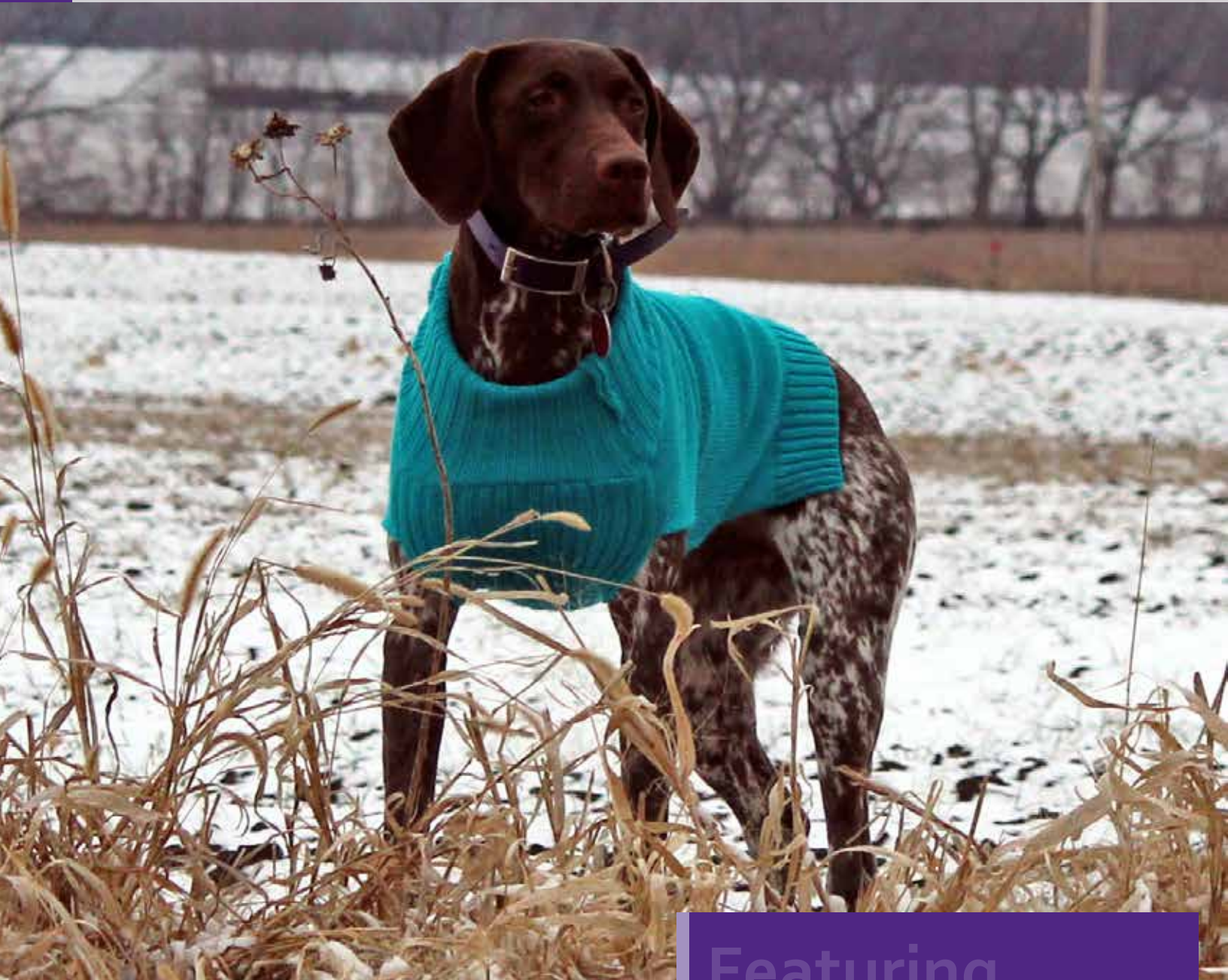


AnimalLIFE

Summer 2016



Featuring

Hunting Accident Threatens Bella's Life

Resident Gives Twin Foal a Second Chance

Fourth Year Student Battles Her Own Heart

Shelter Successful Thanks to New Program



Veterinary Health Center

AT KANSAS STATE UNIVERSITY

TO DISCOVER. TO TEACH. TO HEAL.

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

The power of medicine is beautiful, but the power of a survivor - that is the most beautiful of all. This issue has shown me that survival is a mentality. It comes in all shapes, sizes and species and it transforms those who embrace it and radiates to those fortunate enough to know them.



Kristin Loving with Jordy and Ebby.

These survivors have not only conquered the unthinkable, but emerge with a story to tell or a tail to wag and a desire to share their message (or puppy kisses) with those who need it most.

This issue features stories of true battles between life and death. The survivor may have only had a glimmer of hope, hours to spare, but they fought, and doctors, family and friends rallied around them. These very special survivors have a story to tell and I am truly humbled they allow me to share it. I hope they inspire and move you as they have me.

To all of the survivors who read this, you are an inspiration.

Best Wishes,

Kristin Loving

AnimaLIFE

VETERINARY HEALTH CENTER AT KANSAS STATE UNIVERSITY

Summer 2016

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Veterinary Health Center
AT KANSAS STATE UNIVERSITY

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Cover: Bella Oleniacz, page 8



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It has been a whirlwind year at the Veterinary Health Center. While remaining Clinical Sciences department head, I became the interim hospital director and search committee chair to identify the next leader of the VHC. I hope to announce that I will pass the reigns to a new director soon!

In October, we kicked off a university-wide \$1 billion campaign - Innovation and Inspiration: The Campaign for Kansas State University, to support students, faculty and facilities of the university. The College of Veterinary Medicine has developed a vision to raise \$55 million for the future of our college. It is an ambitious goal, and we are excited about the possibilities it brings for our patients and professional students.

