

# AnimalLIFE

Winter 2015



Veterinary Health Center

AT KANSAS STATE UNIVERSITY

TO DISCOVER. TO TEACH. TO HEAL.

## FEATURING

Unlikely Cardiology Patient Treated

VHC Teamwork Helps Cancer Patient

Loyal Owners' Devotion Saves Dog

New Facility for Equine Patients

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

A new year brings joyful celebrations, exciting announcements and hopeful resolutions, all of which can be found in this issue of *AnimaLIFE*!



Kristin Loving, with Ebby and Jordy.

We hope you had a happy and safe holiday season with your family and friends, both two- and four-legged! It's always a highlight to take a few moments out of our busy holiday season to celebrate the people and creatures that make our lives worthwhile.

One exciting announcement on page 16 will help the Veterinary Health Center grow as an epicenter for the discovery of new information on the diagnosis and treatment of equine lameness. A new facility will enhance the effectiveness of the outstanding faculty who devote their lives to the equine patients of the VHC.

As one of your 2015 resolutions, I challenge you to join me in becoming a more informed and dedicated pet owner. Karla in "Larger than Life" on page 12, dreamed of an Irish wolfhound and educated herself on every aspect of the breed. Because she was informed, she knew to watch for a life-threatening condition and when to call in the experts. What could you learn or do to better the health of your pet in 2015?

Our pets depend on us, and in turn, provide us with unrivaled companionship. If you ask me, we are the lucky ones.

Best Wishes,

*Kristin Loving*

## AnimaLIFE

VETERINARY HEALTH CENTER AT KANSAS STATE UNIVERSITY

Winter 2015

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Veterinary Health Center  
AT KANSAS STATE UNIVERSITY

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Cover: McGuire Berry, pg 12.



Photo: KSU Photo Services

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Happy New Year!

We are excited to begin another year at the Veterinary Health Center. We are ready to tackle new challenges and explore new opportunities. The equine service will be especially busy in 2015 as they prepare for our new performance testing center that will dramatically enhance our ability to evaluate and treat complicated lameness in our equine companions.

Enhancements like our new equine performance testing center improve patient care and significantly benefit the students who will hopefully become your veterinarians in the coming years. Another new initiative that directly supports our students is an exciting new way for them to experience live surgeries announced on page 19. We seek to provide our veterinary students every opportunity possible to be engaged and involved in your animal's health care.

We are grateful for your continued support of our hospital and our students. In a new feature this issue, we highlight a fourth-year student on clinical rotation in the hospital to give you insight into her life as a veterinary student. We hope this gives you a taste of the determination, work ethic and passion our students have for your animals and for veterinary medicine. In just a few short months, we will graduate a new class of veterinarians who may be coming to a clinic near you or researching innovative ways to keep your animals and food supply safe. We are immensely proud of our veterinary students!

I hope you enjoy this issue of *AnimaLIFE*. Thank you for supporting our hospital and thank you for caring about animals.

Warmly,

Roger B. Fingland, DVM, MBA, DACVS

Director, Veterinary Health Center  
Executive Associate Dean, College of Veterinary Medicine



Photo: KSU Photo Services



Many veterinarians know from a young age which direction their career path will lead. Drs. Amy and David Rankin are two who found their calling much later in life, but given their passion for and the impact on the patients at the Veterinary Health Center, there is no doubt they made the right choice.

Amy loved science, but was undecided about her potential career during her early college years. She considered everything from being a nurse, doctor, or physical therapist to a lawyer. One day, while visiting with her mother, they discussed veterinary medicine and as Amy looked around her, with the family's two cats on her lap and the dog at her feet, she realized where she belonged. Amy was an excellent student and that helped pave her way into the early admission veterinary school program at the University of Wisconsin.

At a very similar point in David's college career, he decided it was time to reevaluate his career track. As a pre-medicine student, David was good at science and obtained a degree in biology, but he didn't have the same passion for human medicine as his fellow pre-med peers. It was a trip to his friend's family farm in Iowa that opened David's eyes. As they were working with livestock, his friend's family suggested he consider being a veterinarian. "I had honestly never considered it before," David said.

David started working for his local veterinarians part time, cleaning cages, and observing their work. "It looked

like something I thought I could do. I saw them enjoying what they did," he said. David applied to the Kansas State University College of Veterinary Medicine and was accepted. During his fourth-year clinical rotations, David decided he would benefit from an internship.

Amy's excellence in veterinary school was noticed, and her advisor encouraged her to also consider a small animal internship, giving her additional experience and exposure to specialty medicine.

Drs. Amy and David finally crossed paths after they were both accepted into internship programs at Oklahoma State University where their long-term relationship started to grow. The internship gave them both the confidence to determine the next step in their professional lives.

Dr. Amy went into general practice. "After three years of general practice, I decided I wanted to be really good at one thing," she said. "I loved ophthalmology because I could do both surgery and medicine on all of the different animals and I could still see clients." Dr. Amy entered a residency program at Purdue University and became a board-certified veterinary ophthalmologist.

After an honest self-evaluation during his internship, Dr. David decided he enjoyed the behind-the-scenes duties of veterinary medicine best. "I looked at radiology, clinical pathology and anesthesiology. Anesthesiology was the most clinical specialty and I got to work on large and small animals." Dr. David entered a residency program at Washington State University and ultimately became a board-certified veterinary anesthesiologist.

Drs. Amy and David were married in 1999 and eventually settled in Manhattan. At the VHC, the two collaborate on different projects, and often on patients. "If a dog needs an ophthalmology surgery, for a very short period of time, I manage that dog's anesthesia so Amy can do what she needs to do, and then hand the animal's care back to her," Dr. David said.

