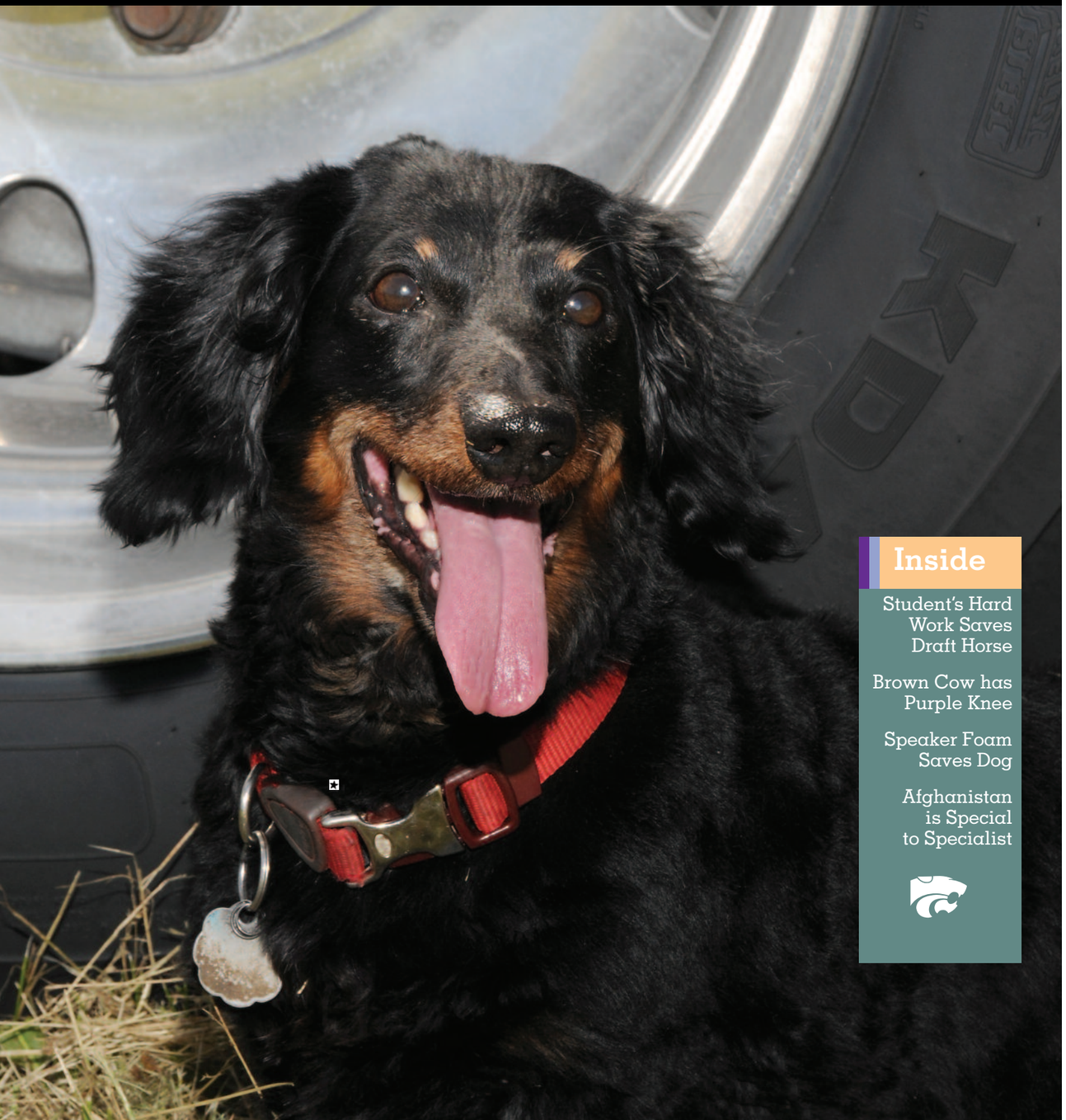
KANSAS STATE UNIVERSITY

SUMMER 2008

AnimaLIFE

VETERINARY MEDICAL TEACHING HOSPITAL



Inside

AnimaLIFE

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

Patrice Scott, "AnimaLIFE" editor, with Clyde.
Right: Dad with my sister Rita and Officer.

A Father's Gift

I remember a wonderful summer day when I was about 6 years old. It was late afternoon when my Dad parked the station wagon in front of our two-story home in Kansas City. As we got out, a police cruiser stopped in the street. The officer said, "Little girl, do you like puppies? I only have one left." He lifted the tiny creature up and handed it to me. She immediately snuggled her nose to my neck. I flashed my Dad a look with pleading eyes that begged, "Can we?" Dad smiled. I darted into the house with excitement and announced that we had a puppy. We named the seventh female of the house, Officer Squad Car Macan.

Dogs were important members of my family growing up. People often talk about the animals they love, but we seldom talk about the people who taught us to love and care for them. For me, that person was my Dad.

My amazing father passed away this winter. For those who wondered if they'd missed the fall/winter edition, you now know why one was not produced. It touched me deeply that many readers cared enough about AnimaLIFE to contact me and inquire. If you appreciate the way the articles are crafted in the magazine, my Dad has touched your life. I simply could not write them the way I do without the life foundation I was blessed with. Loved ones – animals and people – are gifts.

Thank you for indulging me in my story. As always, please contact me if you have a story you'd like to share. I'd love to hear from you.

All the best,

Patrice

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Shaping the Future... TODAY

Greetings from the Veterinary Medical Teaching Hospital at Kansas State University. I hope your summer was fulfilling and that you had an opportunity to enjoy family and friends. We are excited to share more wonderful stories about our patients and clients as well as some of the hospital's successes and challenges. We are pleased to get AnimaLIFE back to you after a short hiatus!