We thank you for your continued support of our hospital. We have developed an online wish list for each VHC service with ideas for modest contributions to our program. In addition, we are launching a pay-it-forward program to raise funds to support the treatment of animals with life-threatening injuries or illness that would otherwise be euthanized. Whether a client, friend or donor, you are making a positive difference in the lives of pets, future veterinarians and the profession of veterinary medicine. In this issue, we are pleased to share the heart-warming stories that convey our passion for the profession. Every person and animal that walks through our hospital doors impacts the future leaders of our profession and advances the science of veterinary medicine.

As we look forward to the changes still to come and exciting projects underway at the VHC, we are grateful for your continued support. I hope you enjoy this issue of AnimaLIFE and thank you for being part of our VHC Family.

Kind regards,



Bonnie Rush, DVM, MS, DACVIM

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



Photo: KSU Photo Services



Theriogenology, thir-ē-ō-jə-nāl-ə-jē, even the phonetic spelling is complicated, but Dr. Jason Grady is here to simplify and serve. Dr. Grady, clinical assistant professor of equine theriogenology and field service, joined the VHC nearly a year ago, filling a critical need in our equine service team. Theriogenology is the study, service and care for all stages of the reproductive cycle, which in horse patients, can be a complex and delicate process.

Dr. Grady grew up on a commercial and purebred cattle operation in Chanute, Kansas, where he became comfortable with both the bovine and equine species, but it wasn't until his fourth year clinical rotations that he decided to pursue equine medicine and reproduction as a career. "Growing up, my horse experience revolved around my family's Shetland ponies, Ginger and Petunia, and our Quarter Horse, Ace, that is over 30 years old now," Dr. Grady said. "While interacting with the equine clinicians during my clinical rotations of my fourth year of veterinary school, I developed a strong interest in equine medicine and reproduction."

After veterinary school, Dr. Grady accepted a position in Tulsa, Oklahoma for two years and then decided to pursue a competitive three year residency in equine internal medicine, which brought him back to Kansas State University. "After completing the residency program

I returned to the Tulsa area and practiced in a general ambulatory/referral clinic focusing on equine internal medicine and reproduction, while also providing general preventative medicine for an additional six years," Dr. Grady said.

Excited to be back at the VHC, this time as the educator and the clinician, Dr. Grady aims to build the equine reproduction service to better serve clients and give students more opportunities to learn. "It is important to me that clients feel well informed when making decisions regarding their horse, and that our students gain valuable knowledge from each case they see," Dr. Grady said.

Dr. Grady has been busy this spring working with the goals of each of his clients to breed and foal their horses to meet their goals as horse owners. He is often asked, "What do I need to do to breed my mare?" which is not a simple step-by-step process for him. "First, you'll have to think about a series of questions. How old is she? How many foals has she had? Has she lost a foal during pregnancy? What kind of semen do you want to use? When do you want the foal to be born?"

While the answer is not black and white, Dr. Grady says the optimal breeding age for a mare is between four and their early teens, but factors such as overall health and reproductive soundness of the mare play a role in her fertility.

If you are interested in breeding a mare, Dr. Grady suggests ensuring the mare is in good body condition. "Mares that are excessively fat may result in lower pregnancy rates and mares that are excessively thin or have chronic pain may fail to cycle or have higher rates of pregnancy loss," Dr. Grady said. Following a thorough physical examination a breeding soundness exam, consisting of a rectal palpation and ultrasound, vaginal exam, uterine culture and cytology and possibly a uterine biopsy, will help determine if your mare is ready to breed.

"Ultimately, you, as the mare owner, and we, as your veterinarian, have the same goal, and that is to achieve a pregnancy that results in a healthy foal," Dr. Grady said. "Working together through the process will help us both achieve that goal." ▼

See more pictures of Baby Horse growing up on her Instagram account, @Baby.Horse.

BEATING THE ODDS

A rare and dangerous twin pregnancy spells trouble for one mare.

Horses are full of surprises. One horse in particular, surprised her owners when they discovered she was pregnant after being stalled with a gelding (castrated male). Not only had she become unexpectedly pregnant, but she delivered twins, unassisted. If that doesn't sound like much of a surprise, consider the following statistics: in horse pregnancies, most twin embryos abort within the first six weeks of pregnancy and by the eighth month, more than 80% will have aborted according to UC Davis research. Twin pregnancies are dangerous for the mother and the foals if carried to full term. Apparently, no one told this mare.

Double Trouble

The owners, aware of the dangers of twin pregnancies, upon finding the two tiny bundles, brought all three to the Veterinary Health Center. The smaller twin was just 30 pounds, about the size of a beagle, very possibly too small to survive. The bigger twin seemed to have a chance. Upon arrival, the smaller twin had extremely low glucose and was too short to nurse from her mother. Dr. Courtney Boysen, an equine internal medicine resident at the time, was on the case and gave the smallest twin a bottle of the mare's milk. "She sucked it down and really bounced back," Dr. Boysen said. The owners debated how to proceed with the little twin. She'd never survive with her mother because she was too small to nurse and the owners couldn't commit to bottle feed the baby, a constant and time consuming task. Dr. Boysen and equine internal medicine professor, Dr. Laurie Beard each donated funds to give the little twin

24 hours.

[4 • AnimalLIFE]

"She received antibiotics and an immunoglobulin test. She had failure passive transfer," Dr. Boysen said, meaning she did not receive colostrum from her mother's milk, missing out on critical antibodies.

Those 24 hours were proof that the foal was a fighter. "She was doing really well, trying to jump out of the foal bed," Dr. Boysen said. "We obtained plasma from the mare and administered it to the foal to boost her protective immunity (immunoglobulins)." While the owners were still undecided about their foal's future, Drs. Beard and Boysen contributed more money to her account, taking her progress one day at a time.