The two make a dynamic team outside of the surgery suite too, working on research projects and most recently, collaborating on a trip to China to present at a continuing education conference. The couple had been to China once before, but for a very different reason. In 2005, they adopted twin girls from China who are now 11-years-old. The whole family enjoyed the opportunity to make the recent trip — their first China visit focused on veterinary medicine.

Working with a patient, conducting research or managing a family, this couple conquers it all together. ▼



# Powerful Medicine

*Mysterious swelling overtakes a massive reticulated python.*

“I know that’s not right,” Jud McClanahan said to himself when he saw his 16-foot reticulated python’s neck swollen, slightly resembling an elephant’s trunk. The swelling started behind the snake’s jaw and affected the next few feet of her body. Jud chose not to panic, but kept a watchful eye on the snake’s condition.

## Crazy for Snakes

Instead of growing up with the average dog or cat as a childhood pet, Jud grew up with snakes. “My mom was a bit of a snake-nut,” Jud said. They always had snakes and rodents, and Jud had no less affection for his slithering pets than someone who grew up with a furry, legged friend. Jud now has more than 80 snakes in addition to several tortoises



Jud’s snake is under anesthesia while the team conducts the necessary imaging and testing.

and rodents, which he cares for in a building dedicated to the reptiles with first-class amenities including a hot water heated floor. Jud’s relationship with his snakes is one of deep respect and affection; a relationship that does not require pet names, and he takes a genuine concern for each creature as an individual.

When he noticed his pythons’ abnormal swelling, Jud decided to wait a few days before pursuing veterinary help. The swelling kept growing and reached its peak a few days later when she could no longer close her jaw. Jud sent pictures to fellow snake enthusiasts and traded information, but no one could diagnose the condition. After three days, the swelling went back down and Jud kept her under close observation and limited her activity.

The swelling came back several days later, so Jud decided it was time to bring in the experts and made an appointment with the Veterinary Health Center.

## Calling in the Experts

“When he came through the door, he surprised us all,” Dr. David Eshar said of Jud and his snake. Jud had called ahead, but the exotics team was still in awe of the snake when Jud arrived. “It took four students to hold it on the floor,” Dr. Eshar said of the powerful 16-foot, 88-pound creature.

The 16-foot python is positioned to allow the radiologists to scan the entire body during a CT.



Photos: Dr. David Eshar





Dr. Jennifer Reinhart and Dr. Christine Higbie perform an echocardiogram on the snake.

Upon arrival, Jud went over the 7-year-old snake's history. She eats approximately once a month and had just consumed her last meal 10 days prior.

"Touching the swelling was like touching a sponge. It felt really strange," said Dr. David Eshar, assistant professor of zoological medicine, once he had evaluated the snake.

The team worked at a rapid pace to determine the cause of the swelling. Within an hour, the snake was anesthetized, had blood work, radiographs, ultrasound, Computed Tomography (CT), and a cardiac evaluation. "If it were you or I going to the ER, that process would take a whole night," said Dr. Eshar. "We had 25-30 people around us. Everyone was involved, helping and moving very fast."

Dr. Eshar initially suspected something may have scratched her esophagus and caused an infection or a blood clot. He and his team attempted to aspirate it. The retrieved fluid was clear, ruling out the blood clot. "It was like tiny droplets of water. We call that subcutaneous edema," Dr. Eshar said.

The aspirated fluid suggested two possibilities that included the malfunction of either the heart or the liver. Jud gave the exotics team the nod to take radiographs, ultrasound and scan the snake using CT. "You can't put a price tag on animals," Jud said of the suggested services that came with an additional financial commitment.

Simultaneously, blood work was completed, but nothing determined a definite cause. However, with the information gathered, Dr. Eshar suspected that the swelling was due to heart failure.

"When the heart fails, the body can't deal with the fluids. The body was trying to get rid of the fluid so sometimes we see fluid in the chest or abdomen, but in this case we saw it under the skin," Dr. Eshar said. The small animal internal medicine team of Dr. Ken Harkin, section head and Hodes Professor of Small Animal Internal Medicine, Dr. Jennifer Reinhart, a small animal internal medicine intern, and Dr. Clay Hallman, a small animal emergency medicine clinician, evaluated the snake. "The snake's heart is very hard to evaluate," Dr. Eshar said. "The whole structure is different. It's very challenging because there is not enough research to know what is normal or abnormal." The reptilian's heart has essentially three chambers as compared to the mammalian's four chambers. After researching literature, the team decided to treat the snake as if it had heart failure. The team administered a diuretic to allow the snake to urinate more often, ridding the excess fluid from her body. Dr. Eshar had used this treatment before with success.

### As Good As New

Jud took the snake back home and continued her treatment. For four days, he administered injections, twice a day, and over the course of one week, the swelling went down, and the extra skin was beginning to return to its original shape. Then the best sign of recovery came: the snake began to shed. "Snakes shed when they feel they are at their prime, so this was a great sign," Dr. Eshar said.

"She was as good as new," Jud said.



Shortly after treatment with a diuretic, the snake's swelling went down and she shed her skin, both promising signs of recovery.

"Sometimes we don't get definitive answers on our tests, but we call that responsive treatment. We treat based on our assessment and a positive response suggests that our assessment was correct," Dr. Eshar said. Exact diagnosis or not, the ending is the same for this unique creature, a healthy return to her fellow snakes at home. ▼

# VHC Welcomes NEW CLINICIANS

The Veterinary Health Center at Kansas State University is proud to announce the arrival of five new clinicians in recent months including specialists in equine surgery, oncology and food animal medicine.

**Dr. Clay Hallman**

### *Small Animal Emergency Medicine*

Dr. Clay Hallman is a KSUCVM graduate and has joined the VHC faculty on emergency small animal medicine service. He understands that bringing a pet to the emergency room is a very stressful time for an owner and wants to instill the feeling in clients that each pet that comes through the door is treated with the same care and attention as if it were our own.

