

Animal **LIFE**

VETERINARY MEDICAL TEACHING HOSPITAL



Inside

Moca's home no longer poses a threat

Horse owners learn shipping disease is not a wives' tale

Terrier mix is terrier-ific after eye surgeries

And more!



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



Patrice Scott, "AnimalLIFE" editor, with Clyde.

A Healthy Dose of Commitment

Commitment. It's a word best described by action. And a healthy dose of commitment is dispensed in this edition.

Moca, the sweetest little kitty, and her owner, Larie Schoap, moved to Manhattan this fall. Larie decided to use the Pet Health Center in the hospital for Moca's routine care. During the cat's first visit, Larie reports Moca's medical history. Her description and concerns coupled with Dr. Susan Nelson's evaluation proved the situation was serious. Dr. Nelson contacted internal medicine specialist, Dr. Tom Schermerhorn, for a consultation. Moca was admitted to the ICU.

Wouldn't it be nice if it were the same in human medicine? Can you imagine going to your general practitioner and he/she paged a specialist for immediate consult? Claudie Mikessell, the University of Kansas pharmacy student you'll read about in Eugene's DeDonder's faculty profile, notes how "efficient" the processes are in our hospital compared to human hospitals. These efficient processes are the direct result of improvements tied to client expectations that are then tied to the highest expectations of all: those we have of ourselves.

The hardest part about writing a magazine like this other than getting the medical description correct (thank you, faculty!) is determining what to cut out. There is no way possible to cover every aspect of a two-month hospitalization like Supernatural's Fella's. Every person associated with this case should feel enormously proud of the outcome.

How many kids would willingly cancel their spring break travel to stay home and help their dog recovery from surgery? The Livsey kids did. The family made medical charts to make sure their dog Charlie received all her medications at the right time.

A most sincere thank-you to Russ and Felisha Ellis (Supernatural Fella), Larie Schoap (Moca) and Tim, Keri, Hannah and Sam Livsey (Charlie) for sharing their stories with us. These happy endings demonstrate the power of commitment.

As always, if you'd like to share a story, please contact me! 🐾

All the best,

Patrice

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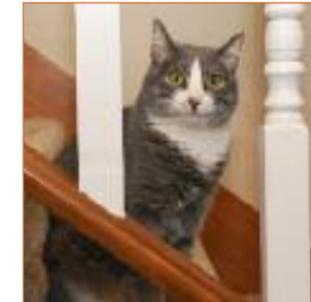
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Former K-State yell leader cherishes new role cheering on and educating veterinary students as the hospital's pharmacist.



About the Cover

Moca, poised to tell her story, is exceptionally happy resting and sunning herself at home after her stay in the ICU.

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Positioned for the **FUTURE**

This is always an exciting time of year at the Kansas State University College of Veterinary Medicine. The students who entered the program four years ago are days away from fulfilling their dream of becoming a veterinarian. Thousands of hours of class time, laboratory study and clinical duty prepare our students to enter one of the most trusted professions in the nation.

We produce intelligent, committed and compassionate veterinarians in part because those are the qualities of the faculty who mentor them throughout their clinical training. The faculty in our college push students to excel and challenge them constantly because we want them to be prepared to successfully manage critically ill patients. As pet owners, you have a right to expect that from us.

I am proud of our faculty clinicians who spend countless hours training students in our hospital. And, I join these colleagues in appreciating and enjoying the excellent relationships we have with our referring veterinarians. Referring veterinarians contribute so much to our hospital's mission. Our referring veterinarians are your primary care veterinarians. Each time these excellent doctors refer your pet to the Veterinary Medical Teaching Hospital they demonstrate a commitment to providing the highest quality advanced veterinary care available for your pet and, at the same time, a commitment to the future of our profession by supporting the clinical training of tomorrow's veterinarians.

We will continue to push the boundaries of clinical knowledge and ask tough questions of our students and ourselves. We will acquire the technology needed to give our patients the best opportunity to heal. Recently, we acquired state-of-the-art arthroscopy and laparoscopy equipment, which will allow talented clinicians to perform surgical and diagnostic procedures with greatly reduced postoperative pain and recovery time. Our great thanks to the Heart of America Kennel Club whose generous and continued support of our hospital made acquisition of this equipment possible.

With graduates practicing in all 50 states and 13 countries, chances are there is a great Doctor of Veterinary Medicine from K-State near you! 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

Making **CONNECTIONS**

Story by Patrice Scott
Photo by Dave Adams

Since joining the faculty in 2003, Dr. Beth Davis, associate professor and equine section head, has pursued investigative work that may lead to a better understanding about the effects of viruses and vaccinations on the equine immune system.

Dr. Davis' position is divided between the Department of Clinical Sciences and the Department of Anatomy and Physiology. Her time is spent treating patients in the hospital, completing administrative duties as equine section head, teaching and conducting research. She serves as the director of the Veterinary Research Scholars Program.

Bench Top Research

In 2004, Dr. Davis earned a doctorate degree with a focus on equine innate immune function and is currently directing scientific efforts on measuring cell mediated immunity. "I've characterized cell mediated immune responses following vaccination and certain aspects of the work we've published are some of the most specific measures of equine immunity being conducted," she says.