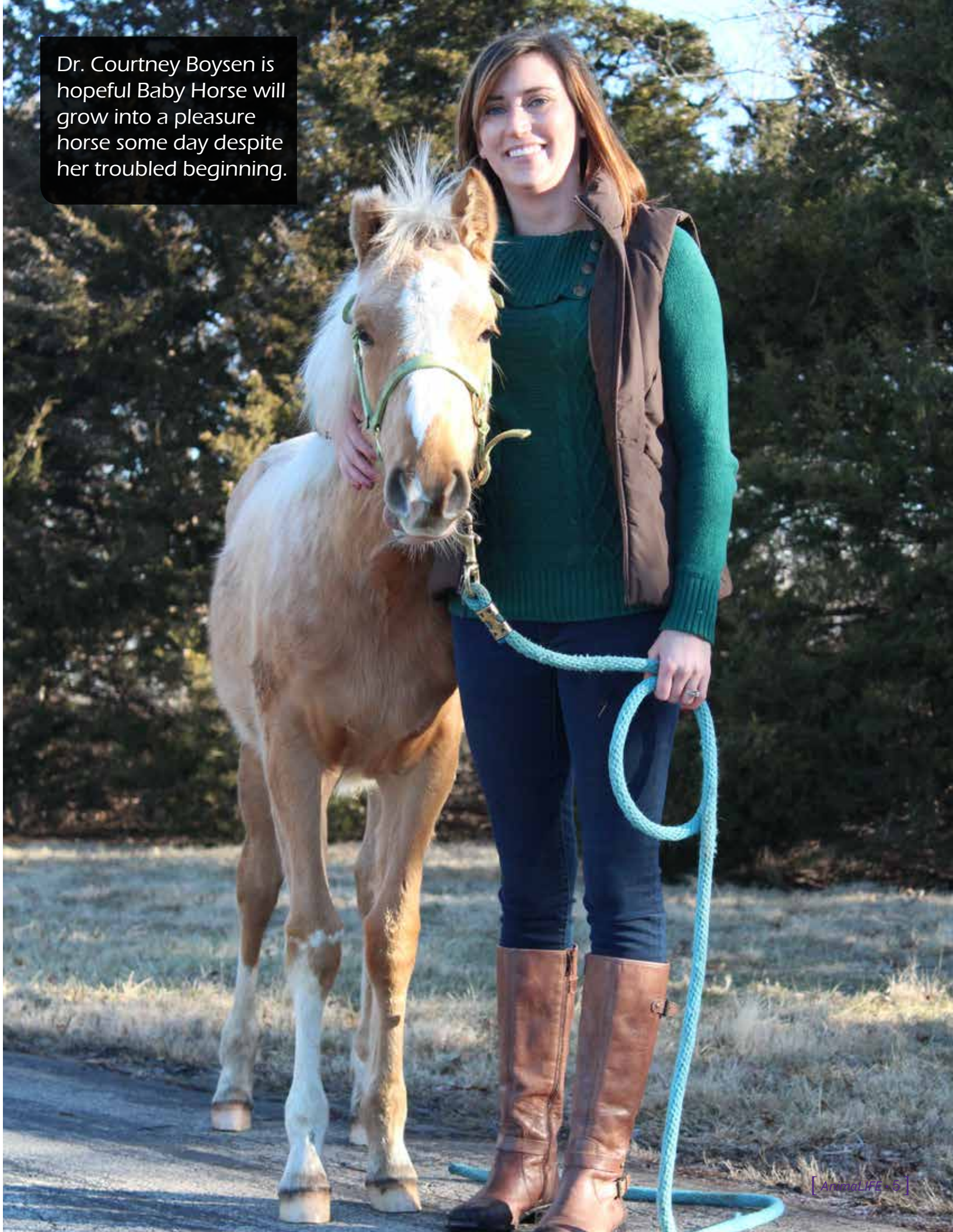
A New Home

The owners debated the foal's future and eventually began to look for other people to adopt her permanently. A daunting task that everyone had to admit, could end in heartbreak. Dr. Boysen was the only person willing to take on that risk. "We signed some paperwork and the owners handed her over. At that point, I decided I was going

Dr. Courtney Boysen treats the 30 pound Baby Horse at the VHC.



Dr. Courtney Boysen is hopeful Baby Horse will grow into a pleasure horse some day despite her troubled beginning.



[AnimalLIFE]



Baby Horse wore her leg braces to help keep pressure off of her joints while they were still forming.

were talking about things to watch for if she had a reaction to the plasma,” Dr. Boysen said. She and her fellow residents are critical to the fourth year students’ education and use these moments as teaching experiences. No sooner had she asked the question, he answered, “I think she’s having one.” She was breathing quickly, panting and her heart rate skyrocketed, then dropped. Acting quickly, Dr. Boysen gave her epinephrine, and the foal began to return to normal. “We were close to losing her, but afterward it was like nothing happened. She stood up and was whinnying around wanting her milk,” Dr. Boysen said.

Excluding her reaction to the plasma, the little foal was doing remarkably well. Dr. Boysen decided to take her home where she could continue receiving care from not only Dr. Boysen, but Dr. Boysen’s roommate, Gina Jensen, a VHC veterinary technician. While she was too little and compromised to be outside, the little foal, now affectionately called Baby Horse, took up residence inside the home.

At first she lived in a closet, restricting her activity. There was concern she would develop an angular limb deformity or arthritis because her bones were still forming. “It was all cartilage, so when she walked, it could have deformed the cartilage. Bones form from the template of that cartilage. It was really important to keep weight off of her knees to prevent damaging the cartilaginous scaffold,” Dr. Boysen said. Dr. Elizabeth Santschi, associate professor of equine surgery, created casts for Baby Horse, but she only managed to keep them on for four days until they became loose and she walked out of them. “She was so small, the things we

to do right by this baby. She deserved the very best care.” Dr. Boysen’s first act as the foal’s new owner was another dose of plasma, this time commercially-available plasma was administered. Dr. Boysen and a student started the routine procedure around 9 p.m. that evening. “I was talking to the student, he was tying in the catheter and we

would normally use on a foal did not fit,” Dr. Boysen said. It was time to get creative. Dr. Boysen bought pediatric elbow braces that locked so she could keep her from putting all of her weight on her hind legs. She wore those braces for more than a month in which time she graduated from the closet to the basement of Gina and Dr. Boysen’s house.