The Pet Health Center renovation was completed recently. The new area better accommodates the heavy traffic flow in the busy local practice area of our hospital. With new cabinets, countertops, exam lights and LCD monitor for the microscope, the space is more efficient and addresses the needs of the doctors, students, technicians and patients. It is an excellent learning environment.

Our equine clients will be happy to know that we will soon begin construction on an equine lameness center that will be located on the east side of the hospital. The equine faculty will have a dedicated and enclosed space designed for diagnosing lameness.

We are quite hopeful that our small animal surgery suite can be renovated within three years. Currently we have four operating rooms and the suite has remained much the same since the hospital was built in 1977. Tentative plans call for a total infrastructure upgrade and the addition of one operating room. The floor plan will be modified so that critical services are unified. For example, the anesthesia induction area and patient recovery will be co-located near ICU to increase efficiency and optimize patient care.

We would appreciate your help in making these plans become reality. Some of our needs propel our visions; others help patients today. Recently, our linear accelerator became inoperable. Then we learned that it was irreparable. This is an extremely important piece of equipment in our fight to help animals with cancer. Oncologists use the linear accelerator to deliver targeted beams of radiation to kill cancerous tumors. If you are interested in learning more about the many ways you can help our hospital help animals, please call Patrice Scott, marketing and development officer, at 785.532.4046 or e-mail her at pscott@vet.k-state.edu.

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

Warm Regards,

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

Dr. Amy Rankin

Eye Know-How

Story by Patrice Scott
Photo by Joe Montgomery

Dr. Amy Rankin, assistant professor of ophthalmology, didn't originally envision a career in veterinary medicine let alone becoming a veterinary specialist. All that changed when she applied to veterinary school her junior year in college. Before long, her long-range plan included becoming an ophthalmologist.

"After three years of general practice, I decided I was ready for a new challenge," Dr. Rankin says. "I love ophthalmology because I get to work with every species. Ophthalmologists manage eye problems in cats, dogs, horses and exotic animals. For me, it's the best of all worlds wrapped into one specialty," she says. "Every animal has two eyes."

Dr. Rankin finds it doubly gratifying to help clients and patients because many of them have never heard of a veterinary ophthalmologist until they need one. "So many people don't know that this specialty exists," she says. What I want our clients to know is that we're happy to help them, and we're happy to work with their veterinarians."

Dr. Amy Rankin at home with husband, Dr. David Rankin, and twin daughters, Mary Frances and Eleanor. The family adopted Sugar when she failed her eye examination during the service dog certification process.

VMTH client Medina Roynon is a typical client who was unaware of the specialty until her puppy, Pebbles, needed advanced care. Pebbles' breeder told Medina that the puppy's left eye was scratched by a littermate. When problems persisted, she took Pebbles to a veterinarian who treated her for an eye infection. "She kept blinking and her eye seemed to irritate her," Medina says. A friend suggested that she make an appointment at the teaching hospital to see an ophthalmologist. Surprised by the existence of the specialty and hopeful, Medina quickly made an appointment. "I guess it was something I never thought of because I've never had a dog with an eye problem."

Pebbles, at 5 months, came to the VMTH. "Dr. Rankin thoroughly examined Pebbles then shared her diagnosis," Medina says. "Pebbles was born with a congenital eye defect – her left eye had no tear production. I felt so relieved that we finally knew what was wrong. We just apply the prescribed ointment to her eye daily and she's perfect."

Dr. Rankin advises clients to be alert to possible signs that their pet is experiencing eye (vision) problems. If, for example, a pet is squinting, rubbing at the eyes, producing extra tearing/watering; if the eyes have a cloudy or bluish cast or the white area turns red, it may be time to see an ophthalmologist. If a horse is spooked when approached from one side but not the other, this may be a sign of a vision problem.

The great opportunity here is that so much can be done.
Many corrective microsurgical procedures are available to help patients suffering from diseases or degeneration of the eye.
Dr. Rankin tells of a VMTH patient that was completely blind from cataracts. "His cataract was so complete I couldn't see his retina. So, if I can't see in, he can't see out." She surgically broke apart the cataract and was able to restore the patient's vision to nearly normal of 20/70.

More help is on the way for small and large animals thanks to her research. Dr. Rankin is currently assessing different models of inflammation inside the eyes of cats to determine which medications can be used clinically to reduce inflammation. She's also conducting a corneal sensitivity project with alpacas.

Dr. Rankin comes to the VMTH from a busy ophthalmology practice near Milwaukee, Wis. She earned her DVM from the University of Wisconsin and her master's degree from Purdue University.

Dr. Rankin's husband, Dr. David Rankin, is an anesthesiologist at the VMTH. They live in Manhattan with twin daughters, Eleanor and Mary Frances, 4. The family has three cats, Frank, Herb and Myrtle; a dog, Sugar; and two birds, Hector and Speedy.

Editor's note: An incredible group of people were brought together thanks to their unwavering commitment to animals. The following article was originally written as an essay by senior veterinary student Elliot Stevens about his experience with Wilma, an equine patient. He wrote the detailed piece when he was nominated for the Radar Mullet Scholarship for Clinical Excellence by Dr. Beth Davis, associate professor and equine section head.

Wilma, left, with her best friend and pulling partner, Betty, back at home.

Edited by Patrice Scott

'I met **Wilma** on Monday...

This is an edited account of Wilma's 38-day hospital stay. It is also an extraordinary firsthand look at a senior student's true responsibilities.

by Elliot Stevens, DVM—Kansas State University 2008

Wilma, a 23-year-old Belgian mare, arrived Sunday, Aug. 26, 2007, at the KSU-VMTH with several swollen areas on the left side of her neck and with a cough, which had been treated with an antibiotic without response. Accompanying Wilma was her best friend and pulling partner, Betty. I could not have imagined the events that would transpire during her hospital stay or the diligent efforts of a wonderful owner.