**Dr. Dylan Lutter**

### *Equine Emergency*

Dr. Dylan Lutter joins the VHC from Washington State University where he completed an equine surgery residency and a master's degree in equine distal limb MRI. Dr. Lutter serves as the large animal emergency surgery clinician and is committed to teaching veterinary students and facilitating client communication.

**Dr. Elizabeth Santschi**

### *Equine Surgery*

Dr. Elizabeth Santschi is board-certified in large animal surgery. Most recently, she was at The Ohio State University as an equine surgery faculty member. Prior to this appointment, she served on faculty at Purdue University, the University of Minnesota and the University of Wisconsin. Dr. Santschi received her DVM from the University of Illinois and completed a residency at Peterson & Smith Equine Hospital in Florida. Dr. Santschi has a wealth of expertise and

experience in the surgical treatment of orthopedic diseases in young horses.

**Dr. Raelene Wouda**

### *Oncology*

Dr. Raelene Wouda is board-certified in oncology. She is a graduate of the University of Queensland, Brisbane, Australia, where she also completed an internship and residency in small animal medicine. Dr. Wouda gained experience as a resident at Veterinary Specialist Services in Brisbane and completed a fellowship in transfusion medicine at the University of Pennsylvania as well as a residency in oncology at the University of Wisconsin-Madison. Dr. Wouda's passion is caring for her current and future cancer patients and their families.

**Dr. Emily Reppert**

### *Ag Practices*

Dr. Emily Reppert graduated from Colorado State University and completed an internship, residency and master's degree at Oklahoma State University. Her primary clinical interests include ruminant urinary disease, neonatology, bovine lameness and gastrointestinal disease.



# A Walking Buddy



## *Barbara and Glenn give back to the dog that gave so much.*

Buddy was spending a typical spring day running and playing at the dog park with his owners, Barbara and Glenn Smith of Topeka, Kansas. Even though Buddy's disposition was remarkably quiet, he enjoyed his time at the Hill's Bark Park with friends. This time, a normal outing turned disastrous as Buddy was playfully chasing a smaller dog. The smaller dog quickly changed directions, causing Buddy to make a sharp turn that resulted in a fall, and leaving him unable to walk. Barbara and Glenn rushed over and, with the help of friends, hoisted the motionless Buddy into their car and rushed him to their primary care veterinary clinic, the University Bird & Small Animal Clinic.

Their veterinarian took one look at Buddy and knew they needed to get him to the Veterinary Health Center. Barbara and Glenn made the drive to Manhattan and, upon arrival at the VHC, were greeted with a team prepped with a mobile stretcher, ready to receive Buddy.

"When Buddy arrived, he had no ability to move his legs at all, but a good sign was that he could feel his legs" said Dr. David Upchurch, a second year surgery resident. Dr. Upchurch worked with Dr. Matt Sherwood, a third-year resident on the case. "Step one is diagnosing exactly where the problem is located." Once they had located the injury, in the spinal column near Buddy's shoulders, they discussed the treatment options with Glenn and Barbara.

"They gave us these options and said how much it would cost," Barbara said. Barbara and Glenn agreed to all of the tests knowing there were no guarantees for the successful treatment of Buddy's condition.

## **A Better View**

Dr. Sherwood and the VHC team moved forward with advanced imaging, a CT scan and a myelogram, which uses a special dye to better view the bones and space between bones in the spine and determine the precise site and degree of damage.

"We diagnosed him with traumatic intervertebral disc disease, a rupture of normal disc material that is supposed to be underneath

*Buddy stands and walks tall when just a short time ago an accident left his legs useless for weeks.*

the spinal cord, but in this case had ruptured up into the area where the spinal cord is located," Dr. Upchurch said. Essentially, the accident had pushed normal material into the wrong place. That material needed to be removed to save Buddy's mobility.

The best option for Buddy was surgery. A surgical procedure to remove ruptured disc material in this location is performed by coming from the underside of the neck. The surgeon must move the trachea and esophagus out of the way to reach the underside of the bone and the vertebra. "Dr. Sherwood used a drill to penetrate the bone to get to the offending disc material which was directly underneath the spinal cord," Dr. Upchurch said. Using a number of small tools in a surgical cavity barely a centimeter in width and height, Dr. Sherwood removed the displaced material. Every surgery has risks, and Buddy's was no exception. An unsuccessful surgery could risk severe bleeding and respiratory paralysis from surgery in that area. Dr. Sherwood performed a successful surgery, which gave Buddy hope for a recovery, but there was still a long road ahead.

## **Dedicated Recovery**

"Recovery is different for every dog after a disc rupture. Dogs will take their own amount of time, and we expect that by three months, most dogs will have recovered about as much as they are going to." Dr. Upchurch said.

After surgery, Buddy made quick progress to the point where he was comfortable, wasn't in pain and could move his legs. Then, his progress slowed. "He could move his legs, but for a long time he couldn't pick himself up and couldn't walk," Dr. Upchurch said.

The rest of Buddy's stay consisted of supportive care and physical therapy in an attempt to improve his condition. The VHC has excellent resources for pets requiring rehabilitative care, including a cart on wheels with a sling that will support the animal's weight but allows the dog to use its legs in a walking motion and support an increasing amount of its own body weight. "We would

put him in the cart several times a day to help him to use his legs," Dr. Upchurch said. "In addition to the cart, we have an underwater treadmill. Kathy Shike, our veterinary technician, is experienced at physical therapy and worked with Buddy extensively."

Buddy also had a workout partner. Another dog was at the VHC at the exact same time with a similar injury. "We would have both carts going at one time," Dr. Upchurch said which provided quite a sight for onlookers. Other physical therapy treatments included range-of-motion exercises done on each of Buddy's limbs several times a day, trying to get him to stand and carry his own weight. He made very subtle improvements, but no major progress. Buddy was never able to walk on his own in the hospital, but making small advancements like lifting his head a little higher each day kept everyone optimistic.