“She became trained to urinate on pads, so she could roam freely, while we were in the house,” Dr. Boysen said. “She’d be playing in the main room with the dogs and all of a sudden her head would stick up and her tail would stick up and she’d take off running to her bedroom to urinate on a pad. Then she learned from the dogs to urinate outside, so she’d wait by the door.” Baby Horse also rode in Dr. Boysen’s SUV, laid on the couch, walked on a leash on Country Club Plaza in Kansas City and even started her own Instagram account.

A Normal Horse

“She’s overcome extraordinary odds,” Dr. Boysen said. “She and her sister should have never lived. Now she will grow up to be a normal horse. She will be smaller than her genetic potential, but her bones formed normally and her legs are sound.” It was hard to tell what Baby Horse would become. “There are no statistics on foal twin survival rates, just because it is so rare.”

Now Baby Horse, originally to be named Helen for Dr. Boysen’s mother, is growing like a weed in a pasture near Kansas City with other horse companions, Olive and Gunny, both adopted from the VHC, as well.

“She and her sister should have never lived. Now she will grow up to be a normal horse.”
- Dr. Courtney Boysen

“Gunny came in when I was a fourth year student at the VHC,” Dr. Boysen said. Gunny was donated as a teaching horse and when approached her senior years, Dr. Boysen adopted her. “Baby Horse gets to stay in a barn at night, but if we are late letting her out in the morning, Gunny will be waiting for Baby horse.” Gunny is aging, but she and Baby Horse have a very strong bond.

It was a roller-coaster ride and an enormous commitment for Dr. Boysen to adopt Baby Horse. “I would absolutely do it again,” she said. “She’s been a fighter since the very beginning. Many counted her out. In those first few days, Dr. Bonnie Rush, interim hospital director, walked by and put it best saying, ‘Oh the tiny ones, they always make it when everyone wants to count them out.’”



The Veterinary Health Center Miles Fund provides endowed support for indigent animal care, new clinical or research equipment, animal health studies and VHC facilities.

Donors to the Miles Fund receive a car window decal to confirm your support of the VHC and its missions to investigate animal diseases and provide cutting-edge care for our patients and the public we serve.

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DODGING BULLETS

A hunting trip begins and a nightmare unfolds as Ken Oleniacz's worst fear becomes reality.

One November morning, Ken Oleniacz set out on a hunt with friends and his faithful hunting dogs. They were celebrating the return of their friend, a Marine whom had served two tours of duty overseas. In an early start to the day, Ken noticed birds ahead and so did the dogs. Ken's dogs, Zoe and Bella, both German Shorthair Pointers, moved in on the quail with Zoe pointing and Bella backing her. Ken yelled a warning to his friends, "Watch for the dogs!" as Bella moved towards the birds about 10 feet away. A shot went off, but it was Bella who fell.

The Critical Hours

Ken rushed to her. There was no barking, no whining, only motionless Bella... and blood. He peeled back her eyes and could tell she was in shock. Ken yelled for his friend to run to the truck and grab his first aid kit. "I bandaged her up [then] drove like a mad man to the clinic," Ken said, recalling he was actually pulled over by police, but told them he wasn't stopping - he had to get Bella to the veterinarian.

The situation did not improve when they arrived at their home veterinary clinic. Bella's condition was critical.

Radiographs revealed pellets scattered throughout her face, chest, legs and neck. She was almost completely paralyzed and doubts grew that recovery was even an option. The veterinarian stabilized Bella and Ken and his wife, Terri, were forced to decide what would be best for Bella. "We thought about it, we cried," Ken said. "We couldn't put her down."

Not willing to make that decision yet, Ken left Bella at the veterinary clinic. On his way home, he stopped for lunch where he ran into a close friend who happened to be a veterinarian. As Ken told him what had just happened to Bella, his friend asked to see the radiographs. After looking at them, he advised Ken to take Bella to the Veterinary Health Center, knowing she would have access to advanced diagnostic imaging, treatment, and around-the-clock care.

Ken's veterinarian gave him a referral to the VHC and students were waiting for Bella when she arrived a short time later. They immediately took Bella for radiographs and subsequently, a CT which revealed two of the pellets were pressing up against her spinal cord.

Bella points for Ken Oleniacz just a few months after surgery to relieve her paralysis.



A Surgeon's View

Dr. Walter Renberg, small animal surgery section head and the surgeon on the case, evaluated the CT scan images and contemplated surgery. "The question was, is the presence of that pellet creating the problem? Or was it the original impact that was the problem and the mass effect of having the pellet there is not an issue anymore," Dr. Renberg said. "The owners wanted to try everything. Despite the risk of making things worse, it was clear that if we were going to save Bella, removing those pellets was her best chance."

The surgery presented Dr. Renberg with a unique challenge. "The approach to one of [the pellets] was not in an area common to disc surgery. It was challenging because of the location of the arteries in that region, which ultimately proved to be our limiting factor for the one pellet we didn't take out," he said. "The vessels in that area and the risk of severe hemorrhage outweighed the benefit. There were two pellets, both high in the neck. It was a tricky surgery and it was not an approach we do routinely, so it was a bit of a new experience."



Bella's radiograph shows the pellets scattered throughout her face, neck and chest. The red arrow indicates the pellets believed to have caused her paralysis.



Emily Fournier, fourth year student, and Bella formed a special bond during Bella's surgery and recovery.

Once out of surgery, Bella's fourth year student, Emily Fournier, helped with her recovery. "We took her from surgery and almost immediately she began to flex her toes," Emily said. The success of the surgery would be determined in the following days.