The immune system has two main parts: antibody (protein) production and cellular response, called cell-mediated immunity, she explains. Historically, most research concerning vaccines has focused on measuring the antibody response following vaccine administration. Dr. Davis has expanded this characterization to also include measuring cellular responses following vaccination. "It's important to know what parts of the immune system are being activated," she says. "I've developed a few assays that can measure T cells." (A T cell is a type of blood cells whose main job is to fight infection.)

Dr. Davis was recently invited to speak to scientists at the University of Minnesota about her research. The data is preliminary; however, Dr. Davis is currently investigating a specific type of T cell, called a Regulatory T cell (Treg) and what role Tregs play following viral infection or during chronic disease processes, such as cancer development. Tregs suppress the immune system's normally aggressive response of killing foreign cells giving "bad cells" like cancer cells precious time to multiply.

Important questions to answer are: How do Tregs get "turned on? And, can we turn them off? Although Tregs are normally found in small numbers in the blood stream, under certain conditions they amplify in number and activity. This may be a result of an incorrectly functioning immune system. For instance, can a virus "switch on" the Tregs? Some serious viral infections are being investigated by Dr. Davis with regard to their link to cancer development. If the Tregs are activated by certain viruses and chronic viral infection plays a role in cancer development, then turning the Tregs off may allow the patient to clear the viral infection.

It is Dr. Davis' goal to determine what factors and medications regulate Tregs, so when the immune system function is altered, it can (hopefully) "reset" to allow for clearance of infecting organisms such as serious viral challenge. To determine if there

is a connection, Dr. Davis' research team is evaluating tissue samples from two groups of horses: one group with lymphoma and one group without the disease. Does the group with lymphoma also have the EHV-5 virus? "Is it possible there's any interplay between the virus that 'turns on' the Tregs and allows the bad cells to stay?" she asks.



Clinical Research

Meanwhile, she just began investigating if cryotherapy (icing) causes discomfort for horses with laminitis. "There is very strong evidence that ice therapy helps prevent laminitis," she says. "What we don't know is the impact to the patient. What we know is that our treatment is important to save our patients from a serious and possibly life threatening disorder, but is this treatment stressful or even painful to our patient? Is our treatment stressful? Does it cause the patient to be uncomfortable?"

To evaluate results, Dr. Davis is part of a collaborative team that uses subjective and objective assessments, such as heart rate, eating, Substance P levels (a protein that is elevated when a patient is in pain) and movement, to measure pain. "Animals hide their pain from us because their survival depends on it," Dr. Davis says. "They either hurt or they don't."

The ultimate goal is to determine how to best manage patients. "If we need to use a life saving treatment that causes some discomfort, then we want to ensure we have them on the proper pain control medications so that they experience as little discomfort as possible," she says. "It is their well being that we are most concerned with."

If you are interested in supporting Dr. Davis' research by donation or to determine if your horse is a candidate for one of these studies, please call 785.532.5700. 🐾

BREATHING EASY



Larie Schoap always knew something wasn't right, but didn't know what was wrong. "I've had cats all my life, and none of them sounded like this."

In 2006, Larie adopted a beautiful little kitten from a shelter in Emporia, Kan., following the death of her 13-year-old Calico, Talbot. Larie named the adorable kitten Moca, and took her to a veterinary clinic to have her spayed. The veterinarian performed the procedure, then placed Moca on antibiotics to treat a cough thought to have been contracted at the shelter like so many other animals had at the time.

Story by Patrice Scott
Photos by Dave Adams

Moca was enjoying life in her new loving home. However, her breathing was often raspy and she would cough occasionally. Sometimes it was more pronounced than others. On examination, Moca's veterinarians found no cause for alarm.

Larie and Moca moved to Manhattan in September 2009 and began making home renovations. Larie replaced kitchen countertops, painted cabinets, added an island, installed new lighting, and sanded, primed and painted 50 spindles on her stairway. It was an amazing transformation.

A friend stopped by for a visit eager to see Larie's home improvement projects and was gracefully greeted by Moca. Their company gently stroked Moca as the friends discussed the home's extensive changes. Then the conversation turned to Moca.

"See how's she's breathing?" Larie asks her friend. "She's always been like that, but it's worse now." Sensing something was wrong, Larie was at a loss about what to do. Moca's breathing was labored, and she'd lost weight.

Larie's friend suggested taking Moca to the Pet Health Center, the community practice located within the Veterinary Medical Teaching Hospital. The timing was perfect; Larie, director of mortgage lending for ESB Financial, had President's Day off.

Dr. Susan Nelson, clinical assistant professor, completed Moca's examination and delivered surprising news. "We have a critically ill cat," Dr. Nelson tells Larie. "Cats in this condition are especially fragile and can go downhill really fast. We've done preliminary diagnostics and most likely will need to transfer Moca to internal medicine for more specialized care."

Dr. Tom Schermerhorn, associate professor of small animal internal medicine, learned Dr. Nelson had referred a patient to his service and had already ordered blood tests and X-rays. "They looked horrible," Dr. Schermerhorn says of the radiographs of Moca's lungs. "We were amazed by how severe the problem was."

However, this isn't completely surprising given the nature of cats. "Cats are THE masters of masking," he explains. "Often they present only when their capacity to mask gets exceeded, and that's most likely what happened here," he explains. "Moca had a disease, and it was triggered by something. It could have been the construction or it could have been set off by a bacterial infection."