I met Wilma on Monday, the first day of my two-week equine medicine rotation. After completing a physical exam, I placed a catheter and drew and submitted blood for a complete blood count and chemistry panel. We started Wilma on two antibiotics, penicillin and gentamicin, that provide broad coverage against many bacteria associated with respiratory disease. After infusing a very small amount of penicillin, Wilma became restless and began having intense muscle tremors. I immediately stopped infusing the penicillin and watched her for a few seconds. The tremors intensified, and Wilma began circling in her stall with a maniacal unease. I notified the intern, Dr. Tami Karges, and she monitored Wilma as I ran to find the senior clinician, Dr. Laurie Beard. Dr. Beard made Wilma her top priority.

Wilma's circling ceased within five minutes, and I proceeded with a brief physical exam. Her heart rate that morning had been 36 beats per minute and was difficult to hear given her large size. Following the penicillin administration, the heart rate increased to 130 beats per minute and sounded like someone knocking on a door through the stethoscope. Her respiratory rate had been 16 breaths per minute before the penicillin; afterward it was 80. I realized Wilma's clinical signs were consistent with an allergic reaction to the penicillin. Dr. Beard confirmed the diagnosis.

Wilma's owners, Stephanie and Keith Guthrie, have 70 horses and a few cats and dogs. Stephanie is best defined by a line from the Emma Lazarus poem "The New Colossus" that describes the Statue of Liberty. The poem ends with the statue herself speaking: "Give me your tired, your poor, your huddled masses yearning to breathe free, the wretched refuse of your teeming shore. Send these, the homeless, tempts tossed, to me: I lift my lamp beside the golden door." Stephanie would do without for the benefit of her animals. Her doorstep and pastures in Inman, Kan., have eased suffering and provided happy days for many animals.

We explained to Stephanie that a medical intervention was necessary and outlined the costs. She said, "Whatever it takes." With that, we went to work. Wilma started to grind her teeth, often a sign of extreme pain. One hour after administering the penicillin, Wilma's urine turned red in color. This was the result of an immune mediated hemolytic event, which culminated in her immune system destroying her red blood cells. All cells are important, but the loss of red blood cells that carry oxygen to her body amplified the critical situation. Pieces of the now-destroyed red blood cells lodged in her kidneys and caused a pigment nephropathy that can

Wilma and Betty with owner Keith Guthrie.

'I met **Wilma** on Monday...

progress to renal failure. We were managing a severe allergic reaction to penicillin, monitoring the destruction of the red blood cells, and trying to prevent kidney failure.

It was important to begin aggressive fluid therapy to protect Wilma's kidneys. She weighed 1,700 pounds and needed 46 liters (12 gallons) of fluids to meet her daily requirements. However, we needed Wilma to produce more urine than normal to prevent the lodging of the destroyed red blood cells, so we administered IV fluids at the rate of 92 liters every 24 hours, twice her daily need.

Wilma's hematocrit, a measurement of red blood cells, was 16 percent at 5 p.m., which meant she needed a blood transfusion. I could feel Stephanie's unease as she was nervous about Wilma's condition. I reassured her we were going to do everything we could to get Wilma through this event. Given that Wilma's immune system was destroying her red blood cells, we closely monitored all physical parameters that might indicate an allergic reaction to the blood being transfused. **We recorded Wilma's heart rate and breathing pattern every five minutes for 5 ½ hours** until the transfusion was complete. It was a late night, but when I checked Wilma's hematocrit before going home, it was 22 percent. We were going in the right direction!

The next morning, Wilma seemed uncomfortable, and we were concerned that a blood clot may have lodged in the arteries or veins that supply blood to her gastrointestinal system. If it wasn't a clot, her reduced red blood cell numbers may not have been able to provide oxygen to her gastrointestinal system. The outcome of either scenario may have resulted in the failure of part of her gastrointestinal system. We performed an ultrasound of her gastrointestinal system and found that her small intestine and stomach were fluid distended. In the horse, a fluid distended stomach can be life threatening because horses cannot vomit. We immediately passed a nasogastric tube and refluxed 26 liters of fluid. This was more bad news for Wilma and her owners. We called Stephanie and told her that we were concerned that Wilma had developed ileus, decreased motility of her gastrointestinal system. She told us, "Whatever it takes." Again, we went to work.

We continued fluid administration in an attempt to prevent kidney failure from the hemolytic process. We also needed to account for the fluid that had refluxed from her nasogastric tube. That meant Wilma would need 118 (92 + 26) liters of fluids. Additional reflux must also be replaced. Unfortunately, she continued to reflux: 90 liters that day. It was virtually impossible to meet her fluid demand, but we gave her as much as we could. Over the next two days, Wilma refluxed 75 to 80 liters each day. The good news was that her hematocrit was stable, and she stopped producing red urine. We were beyond the allergic response and the immune mediated red blood cell destruction. We now focused on managing the ileus.

After being on fluids for four days, we had two major problems! We needed to get Wilma's gastrointestinal system moving, and she needed proper nutrition. We addressed the first situation with lidocaine. (Lidocaine is typically used to block pain for short surgical procedures, but it is also used as a pro-motility drug.) Wilma required 52, 100-ml bottles of lidocaine administered intravenously each day of treatment. The first day on lidocaine, Wilma's reflux decreased to 45 liters and normal GI motility sounds were auscultated. Wilma's condition improved and lidocaine therapy was discontinued after four days.

Wilma's body was converting fat into energy because she had not eaten solid food in four days. We talked with Stephanie about placing Wilma on total parenteral nutrition (TPN) to be certain Wilma's nutritional needs were being met. We explained the expense with the TPN, and once again, Stephanie said, "Whatever it takes." Wilma was on TPN for three days.

