Since many older dogs have both arthritis and CKD, finding a therapy that will lessen the pain of arthritis without advancing the kidney disease is an important goal," he says.

The second study is designed to determine the efficacy of a novel anti-fibrotic treatment for cats with CKD. As kidney disease progresses, normal tissue is often replaced by fibrous scar tissue. "If a new treatment can be developed to help block scar tissue formation, it may improve our ability to protect the kidney from a progressive loss of function," he says.

Helping animals is exactly what prompted hospital client Ginger Barr to enroll her cat Champ in a study last year. "I have been blessed that the majority of my animals have lived very long lives, but I have lost cats and dogs to kidney disease," Ginger says. "I want

to see if these meds can help Champ and all animals live longer, healthier lives. Champ did so well that Dr. Grauer asked if we would be willing to continue in the study. I was tickled pink – thrilled to death – to continue with the program."

Dr. Grauer plans to enroll 24 new patients in each study. The study periods are six months for dogs and 24 months or longer for cats.

If you are interested in learning more about these studies or would like to determine if your pet is a candidate, please contact your veterinarian. 🐾

Story by Patrice Scott  
Photos by Dave Adams

# INSPIRING *Lives*



Dr. Mary Lynn Higginbotham and Jim and Kathy Speier celebrate their successes with Max and Tara.

**“Everyone wins when pets are successfully treated. The students and doctors at K-State win because they need cases to train students. Our local veterinarian wins because he gets to treat our pets for the rest of their lives, and the animals win.”**  
—Kathy Speier

Cancer.

It's a six-letter word, the mere thought of which ushers in images of “The End.” According to veterinary oncologist, Dr. Mary Lynn Higginbotham, that is a common perception. It's also dead wrong. Following is a story about two of the hospital's oncology patients, Max and Tara, who are living proof that there is life – sweet, wonderful life – after a cancer diagnosis.

Max's and Tara's stories dispel common misconceptions about cancer and reinforce the logic of seeking a specialist when needed. Comparisons to humans go a long way in helping clients understand their pet's medical condition. But animals aren't humans, and there are significant differences between the way animals and humans tolerate various treatments and medical therapies. It's imperative to recognize these differences and make decisions based on medical facts, guidance from the specialists and the owner's wishes.

Hospital clients Jim and Kathy Speier (pronounced spire) have made these decisions for years. The Berryton, Kan., couple opened their hearts and home to many animals that were abandoned or abused. Each animal is valued and has ample room to enjoy life. Max and Tara, both 15 years old, are two of the Speier's six dogs and 16 cats. The driving philosophy behind their decisions is simple yet deeply rooted.

“It comes down to doing what you'd want someone to do for you,” Kathy says. “Everyone wins when pets are successfully treated. The students and doctors at K-State win because they need cases to train students. Our local veterinarian wins because he gets to treat our pets for the rest of their lives, and the animals win.”

Max and Tara have been together since each was about a year old. Tara lived at the couple's auto shop in Topeka with Cinnamon, the other “shop dog,” until Cinnamon passed away. Tara needed a friend so the couple adopted Max from the local animal shelter. “They became friends immediately,” Kathy recalls. The dogs did everything together, including acquiring cancer.

Dr. Higginbotham and Jim and Kathy share their perspectives about living with cancer.



Living Life  
TO THE

# MAX

## Q&A:

**How did you learn Max had cancer?**

**Kathy:** We took Max and Tara for teeth cleanings and routine exams in April 2007. Because they were getting older, we started taking them to the veterinarian every six months. Both of them had fatty tumors we were a little concerned about. In November 2007, our veterinarian found a cyst on Max's ankle. There were suspicious cells in the cytology, so our veterinarian referred us to K-State. Max wasn't acting any differently or having any symptoms. We just found the tumor during a routine check-up.

**What was Max diagnosed with?**

**Dr. Higginbotham:** Max was diagnosed with soft tissue sarcoma in the left lateral hock, specifically malignant histiocytoma Grade 1. We recommended the tumor be surgically removed. Radiation therapy was recommended when the histopath report showed the tumor was not able to

be completely removed. In many people's eyes, Max was already geriatric. But age isn't a disease. As long as the patient is healthy, there is no valid medical reason not to treat.

**Kathy:** Ten or 11 might seem old, but we've had dogs live to be 16 and 17. So if we can keep them happy that long, we will.

**Jim:** Ten or 11 is just halfway to us.

**What was your immediate thought when you heard the diagnosis?**

**Kathy:** To tell you the truth, I was not panic stricken. One of our other dogs had cancer, and he lived a full life. We knew we had options. Yes, I was nervous, and it was scary. But because of the location of the cyst, I thought at the very worst, Max would lose his leg. We just decided to take him to K-State and let the specialists guide us. I didn't want to accept that diagnosis without consulting a specialist.

**Jim:** Sometimes if your veterinarian says there is nothing you can do, there still might be something you can do. You can always get a second opinion. Of course we trust our veterinarian. But it's no different than a human member of the family, and I see it as my responsibility to do everything we can for our animals. Our animals have spent their lives protecting us. It's our job to take care of them when they need us.

**Why did you proceed with surgery?**

**Kathy:** The oncologists recommended we remove the tumor and follow that with radiation. Because Max was feeling so good, we had to give him a chance. If he'd been sick or suffering, we would have made a different decision.