"Anytime you have pressure on the spinal cord, similar to a ruptured disc, the mass can continually cause pressure and neurologic dysfunction. We took that pressure away when we removed the pellet," said Dr. Renberg. He also explained that different pellets have different inflammatory reactions depending on their metallic make-up. These were lead, which is not terribly reactive and it usually gets walled off by the immune system. "If it's in a joint, or in this case in the cerebral spinal fluid, they can actually get lead toxicity from the disintegrating pellet. I was concerned she had one in the elbow, but [the CT showed] it was not actually in the joint. She was lucky."

Recovery Road

Terri and Ken visited her on the weekend and they were shocked by her immediate progress. As soon as she was out of surgery, her appetite was back. She had not shown interest in food since her accident. Bella needed assistance to walk by holding up her back end. "By the end of her stay she could almost sit up sternal by herself. She couldn't bend

her legs but she could walk like she was in braces," Emily said.

Bella continued to improve slowly. Dr. Renberg warned Ken that she may not run like before or she may need a wheelchair to which Ken confidently replied, "No, she's going to run."

"When we got her back from the VHC, we did the prescribed exercises. Any spare time I had, I worked on her," Ken said. Then, Bella got up. "It was just like her being reborn." It was gradual recovery. They used a harness at first to help her around and carried her down stairs. They saw improvement every day and continued her rehabilitation.

Emily and Dr. Renberg had Bella home with instructions on how to care for a dog who couldn't walk and needed therapy and attention to avoid bed sores. They had no idea they should have sent her home with activity restrictions. "I did hunt her the other day. You can't take the hunting out of her," Ken said. "She runs better than she walks. It is a miracle."

Bella's follow up appointments continue to show progress and she gives every indication that she will have a full recovery, running, hunting and living life to the fullest. ▼

"You can't take the hunting out of her. She runs better than she walks. It's a miracle."
- Ken Oleniacz

REFERRING VETERINARIAN

Dr. Ron Kutter

Spreading His Wings

A single letter meant the difference between entering a breakneck-paced veterinary career and a life in the sky as a naval pilot. As a college student, Ron Kutter received an early acceptance letter to the Kansas State University College of Veterinary Medicine, and it served as a sign that he was meant to pursue his love and understanding of animals through medicine as opposed to chasing sunsets above the ground.

His acceptance to veterinary school rewarded his years of cleaning kennels and dedicated school work. "My grandparents had a home in Aurora, Colorado, directly across the street from a veterinary clinic," Dr. Kutter said. "When I was big enough to cross the street and be a pest, I would go over there to hang out and help."

Kutter completed undergraduate work at Emporia State University and Kansas State University. Upon graduation from veterinary school, he gained a year of experience in a Topeka small animal clinic before taking on a bigger challenge - only an eager, determined young veterinarian would consider.

"There was a large group of veterinarians in Wichita starting an emergency clinic," Dr. Kutter said. "They were looking for someone with experience and strong legs." Dr. Kutter was the answer to an experiment involving 30 single doctor practices that were looking for an alternative to night and weekend calls.

"All of a sudden I was thrown into the fire, learning payroll, rent, consumables," Dr. Kutter said. "I worked 120 hours a week for nine months. I was also doing daytime relief work for other doctors. There was one two week span where I never went home and never left town. My wife would simply bring fresh clothes to the clinic." For Dr. Kutter, it was a great opportunity and he was committed to it. "It was intense. The average career life of an emergency veterinarian was one year. I lasted five." He resigned his emergency clinic to pursue a day time career but his non-compete agreement mandated that he take a year off. He took that time to design and build a clinic in Bel Aire, Kansas which he successfully built and operated for 15 years. In that time, he had an eager colleague who offered to buy the clinic and Dr. Kutter saw it as an opportunity to build another clinic on land he had previously acquired. From there, Kutter Pet Care in Andover was born.

"Our focus is to treat people the best we can and we have their pet's interest and their interest at heart," Dr. Kutter said of his lasting philosophy. Three other doctors are included in the team of 25 employees. "I have two employees that were with me in the last clinic and others who have been here since day one. Our staff is an investment."



Dr. Kutter enjoys orthopedics and challenging surgeries and he has managed to use his love of flying to benefit his patients. "I probably fly patients to the Veterinary Health Center four or five times a year," Dr. Kutter said. "Over the years I have offered that service to my clients. It's a hardship for some of my clients to make that round trip or multiple trips. Even though we have a referral clinic, it's hard to replace the experience at the veterinary school."

Dr. Kutter realizes the importance of giving back. "I feel so fortunate to be in a position of not being financially pressed and in the last couple of years, I've started my own pay it forward program," Dr. Kutter laughed. Once a month he takes on a challenging case and makes it his mission and personal challenge to diagnose and treat the problem. "I can't even tell you the goodwill and appreciation that has come from that. And I will continue to do that as long as I'm practicing because it has been so rewarding."

Dr. Kutter's generosity doesn't end with his patients. He is thankful for his education at the College of Veterinary Medicine and hopes to afford other students the same opportunity by establishing scholarships sponsored by he and his wife. "My education has afforded me so many opportunities that I never would have had."

If you don't find Dr. Kutter in his practice, chances are he is flying his custom painted, K-State purple-striped Beechcraft across the country or working closely with a wildlife conservancy in Zimbabwe, Africa. Dr. Kutter embodies the true compassion of a K-Stater and the proactive, dedication and work ethic of a caring veterinarian. ▼



Dr. Brad White, professor of production medicine, brings his expertise in research and education to his new role as interim director of the Beef Cattle Institute (BCI) at Kansas State University.

Historically, the BCI focused on industry education and service, which remain the driving missions of the organization. The BCI team recently organized and hosted two major conferences: the K-Coe Isom Beef Sustainability Knowledge Summit and the International Symposium on Beef Cattle Welfare. The sustainability summit brought in experts in animal health, feedstock management, environmental stewardship and economic sustainability targeting producers. The welfare symposium had attendees from multiple countries and included a variety of topics related to cattle welfare.