*Barbara talks to Buddy during a visit to Helping Hands Humane Society in Topeka.*



# DISCOVERING HOPE

Force Mats and Fish Oil

Dr. James Roush



Barbara and Buddy still makes frequent visits to Helping Hands Humane Society where he is always greeted by name.

Barbara and Glenn drove to Manhattan every day Buddy was in the hospital. “He wasn’t eating and wasn’t responding,” Barbara said. “He wasn’t food-motivated or toy-motivated, but we would go over to the cafeteria and bring back roast beef for him. He would eat that,” she said with a laugh.

After 10 long days in the hospital, Buddy was discharged to continue his recovery at home.

The Smiths provided care around-the-clock, massaging and exercising Buddy. After two weeks, they brought Buddy back to the VHC so they could rest while he continued receiving therapy. After that much-needed break, Barbara and Glenn brought Buddy home again. “I spent every night with him for two months,” Barbara said. Buddy’s night therapy was complimented by extensive water therapy and help harnesses. “We have three different help harnesses and we used the cart for a while.”

## An Understanding Companion

Barbara empathized with Buddy’s condition. A year earlier, she had suffered a stroke. Buddy never left her side throughout her recovery. Of course, Buddy was hand-picked for this type of work. He had spent many years as a therapy dog with Barbara. She picked Buddy up from

Helping Hands Humane Society in Topeka when he was 3-years-old. “When I put him through the tests, he passed with no markdowns,” Barbara said. They made many therapy trips to local organizations. “We went to Stormont-Vail Senior Diagnostics and Cancer Center. He is perfect for that. He’s been to the library and nursing homes. He is very engaging and not intrusive. He’s gone to schools and had the kids read to him. He enjoys it and he just goes up to everyone.”

Slow progress continued in Buddy’s recovery, but Buddy’s supporters refused to give up. “Our neighbors would encourage him. They have been involved in his recovery as much as anyone,” Barbara said. “After about nine months it got down to where we just had the harness on the back end. Every time we went to Bark Park, everyone would ask how he was doing.” Eventually, Buddy no longer needed assistance walking. “Everyone saw his progress and was so excited for him. He’s been very popular.”

Buddy has given so much to so many, and now his family and friends have returned the favor. “He really deserves to be alive and to do what he’s doing. When we started adding up the bills, it’s worth every penny,” Barbara said. “My son told me one day, ‘Mom, he took care of you and kept you company, and now you’re paying him back.’” ▼



“As an orthopedic surgeon, it’s often all about lameness. How can I, as a surgeon, fix lameness, or how can I medically decrease or eliminate lameness and pain in patients?” said Dr. James Roush, Doughman Professor of Small Animal Surgery. For more than two decades, Dr. Roush has contributed to the cutting-edge research in osteoarthritis in pets and has been a sought-after researcher to test new products for pets.

Osteoarthritis has been a common research theme for Dr. Roush, and he has since built the VHC’s reputation as a center of expertise. In many instances, Dr. Roush and his colleagues are specifically asked to carry out clinical studies for new drugs or other treatments.

One in particular, was a multipart study funded by Hill’s Pet Nutrition at Kansas State University and also at the University of Florida’s College of Veterinary Medicine. Dr. Roush used a force plate to measure lameness in the study dogs. The force plate allows patients to walk normally over the surface while it measures the pressure of the foot and produces images using colors to distinguish areas of more and less pressure. This allows the clinicians to gauge whether a dog is favoring a limb or altering its step to avoid pain.

“The force plate allows us to collect data easier and quicker,” Dr. Roush said, explaining how the force plate allows for even greater accuracy than the subjective assessments used in the past.



The force mat provides detailed images of pressure as the dog walks.

During the study, Dr. Roush measured dogs with naturally occurring clinical arthritis on the force mat before, during and after treatment. The treatment administered to these dogs was a diet with increased levels of fish oil. “In every cell membrane, there are fatty acids,” Dr. Roush said. “When cells are damaged and those membranes rupture, the body responds to those fatty acids with an inflammatory response.” The type of fatty acids gained by eating more fish oil or flax oil replaces those obtained from red meat or other sources and fish oil or flax oil fatty acids stimulate a less dramatic inflammatory reaction.

The study funded by Hill’s Pet Nutrition found several advantages to a diet rich with fish oil. One is compliance for treatment, meaning owners don’t have to worry about remembering a pill or stocking medicine. Another advantage is the ability to easily control the dose. Dr. Roush’s study revealed a dog’s lameness on the fish oil diet improved by a ratio of 7:1 and he observed the lameness worsen in dogs on the control diet of a commercial dog food. His research showed fish oil as a superior treatment, even more than prescription nonsteroidal anti-inflammatories. “This study changed my clinical practice in that every dog with a cruciate ligament rupture also develops osteoarthritis to some degree and so, after surgical repair for the ligament rupture, I now recommend them being on a high fish oil diet,” Dr. Roush said.

Osteoarthritis will continue to be an important area of research for Dr. Roush. “I would like to do a long-term study seeing if fish oil protects the other cruciate ligament in the dog,” Dr. Roush said. According to him, there is a 60-70 percent chance the opposite hind limb cruciate ligament will also rupture, and protecting that ligament would make a substantial impact on a dog’s quality of life. ▼



# Larger *than* Life

Karla Berry and her dream dog face their worst nightmare together.

The oncology team prepares McGuire for a chemotherapy treatment at the VHC.



Karla Berry dreamed of having an Irish wolfhound her entire life. She admired the breed's majestic stature so, like any good potential pet owner, she spent much of her time researching the breed.