**Jim:** We knew our veterinarian and the oncologist at K-State would tell us the truth. If they believed we should stop, then that's what we would have done.

**Why did Max require radiation therapy (RT) ?**

**Dr. Higginbotham:** Soft tissue sarcoma masses have about a 20 percent metastatic rate. If masses are removed and recur, they become invasive and start to grow between the tissues or whatever is in the region. The goal of radiation therapy is to kill the residual cells and prevent local recurrence. In December 2007, Max underwent 17 radiation treatments and did quite well. He did develop some irritation to the skin surrounding the radiation field, which is quite common. We prescribed topical products and some anti-inflammatory medications to keep him comfortable.

**What is Max's prognosis?**

**Dr. Higginbotham:** Max is doing quite well, and I expect he will continue to do well. Right now, I think arthritis is his biggest worry.

**Tell us about the care Max and Tara received at the hospital.**

**Kathy:** I think they get a lot of extra attention at the hospital. Max practically had a student all to himself after surgery. I like the fact that the hospital is staffed 24 hours a day. It's very comforting to know that if there is a problem, a trained professional is right there.

**Jim:** The patients get a lot of extra care and attention at the hospital, and that's an important part of the healing process. It sure helps us sleep at night.



### What happened next?

**Dr. Higginbotham:** Tara came in for a recheck in May 2008 and she was doing great. We recommended that Jim and Kathy increase rechecks to watch the mandibular lymph nodes on the other side. In July 2008, we discovered a firm, nickel-sized mass on her skin that hadn't been noted before. We aspirated it then removed the mass. It was an aggressive basal cell carcinoma. Thoracic radiographs revealed three soft tissue nodules present in her lungs, which was likely metastatic cancer. Since she was otherwise healthy, we elected to try to stop the progression through chemotherapy and gave Tara five doses of Carboplatin.

### How did she tolerate chemotherapy?

**Kathy:** You'd never know she was getting chemo. They'd tell us to watch for certain things, diarrhea, vomiting or changes in eating, but she was fine. They (animals) just don't get that sick at all. I know chemo affects some breeds differently, but Tara was fine.

**Jim:** She seemed younger, I think because she was feeling better.

### Why is chemotherapy better tolerated in animals than humans?

**Dr. Higginbotham:** Veterinary oncologists have worked hard to determine doses of chemotherapy drugs that fight the cancer yet are unlikely to cause severe side effects.

Side effects are always possible, but we do our best to minimize them and keep our patients happy and well while they are undergoing treatment.

### Why did you proceed?

**Kathy:** We'd ask, 'should we keep going?' If the oncologists told us the cancer was too advanced or it was going to be too hard on her, then we would have stopped.

**Jim:** I think Tara's love of life helped her fight this disease. If she was willing to keep going, then so were we.

### What happened during rechecks?

In May 2009, radiographs and an ultrasound revealed Tara had a splenic mass. It was a hematoma, not a cancerous mass. The Speiers readily agreed to have Tara's spleen removed.

### What is Tara's prognosis?

**Dr. Higginbotham:** We have to say the prognosis is guarded because she has metastatic disease. But neither of her tumors are progressing. There aren't many dogs that develop Tara's specific type of lymphoma. It's very possible she will live with the disease for a long time.

### How is Tara now?

**Dr. Higginbotham:** At her recheck in June, the nodules in her lungs were stable, her liver looks good and overall she's doing quite well. The real success is that her quality of life is wonderful. She's still outside running around with Max, having a great life without a spleen, with small cell lymphoma and with pulmonary nodules. But to see her, you'd never know she has cancer – and neither does she.

# Gift of a LIFETIME

Story by Patrice Scott  
Photo by Dave Adams

**Editor's Note:** *The Balls embody the very spirit of philanthropy. Sometimes people make gifts, and sometimes they are the gifts. Rarely do both attributes come in one package. Rare is but one word to describe Lou Ball.*

**L**ou and Norma Jane Ball loved each other and their cats. That simple reality led to two historic events at the College of Veterinary Medicine.

Lou and Norma Jane's blessed life together of 61 years included four cats. All of "the kids" received lifelong medical care – a cumulative 50 years – at the Veterinary Medical Teaching Hospital. To demonstrate their deep appreciation for their many years of positive experiences at the teaching hospital, the couple established a scholarship and funded it with annual donations.

When Norma Jane passed away in 2009, Lou wanted to do something special. Something that would pay tribute to his wonderful wife and their life together; and something that helped animals because their cats were central to many happy memories. The best way to accomplish that, Lou concluded, was to endow their scholarship and support a veterinary student. With that decision, The Louis A. and Norma Jane Ball Scholarship in Veterinary Medicine became the premier scholarship at the college.

"From Sam to Danny Boy to Tiffany and Coco, the support we received for our 'kids' was tremendous and certainly deserves our support by the scholarship I have established at this time," Lou says. "Norma Jane's long career in the teaching profession and my desire to support the College of Veterinary Medicine justifies the establishment of this scholarship. I know Norma Jane would feel that this scholarship will perpetuate our relationship with the college for years to come and provide assistance to an outstanding student."

The Louis A. and Norma Jane Ball Scholarship in Veterinary Medicine is designated for a student who is in the top 10 percent of their class, has an interest in small animal medicine and surgery and has an excellent chance of being accepted into a residency program at a renowned institution. The seven figure endowed scholarship will pay the student's tuition, fees, books and living expenses for their senior year.