Larie was reeling from the seriousness of Moca's condition. "I was stunned," she says. "I felt so bad—that this was all my fault. I always brought it up during her

doctor appointments, but the prevailing thought process was, 'That's just Moca,' since she always sounded that way."



Freshly painted spindles are no longer a problem for Moca.

But what was the problem? Was it fluid buildup? Was it fungal disease? Was it cardiac disease?

"The extent of the disease was so impressive that the lung anatomy had changed," Dr. Schermerhorn says. Given Moca's fragile situation, her medical team considered their options. They could perform more tests or follow empiric therapy, which is based on the assumption Moca most likely has a chronic condition, and this is a flare up. "We opted not to pursue the diagnostic route because we didn't believe the information

would change, and we didn't think it was worth the risk," Dr. Schermerhorn says.

Moca's medical team determined her problem. "We have diagnosed Moca with feline asthma-bronchitis complex, which is a group of disorders that are clinically similar," Dr. Schermerhorn says. "In Moca's case, like a lot of cases, the inciting/initiating cause is not known, and we are left with the end result of chronic lower airway inflammation. We made this clinical diagnosis based on the length of time Moca has been exhibiting respiratory signs and cough (for years) and the appearance of the lungs on

Larie steadies Moca as senior veterinary student Alpha Ho examines her during a follow-up appointment.



Dr. Tom Schermerhorn was available for immediate consult on Moca's first visit to the Pet Health Center and again for a recheck. Dr. Susan Nelson updates Moca's medical chart while senior student Aris Atakem observes.



the radiographs."

They started Moca on medicine immediately. "We treated her with an inhaler at the hospital and sent her home with a bronchodilator and put on her prednisolone (cats metabolize it better than prednisone), and a broad spectrum antibiotic." The decision to send her home was based on the balance of successfully administering the medicines she needed while minimizing the potential stress of a hospitalization.

After a few days on medicine, there was a dramatic difference. "Moca is fantastic," Larie reports. "It's hard to believe she could improve so quickly. Giving her the medicine was easier in the beginning because I hid it in tuna. She's figured that out now, eats the tuna and spits out her medicine so I have to be a little more creative." It appears Moca is the creative one.

Twelve days after her initial examination, Moca was admitted to ICU early Saturday morning on Feb. 27. "When I got home Friday night, she didn't seem quite right," Larie says. "By Saturday morning, I knew something was wrong." Larie took Moca to the emergency room, and she was immediately admitted to the ICU and placed in an oxygen cage and given injections to help her through the crisis. "Turns out when I would give her the medicine after she spit it out, she was hiding it in her cheek then spitting it out later."

Senior student Alpha Ho received Moca on emergency. "In the few short minutes Larie held Moca during a visit Saturday afternoon, her oxygen saturation level dropped and it was important for us to return her to the oxygen

chamber," Alpha says. "We want Moca at a minimum of 94 percent on room air before she can go home." Moca steadily improved during the evening hours and was discharged on Sunday.

Both doctors believe Moca's underlying condition was most likely exacerbated by the dust and paint fumes in the home. Larie will board Moca when working on her home and switched to dustless kitty litter as an added precaution. Moca will require preventive medicines for life.

Dr. Schermerhorn says Moca's is a fantastic teaching case for many reasons. "I always stress to students owners know their animals best and different clinical signs should be weighted differently when trying to determine a diagnosis," he says. "If an owner comes in and says the cat is lethargic, that's a wide net to cast. However, if the owner says the cat has a cough and is lethargic, the cough should lead you to look at the lungs, and it should be given much more weight than the lethargy. Bottom line: Trust the owner's observations."

At a recheck on March 3, Larie expressed appreciation for the hospital's teaching mission. "I am so glad to be contributing to the learning process for these students," she says. "It really makes you feel good coming here because not only are you getting the best possible care for your pet, but you're helping to teach students and contribute to the world of veterinary medicine in a way you never imagined."

Today, Larie and Moca are at home and both are breathing easy. 🐾

Lucky BREAK

Story by Patrice Scott
Photo by Dave Adams

A patient needing a fractured tibia repaired arrived at the hospital recently. Turns out, this was the perfect candidate for a promising procedure recently discussed among veterinary surgeons.

"We could palpate the fracture and then confirmed it with radiographs," says Dr. James Roush, professor of small animal surgery. "This patient was the ideal candidate for the new procedure because he was young, the fracture was not comminuted, and his bones were strong."