The BCI team is made up of industry experts, including two leading pharmacologists, who recently created educational modules regarding the new Veterinary Feed Directive (VFD) legislation. BCI and these experts collaborated to create videos and web content that producers and veterinarians can easily access on the BCI website for quick reference. The modules are timely topics for the beef community: sustainability and the VFD.

Dr. White hopes to expand BCI's current resources, adding mobile apps, online resources and using large data sets to create actionable information. BCI is working on new tools that will allow producers and veterinarians to make accurate and timely decisions, based on relevant field data. "Everyone wants to make decisions based on data, a time consuming process. We'd like to make it more efficient," Dr. White said. "We are creating mobile apps, more than just a calculator, which will allow people to collect data and make a decision for a specific situation."

The VHC's Livestock Services field service clinician, Dr. Nora Schrag is leading the work to develop functional apps in cattle reproduction. "One app allows you to quickly record information at the time of bull breeding soundness evaluation. Another app evaluates the success of your breeding season at the time of pregnancy check and allow you to benchmark against other regional producers," Dr. White said. "In the decision tool area, we are focusing on judicious antimicrobial use. How do you choose the most appropriate antimicrobial based on the specific context of the situation? We want to put tools in the hands of producers and veterinarians to make their jobs easier based pm data-driven decisions."

The third area of BCI focus is large data set analytics. "Extensive production data is available and we would like to help decision-makers translate big data into actionable information," Dr. White said. "As part of that process, we are starting to build a large production database from all facets of the industry. The BCI has the ability to assist in data evaluation to identify trends and areas of opportunity. Then we can transfer that focus out to producers and veterinarians in the field."

The BCI is home to excellent beef industry experts, including a newly established advisory team. Yet Dr. White firmly believes, the way to create the best tools and products for the beef community is through collaboration with experts from beef-related industries and out-of-the-box thinking. "BCI is a collaborative environment and we want to have a diverse group of people involved," Dr. White said. Collaboration is easy to talk about, but Dr. White has backed up his big goals. In one meeting earlier this year, 14 departments across K-State were represented to collaborate with an external corporation. His pursuit of university-wide collaboration didn't stop there. Dr. White created a unique summer scholars program that has accepted seven students across four departments with one mission: improve antimicrobial use in the beef industry. "All of those students are working on antimicrobial use in cattle," Dr. White said. "They are approaching it from very different angles: including policy, to laboratory analyses, field trial data collection, and students in computer science and computer engineering working on decision tools. The goal is building a collaborative environment where topics like antimicrobial use in cattle can be evaluated from a variety of perspectives including veterinary care, production, economics, engineering and policy."

Dr. White's collaborative style combined with his belief in experiential learning and providing the right tools has positioned the BCI as a progressive organization. There are many questions surrounding the beef community and Dr. White and BCI aim to provide answers. ▼

Dear Friend,

VHC's Livestock Service aims to provide its clients with quality care and educational resources for all livestock, whether it is the 500-head cow herd or the backyard goat.

The list below provides our service with the tools to also help provide an outstanding education to our future veterinarians. They are eager to learn and we hope to provide the most comprehensive and safe livestock veterinary training in the country.

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 "Livestock Donation" in the memo. You can also visit www.vet.ksu.edu/VHC/support to see other wishlists.

Dr. Matt Miesner
Associate Professor and Section Head, Livestock Services

Livestock Services WishList

Ultrasound

An additional ultrasound in Livestock services would provide additional point-of-care diagnostics. **\$20,000**

Bovine Surgical/Obstetric Facility Renovation

A building remodel would improve student and animal safety, decrease surgical time and increase positive outcomes. **\$60,000**

Flying W Hydraulic Chute

An upgraded chute that would be used daily and improve student and animal safety. **\$25,000**

Adjustable Alleyway

An improvement that would drastically improve clinic efficiency, decrease animal and client wait time, decrease animal stress. **\$8,000**

X-Ray Generator

A tool often used for prognosis and would allow clinicians to take computed radiography films efficiently when animals are on the tilt table. **\$10,000**

2.5 mHz Ultrasound Probe for field service unit

Deeper probes are necessary for adult animal diagnostics. **\$6,000**

Image Capture/Display cart, camera, and screen for microscope images,

Updated equipment would accurately and conveniently show images. **\$3,000**

Digital Otoscope/Ophthalmoscope battery operated with multiple sized cones

A small but critical diagnostic tool. **\$400**

Pearson Portable chute with palpation cage and X force Hydraulic squeeze,

A manual hydraulic squeeze which could be used for surgery, while also being available for mobile field service use. **\$10,000**



Photo Credit: Tim Yeaglin



Photo Credit: Tim Yeaglin



Photos from left to right: Tim Yeaglin, Melissa Reed, Becky Risler; Prairie Paws Humane Shelter; Dr. Brad Crauer; the Mobile Surgery Unit.

A Partnership for Pets

One shelter plans to close its doors until a timely visit from Shelter Medicine Clinician, Dr. Brad Crauer.

Superheroes walk among us. World-saving superheroes. In our case, they come in the form of stethoscope-wearing, big-rig-driving, lovers of furry, homeless pets. If you don't see the connection yet, continue reading.

Dr. Brad Crauer began an adventure last year to reach out to animal shelters and provide no cost spays and neuters. His program is saving shelters valuable resources and giving our fourth year students much needed hands-on surgical experience. The newly acquired mobile surgery unit would travel nearly every day of the week to a shelter, but needed to stay within a two hour radius of the Veterinary Health Center to best use the time and resources available. Right on that two hour border sat a shelter with numbered days.

New Management

In April of 2014, the Prairie Paws Animal Shelter in Ottawa, KS was under new management led by Melissa Reed, and had narrowly escaped the closure due to financial constraints.

A brand new team of three, diving head first into a business crippled by years of operating debt, had their work cut out.