Dean Ralph Richardson treasures all aspects of the Ball's relationship with the College of Veterinary Medicine. "Lou and Norma Jane's caring attitudes and shared vision for the future is nothing short of amazing," he says. "We miss Norma Jane, but we are thankful for the way this special couple cared for their 'kids' and demonstrated appreciation for the Veterinary Medical Teaching Hospital faculty, staff and students. They were the best clients any veterinarian could ever wish for! Norma Jane's lifetime career as a teacher undoubtedly helped them recognize the needs that veterinary students face – and they generously addressed them. Lou's business skills and understanding of the insurance business allowed them to develop the concept of the Perpetual Pet Care Program. We are honored to be the veterinary college where the program has become a model for the entire veterinary profession. We have been blessed to be a part of their lives."

Lou and Norma Jane inherited stock when her father passed away in 1972. The couple received quarterly dividend checks, and the stock split several times over the ensuing 37 years. Lou wanted to protect that income stream, but he also wanted to make his gift to the college now. By working with the KSU Foundation, Lou set up a Charitable Remainder Unitrust, a vehicle that allowed him to donate the stock to the foundation and bypass the capital



Lou and Norma Jane Ball with their two purebred Himalayans, Coco and Tiffany.

gains taxes. Proceeds from the stock sale were placed in an account that will generate quarterly payments to Lou for life. "By establishing the charitable unitrust, we could fund the scholarship with the full benefits of the growth of the stock," Lou says. "In retirement, the dividends were a means of supplementing our living and lifestyle. In the end, I feel, it will provide someone a great opportunity to fulfill their life dream of becoming a veterinarian."

The first time the couple made history at the college was in 1996 when they unknowingly created a program that would change the lives of countless animals. They approached the hospital director about establishing an agreement in which the hospital would care for their cats in the event something happened to them. Their contract outlined specific guidelines for the cats' daily care, and in return, the couple would make an estate gift to the college. That initial request grew into the now formalized Perpetual Pet Care Program. The Balls are directly responsible for helping 28 pet owners in nine states make plans for a beloved 43 dogs, 29 cats, 7 horses and an African Grey parrot. 🐦

## Tenacious TARA

## Q&A:

### What was Tara's diagnosis?

**Dr. Higginbotham:** Tara was diagnosed with small cell lymphoma after her veterinarian discovered a mandibular mass during a routine check-up in November 2007 and referred her to the teaching hospital. Her lymphoma is different than what we see in the majority of dogs with lymphoma. (The majority have an aggressive form with intermediate to large lymphoblasts.) Generally when we see lymphoma, it has spread from one lymph node to another. It often spreads to other organs, such as the liver, spleen and blood. Small cell lymphoma is a very slowly progressive disease.

### What were her clinical signs?

**Kathy:** Other than swollen lymph nodes, she didn't have any other symptoms we noticed.

### What was the prescribed course of action?

**Dr. Higginbotham:** We recommended surgery to remove the cancerous lymph node and to confirm the diagnosis. With small cell lymphoma, you have to assess the architecture of the lymph node to distinguish it from a healthy lymph node.

# A GOLDEN OPPORTUNITY

It has been quite an ordeal, but life is returning to normal for Sissy T. "She's no longer in pain and is fetching her ball in the backyard, chasing squirrels, and annoying her brothers whenever possible."



Story by Patrice Scott

**S**issy T is fit, active, and healthy. Surgery for the 5-year-old Golden Retriever's hip dysplasia normally wouldn't be cause for much concern, but Sissy T isn't typical. The "T" in her name stands for "tripod," an affectionate reference to her physical condition as an amputee. Hit by a car when a puppy, her veterinarian amputated her leg after a failed recovery period. In one day, Sissy lost her leg and her home because her owners no longer wanted her. Her veterinarian tried to find a new home but finally contacted an area rescue organization in Omaha, Golden Retriever Rescue in Nebraska (GRRIN.)

Ron Olson and LouAnn Bovy of Elkhorn, Neb., had Golden Retrievers throughout their marriage. Having lost a Golden, Ike, to cancer, the couple was struggling without him. "We went months without a dog, and life just wasn't the same," LouAnn says. First they adopted Augie. Then, one wonderful day, LouAnn was surfing the GRRIN Web site and saw Sissy T's picture. "I don't know exactly what drew me to her, perhaps it was her personality," she says. "Her foster mom described her as sweet, funny, loved to swim and was extremely smart. Sissy T spent most of her life with three legs, and that was normal for her. I didn't see her as handicapped."

After sailing through the rigorous adoption process in October 2004, "Ron and I passed with flying colors," LouAnn proudly proclaims, Sissy T became Sissy T Olson. Once again, she belonged.

Sissy T became a member of the family and was immediately aware of the needs of those around her. Before Ron was diagnosed with sleep apnea, Sissy would alert him when something was wrong. "She would bump me with her wet nose and wake me up when I had gone too long without breathing," Ron remembers.

Every morning Ron took the dogs, Sissy T, Augie and the most recent member of the family, Carson, to a safe area to run off leash, dubbed "the run." With a seemingly unlimited source of energy, Sissy would run, jump, fetch her ball and annoy her brothers as much as possible. Last fall when she couldn't keep pace with the boys, Ron knew something was amiss. Then she just stopped trying. The couple took her to their veterinarian, Dr. Michelle Ravnsborg at Elkhorn Animal Hospital, who diagnosed her with hip dysplasia.