On day 11, despite having been through an allergic reaction, an immune mediated hemolytic event and ileus, Wilma appeared stable so we decided to allow her to eat small amounts. I fed Wilma one handful of pelleted feed every four hours and added brome hay to her ration. I was also able to do something I had never done before: I took Wilma and Betty outside for a walk and grazing. The future was looking bright.

I had been so busy with Wilma that I suddenly realized my two weeks with her was up. It was hard to leave Wilma since we had been through so many late nights, early mornings and full days. I knew so much about her that I could never adequately tell the next student what she liked and what she didn't like. For instance, Wilma likes to be groomed every morning starting at the back and working forward; she likes you to scratch her behind the jaw; and she likes you to stand in the stall with her. There was just so much about her that I could never transfer on a piece of paper or in a brief conversation.

Luckily, I was scheduled for a supplemental equine rotation and might be able to stay with Wilma if a student would switch rotations with me. With one e-mail to my classmates, I had secured another two weeks with Wilma. Deep down I hoped I would not need that much time before sending her home.

Monday, Sept. 15, the first day of the supplemental rotation, **marked Wilma's 15th day in the hospital**. She was stable in the morning but that all changed in the afternoon. She laid down in her stall and was groaning. Her heart rate and breathing increased. We gave her pain medication and monitored her closely. A rectal examination revealed that her cecum was distended with gas. We talked with Stephanie about surgery. Our plan was to monitor Wilma closely and be prepared to take her to surgery if necessary.

Wilma was treated with fluids and pain medication and received vigilant monitoring. Over the next 24 hours, she did not lay down, but her condition did not improve. We decided very early Monday morning to start Wilma on the drug, yohimbine, a pro-motility drug. It required all the yohimbine in the hospital to give her just one dose. Following administration of yohimbine, her gastrointestinal motility improved, and she appeared to be much less painful. Thankfully, surgery would not be necessary. We offered her small amounts of food and water, which she accepted without hesitation. Over the next few days, we challenged Wilma's digestive system by increasing her fluid and food intake until she was no longer refluxing. **It was her 22nd day in the hospital** and she appeared to be doing very well.

Over the next few days, we increased outside time from a half-hour to an hour, three times a day. She loved being outside, and it was great to see her so happy after all she had been through. Since she was doing well, we turned our attention to Wilma's problem at presentation; the swellings on the side of her neck. We evaluated the swellings with an ultrasound and aspirated them using a 3-inch spinal needle. The cytology was consistent with a seroma. There was a small amount of drainage seeping from one of the swellings, so we talked with Stephanie about opening it to allow it to drain properly. We explained this would extend Wilma's hospital stay, and Stephanie told us she would have it no other way: She wanted Wilma to have the best care. Again, "Whatever it takes," was the answer.

I reached day 28 with Wilma, and it was time for me to move on to surgery so I transferred Wilma to another student who is a good friend. I continued to visit Wilma for our daily conversations, to groom her (even though she didn't need it), and to take her outside whenever I was free. **Wilma went home after 38 days in the hospital**. I was not able to be there when she left, but maybe it was better that way.

As I conclude this writing, I am looking out the window thinking about Wilma and Betty standing side by side on a pasture under the vast, open, starry Kansas night sky. All the best, Wilma, you will not soon be forgotten, if ever.

This "stray" was the beginning of a friendship and scholarship

Lavonne Mullet and Radar

Radar was a stray who adopted his "mama," Lavonne Mullet, when he was between the ages of 6 and 8. Their six years together were marked with constant companionship and happy times. Lavonne and Radar were referred to the teaching hospital when Radar was diagnosed with kidney disease. In a letter posted on the hospital's Web site, Lavonne writes: "Thanks to your incredible staff, we were able to manage his kidney disease, and I had another wonderful year with my precious little dog." (To read Radar's story, go to www.vet.ksu.edu, click on Teaching Hospital, then 'Why We Do What We Do.')

Photo by Dave Adams

From left to right: Keith and Stephanie Guthrie, Wilma's owners; Lavonne Mullet, VMTH grateful client and philanthropist; senior student Elliot Stevens and wife Sheila; and Dr. Beth Davis who nominated Elliot for the scholarship. The group gathered at the annual senior honors banquet where Elliot was announced the winner of the Radar Mullet Scholarship for Clinical Excellence.

Lavonne was so impressed with their experience she decided to honor Radar's veterinary students by establishing a scholarship that memorialized Radar and recognized veterinary students with exceptional communication skills and academic achievement. Thus was born the Radar Mullet Scholarship for Clinical Excellence.

Story by Patrice Scott
Photos by Dave Adams

An 8-year-old Jersey dairy cow is back at her Manhattan, Kan., farm thanks to a decade of research and an experimental surgery performed at the Veterinary Medical Teaching Hospital.

The cow, named Wilhelmina Jolene by the veterinary students assigned to her case, sustained a breeding injury in December 2007 when the cruciate ligament in her right knee ruptured. Dr. David Anderson, professor and head of agricultural practices, replaced the ligament using synthetic material called monofilament nylon. The procedure's success will have enormous implications for breeding quality cows and bulls with the same injury.

Dr. Anderson replaced Wilhelmina's torn ligament with the artificial one, dubbed the 'Wildcat Power Cord.'

Fortunately, Wilhelmina's owner recognized the value of saving her. Mike Frey is the son of Dr. Russ Frey, a legend at the College of Veterinary Medicine. "She's owned by the son of an important faculty member in our college's history," Dr. Anderson says. "It's wonderful that there is a connection to Dr. Frey with this case and that Mike understands the teaching value."

Mike says he was happy to be part of an effort that could help animals, producers and students. "I was always under the assumption that an animal with this problem was going to be heading down the road," he says. "If they could perfect this so that a cow could be kept in production, that would be worth quite a bit."