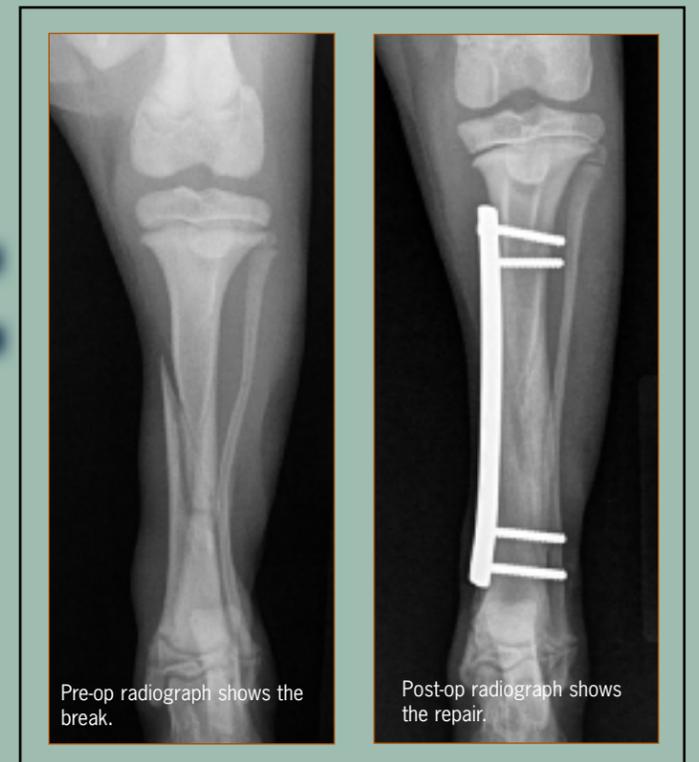
The benefits of radiographs are twofold. "Radiographs are taken both for diagnosis and to plan the surgery," Dr. Roush says. "This is a growing animal, so the plate must be attached with absolute precision."

The Minimally Invasive Plate Osteosynthesis (MIPO) procedure, used successfully in human medicine, has been investigated by veterinary specialists for the last few years, Dr. Roush says. It is a radical departure from how a fracture of this nature has been repaired in the past.

Until recently, there were three tried-and-true methods of repair for humeral, femoral, radial or tibial fractures, Dr. Roush explains. They were: 1) cast the leg and wait weeks for the bone to heal; 2) perform a surgical repair (called external fixation) using pins to reconnect the bone; and 3) bone plate. "This requires the classic incision all the way along the bone," he says.

MIPO, in contrast, requires half-inch incisions at both ends of the fracture site. The surgeon lifts the skin creating a soft tissue tunnel and slides the plate (about 6 inches long and three-eighths inch wide) to the fracture sight. "It is imperative when sliding the plate to not disturb the fracture hematoma," Dr. Roush says.

"On first blush, this may appear to be easier," the experienced surgeon adds. "However, the surgical site is never exposed, and this is done completely by touch."
— Dr. James Roush



Pre-op radiograph shows the break.

Post-op radiograph shows the repair.

"On first blush, this may appear to be easier," the experienced surgeon adds. "However, the surgical site is never exposed, and this is done completely by touch. The surgeon must line up the joints by feel, then anchor the plate at one end and then anchor the plate at the other end with screws."

An additional benefit is the length of the procedure. Dr. Roush says a typical repair takes an hour and 15 minutes; MIPO took just 27 minutes. "Surgery itself was quicker and less invasive," he says. "Because the incisions are so much smaller, this reduces the chance of infection and complications. The patient is under anesthesia for a much shorter amount of time – all of which amount to great benefits for the patient and the ensuing recovery. The patient was released the next day when most fracture patients stay a minimum of two to three days."

Dr. Roush is confident MIPO holds distinct advantages over other procedures. He does caution that this is not the best choice for all repairs. "Success requires careful case selection. That is absolutely essential. Because of this, the procedure is not applicable for all patients." 🐾



In the past, these two small incisions would have been the starting and ending points of a long incision along the patient's leg.

YOU GIVE ME FEVER



Senior student Holly McCown provides care and support for equine patient, Supernatural Fella.

Story by Patrice Scott
Photos by Dave Adams

A yearling and a long trailer ride prove to be a near deadly combination as a Missouri couple learns the truth about a condition they once believed was a wives' tale.

In August 2009, Russ and Felisha Ellis were excited to enter their American Quarter Horse in the Bayer World Select Horse Show in Amarillo, Texas, 500 miles from their home in Agency, Mo. They bought the highly desirable Cremello colt from a farm in Mississippi and named him Supernatural Fella, because he was—well, super. Felisha's sharp eye sized up the competition and was anxious for the judging to begin.

"He spiked a fever," Felisha says. "He was off his feet, breathing shallow, and we had to scratch him from the show." Show veterinarians prescribed medications for Supernatural Fella. Disappointed, they made the 500-mile journey home.

Supernatural Fella ran a temperature for days after returning home. The couple decided "enough was enough," and Russ trailered him to veterinarians who diagnosed him with pleuropneumonia. "They gave him about a 25 percent chance of survival and asked what I wanted to do," Russ says. "I'm taking him to K-State because I'm going to do everything I can to save my horse," Russ tells them. "Get everything set up while I gas up the truck because we're heading to Manhattan."

Russ called Felisha at work to explain the severity of Supernatural Fella's situation. She responds in stunned disbelief, "How in the world can this happen?" she asks. "He just has a temp."

Dr. Troy Holder, equine emergency clinician, and Dr. Amy Nagy, equine internal medicine resident, were waiting for the patient when he arrived at 8 p.m. Tests confirmed he had pleuropneumonia, more commonly known as "shipping fever," a notorious illness that presents after a young horse

is transported a long distance. Stress, having the horse's head secured in one position directly behind the hay manger, and the horse eating with its head upright are contributing factors to shipping fever.

"We've hauled horses everywhere and never had this problem," Felisha says. Russ was doubly surprised. "I'd heard of shipping fever but thought it was a wives' tale."