"When I first diagnosed Sissy T with hip dysplasia, it was heartbreaking to think what this meant for her future," Dr. Ravnsborg says. "I also knew that because she was one of the Olson family, she would have the best chance of a good outcome. In spite of all the unique obstacles, Ron and LouAnn did not hesitate to take her to KSUCVM where we knew she would receive the best care available."

"We didn't hesitate," LouAnn says. "We could have gotten her a cart, but she was too young for that. She was only five and healthy as a horse, and we had an option that could take the pain away."

Dr. James Roush, professor of surgery at the Veterinary Medical Teaching Hospital, recalls his initial conversation



LouAnn, a gardening enthusiast, reads *Garden Musings* to Sissy T on the lawn. The book, coincidentally, was written by Sissy T's favorite author, Dr. James Roush.

"When I first diagnosed Sissy T with hip dysplasia, it was heartbreaking to think what this meant for her future," Dr. Ravnsborg says. "I also knew that because she was one of the Olson family, she would have the best chance of a good outcome."

—Dr. Ravnsborg

with Dr. Ravnsborg. "I received a call from Dr. Ravnsborg who essentially said, 'We have a dog that had a previous amputation and has severe hip dysplasia in the only hind limb. Would you ever consider doing a total hip replacement?' I thought: 1) I wasn't sure how the patient would do; and 2) this may be our only hope because the patient wasn't mobile."

When Dr. Roush examined her, it was clear Sissy T was suffering from severe degenerative joint disease. "She was quite debilitated from her pain. She had severe muscle atrophy and loss of mobility to the point her owners had to carry her up steps."

Krista Adamovich was the senior student assigned to Sissy T's case. Krista is planning to apply for a surgery residency and considers this a dream case. "While on the orthopedic surgery service, I really wanted to participate in a total hip arthroplasty because it is a highly specialized procedure and is not done in general practice."

There were fewer than 10 cases in the literature about cemented total hip replacements on canine amputees, and no cases of uncemented total hip replacement on



canine amputees. Since 2004, Dr. Roush has performed uncemented total hip replacements nearly exclusively because, in his opinion, it is a superior procedure. So the question was: Do we go with the tried and true? Or, do we perform a superior procedure with no evidence of how it may turn out in an amputee?

Several factors weighed in on his decision. First, Sissy T was young. She would most likely have many years with this implant. Second, she clearly had an active lifestyle prior to developing hip dysplasia. Third, her owners were committed to maintaining her independence. Fourth, cemented implants loosen over time, which can cause infections and complications.

Left: Dr. Roush uses the hospital's digital radiography equipment to show the exact placement of Sissy T's implant to Ron and LouAnn.

Below: The first few moments of her groundbreaking surgery.



"Surgery is an art, and so much of what we do is based on touch, experience, intuition and the individual patient," Dr. Roush says. "We decided to do what we believed was in the best interest of the patient, even if it meant taking a risk. Not only did we stretch by doing something we don't normally do, but we decided to do something that has never been reported."

Ron and LouAnn were fully on board. "We had complete confidence in Dr. Roush," LouAnn says. "There was no doubt when we brought her to K-State that we were leaving her to have surgery."

On Feb. 25, 2009 at 9:35 a.m., Dr. Roush began the surgery. He removed the arthritic joint and carefully positioned the implant.

"Surgeons are most concerned about the exact implant positioning," he says. "We altered the position of the acetabular cup from normal because Sissy T is bearing weight off-line. Luxation was a greater risk because she does not have a normal stance."

The surgery lasted one hour and 12 minutes, standard time for an uncomplicated procedure. Dr. Roush's post-op orders to Krista were simple: Keep the patient quiet and safe. "Dr. Roush wanted Sissy T laying down and as calm as possible to reduce the chance of subluxating her hip," she says. "So I sat with her for hours at a time scratching her belly until she fell asleep. She felt so good immediately post-surgery she would have run a 5K given the chance."

Doctor's orders included another precaution. "When she was standing, we used a sling to walk her around the hospital to further reduce the chance of injury," Dr. Roush says.

On March 2, Sissy T was discharged and returned home with strict orders to keep her in a small kennel. A week later, Dr. Roush received a call. Sissy T's hind leg had gotten caught in her kennel and she was lame. He advised Ron and LouAnn to take Sissy T to MidWestVET, the hospital's satellite facility in Omaha, for radiographs. "It was so cool," LouAnn says. "Dr. Roush could pull up the X-rays at K-State, and he and Dr. (Mike) Thoesen could talk about the case. Having the convenience of a K-State satellite facility here in Omaha is a blessing." Sissy T fully recovered from the incident.

It has been quite an ordeal, but life is returning to normal for Sissy T. "She's no longer in pain and is fetching her ball in the backyard, chasing squirrels, and annoying her brothers whenever possible," LouAnn says. Very soon, Ron promises, Sissy T will be going on her treasured daily trips to "the run" again.