This was not the first time Melissa Reed, Tim Yeaglin and Becky Risler had worked together. The three had worked at another shelter and often dreamed of having their own. In a twist of fate, Melissa happened upon the Executive Director position at Prairie Paws and quickly realized she needed help. Her first call was to Becky. She convinced Becky to plug temporary holes in this sinking ship. That sinking ship completed 15 adoptions on Becky's first day - a Prairie Paws record. It wasn't long before Melissa and Becky recruited Tim, with a background in business and a master photographer, to become the Director of Operations

and fill-in veterinary technician. Tim quickly began to streamline processes and operations with a focus on quality of life and care for the animals.

In looking at the operating costs, Melissa found that their greatest expense was the cost of spays and neuters which topped \$50,000 the previous year. They knew they had to find another option.

In May, they received a fateful call from Dr. Crauer. He provided an offer that sounded too good to be true. As they discussed the new shelter medicine program, Dr. Crauer was developing at the College of Veterinary Medicine, they questioned whether this timely offer was the best move for their shelter in desperate times. Were fourth year students capable of providing the level of care they wanted to offer their pets and could this program do enough to alleviate their financial stress? Not to mention, Ottawa pushes the two hour boundary. Dr. Crauer replied with what could have only been his mischievous smile, "We'll drive fast." A partnership was born.

A Partnership is Born

Since May, Dr. Crauer has traveled to Ottawa three times each month, in under two hours, carrying 2-3 students, a technician and a 32-foot mobile surgery trailer. Once there, the surgeries begin. Up to three surgeries can be going at once, supervised by Dr. Crauer. Ron Orchard, registered veterinary technician keeps the team running smoothly, preparing the areas and supplies. In addition, he helps students through each stage of the process. Each animal is examined to ensure they are healthy enough for surgery and, if additional care is needed that day, Dr. Crauer can assist. Students gain invaluable skills and begin to

understand the challenges of shelter medicine, such as not knowing a complete medical history. Students have completed surgeries that practicing veterinarians decline to perform because of challenges, like spaying a dog while she is in heat. Another student began a surgery like any other, but quickly knew something was wrong when the patient's blood did not clot. In a nearly two hour surgery, Dr. Crauer watched and advised as the student completed the challenging surgery on a dog that was then diagnosed with Von Willebrand disease.

This type of arrangement allows the shelter to learn along with the students. "I wake up really excited on surgery day," Tim said. "I always have lunch with the students because I learn a lot from them. They have an outsider view." Tim helps them understand more about shelter medicine, too. "I ask them how many have respayed a female. When they say yes, I ask them if they are going to tattoo animals (a practice to identify if an animal has been spayed/neutered) when they practice?"

Many students find the unique and rewarding field of shelter medicine attractive. "We are starting to see the influence," Tim said. "We've seen several students adopt, too. How we are influencing these students is amazing. And it's not just us, it's Lawrence, Topeka, Salina, Beatrice, and all of the other shelters."

When the shelter saw the great work the students were doing, they wanted to make sure their surgery days were full for the shelter medicine students and began a TNR (trap, neuter and release) program for the small city with a big cat problem. They estimate approximately 2,000 free roaming cats in a city of a population of less than 13,000. A problem that has plagued the city, and is a nuisance to residents and law enforcement who spend valuable time responding to cat disturbance calls. Tim uses humane traps to contain the cats the day before the shelter medicine team arrives. Once they

have been spayed or neutered and recovered, he releases them at their trapping location the next day.

The Bottom Line

Since May, the shelter medicine team completed 606 surgeries at Prairie Paws and perhaps not-so-coincidentally, Prairie Paws had its first positive operating budget since its inception. "The partnership with K-State was tremendous for us," Melissa said. "I don't have data to prove it, but I do think that if we had not had that relationship with K-State, I don't think we would have been here today."

"I don't have data to prove it, but I do think that if we had not had that relationship with K-State, I don't think we would have been here today."
- Melissa Reed

Melissa and her team aren't satisfied with that. They have high ambitions for this once-doomed shelter. "Our focus in 2016 is going to be behavior," Melissa said. "Ultimately we don't want to just house animals, we want to provide the best care while they are here, as well as make adoptions successful. Our behavior training is critical."

Prairie Paws aims to be known as behavior experts. While they are growing their behavior program, they are developing

protocols to identify and assist dogs who may be food aggressive or fearful. "Forever homes' is used a lot in shelters, but we truly are trying to create a great bond for our homeless pets in quality forever homes" Melissa said.

All of this started with just a single email from Dr. Crauer. "It's his passion and it is contagious," said Melissa. "The addition of Ron has been huge. His experience and expertise is amazing. His attitude is always 'Let's go' and 'How many can we get done?'"

If you happen to see the Mobile Surgery Unit on the road, wave as it goes by and know you are seeing real-life superheroes. They are freeing up law enforcement by decreasing the feral cat population, saving the lives of future pets, and influencing a generation of veterinarians to support shelter medicine in their future positions. Superheroes do walk among us under the guise of veterinarians. ▼

STUDENT SPOTLIGHT

A Queen of Hearts

Dr. Caroline Meyer

Imagine being just a few months from graduating with your Doctor of Veterinary Medicine degree. You are making plans for after graduation, starting a career, moving, finally looking forward to putting the seven years of training and learning to use. The buzz of the hospital in spring is certainly exciting as fourth year students count the days until they become graduate doctors.

Caroline Meyer was one of those students. Excited about graduating and starting her veterinary career in Colorado. She already accepted a competitive internship training program. But when the healthy and energetic 28-year-old became breathless after walking into the VHC one morning, she had a suspicion something wasn't right. Caroline finished her day on soft tissue surgery rotation and went home, more tired than normal. The next day, her difficult breathing continued, along with pain in her abdomen. As the daughter of a cardiologist, and a medical history that included two life-threatening battles with an autoimmune disease, Caroline knew she needed a doctor. She did not expect what the emergency room physician found. "He told me I was in acute congestive heart failure," Caroline said. Words that changed her life.