At presentation, pleural fluid and a tracheal aspirate were obtained for culture to determine the best antibiotic to use. The initial treatment plan involved broad spectrum antibiotics, fluids, anti-inflammatory medications and icing his feet to prevent laminitis.

The patient was well beyond the ideal treatment period of 24 to 48 hours from the causative insult. "He had two weeks of progressive disease when he arrived at the hospital," Dr. Nagy says. "By that time, the condition was chronic and very serious."

The case transferred to Dr. Laurie Beard, associate professor of internal medicine, the next morning. She explains pleuropneumonia (or pleuritis) is a sign of a bacterial infection of the lungs that may cause fluid to accumulate between the lung and body wall, the pleural space. "We can fix pleuropneumonia," Dr. Beard says. "The big worry with these patients is the tendency to develop complications such as diarrhea and laminitis."

Dr. Beard says an ultrasound revealed pockets of fibrin in Supernatural Fella's pleural space. "This is certainly evidence the disease has been progressing for a number of days," she says. The medical team worked aggressively to remove fluid from the pleural space over the next two weeks. "We placed an indwelling drain in

his chest to remove the pleural fluid," Dr. Beard says. Drainage of the pleural space had to be repeated several times; however, it was difficult to drain all the infected fluid.

"The problem was the fibrin," she explains. "The infected material bonds together and drainage through a tube becomes very difficult." Further complicating the already complex situation was the location of the fibrin. "There were many small areas of fibrin in his chest, rather than one or two large areas," Dr. Beard says.

Supernatural Fella was not responding as hoped so his medical team changed course on Sept. 29. "We had to get more aggressive and perform a thoracotomy," Dr. Beard says. (A thoracotomy is a surgical procedure in which

The 16-hand-high stallion was at an unspeakable low during his time in isolation. From Left: Dr. Amy Nagy, Dr. Karie Vander Werf, Dr. Laurie Beard (center), and senior student Holly McCown, right.



"We just cried and prayed and cried and prayed," Felisha says.
"We could live with founder; we couldn't live without a stallion."



Supernatural Fella at home in Agency, Mo., just before the fateful trip to Texas.

in her voice, and told her, 'Do what you need to do to save our horse.'

Treatment of the diarrhea, Dr. Beard tells them, includes massive amounts of IV fluids, anti-endotoxin drugs, plasma—and time. "Honestly, when he broke with diarrhea, we could have lost him," she says.

Even Dr. Nagy, as she sat with him in his stall night after night, began to wonder what she'd do in the same situation. Supernatural Fella was on so many medications and just didn't look good. "We spent entire nights with him and literally took shifts sitting on a chair in his stall," Dr. Nagy says.

With this latest development, Russ and Felisha were forced to face a dark possibility after speaking with Dr. Beard. Could this be the end? But, their dreams. Russ and Felisha hoped to teach the world about Cremellos.

They aren't albinos, such a common misconception that the AQHA did not allow registration of Cremellos until 2004 citing their color and blue eyes as genetic defects. Rather, they are a product of carrying two copies of the cream gene, and resulting foals will have

one copy of the cream gene. "We want to breed and raise world champion palominos and buckskins," Russ says. The couple changed every aspect of their horse operation to accomplish this goal. They had so much to do yet.

Giving up truly never entered the equation for Russ and Felisha. Russ uses numbers to tell Supernatural Fella's story: At the Bayer Select show, Supernatural Fella weighed 1,300 lbs. On Sept. 8, the day he arrived at the teaching hospital, he weighed 1,150 lbs. At this point,

the 16-hand-high stallion was less than 900 lbs.

Supernatural Fella remained critical for three days. On the fourth day, the colt stabilized. "He was looking so much better, like he wanted to live," Dr. Beard says. "I was confident he was going to make it. Slowly, over the course of the next week, therapy for the diarrhea was discontinued."

Within another week, on Nov. 1, "Fella," as Dr. Beard affectionately calls him, was discharged. The harrowing two-month saga came to a close with a happy ending.

Dr. Nagy learned an enormous amount about internal medicine on this case. Perhaps, the biggest lesson was the lesson itself. "I learned that you ride it out," she says. "I learned that after you see enough cases, you get better at making that judgment call and experience matters."

Dr. Beard says she appreciated Russ' attention to detail and their working relationship. "We understood each other," she says. "This case proves that we can be successful, but it takes a financial and emotional commitment. But the fact of the matter is, we can do it."

The hope at the world show, the fear learning he was sick, the anxiety not being with him, the uncertainty if he was going to survive. Two months of highs and unspeakable lows Felisha aptly condensed into four words, "Thank God he's alive."

Preparing for the Future

Dr. Beard says there are simple measures that can be taken to prevent shipping fever. "Make sure the horse is vaccinated for herpes and influenza to help prevent viruses. Transport them in a well-ventilated trailer and untie their head periodically to allow normal postural drainage." If the horse develops a fever associated with a long trailer ride, contact a veterinarian as soon as possible.

Taking no chances since nearly losing the colt, Russ and Felisha are consulting with Dr. Maria Ferrer, clinical assistant professor of theriogenology, about Supernatural Fella's reproductive issues and semen collection. "If ever there comes a day when we don't have him with us, he'll be with us in another way," Felisha says.

Dr. Ferrer explains the associated dangers of having a 106.5 temperature. "A prolonged increase in body temperature (fever) can have a negative impact on semen production," Dr. Ferrer says. "It usually takes a few months to know if there is long-term damage."