Her resources warned Karla about the breed's increased risk of osteosarcoma, cancer of the bone, but that did not derail her dream. About five years ago, Karla brought home her Irish wolfhound, McGuire. A calm and friendly puppy grew into an impressive dog that draws interest from his unique shaggy look, unbelievable size and friendly disposition everywhere he goes. McGuire goes to work every day with Karla to her sporting goods store in Russell, Kansas. Two years ago, McGuire acquired a playmate. Karla adopted her second Irish wolfhound, Gallagher, the more rambunctious and ornery of the two, and ultimately, even larger than McGuire, who also tags along to work.

## The First Sign

One day, Karla noticed 4-year-old McGuire developing lameness in his front leg. From Karla's previous reading, she recognized this as a potential sign of osteosarcoma. Armed with that information, Karla was prepared for the presumptive diagnosis expressed by her local veterinarian. Dr. Matt Nichols immediately suggested Karla and McGuire go to see a veterinary oncologist at the Veterinary Health Center.

Upon arrival, Dr. Sam Hocker, oncology resident, performed McGuire's physical examination, which revealed swelling in the leg of concern. Dr. Hocker suggested an initial test to aspirate the swelling and examine the cells to differentiate a tumor from infection. "The cytology results

were consistent with those of osteosarcoma," Dr. Mary Lynn Higginbotham, assistant professor of oncology, said. "We also took chest radiographs because, with osteosarcoma, about 10 percent of dogs will already have evidence of metastasis, and the lungs are the most common place for this cancer to spread." The radiographs did not reveal any evidence of the cancer in McGuire's lungs or upper shoulder.

Thanks to Karla's close observation, the cancer was caught in its early stages, which provided a unique treatment option. Typically, amputation is the most successful method of treatment. "Large dogs have a much more difficult time when losing a limb," Dr. James Roush, orthopedic surgeon, said. "In McGuire's case, the reward of trying to save the limb outweighed the risk of leaving tumor behind." The better option was a limb sparing procedure; only removing the cancerous bone or portion of the bone. In the past, this was done by replacing the diseased bone with bone from a donor dog, but the risks of infection and rejection were extremely high. In recent years, however, plates had been developed to insert in between the bones with slots at each end of the plate where bone fuses into the plate.

One of the determining factors that this surgery might work for McGuire was the size of the tumor and the availability of an implant that would fit the bone. If the tumor was too large, the surgeons would not be able to remove enough for the implant to be successful. Also, a dog with metastatic disease is not a common candidate for the surgery because of the expectation the disease would proceed to spread, and the healing time from the surgery would not be justified. Dogs with osteosarcoma that do not seek treatment have





team carefully monitors the animal under anesthesia before, during and after surgery to assure the animal is safe and comfortable.

Dr. Roush and his surgery team began the surgery by removing the cancerous part of McGuire's radius. The plate was placed in the gap and attached to the remaining portion of the radius, and then fused to the wrist joint in hopes the bone would grow around the plate. The surgery site was closed and McGuire received a purple splint to protect the bone and surgery site.

"The surgery went as expected and it was a wonderful opportunity to do a rare surgery. Many owners are unable or unwilling to go to that extent given the risks and costs. It is a big commitment," Dr. Roush said. "It provided a great learning experience for fourth-year students on the surgery rotation."

A successful surgery meant McGuire could begin chemotherapy. Karla brought him back to the VHC for his first chemotherapy treatment, which allowed them to evaluate his progress. Ultimately McGuire received six chemotherapy treatments, many of which were done by Dr. Nichols in their hometown. Eight weeks after surgery, McGuire did have some sudden swelling and some skin slough from his forearm, a complication from an unknown cause that required repeated bandaging and wound cleansing over several months to heal.

McGuire took the chemotherapy and the treatments for his complication like a trooper. "His personality hasn't changed at all throughout the process," Karla said. "You couldn't tell anything is wrong." She knew he was feeling better when, shortly after surgery, she found the recently lame dog sprawled out on her tall bed. He had regained the ability to make the challenging leap, a substantial improvement.

McGuire completed chemotherapy Dec. 1. Early detection and aggressive treatment by VHC specialists and a determined owner gave McGuire the chance to fight this cancer and, with four legs, enjoy his daily life with friends and family.

*Update: At a re-check in December, the team found that McGuire's cancer had returned in his limb and lungs. McGuire sadly left us, but we are inspired by his graceful fight and cherish his memory. He touched many lives in his short time with us and we are forever grateful.*

Drs. Roush, Hocker and Higginbotham celebrate a successful surgery with McGuire. a median survival around six months. Successful surgery combined with chemotherapy greatly increases the survival time.

### Taking the Chance

Dr. Hocker and Karla discussed this procedure including the risks that the limb spare surgery presented, but Karla was willing to take the chance.

"We did a bone scan to determine the exact length of the tumor so they could decide which plate or implant to use," Dr. Higginbotham said. "There are a very limited number of sizes of these prosthetics available and we want to make sure we choose the most appropriate implant for the individual patient."

Before the operation, the surgery team evaluated the bone scan to measure precisely where to cut to include all of the affected bone, and then prepared the plate to fit the bone. The surgery was preceded by careful anesthetic administration by our dedicated anesthesiology team, led by Dr. Rose McMurphy. The anesthesiology

Dear Friend,

VHC's oncology service aims to provide its patients with the gift of extended quality of life and time with family. Every patient we see is in need of advanced medical treatment that requires dedication and persistence.

We are excited to have Dr. Raelene Wouda on faculty and as a team we aim to provide a kind and understanding client and patient experience, while providing the most advanced and aggressive medical options to fight cancer. We have the following WishList that is essential to helping us accomplish that mission and every donation helps us meet our goal.

For more information on assisting us with this WishList, please contact Kristin Loving at 785.532.4046 or mail your donation to VHC Development, 103 Trotter Hall, Manhattan, KS 66506 and note "Oncology Donation" in the memo.