**Above: Doctor's orders included another precaution. Whenever Sissy T was standing, LouAnn had to use a sling to walk her. This included every trip outside for the first few weeks after surgery to further reduce the chance of subluxating her hip.**

Looking back, Ron and LouAnn are grateful for their experience but not surprised. Ike had been an oncology patient at the teaching hospital so they knew what to expect: Excellence. "You're capable, you're competent and organized," Ron says. "We keep coming back for a reason." LouAnn echoes that sentiment. "The compassion that the students and professors have for the animals is amazing," she says. "The love they demonstrate for their patients just keeps bringing us back. We are getting the best care in the world."

Hopefully, Sissy T's case will help animals around the world. Krista has written a scientific paper about this unique case and submitted it for publication. Dr. Roush hopes Sissy T's case encourages other animal owners to be open to possibilities. "There are almost always alternatives if you care enough about your pets and care enough to go the distance to explore them," he says. "There are specialists available to you who may be willing to take a chance." 🐾



# CRITICAL DECISIONS

Story by Patrice Scott  
Photos by Dave Adams

The foal was barely alive. Her breathing was labored; she was semi-conscious. Erika was in critical condition and time was clearly running out – if it wasn't already too late.

"When they opened the trailer doors and pulled her out, it was heart stopping," says Vicki Francis, Erika's owner, after their harrowing three-hour drive to K-State from Plattsmouth, Neb.

The medical team placed the day-old Friesian foal on a gurney, rushed inside and administered emergency care. "She presented in shock," says emergency clinician Dr. Troy Holder. "She was agonal (gasping for breath). It was really a crisis. We had to get her on oxygen and administer fluids immediately to support her cardiovascular system. She was at least 10 percent dehydrated. We quickly tested her glucose, which was very low at 51. We submitted blood to the lab, and her white blood cell count was 1,500. Normal for a horse is between 6,000 and 12,000. This indicates sepsis."



Erika is strong enough to venture outdoors for the first time under the watchful eyes of senior student Kristen Klein and trainer MaryAnne Girard. She'd been in the hospital for more than a week.

The crisis started the minute Erika was born. The premature foal was a "red bag" delivery. "A red bag delivery happens when the placenta tears away from the uterine wall. This deprives the foal of crucial oxygen and nutrients," explains Dr. Beth Davis, associate professor and section head, equine medicine and surgery. "If no one is there when the foal is delivered, the foal will suffocate."

Trainer MaryAnne Girard was there when the foal was born and expertly managed Erika's medical problem until her condition worsened. Erika's veterinarian drew blood and the test results were stunning, Vicki says. "I didn't want to go (to K-State) originally because she was so fragile I didn't think she'd make it. Here we have a living foal and if we trailer her a long way, we might have a dead foal. The blood work indicated she needed 24-hour a day care, and we were already doing everything we could. MaryAnne and I just looked at each and said, 'Let's go.'"

Dr. Holder says all owners facing a medical crisis have to make that decision at some point. "You have stress on one side and eminent death on the other," he says. "It's like a person in a car wreck. You can't leave a person there and hope they stabilize – then move them. There is so much we can do to save a horse, but only if it's in time. Don't wait; don't hesitate, if your goal is to save the horse."

Erika's veterinarian faxed the foal's blood work to the hospital. It gave Dr. Holder precious time to assemble the team and assign specific duties. "In a situation like that, you don't have time to plan. You have to have everything in place because you can't leave the patient. Every second counts at that point.

When the team whisked Erika into the hospital, the mare became distressed and agitated. "We moved the mare to a stall where she was turning circles because she couldn't get to her baby," Dr. Holder says. "So we placed Erika's gurney in the hallway right next to the stall door and worked on her there so they could be as close as possible."



Dr. Troy Holder led the medical team that saved Erika's life when she arrived at the hospital.

After they had Erika through the initial crisis, Dr. Holder explained the situation to Vicki and MaryAnne. "It was going to be a long and potentially complicated hospitalization and difficult recovery if we were going to save her," Dr. Holder says. "The clients understood what was in front of them and were quite committed to saving her."

Erika was moved to a stall. She was improving thanks to four liters of fluids, the dextrose and oxygen, which gave her enough energy to flail. She was fighting to stand but didn't have the strength, so Dr. Holder asked a team member to sit with her and to "protect her and hold her like a baby."

Erika survived that trying first night. "We started with a foal that was about to expire," Dr. Holder says. "By the time I transferred Erika to Dr. Davis in the morning, she was stable."

During morning rounds, Dr. Davis presented information about the case. She reported the extensive list of Erika's problems and challenges to the students. It was the first day of the first rotation for senior students. This would be an intense, time-consuming case that would demand a great deal of commitment with absolutely no guarantee of a positive outcome. Dr. Davis asked for volunteers. Kristen Klein's hand shot up.

"I volunteered," Kristen says. "I previously had the opportunity to work in equine ICU and on the hospital's foal team, which provides special care for foals with sepsis or that are compromised in some way. This experience made me want to be involved in



Kristen with her first patient as a senior student.



Happy Day! Many of Erika's care givers gather before sending the foal home. Dr. Beth Davis is far right. Senior student Kristen Klein is fourth from right.

"It was really nice watching the interaction with the students and faculty. The clinicians would instruct the students through a procedure then give the students the chance to do it as they closely supervised. Knowing now the kind of care, attention and capabilities that are there, I would have been much more willing to go there (K-State) earlier."