The couple brought Supernatural Fella back to the hospital twice for semen collection, and the verdict is in. "We have four babies on the way," Dr. Ferrer says proudly. "It really is quite exciting."

And some day, someone will be carefully trailing those yellow babies to their new homes. 🐾

Care givers from left: Dr. Karie Vander Werf and senior students Michaela Clark, Holly McCown and Matthew Porter take the patient outdoors for fresh air.



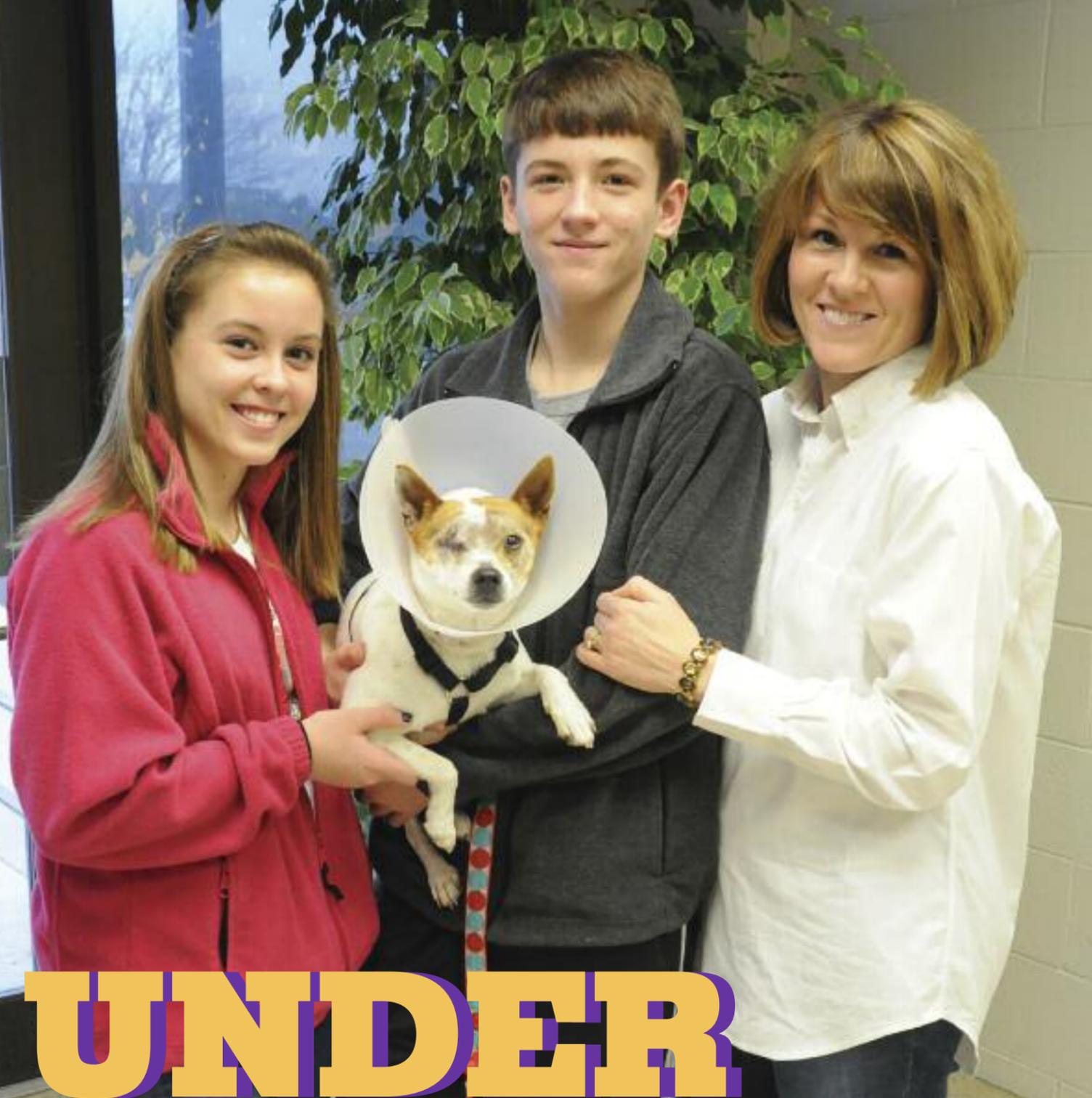
"We spent entire nights with him and literally took shifts sitting on a chair in his stall," Dr. Nagy says.

pleural space is opened and irrigated to remove the infected material.) "We're very careful about when to do a thoracotomy. If the procedure is performed too early in the course of the disease, the lung can collapse. If we wait too long, the disease continues to progress."

The patient tolerated the procedure well and his pleural space was irrigated to remove the infected material. Supernatural Fella was stable and demonstrated steady improvement over the next two weeks. Then, as suddenly as he became ill at the horse show, his condition declined sharply.

On Oct. 16, Supernatural Fella's temperature unexpectedly spiked to 106.5, and he broke with profuse diarrhea. The team transported him to isolation where the situation turned grim. "He came as close to dying as he could have," Dr. Beard says. "Many people would have given up at this point."