Dr. Anderson explains that the cruciate ligament is a dense tissue that connects the bones in the knee joint. Injuring it can be career-ending and often life-ending – until now. The three published surgical techniques for anterior cruciate rupture in large animals have a failure rate of approximately 50 percent, Dr. Anderson says. This fact caused him and surgery colleagues Drs. Guy St-Jean and Andre Desrochers to investigate alternatives in the 1990s. The team designed a cruciate ligament using braided polyester; however, the material was not strong enough for heavy cattle. Dr. Anderson continued to experiment with a variety of materials until he discovered an unusual form of nylon monofilament, a solid material about the diameter of a coffee straw. But the question remained: Could this man-made material replace the natural ligament of a 1,500 pound animal?

Shelby Reinstein and Nichole DeBellis were the senior veterinary students who named Wilhelmina.

On Jan. 17, Dr. Anderson replaced Wilhelmina's torn ligament with the artificial one, dubbed the "Wildcat Power Cord." Dr. Anderson's surgery team included surgery residents Drs. Kara Schulz and Jose Bras, intern Dr. Manuel Chamorro, along with anesthesiologists, veterinary students and technicians.

The next day, the Jersey cow was led across the hospital's video synchronization pressure mat to determine her level of lameness. "Her stride length had increased 30 percent, and she bore 25 percent more weight on her operated leg," Dr. Anderson says. "To have that much improvement is spectacular." (His long-term goal was to develop a replacement ligament strong enough for bulls. Lab tests revealed that the Wildcat Power Cord could withstand up to 12,000 newtons of pressure – roughly 50 percent more than an adult bull requires.)

Since operating on Wilhelmina (above), Dr. Anderson has successfully implanted the Wildcat Power Cord in two adult bulls. The surgery is now offered routinely at the Veterinary Medical Teaching Hospital.

Wilhelmina retuned home and was kept in a box stall for a week or so, Mike says. After that, she had the run of the free stall. "We had a tough winter with all of the snow and ice," he says. "I didn't think she'd get around as well as she did."

Nichole DeBellis and Shelby Reinstein were the senior veterinary students who named Wilhelmina. They appreciated the vast learning opportunities this case presented, especially those relative to anatomy of the stifle and monitoring Wilhelmina for specific conditions dairy cows are at risk for developing. These include inflammation of the udder (mastitis) or of the uterus (metritis), a metabolic imbalance (ketosis), ulcers and displacement of the abomasum, the fourth compartment of a ruminant's stomach.

"We worked really hard for her and spent long hours at the hospital, but it was definitely worth it after seeing how well she did post-op," Shelby says. "I love being part of the discovery aspect of veterinary medicine, and it is always really rewarding to try something you're not sure about and have it work. And, my parents were quite impressed that I could milk a cow!"

Wilhelmina continues to do well today thanks to the efforts of the hospital's faculty, staff and students. So the next time you hear the phrase "how now brown cow," you'll know she's fantastic.

ROAD TO RECOVERY

A vacuum-assisted surgical technique used for the first time at the Veterinary Medical Teaching Hospital (VMTH) brings closure to a dog's wound and a trying ordeal for a Salina, Kan., couple.

Bill, Dee and LP have traveled more than 2 million miles together on the open road; they weren't about to give up because of an open wound.

A chance encounter on Aug. 17, 2007, with a large breed dog in their rural neighborhood led Bill and Dee Wills and their 11-year-old Dachshund, Little Pup (nicknamed LP), on an unimaginable odyssey. Bill, an independent truck driver, could never have guessed that their medical journey would last months and that success would depend on a veterinary specialist and speaker foam.

Bill describes the day LP was bitten. "He was sitting on the couch in the living room when he went flying off the couch and out his dog door into the front yard," he says. "LP ran outside to protect his property, and the other dog bit him and shook him." LP never cried or yelped, but when Bill got to him the damage was obvious. "He was cut wide open," Bill says. "He was ripped from the middle of his back to his groin. He looked at me with his eyes and said, 'Fix me.' "

Within 10 minutes of the attack, Bill and LP arrived at Dr. Kurt Fredrickson's veterinary clinic. "Basically, the laceration went from the middle of the back and entire left side to the lower abdominal area," Dr. Fredrickson says. "There were smaller puncture wounds and lacerations." Dr. Fredrickson debrided the wound, placed drainage tubes and ran blood work to determine if LP's kidney function was normal. Fortunately it was.

Dr. Fredrickson took LP to surgery to close the wound. After the procedure, he shared the guarded prognosis with Bill because of the extensive damage to the skin and LP's age. The possibilities existed that the skin would not heal and that LP could develop kidney problems. LP spent the weekend at the clinic and came back for a recheck on Aug. 24. Four days later, LP required another surgery because the sutures broke open despite the fact that Dee was confining LP and carrying him outside to go to the bathroom.

On Sept. 7, Dr. Fredrickson took LP to surgery for the third time. The sutures opened again six days later. "Although I had tried several techniques, doing what we were doing just wasn't working. So I needed to get them to K-State where there were more options and expertise. This was our only chance because we were losing skin each time we tried."

Dr. Dirsko von Pfeil, assistant professor of small animal surgery, recalls the first time he examined LP on Sept. 18. "He had a large wound on the left lateral abdomen," he says. "Typically, granulation tissue (visible when skin is not present) is red and very vascular in appearance with a cobblestone pattern, but LP's wound was white-beige in tone and the surface was flat. Healthy granulation tissue is necessary for an open wound to heal."