– Vicki Francis

Erika's case. This foal was a little overwhelming because she was my first case, and I had to completely focus on her. Her treatments were so frequent, I really didn't leave her side much." For the first few days, Kristen was with Erika from 6 a.m. to 10 p.m.

There were many encouraging moments and many challenges throughout Erika's ensuing hospitalization. "Erika was up and down a bit," Dr. Davis says. "She was dealing with sepsis and hypoxia to her brain (from the red-bag delivery), yet she was getting stronger and stronger. She developed a life-threatening cardiac arrhythmia on the second day. We had to have her on several IV treatments concurrently to manage all of her problems. Kristen had to be sure that all of her medications were administered appropriately, as well as providing nursing care to keep her clean, dry and comfortable. As the days progressed eventually Erika began to stand intermittently with assistance, but that was a huge obstacle for this filly. I think Kristen wondered if she would ever be able to stand on her own."

The first time Kristen truly believed the foal turned the corner was when Erika stood. "She slowly gained more

strength and could stand up on her own," Kristen says. "Then she started getting a little frisky and kicking, which was really fun to see because it meant she was feeling better."

Erika spent two weeks in the hospital, and MaryAnne and Vicki stayed in town to be nearby. They spent long hours at the hospital. "Nobody skipped a beat," Vicki says of all the professionals at the hospital. "It was really nice watching the interaction with the students and faculty. The clinicians would instruct the students through a procedure then give the students the chance to do it as they closely supervised. Knowing now the kind of care, attention and capabilities that are there, I would have been much more willing to go there (K-State) earlier."

Vicki is obviously elated that Erika survived. She credits MaryAnne's experience, quick thinking and cool head for the initial direction and guidance. "When MaryAnne got nervous, I got nervous."

Dr. Holder gives Vicki and MaryAnne much deserved credit. "They did everything right," he says. "They called their veterinarian when there was a problem, and they followed all the instructions to the letter. A case like this demonstrates how much we can do if given the chance."

Vicki says Erika is a happy, healthy rambunctious foal, who, by the way, loves people. 🐾

## Referring Veterinarian

Story and Photos by Patrice Scott

# LARGE SMALL-ANIMAL PRACTICE

Dr. David Whetstone thought he'd have a large animal practice. Instead, he has a large small-animal practice and wouldn't change a thing.

"I realized I wanted to be a veterinarian in junior high/high school. That's when my family moved back to the farm my dad grew up on in Osawatomie," he says. "I loved that life. I thought becoming a veterinarian would be a way to be involved in animal agriculture and make a living."

But life has a way of changing a person's course. In an animal science class during his undergrad studies, he met Kate Perkins. She was also a pre-veterinary student. He maintained his focus on large animal late into his veterinary training. "In my senior year we had externships. Two were in food animal, and one was an all-dairy rotation in California. I completed two small animal externships, and that pretty much cinched my decision to be a small animal practitioner." But it would take a few years before that dream would become a reality.

He and Kate married in 1993, two weeks after graduating with their veterinary degrees. They moved to Georgia where Dr. Whetstone completed a small animal internship. The couple moved to Iowa and worked in a mixed animal practice for three years before moving back to Wichita. "We had an opportunity to buy a practice and took it," he says. They bought Crestview Animal Clinic in



1997, and in 2000 merged with Dr. Kevin Cederberg's practice, Countryside Pet Clinic in Andover, Kan.

When asked why their practice is successful, he thoughtfully replies it's their philosophy and the people around them. They invest. They invest in their practice to ensure its

success. They invest in their education. They invest in their 24 employees – all so their clients and patients receive the care they want.

"I think what our clients expect of us is to provide cutting edge services. We aren't specialists, and we'll never be K-State, but our clients expect it in our technology and our knowledge base. In Kansas, we are required to get 20 continuing education hours each year. We get between 40 and 60 hours. We send our technicians to major conferences around the country so they can share ideas and bring ideas back to our clinic."

Client Marsha Powell keeps coming back to Dr. Whetstone for two reasons: What the clinic has to offer her dogs; and what Dr. Whetstone offers his clients. "He is an excellent veterinarian. We've had four Golden Retrievers, and Dr. Whetstone has taken care of all of them," Marsha says. "He

can read me. He knows that this living, breathing animal means the world to me, and he takes care of me as much as he takes care of his patients. We're just grateful for the care he's given our animals."

Dr. Whetstone referred Marsha and previous dog, Buddy, to the Veterinary Medical Teaching Hospital at K-State. "Going to K-State was just the best experience I could have asked for."

Dr. Whetstone appreciates the support he receives from the teaching hospital's faculty. "K-State has built a great faculty base. I so appreciate Dr. (Jim) Roush and Dr. (Ken) Harkin and all the faculty. They are always willing to give me time to discuss a case. I had to call Dr. Harkin about Tucker, my own dog, who had laryngeal paralysis. He said, 'You need to put a tracheostomy in before you head this way. He said, 'You can do it.' He quickly gave me the pointers and confidence to do a procedure I had never done before. Because of that, Tucker lived another nine months."

Now it's time to support K-State and give back. "I am thankful to K-State for my education, and I understand the need to educate veterinary students – the very people who will someday take our place," he says. "I want to be supportive of the educational process." Dr. Whetstone is also president of the Pet Tribute board of directors. Pet Tribute is a memorial program for veterinarians who want to individually recognize the loss of a client's pet.