Dr. Beard called the couple and delivered the shattering news. "We just cried and prayed and cried and prayed," Felisha says. "We were worried about the development of founder (laminitis)," Felisha explains. "We could live with founder; we couldn't live without a stallion." Russ, hit hard by the latest setback, urged the doctors to press on. "I could hear the compassion



UNDER PRESSURE

Story by Patrice Scott
Photo by Dave Adams

A sweet terrier mix has a spring in her step after a severe medical problem sidelines her family's spring break plans.

A trip to the veterinarian was on the Manhattan, Kan., family's to-do list before heading out of town for spring break. Tim and Keri Livsey were looking forward to taking twins Hannah and Sam to visit relatives in Georgia when Hannah noticed Charlie's right eye was tearing. "We thought Charlie had a cold in her eye," Keri says. "We wanted it taken care of before we boarded her, so my husband took her to the veterinarian."

On Monday, March 8, their veterinarian suggested they have the five-year-old terrier mix evaluated by a specialist at K-State. Tim immediately drove to K-State where Charlie was seen by Dr. Amy Rankin, associate professor of ophthalmology.



On March 31, Tim Livsey reviews Charlie's final discharge instructions with Dr. Amy Rankin.

Moments into the examination, Tim realized the magnitude of Charlie's problem. "I spent 26 years in the military, and you learn to evaluate a situation pretty quickly," he says. "When they covered her left eye during the examination and rapidly moved a hand up and down, Charlie did not flinch at all. I knew she lost all vision in her right eye."

Dr. Rankin says Charlie's problem had advanced to the point of no return. "We diagnosed Charlie with glaucoma using a TonoVet, an instrument that measures pressure in the eye," she says. "Normal for a dog or cat is between 10 and 20 (millimeters of mercury.) Charlie's right eye was 26; her left eye was 66. Dr. Rankin says that much pressure would send humans to the emergency room. "It would feel like you had a constant headache. It's a painful condition, which is challenging to catch because animals have such subtle ways of communicating pain."

Charlie's glaucoma was only half of the problem. Her right eye had a lens luxation; the left a subluxation. "Lens luxations and glaucoma are inherited diseases in terriers and terrier mixes," Dr. Rankin says. "Glaucoma is fairly common with some 51 breeds commonly affected. Lens luxation occurs when the fibers that suspend the lens in place break down. It's most common in terriers, Shar-Peis and Border Collies."

Dr. Rankin advised Tim to pursue surgery—quickly. "Charlie was a good candidate for surgery because she was still visual in the left eye," Dr. Rankin says. Tim and Keri say their decision was a "no brainer" because Charlie was young, healthy and had years of wonderful life ahead of her. And, of course, there was Hannah.

The family adopted two puppies: one gravitated to Hannah; the other to Sam. Sam named his puppy Mack because he liked trucks. Hannah named Charlie after her cousin's cat and a Beanie Baby.

"When Tim called and told us what was happening, we were all crying," Keri says. "We're just all animal lovers." There was no turning back for the Livseys.

The team headed directly to surgery where the first step was to save Charlie's left eye. Dr. Rankin removed the lens and performed an endolaser cyclophotocoagulation.

This complicated procedure requires the ophthalmologist to use a highly specialized piece of equipment called a diode laser, specifically designed to preferentially damage pigmented tissue. "Our goal is to destroy part of the ciliary body to decrease pressure in the eye," Dr. Rankin says. (The ciliary body makes fluid and is located behind the iris, which is darkly pigmented in dogs and cats.) "We also used the laser to create small adhesions between the retina and the outside of the eye to decrease the chance of a retinal detachment."

Next, they enucleated (removed) Charlie's right eye. "Enucleation was necessary because Charlie had glaucoma and was irreversibly blind, and it eliminated any chance of pain inside the eye related to the condition," Dr. Rankin says.

"I always share with students that our job as veterinarians is to advocate for the patients. Pain is difficult to gauge because a pet is still going on walks and eating and everything seems normal, which is perfectly understandable. After a procedure like this, clients will report their pet 'feels younger' and is 'back to normal.' That's often because they are no longer in pain."

Charlie lost an eye, but it could have been far worse. "We are quite fortunate to be able to offer this procedure because so few places have this equipment, and the procedure has only been available in veterinary medicine since approximately 2005," Dr. Rankin says.

"When Tim called us and told us what was happening we were all crying," Keri says. "We're just all animal lovers."

Family Matters

At Indian Creek Veterinary Clinic, this is more than a philosophy; it's a practice.

Family: a profound motivator to do what's right. For the Kobuszewskis, it's the only way they've ever known.

Dr. Mike Kobuszewski's sons, Dr. Joshua and Dr. Jonathan, joined their dad's practice, Indian Creek Veterinary Clinic in North Topeka, after graduating from the College of Veterinary Medicine in 2006. They are doing what they've always done: working together, playing together and becoming better veterinarians—together.



Back row from left: Carol and husband Dr. Mike and Dr. Jon. Front row: Dr. Josh with dog, Hank.

percent of the time in our clinic," he says. "So that means we can offer the gold standard 100 percent of the time using Kansas State for referrals. The hospital IS an extension of our clinic, and they have earned our referrals."

Lines between personal and professional crossed in 2008 when Dr. Josh's Brittney Spaniel, Hank, needed advanced care when diagnosed with a rare form of cancer. "I've had my dog at the teaching hospital twice in the last year and a half," he says. "We had to amputate his leg, which we could have done here, but I decided to have it done at the hospital."