"We evaluated LP for Cushing's Disease, an endocrine disease that occurs when the body produces too much cortisol, but that was negative," Dr. von Pfeil says. "Then we submitted cultures for typical and atypical bacteria. We ran all possible cultures including fungal, and everything came back negative. Next we submitted a biopsy for histopathologic analysis. The diagnosis was chronic, non-healing wound with no apparent etiology (origin). Radiographs of LP's chest and ultrasound of the abdomen were within the limits of normal for a senior dog."

Yet there was nothing normal about a 5½-inch wound that failed to respond to treatment and three attempts at closure by LP's veterinarian.

Dr. von Pfeil removed debris from the wound then scraped the surface to encourage blood flow and stimulate formation of granulation tissue. "We kept the wound covered using a tie-over bandage that usually helps with the formation of granulation tissue and pulls the skin in. It's a technique that encourages 'mechanical creep.' " (It stretches the skin, thus decreases tension when attaching wound edges. The latter is one of the most important things for successful wound closure.)

Within four to five days of conventional wound treatment, healthy granulation tissue typically starts to form. However, after treating LP's wound and changing the bandage twice daily for five days, there was no improvement. A perplexing question loomed: Why wouldn't LP's wound close?

A more aggressive approach was needed so LP was taken to surgery where the surgical team removed a 1½-inch layer of adipose (fatty) tissue. "We removed the adipose tissue to encourage blood flow from the underlying musculature," Dr. von Pfeil says. "Following surgery, we strategically placed elasticized Velcro strips down LP's back to decrease tension around the wound edges, which would help when eventually closing the wound. We changed the bandages and tightened the strips two times a day in the hopes of producing mechanical creep. While the wound edges appeared to come closer together, there was still no granulation tissue forming during the following days."

Despite all the tests and effort, LP's two problems persisted: The wound wouldn't close; and no granulation tissue was forming. On Oct. 2, LP's 16th day in the hospital, the wound was re-cultured and a variety of topical medications were used to increase the formulation of granulation tissue. Still no improvement.

What else could be done?

Dr. von Pfeil had successfully treated a patient with vacuum-assisted closure (VAC) while completing his residency at Michigan State University. Because the technique has been used almost exclusively in human medicine, a modification was needed for veterinary patients. Sterilized speaker foam, he explained, is ideal because of its porous composition. The open-air foam is sealed air tight with a plastic sheath, and when negative pressure is applied, subatmospheric pressure is evenly distributed over the wound area. This literally pulls blood vessels to the wound surface and provides the factors necessary to create a uniform granulation bed and wound healing to occur.

Dr. von Pfeil had successfully treated a patient with vacuum-assisted closure (VAC) while completing his residency at Michigan State University.

Dr. von Pfeil talked with Dee and Bill about the benefits of VAC therapy. Dee's initial reaction: "You're going to do what?" Dee was scared, but she knew this could possibly be the only way to save LP. Bill, Dee and LP have traveled more than 2 million miles together on the open road; they weren't about to give up because of an open wound.

"We were at a point where nothing had worked, and LP couldn't live with that wound," Dee says. The decision became easier when the couple realized that LP's medical team, now consisting of two additional surgeons, Dr. Emily Klocke and surgery resident Dr. Stephanie Lister, had conducted extensive research, and believed they had the answer. "We trusted everything they said and we told them, 'Just fix our dog and we'll be happy.' "

After two days of VAC therapy, the moment of truth was at hand. “There was significant improvement of the wound appearance with nice granulation tissue showing where the area was covered with the VAC,” Dr. von Pfeil says. “In order to improve upon the initial result, we opted to add two days of VAC. The end result was stunning, really” – the wound was ready to be closed. Due to the previously applied tie-over bandage and Velcro straps, it was not necessary to use special wound closure reconstruction. The wound edges could be apposed after placement of regular “walking sutures,” which also help to decrease tension at the wound edges.

On Nov. 19, after 53 days in the hospital, LP went home.

Dee and LP have not been able to return to the road with Bill since this happened due to a variety of issues. Bill is lonely but he looks forward to calls from Dee. “I have to make a living,” he says. “I miss them, but I try not to let it bother me. Dee puts on the speaker phone and LP ‘talks’ to me.” Bill believes if you are in tune with your pet, they’ll tell you what to do. “Read your puppy’s eyes, they can talk with them. Love ‘em and treat ‘em good.”

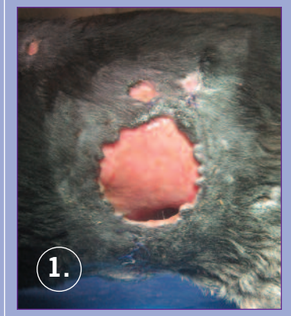
Dee’s positive attitude and sense of humor helped everyone involved in the situation. Laughing, she explains how they are handling life since this incident. “We’re having a blast,” she says. “We just enjoy every day we have together. It was all worth it.” LP is healthy and happy to be back at home among his beloved family.

ROAD TO RECOVERY

On Nov. 19, after 53 days in the hospital, LP went home. “We are having a blast,” Dee says.”

Justin Voge, senior veterinary student, LP and Dr. Dirsko von Pfeil.

Family was also the reason that Dr. von Pfeil left Kansas State University this summer. He says, “I think that my enthusiasm for wound treatment was transmitted to both students and other veterinarians when treating LP. I am happy to know that VAC with its amazing effects on wound healing will be available and of great value for future patients at the Veterinary Medical Teaching Hospital.”



A quick overview of LP’s treatment and VAC

Vacuum-assisted closure (VAC) wound therapy has been used successfully in humans for the treatment of acute and chronic wounds of the abdomen, thorax, and limbs for more than 18 years. This method involves the placement of a sterile, open-foam dressing over the wound, sealing the area with an adhesive drape, and then applying controlled subatmospheric pressure uniformly to the wound.