Dr. Whetstone lives on a ranch in Howard, Kan. "It's a way for me to get my large animal fix," he jokes. It is home to Dr. Whetstone, wife Dr. Kate Perkins, and kids Timothy, 9, and Hannah, 6. The family has one dog, Jack, a Golden Retriever they adopted from the clinic five years ago, and three cats: Tate, Jannie and Gale, a rescue following the Greensburg tornado. 🐾



A few employees at Countryside Pet Clinic, from left: Graham Money, Ashley Money, Jolene Bextel, Michelle Harris, Dr. Whetstone, Rhonda Herbers, Karen Childs and patients Trooper and Camper.

## Dr. Michele Borgarelli

Story by Patrice Scott  
Photos by Dave Adams

# In the Heart of it All

**T**he chance to improve lives – his family's and his patients' – is what brought Dr. Michele Borgarelli, associate professor of cardiology, from his home in Torino, Italy, to his new home in Manhattan.

From landscape to language, life is completely different for the Borgarellis, including: wife Lucy, a neurophysiologist; daughters, Magda, 14, and Giorgia 10; and cats Gigi and Sole. The family moved here in 2007 from the historic city in northern Italy that once was the country's capitol. Torino is Italy's fourth largest city and is surrounded by the Alpine arch and hills. Still visible is the city's grid pattern created by the Romans, and majestic palaces and gardens that date back to the 15th century.

But where is this cardiologist proud to call home? "I love Kansas," he says. "I used to watch the old Western movies with John Wayne, and now I get to live where those things really happened. I love the prairie, the wide open spaces and the blue sky. Two colleagues from Italy didn't understand why we moved here so we invited them to visit. Now they can't wait to return."



Dr. Borgarelli at home with his family. From left daughters Magda and Giorgia, and his wife Lucy.

### Success with Heart Failure

Dr. Borgarelli is equally enthusiastic about his specialty and cherishes opportunities to teach clients about cardiac problems. "Heart failure is not a terminal disease. It is a chronic disease, and we can manage it," he says. "Patients can have a good quality of life."

Interestingly, dogs and cats are equally affected by heart conditions, and treatment centers on medical therapies. Clinical signs differ dramatically between the species, while the presence of a murmur is the hallmark of heart disease.

Dr. Borgarelli explains the most common acquired cardiovascular disease in small breed dogs is chronic degenerative mitral valve diseases (diseases of the heart's valves.) Dogs with the disease generally become symptomatic over age eight. Conversely, large breeds are primarily afflicted with dilated cardiomyopathy (an enlarged heart), which affects the heart's muscle. An enlarged heart decreases the heart's pumping function, and clinical signs appear between ages 5

to 7. Common symptoms include exercise intolerance, increased respiratory efforts and a cough. Patients are treated with drugs for life to control the symptoms and progression of the disease.

Cats usually present with severe symptoms, Dr. Borgarelli says. He believes the presence of symptoms is easily masked due to cats' low activity levels, which gives the disease valuable time to progress. Feline patients experience decreased respiratory function or develop a thromboembolism, the sudden onset of paralysis due to blood clots moving from the heart to peripheral vessels. "It is a very painful condition as the heart's structure is compromised in cats," Dr. Borgarelli says. "Patients with a thromboembolism must be hospitalized while we control the condition with drugs. With proper treatment, we can also reduce the risk of a reoccurrence."

Dr. Borgarelli's goal is to create a heart failure center at the Veterinary Medical Teaching Hospital (VMTH) to improve patients' quality of life and survival rates. It will also enable him to educate clients about heart failure and conduct valuable research investigating intriguing questions such as: Why do only 30 to 40 percent of dogs with a heart murmur



develop heart failure? "We want to create the center to determine why only some of the dogs that develop the disease become symptomatic. These are geriatric patients and sometimes they have other diseases such as bronchial diseases that produce a cough, but that does not mean the patient has heart failure," Dr. Borgarelli says.

### From the Alps to the Flint Hills

As a young boy Dr. Borgarelli was strongly influenced by James Herriot books. "I come from a long line of pharmacists, but my family was very supportive of my decision to become a veterinarian," he says.

Dr. Borgarelli graduated from veterinary school in 1989 and spent the next 11 years between a private practice and referral center where co-workers encouraged him to consider cardiology.

"When I graduated from veterinary school, there were no specialization programs in Europe," he says. "Originally I wanted to be a surgeon, but there was a need for cardiologists. I was lucky enough to meet my mentor, Dr. Bussadori, who was starting a veterinary cardiology program. He encouraged me to apply, but there was no residency program so we had to build it. I came to the U.S. several times to train under board-certified cardiologists." Dr. Borgarelli became a diplomate of the European College of Veterinary Internal Medicine (Cardiology) in 1999.

His road to Kansas was built about 10 years ago when Dr. David Biller, professor of radiology, gave a four-hour presentation at a university in Parma, Italy. (Dr. Biller

gladly accepted his honorarium: Half a wheel of Parmesan cheese.) The specialists became friends, and Dr. Biller encouraged Dr. Borgarelli to apply for a cardiology position at the VMTH. "The economic situation in Italy was not good. The students were great, but they couldn't find jobs that paid enough to maintain a family. Many had to leave the profession for that reason," he says. "We moved here to provide our daughters with a better future," he says. "I want to take this opportunity to challenge myself to do something good in a country different than mine."