Dr. Mary Lynn Higginbotham  
Assistant Professor, Oncology

## Oncology WishList

### Support for oncology graduate student education and/or research

A fund for purchasing any of the following equipment and contributing to research and teaching needs. **Any Amount**

### Bandanas for oncology patients

Oncology patients receive bandanas once they complete radiation or chemotherapy treatments as a celebratory gift. **\$500**

### Positioning bags for radiation therapy

Cushions that provide comfort and stability for pets receiving radiation therapy. **\$2,000**

### Monitor and camera for microscope display

Essential for student education and presentation purposes. **\$3,000**

### Electrochemotherapy Unit

An alternative therapy to treat local disease which uses small doses of chemotherapy followed by electric pulses applied to the tumor. **\$20,000**



## 10 Warning Signs of Cancer in Pets

Cancer is the leading cause of disease-related death in dogs and cats. One in 4 dogs will develop cancer at some point in their lives. Because of this, as pet owners, it is important to know what symptoms may be a warning sign that a cancer may be present. Dr. Higginbotham says to watch for these symptoms that could be associated with a cancer:

1. Lumps or bumps that grow or change.
2. Wounds that won't heal.
3. Lameness that is persistent or recurrent.
4. Unexplained weight loss.
5. Difficulty eating or swallowing.
6. Bleeding from a body opening.
7. Offensive odor, particularly from the mouth.
8. Inappetence.
9. Difficulty breathing or going to the bathroom.
10. Lethargy or loss of stamina.





# Breaking Ground

After nearly 10 years of detailed research and meticulous planning, a vision is coming to life. The Veterinary Health Center plans to break ground on a new state-of-the-art Equine Performance Testing Center (EPTC) within the next year.

## Moving Forward

Our current facilities provide only a small indoor covered space for lameness exams in bad weather, and the space is limited. Outdoor space is available, but terrain, an important consideration in a lameness exam, is limited to grass or concrete.

The new facility will feature a covered riding arena with soft footing and lunging and trot-up areas with asphalt footing. As a stand-alone, outpatient facility, it will also provide four holding stalls, wash area, examination and patient preparation area, radiology services and an area for farrier services. The EPTC will also have grass turn-outs for equine patients as well as easy-access pull-through truck and trailer parking.

“The planned EPTC is really essential to provide state-of-the-art care,” said Dr. Elizabeth Davis, professor and section head of equine medicine and surgery. “Our goal is to build a facility

## INTRODUCING Equine Performance Testing Center

Learn more about the EPTC!  
[youtube.com/KSUCVM](https://youtube.com/KSUCVM)



that is practical, functional and will allow us to do our job to the best of our ability.”

Nearly half of the equine patients seen by VHC clinicians suffer from performance-related conditions. Clients from around the Midwest depend on the VHC to treat their performance horses and family pleasure horses. With the gait assessment and diagnostic modalities available in the EPTC, these patients will have access to the best and most complete examinations in the Midwest.

“Our goal is to build a facility that is practical, functional and will allow us to do our job to the best of our ability.”  
- Dr. Elizabeth Davis

Recent additions to the equine faculty amplify the positive effect a facility such as this will generate for the regional equine community. With the arrival of Dr. Elizabeth Santschi, professor of equine surgery, and her expertise in musculoskeletal disease, the EPTC will be the ideal place to evaluate lameness under saddle or on the ground.

## Students First

The new EPTC will benefit veterinary students who must learn the critical skills required to evaluate and treat horses as well as VHC patients and clients. “The EPTC is intended to allow us to complete our mission of teaching veterinary students. It is a much more conducive area to teaching and discussing and observing patients than our current facilities. We will be able to provide superior education opportunities for our students,” said Dr. Davis.

The EPTC will also have the capability of hosting special events for the VHC, College of Veterinary Medicine and equine groups in the area. The conference area will be ideal for consultation with clients, student education and outreach activities.

The \$2 million building will be built just east of the VHC and is expected to be completed in 2015.

For naming opportunities and information on how you can contribute to the Equine Performance Testing Center, please contact the Development Office at 785-532-4378. ▼



# STUDENT SPOTLIGHT

Michelle Pavlick



Name: Michelle Pavlick

Age: 25

Hometown: Slate Hill,  
New York

Pets: 1 cat, Bigsby

Family: Mom: Sue, Dad: Allan, Sisters: Karen (identical twin sister) and Ashley, Significant Other: Nathan Fisher  
Veterinary interest: Small animal internal medicine

What led you to choose veterinary medicine as a career and what motivates you through difficult times as a veterinary student?

*I chose veterinary medicine because I love the diagnostic challenges and problem solving involved in medicine and I enjoy working with animals. I find the variety of animals that veterinarians work with exciting and rewarding. During difficult times I remember I am working towards my dream and that I will be able to spend the rest of my life doing what I love.*

Why did you choose the Kansas State University College of Veterinary Medicine and what has your experience been like over the last four years?

*I chose the Kansas State University College of Veterinary Medicine because I felt it could best prepare me for my future.*

*During my interview, I was impressed by teachers and faculty who were clearly interested in teaching and helping their students become successful and exceptional veterinarians. I liked the program structure and felt it best suited my learning style.*

Describe the most challenging part of being a veterinary student and how do you think that experience will impact your veterinary career?

*The most challenging part of being a veterinary student is finding a balance between school and everything else. Studying and preparing for classes and clinical rotations takes a tremendous amount of time and effort, but it's also important to be able to relax, socialize and have fun. I learned to manage my time and balance my workload and my personal life, which will be instrumental to my success during advanced clinical training and throughout my career.*

Tell us about your fondest memory of veterinary school?

*My fondest memory was after I finished the NAVLE (North American Veterinary Licensing Examination) and submitted my VIRMP (Veterinary Internship and Residency Matching Program) application and realized how close I was to accomplishing my dream. The last 3 ½ years have been a lot of work, but the sense of accomplishment I felt after the boards and taking the next step in my career was well worth the effort.*

What are your career plans after you graduate and what is the ultimate goal you would like to achieve in your veterinary career?