1. LP’s open wound at admittance to VMTH.
2. Velcro strips help reduce tension on wound edges.
3. The open foam dressing. Note the red vacuum hose that supplies the suction.
4. Justin and LP at a follow-up appointment.

“If I couldn’t help my patient, I called the teaching hospital.”

Story and Photos by Patrice Scott

Two decades after purchasing a practice, Dr. Robert Johnson is heading into a new phase of life, which includes an architect.

Dr. Johnson graduated from the College of Veterinary Medicine in 1984 and worked as an associate for two years at a practice in Baldwin City, Kan. “I received great training my first few years out of school,” he says. “I knew I wanted to call the shots, and you can’t do that when you work for someone else. I saw an advertisement about a practice for sale and decided to look at it.”

In 1987, Dr. Johnson bought a mixed animal practice in Berryton, Kan., just outside of Topeka that he renamed Paw Prints Animal Hospital. “Everything fell into place,” he says.

Life was great for the next five years until he sustained back injuries resulting from a serious car accident in 1992. Dr. Johnson underwent surgery and was forced to limit his practice to small animals only. He also had to give up Taekwondo his “exercise and outlet” after becoming a third degree black belt. “Now I just do cardio and lift weights, Dr. Johnson says. “I try to eat a healthy diet and get regular exercise. I just turned 50 and feel better than when I was 40.”

That’s great news because his practice, and the number and size of animals living in his clinic are growing: he has five office cats and an African leopard tortoise named Wilbur who needs more space. Dr. Johnson is currently working with an architect to develop plans for an addition. “We will double the size of our clinic, and I’m hoping to get things going this fall,” he says. “There are times when all 11 of us (employees) are here, and we are bumping into each other in the halls.”

Red paint on Wilbur’s middle scute helps Dr. Johnson locate the African leopard tortoise when playing outside.

There’s little doubt as to why his practice has grown. “Always be honest,” he says of his philosophy in working with clients. “If I couldn’t help my patient, I called the teaching hospital,” he says. “I cannot tell you how many cases I’ve referred and how many times I’ve called there. I have gotten great support from all the specialists. My clients are in awe of the hospital, and I can’t think of one client who was disappointed. I think everyone at the teaching hospital is just wonderful.”

His attentive nature and desire to continue learning are qualities that Dr. James Roush, professor and head of small animal surgery at the Veterinary Medical Teaching Hospital, truly respect. “Dr. Johnson is a very conscientious veterinarian who wants only the best care for his patients and who is quick to refer unusual cases when his clients can benefit from specialty care at the teaching hospital. In doing so, he also helps us train the next generation of veterinarians by supporting the teaching caseload.”

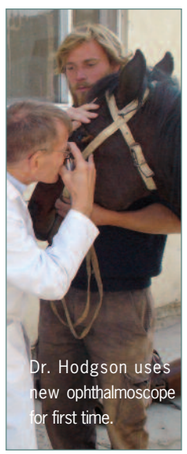
Dr. Johnson’s daughter Sarah, 20, is studying psychology at the University of Kansas. His Berryton home, located on 5 acres along with the clinic, is bustling with sons, Ethan, 8, Dominic, 5, two house cats, Galahad and Merlin, and Maddie, a Welsh Corgi.

KABUL-ING IT TOGETHER

Introduction by Patrice Scott
Photos by Dr. David Hodgson


Veterinary students observe partial forelimb amputation.


Student treats donkey with colic using parafin oil via nasogastric tube.


Dr. Hodgson uses new ophthalmoscope for first time.

Dr. Hodgson works with a student using a microscope. Lab equipment, such as a microscope, is a luxury at the school. Much of the equipment needed for teaching is substandard or nonexistent.

Commitment.

That's why Dr. David Hodgson spent six months in Afghanistan teaching veterinary students last year. And that is why he went back this summer.

Dr. Hodgson, professor of anesthesiology, spent May through November 2007 at the School of Veterinary Medicine at Kabul University (KU). There, he witnessed a country in chaos, where battles are both internal and external. Amid the shattering realities of war and deep-rooted conflicts between East and West, old and new, students are learning. Women, despite their husbands' protests, are seeking an education. Language barriers, substandard or nonexistent textbooks and equipment were no match for the hope Dr. Hodgson saw in the eager faces of students who want a better life. This, it turns out, is something we have in common.

They say it's not possible to be in two places at once. However, look into the eyes of Dr. Hodgson, and you'll see an educator whose heart now belongs to two countries and two very different groups of students. "I saw this as an opportunity to live my values," says the soft-spoken, unassuming Dr. Hodgson.

While veterinary students at K-State and in Afghanistan will someday share the same profession, their physical surroundings, educational experiences and lifestyles are polar opposites. Each week, Dr. Hodgson e-mailed a two-page letter summarizing the week's events to his colleagues at K-State. Through these letters, readers became connected to his work, supported his efforts through donations, and silently wondered if they could do what he was doing.

He wrote about vicious fighting dogs that needed emergency treatment – but care givers had no equipment to restrain the animals. He shared the heartbreaking euthanasia and burial of Riko, a retired mine detection dog that suffered from acute kidney failure. Surgeries were completed in rudimentary surroundings using only natural light. Meanwhile, military convoys rumbled through the streets, and bus bombs killed at least 44 people in less than 10 days.

His words best describe the realities.

Local market

Equine patient at clinic for lameness examination.

Sheep arrive at clinic for examination.

"We have had many excellent teaching cases, and I have tried to serve as ophthalmologist, dermatologist, internal medicine clinician, surgery consultant and an anesthesiologist this week. I have found my diverse veterinary background to be very useful, but at times inadequate to address all of the challenges that I am confronted with."

The following excerpts were selected from Dr. Hodgson's weekly Afghanistan updates:

Before Dr. Hodgson left, he surprised each 4th year veterinary student during a ceremony with an unheard of gift: a stethoscope.