She was immediately transferred to St. Luke's Heart Center in Kansas City where she spent three weeks being treated for heart failure and hoping for signs of improvement. It then became clear that Caroline needed a heart transplant. While she waited, Caroline had to quit attending veterinary school. She returned to Topeka to stay with her parents and continued taking life-saving heart medications. May rolled around and her fellow classmates would be graduating and celebrating. The College of Veterinary Medicine made arrangements for Caroline to walk the stage with her classmates, a true bright spot in a very dull time and one that she would be grateful for in the months to come.

Things began to look up and Caroline was thrilled to be able to return to the hospital to work on her last few clinical

Faculty, staff and students gather for a photo to send well-wishes to Caroline.



rotations. That excitement was short lived. Just two days into her return, Caroline was hospitalized again and this time her serious condition warranted her cardiologist to move her to the top of the transplant list. She had gone through a time where she didn't even want to think about a transplant, but now it was her only chance to survive. So Caroline, her parents, her classmates and her teachers, waited, knowing the circumstances which must occur for a successful heart transplant surgery.

After three agonizingly long weeks in ICU and one heart offer that was immediately deemed unsuitable for transplant, a rare second heart became available and Caroline was prepped for surgery. Caroline could not tell you what happened over the next few days because she was unconscious for nearly a week. During the transplant, Caroline's body immediately rejected the new heart. With one bad heart and a new heart that was already being rejected, doctors used a machine to circulate her blood (extracorporeal membrane oxygenation) until another heart became available. External oxygenation is not a viable long term solution. Caroline needed yet another new heart and soon. Her cardiac surgeon planned to place a ventricular assist device into Caroline's new heart, which was already rejected and failing, at 8 a.m. on Monday morning - a desperate attempt to save her life.

Caroline truly believes what happens next is a miracle. Her family and friends agree. Just before her surgery to implant the assist device into her failing heart, a new heart became available. This second transplant was a success.

That wasn't the last surgery she would have on her long and trying road to recovery, but Caroline had a new heart and she vowed to live her life to the fullest. Dr. Meyer recently finished her last rotation and has moved to Colorado to complete that internship program. Wheat Ridge Animal Hospital had been waiting on her for one full year. She went from needing help to get off of the couch to hiking mountains.

Dr. Meyer said her extensive experience as a patient gives her a different perspective as a veterinarian and an appreciation for what her patients go through. She hopes to combine her passion for veterinary medicine and give back to those who are experiencing similar life-changing medical events by working with therapy dogs. Dr. Meyer has been an inspiration to her classmates, faculty and clients. Without a doubt, she will make the most of her new heart through her work as a veterinarian and through her story as a survivor. ▼



Age: 29

Hometown: Topeka, Kansas

Pets: Roxie, Shetland Sheepdog

Family: Mom-Nanci, Dad-

Dr. Warren Meyer, 3 Sisters- Shannon, Kelly and Kaitlin

Veterinary Interest: Small Animal Medicine



Caroline, bottom right, with her sisters.

When did you realize you wanted to become a veterinarian and why?

I have always loved animals and always knew I wanted to work with them in some capacity. Veterinary school didn't become a reality for me until my junior year at Kansas State University. I had gotten sick with a severe autoimmune illness and almost had to drop my semester courses. It was at this time I realized I was going to pursue my dream of becoming a veterinarian. So in the next year and a half, I completed the required classes, worked in research, volunteered in small animal hospitals to gain experience and applied and was accepted in the winter of 2011.

What has been the most challenging part of veterinary school?

Veterinary school is definitely not for the weak. It requires countless hours of studying, late nights and a lot of added stress to your life. In my case, this wasn't the hardest part. The hardest part for me was having to stop going to school when I found out I needed a heart transplant to survive. I was four months shy of graduating when my world turned upside down. Leaving school and moving home was by far the hardest part of veterinary school.

What is your favorite memory of veterinary school?

There are so many good memories of school that I can't possibly list them all. Meeting some of my best friends was probably one of the best memories I have. They are such a vital part of my life and have been there with me through all of scares that 2015 brought me. My ultimate favorite memory of veterinary school would be on January 4th, 2016. This was the day I returned to school as student with a new heart and future waiting for me.

What are your plans after veterinary school?

After I graduate from Kansas State CVM, I am moving to Denver, Colorado to begin a one-year rotating internship at Wheat Ridge Animal Hospital. I cannot even begin to describe how excited I am to move forward and start my career as a vet. My heart transplant experience changed me in many ways. I have a passion to help people who are suffering and are in a position I was once in. I would one day like to get involved in the therapy dog program at the hospitals in Denver. In addition to this, I started a non-profit organization called "Photos For Hope." This organization sends photographs that I take to children/teens living in the hospital fighting serious illnesses. I know what it is like to live inside the four walls of a hospital room and believe me, it can be quite depressing. It is my hope to bring beauty to them through a photo. I would like to continue this program in Denver while practicing veterinary medicine. ▼



Veterinary Health Center

AT KANSAS STATE UNIVERSITY

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Tail Ends

New Clinical Trials Added



In the last issue of AnimaLIFE, Dr. Raelene Wouda shared the importance of clinical trials to the future of veterinary and human medicine. Clinical trials benefit future patients, and provide access to novel therapies for current patients. Clinical trials investigate medications and interventions that have been previously tested, demonstrating potential therapeutic or diagnostic benefit.

The following clinical trials are currently open. For more information, please contact our clinical trials coordinator at 785.532.3046 or email clinicaltrials@vet.ksu.edu.

- Trial for cats with chronic kidney disease (CKD)
- Anti-cancer vaccine for dogs with any malignant tumor
- Trial for dogs with bone tumors (osteosarcoma)
- Trial for dogs with metastatic apocrine gland anal sac adenocarcinoma
- Palladia TM and carboplatin combination for dogs with any measurable malignant tumor
- Trial for West Highland Terriers with dry eye syndrome or no ocular abnormalities
- Trial for diabetic dogs with cataracts
- Autologous Stem Cell Therapy Trial for Atopic Dermatitis