Dr. Borgarelli enjoys building model airplanes and constructed two for the Topeka Air Museum. Within a year, daughters Magda and Giorgia were fluent in English and excelling academically and socially. "This was a family decision, and we realized that if this was going to work, we had to come here with an accepting attitude, he says. "We've met wonderful people who've helped us in a number of ways."

**Editor's Note:** Congratulations to Dr. Borgarelli for being recently elected president of the European College of Veterinary Internal Medicine.



Dr. Borgarelli examines Sam during a check-up while cardiology resident Dr. Emily Olson and Sam's owner, Melissa Sunnenberg look on.

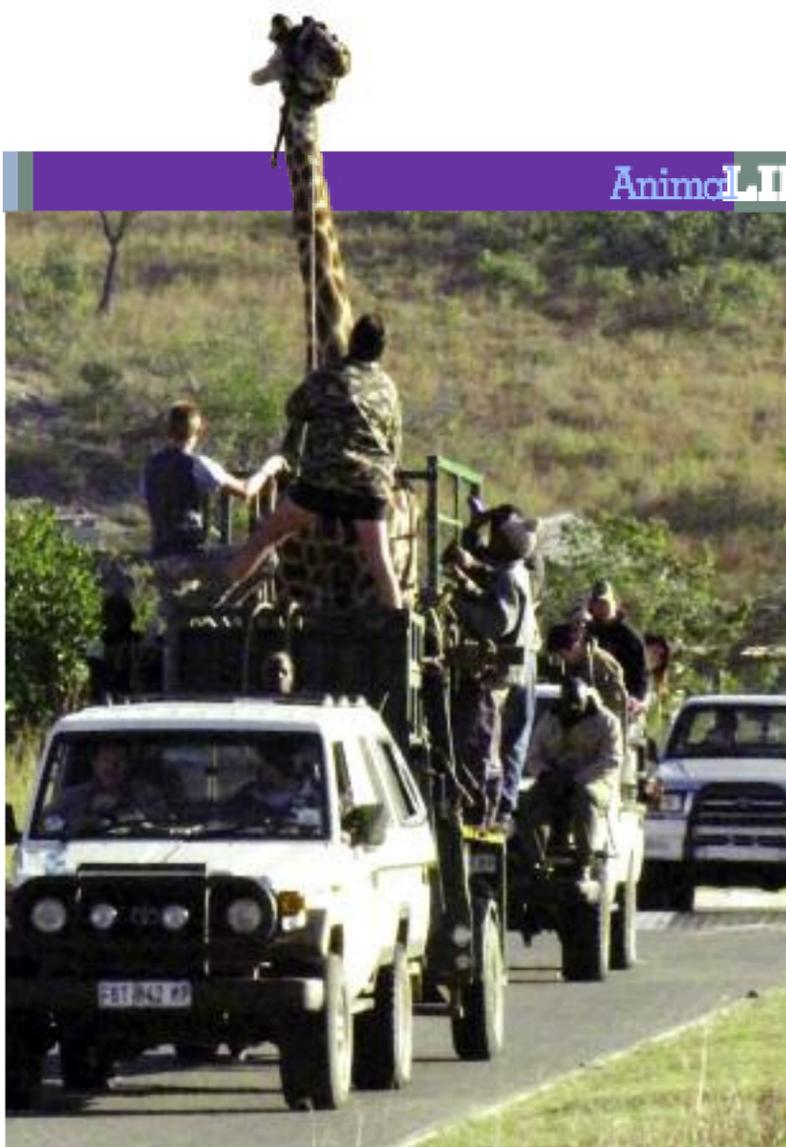
Dr. Borgarelli at home displaying a model airplane he constructed. Two of his models are on display at the Topeka Air Museum.



Kansas State University  
Veterinary Medical Teaching Hospital

Mosier Hall  
1800 Denison Ave.  
Manhattan, KS 66506

Nonprofit Organization  
**U.S. POSTAGE**  
**PAID**  
Permit #4  
Manhattan, KS 66502



Animal **LIFE**

## Tall Order

**A** three-week trip to South Africa this summer turned into memories of a lifetime for exotics specialist, Dr. James Carpenter, professor of zoological medicine.

"The opportunity to have a 'hands-on' experience with some of the most awesome megaverterbrates and carnivores in their natural habitat was incredible," he says. "To help train ten Australian veterinary students, who share my passion for wildlife and conservation medicine, made it especially memorable."

Dr. Carpenter has consulted internationally since 1981 and is concerned about the future of the world's wildlife. "The number of wild animals has drastically declined due to man's population growth and activities such as habitat destruction and fragmentation, and poaching," he says. "It will take a concerted international effort to reverse this trend."

Working with wild animals in their natural environment versus the confines of a zoo or hospital is strikingly different. "You have to travel long distances across rugged terrain to get to the animals that require chemical restraint (via darting.) Working in the 'bush' greatly limits you on the equipment you can take and hopefully you don't forget anything!" 🐾

The largest veterinary hospital in Kansas and one of the largest in the nation.

**Kansas State University Veterinary Medical Teaching Hospital**

1800 Denison Ave. • Manhattan, KS 66506

• Small Animal & Exotics: 785.532.5690 • Equine and Agricultural Practices: 785.532.5700 • [www.vet.ksu.edu/depts/VMTH](http://www.vet.ksu.edu/depts/VMTH)