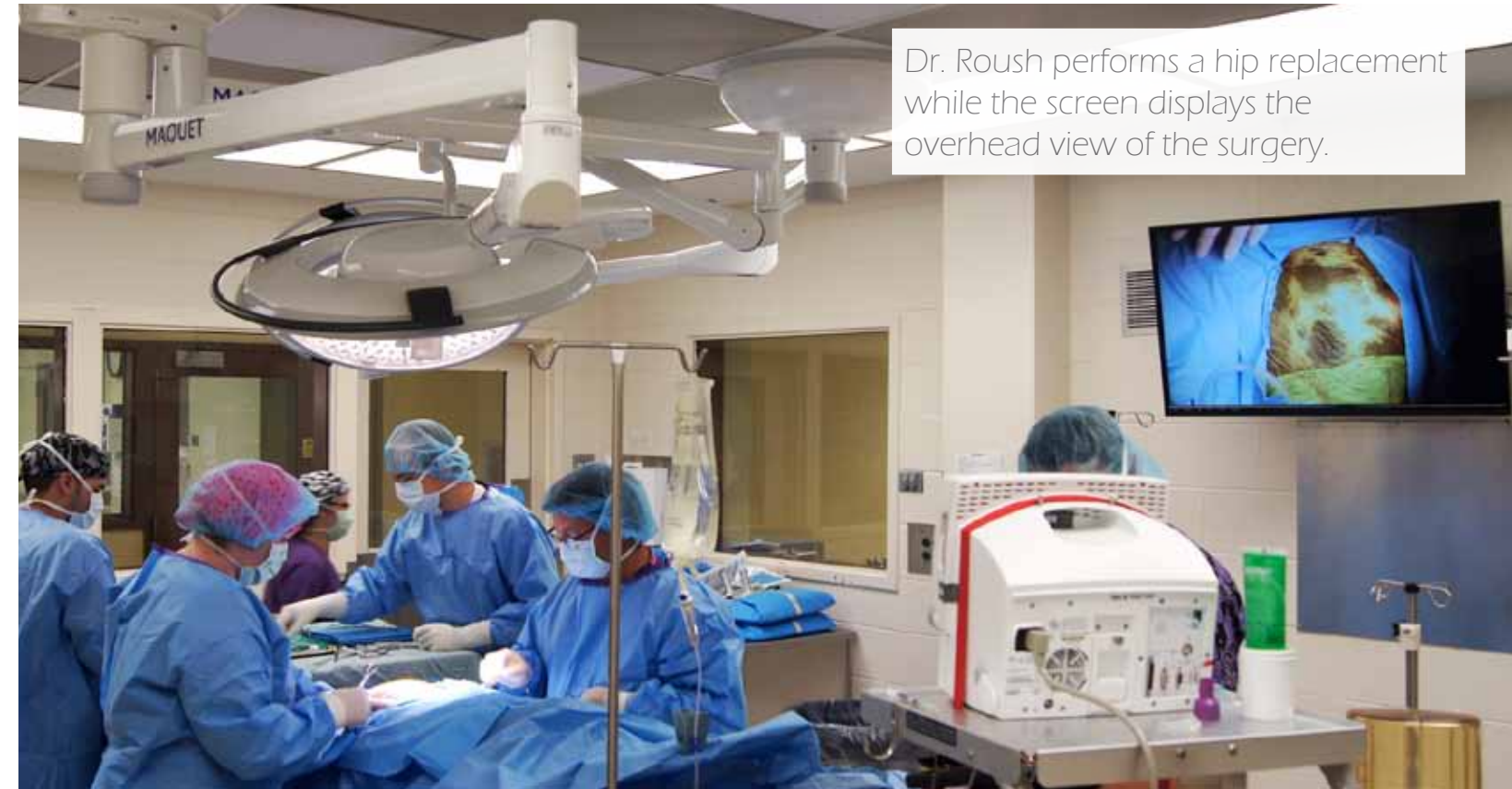
*I have applied for a rotating, small animal internship. Ultimately I hope to complete a residency in small animal internal medicine. I have not yet decided the type of setting in which I would like to work after completion of my residency.*

If you could offer advice to young people with veterinary aspirations, what would you say?

*Despite veterinary school being the hardest four years of my life, now that I am close to graduation I can happily say that it has all been worth it knowing I will get to spend the rest of my life doing what I love. I would advise young people to work hard, develop good study habits, set a goal for themselves and then go for it. ▼*

# FRONT-ROW SEAT

Students get the best view in the house thanks to a major technology upgrade.



The Veterinary Health Center was built to accommodate a number of eager students watching closely and hanging on the faculty's detailed instruction of each patient's treatment. However, a unique procedure in surgery can draw a crowd of interested students and, while we have the space to fit a number of people, the challenge surgery faculty often face is giving everyone the opportunity to easily observe and hear the surgeon's play-by-play of each surgery.

Technology has provided an ideal solution to this particular situation. In August, the VHC invested in upgrades to the surgery suites. New overhead surgery lights were installed that use LED technology, greatly reducing the heat emitted, as well as providing better lighting control and illumination during the surgery. These lights contain another great advancement that addresses the students' ability to participate in each surgery. Cameras in each light, as well as a microphone, can record the surgery and simultaneously display the video, just as the surgeon sees them, onto monitors, both in the surgery and the surgery conference room across the hall.

Walking by the conference room during a surgery, you can now hear the surgeon's voice explaining to students every detail of the surgery that is happening next door. Students can sit in the conference room and watch the surgery as they prepare for their next patient or have a free moment for lunch. Previously only the few students who were scrubbed in as sterile assistants in a surgery could see the surgeries in this detail.