July 25:

We are getting so low on supplies and drugs that we can scarcely provide care that requires vaccines, antibiotics, anesthetics and various other products. If I can't get products to keep the clinic functioning, I cannot teach students and my presence here is of very limited or no value. Some days I would just be thrilled to find a second roll of adhesive tape in the clinic! To find ways to re-energize myself for the difficulties ahead, I only have to look to the students that I am privileged to work with. I start each day with the resolve that I will just try and make the best of whatever situation I encounter and to try to make a small but positive difference.

Aug. 10:

There are so many opportunities to teach students, and I take full advantage of the teachable moments whenever they arise. It really energizes me to have this time with the students and to have good discussions about important veterinary issues. The students have been appreciative and attentive to all of my efforts. I have three more months to effect progress and have ideas for ways that I may be able to make those changes when the new semester starts and have recently proposed afternoon skills labs for the 5th year students.

Sept. 15:

This morning at the clinic we started off with eight sheep presented with various problems. Primarily, afflictions were respiratory infections and internal parasites. We had three excellent small animal cases that gave ample teaching opportunities. The students' lack of core knowledge never diminishes their enthusiasm to be involved and committed.

Donations from you (College of Veterinary Medicine faculty, staff, students and friends) are used to enhance the diagnosis and treatment of animals at the Kabul University Clinic. The donated books are resources that I use daily and the drugs and anesthetics have enhanced patient care. It is amazing to me how well animals respond to basic antibiotics like penicillin.

Sept. 24:

This has been an interesting and generally productive week in Afghanistan. We have had many excellent teaching cases, and I have tried to serve as ophthalmologist, dermatologist, internal medicine clinician, surgery consultant and an anesthesiologist this week. I have found my diverse veterinary background to be very useful, but at times inadequate to address all of the challenges that I am confronted with.

Often it is necessary to review basic anatomy, physiology and other core courses to help students understand what they need to know in order to give good medical advice and treatment. The students continue to be my inspiration each day. The difficulties I encounter are erased by the energy and enthusiasm the students bring to the clinic.

Sept. 28:

I had the 4th year class in the clinic on Wednesday. We started the morning with a kitten that presented from Tigger House (a humane shelter) for treatment. I discussed all of the facets of doing a thorough physical exam with the students. When they were done, I asked the responsible student the sex of the kitten. Neither he nor anyone else knew, so I gave each student an opportunity to re-examine the kitten. I then took a ballot and the vote was split! This necessitated further discussion and review of basic feline anatomy. We had some light moments, and I think the entire exercise was a good learning experience.

Oct. 8:

Every day I am reminded of how fortunate I am to have such great colleagues and friends at the Kansas State University College of Veterinary Medicine. Each clinical case in our clinic in Afghanistan is the beneficiary of the gifts of books, equipment and supplies that you have sent. I took one book, "Popesko – Atlas of Topographical Anatomy of Domestic Animals" to a faculty member I admire. He had a copy of Popesko that was buried outside in a trash heap during the war years. He found and retrieved it later, but it was severely damaged. He teaches anatomy and this is truly a treasure in his eyes.

The purple anesthesia waste gas adaptors and blue corrugated hose will allow me to more adequately vent the waste isoflurane out the window. The lack of heat in the clinic will get progressively worse. Eventually as winter arrives, the guards will bring a small, crude stove into the clinic to heat the office and small animal exam room. Fortunately for now the sunshine helps take the chill off by midmorning.

Wow, was I impressed with the new Welch-Allen ophthalmoscope, otoscope combination instruments. I believe there is absolutely every Welch-Allen diagnostic accessory included. The extra light bulbs and a 220 volt charger should keep this instrument functional for years. I am eager to start using this equipment with the students.

There's no place like home

Following semester exams in November, Dr. Hodgson returned to Manhattan. (Kabul University closes each November because there is no electricity to heat classrooms. Courses resume in the spring.) Before he left, he surprised each 4th year veterinary student during a ceremony with an unheard of gift: a stethoscope. "It was important for me that they realize that all the gracious people who support K-State are now supporting them," he says of the corporate and private donors who made gifts to buy the stethoscopes.

Looking back, Dr. Hodgson says, "I'm committed in a way I didn't envision. I wanted to represent everyone at K-State really well because I'm just an extension of everyone here. Other than being in the military in Vietnam, I haven't had any international experience. There's a time and place in a person's life when you can do something like this. To do that, you have to have support from the people you work for."

And, the right person to commit.

Kansas State University
Veterinary Medical Teaching Hospital

Mosier Hall
1800 Denison Ave.
Manhattan, KS 66506

Happy Birthday Bob

AnimalLIFE

It's a tradition to give gifts when attending a birthday party. However, Frances and Tom Dudley of Topeka, Kan., asked party goers (pictured below) to direct gifts to the equine section of the Veterinary Medical Teaching Hospital. It was there that their horse, Bob, received advanced medical care that enabled him to reach an important milestone: his 30th birthday. (Bob and Frances are sixth from the left.)

In a letter to attendees, Dr. Beth Davis, associate professor and equine section head, writes: "We were delighted and overwhelmed when Frances and Tom Dudley informed us that together you raised an amazing $6,307 for the equine section. Thank you! When Bob was treated at our hospital in 2007, we quickly understood what a special horse he was. We had no idea what great things Bob had in store for us.

"Because of Bob and your generosity, we will be able to purchase several items for the equine section that include a stall side lactate analyzer, an arthroscope telescope, upgrade our foal alert system, and provide enhanced patient service with bench seating near our lameness platform. This equipment will not only help with patient care, it will provide immeasurable teaching opportunities for students. For us, treating and teaching are inseparable concepts, and we deeply appreciate your investment in both."

THANK YOU BOB, FRANCES and TOM!

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