These surgeries are also recorded for use in future lectures and compiled in a database so students can watch later.

In the past, each student on the surgery rotation had the opportunity to participate in 6-8 surgeries. Now, students can gain additional experience through watching and hearing the clinician's instruction on any surgery that is performed on their rotation or surgeries done in the past.

We can now guarantee our students have a front-row seat to surgical education. ▼



# REFERRING VETERINARIAN

Dr. Michael Johnson

Read Between the Lines

“Pets can’t talk and tell us how they feel, so we have to read between the lines,” Dr. Michael Johnson of Willowbend Animal Hospital in Wichita, Kansas, said. He feels his role is vital in determining the quality of pets’ lives by finding commonly undetected pains. Every patient is potentially suffering from pain, which owners may not notice.

Dr. Johnson and his team are committed to ensuring their patients are healthy, pain-free and enjoy a high quality of life.

Dr. Johnson began to develop this commitment to pets as a child. His love for animals grew and, despite any significant exposure to veterinary medicine growing up, he always knew he wanted to be a small animal veterinarian.

Dr. Johnson attended veterinary school in his home state of Iowa, graduating from Iowa State University in 1993. After graduation, he moved to Kansas and began practicing in Olathe. A couple of years later, Dr. Johnson moved to Wichita and, just two years ago, opened Willowbend Animal Hospital.

Dr. Johnson’s staff may be small, but he said the team of four is excellent and very well trained. “I worked with them for a very long time before opening Willowbend. Our clients love them as much or more than me,” Dr. Johnson said.

While still relatively new, the hospital has experienced success with its small animal practice. Dr. Johnson attributes a portion of the success to word of mouth. “We grow because we are honest with people and people like us,” Dr. Johnson said. “Our goal is to provide the best healthcare for each pet we see. We keep it simple.”

Dr. Johnson focuses on the basics for many of his clients: brushing teeth, preventive medicine and education. “I take every opportunity with a pet to look at that pet’s overall health and I try to go over every issue,” he said. “We are very thorough and honest with people. I think that is why we are growing and successful.”

Dr. Johnson’s passion for managing pain drives his practice. “I think it’s often underemphasized with pet owners. It’s not always obvious pets are in pain,” he said. “Sometimes they are restless at night or panting and that can indicate pain. So that’s one of the quality-of-life issues I feel strongly about. Dental pain and cognitive dysfunction are others. Unless you ask or tell an owner to look for it, you may miss it, and they live the rest of their life with pain that could be alleviated or eliminated.”



Every time a pet comes through the door is an opportunity to find something that is hidden, according to Dr. Johnson. “If we find there’s an issue, then I go over the options with the pet owner,” he said. Sometimes he says those options involve advanced medical care.

“I’ve been referring cases to the VHC for 20 years and I have 20 years of trust built up with the VHC,” Dr. Johnson said. “I view it as an extension of me - to do things I can’t do that the patient needs.”

Dr. Johnson knows his patients will experience compassionate care while he will receive critical follow-up communication from the VHC. He also appreciates the friendly and knowledgeable voice in VHC’s referral coordinator, Marsha Roblyer, when he calls. “I feel part of practicing good health care is referring when it’s needed. I’ve had good success referring to all of the services.”

Dr. Johnson has built his practice on being thorough, uncovering health conditions and disguised pain, to provide his patients with the highest quality of life. He also knows, when a diagnosis is too advanced to treat at Willowbend, the experts at VHC are willing to lend a hand. ▼

# A Space for All

A small number of the VHC family gathered on a beautiful August day to celebrate the contribution Cheryl Mellenthin and the late Mark Chapman made to construct the Chapman-Mellenthin Plaza.

The plaza was created with the hope it would provide a peaceful and beautiful place for clients, students and even clinicians to relax during a day at the VHC. Bricks have been laid, trees have been planted, and benches have been placed as tokens of memories for loved ones.

During the dedication, VHC Director Dr. Roger Finland and Kansas State University President Kirk Schulz addressed the crowd and presented Cheryl with a framed replica of the dedication plaque that names the plaza. The gathering was

concluded with a small reception as the audience perused the plaza in full summer-bloom.

Donors, faculty and friends admired the dedications to a number of beloved pets that adorn the walkway, benches and trees throughout the plaza.

The plaza will continue to be a place of reflection and growth as the plant life within the plaza flourishes each spring, and we continue to add to those memorialized.

If you have a loved one whom you would like to honor in the Chapman-Mellenthin Plaza, space is still available. Please contact the Development Office at 785-532-4378. ▼



The crowd gathers in the plaza during Dr. Roger Finland’s address.





# Veterinary Health Center

AT KANSAS STATE UNIVERSITY

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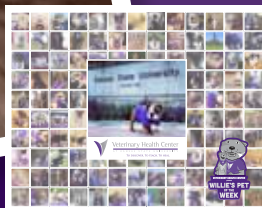
# Tail Ends

*Willie's Pet  
of the Week*

## Congratulations to Ruby!

The Willie's Pet of the Week Contest gave Wildcat- and pet-lovers a chance to show off their school pride by submitting pictures of their pet on the K-State Sports Facebook page. Fans voted for nearly 700 pets. The top 10 pets were considered for the grand prize by celebrity judges including Willie the Wildcat, Coach Bill Snyder, President Kirk Schulz and Hospital Director, Dr. Roger Fingland.

Ruby's photo, submitted by Jodi Schendel of Cheney, Kansas, was selected as this year's winner and will be featured in promotions for next year's Willie's Pet of the Week.



Purchase your 2015 Willie's Pet of the Week Calendar at [Varneys.com](http://Varneys.com) today! Proceeds are donated to VHC's Miles Fund. Learn more at [www.vet.ksu.edu/VHC](http://www.vet.ksu.edu/VHC)