Dr. Mike says many factors went into the decision. "It was a matter of the

heart," Dr. Mike says. "I just couldn't see myself amputating Hank's leg. We had that great feeling knowing that after surgery he would receive 24-hour care in the hospital's ICU."

Dr. Josh and Hank enjoyed a great time hunting after that. In March, Hank had surgery at the teaching hospital to remove a cancerous mass in his abdomen. They are handling this together knowing, with time, all things change.

Dr. Mike and wife Carol, clinic manager, plan to travel around to watch the Wildcats when they decide to retire. Dr. Jon and Jennifer have three kids, Micah, 7, Madison, 5, and Noah, 2. Dr. Josh and wife Christina married in 2009. Annie, Josh and Jon's sister, and husband, Juan, have two kids, Austin, 3, and newborn Abbie. 🐾

about the radiographs, we'll ask Dr. Jon to take a look. If we have a question about pharmacology or cardiology, we'll ask Dr. Josh to take a look. Everybody in this practice is working to the same end."

That "same end" starts at the beginning. Dr. Mike stresses the importance of a good physical examination and obtaining a good medical history. Drs. Josh and Jon say they were "spoiled" by all the Veterinary Medical Teaching Hospital had to offer. "We had everything at our fingertips," Dr. Jon says. But when necessary, knowing the specialists and level of patient care makes referring cases to K-State an easy decision.

"Above all, do no harm," Dr. Mike says of the first rule of medicine. "The goal has got to be to give the pet and its owner the best opportunity for success. We can offer the gold standard 99

"Everything about getting in veterinary medicine is competitive," Dr. Jon says. "Everything about getting through veterinary school is competitive." But that's not the case inside the clinic. "It's all about the patient, and did we get it right?" Dr. Josh says as Dr. Jon agrees.

They believe "growing up" in the clinic, knowing the clients and learning at a young age what was expected of them helped make the transition from student to practicing veterinarian seamless. "Josh and I are eager to do as much as possible from start to finish," Dr. Jon says. "We just don't take advantage of each other. We respect what Mom and Dad did, and we all pitch in."

Sometimes, all this togetherness requires a healthy sense of humor. "I tell them (his sons) the only time I'm wrong is when I think I'm wrong," Dr. Mike jokes. Dr. Josh jovially responds, "We just tell him to go to his office and work on taxes."

All kidding aside, Dr. Mike appreciates the benefits of growing from one doctor to three. "We seek each other out based on strengths," Dr. Mike says. "If we have a patient and there's a question



Hannah holds Charlie while ophthalmology resident, Dr. Jonathan Pucket, evaluates the inside of her eye. The exam room is equipped with red lights, ideal for eye examinations.

Charlie was discharged on Thursday, March 11, three days after surgery. At a follow-up examination on Friday, Dr. Rankin and Keri were pleased with Charlie's progress. Keri and the kids opted to stay home and take care of her rather than go on the spring break trip. "We made a medical chart with seven days and slots for her eight medications and times," Keri tells Dr. Rankin.

Charlie will most likely go blind in the future because that is the nature of glaucoma in dogs. For now, her family and Dr. Rankin consider this an overwhelming success. "Our goal is to preserve vision as long as we can—if that's two, three or four years, we'll be ecstatic."

Dr. Rankin strongly encourages animal owners to take quick action if pets squint, the eyes water, or if they take on a cloudy appearance, become red or notice their pet bumping into objects. "Early detection is just so important," she stresses.

Tim appreciated the fact that Charlie's medical care was a priority. "The ability to get an appointment, the speed and the way that it all happened, I was very, very happy with how it all turned out," he says. "We are blessed, very blessed, to have you (hospital faculty) in Manhattan. It's the most positive place." 🐾



The Livseys are happy with Charlie's progress after her first follow-up appointment with Dr. Rankin.

Eugene DeDonder

Story by Patrice Scott
Photos by Dave Adams

Dispensing GOODWILL



When Eugene was a junior in high school, tragedy struck. His dad, 53, underwent surgery for a cerebral aneurism and suffered a stroke two days later that left him incapacitated. (He lived at home until his death at age 74.) Eugene was committed to fulfilling his father's dream and graduated from K-State in 1975. The family continues to honor the patriarch's wishes, and descendants have earned 17 degrees at K-State since 1967.

What can be said about a person whose smile says it all?

Eugene DeDonder, the hospital's pharmacy director, is an indoor ray of sunshine. It's easy to see that he's K-State's biggest cheerleader or perhaps more appropriate, yell leader, a post he officially held during his senior year in college and unofficially every day since.

As fun as it was being on the cheerleading squad, Eugene never lost focus about why he was in school. With two older brothers, there probably wasn't room for him on the farm. A self-described nerd, Eugene applied himself every minute possible. "I would study biochemistry on our cheerleading trips," he says. "Boy, I remember that."

Degree of Change

The road to K-State and to his current position started in rural Reading, Kan., a small town between Topeka and Emporia in Chase County. Eugene was a middle child reared on a farm with six siblings. Eugene's dad was adamant that his children were going to college, a dream he was denied at age 16 when his father died unexpectedly. "My dad would say, 'I missed out on college, but you kids are going.'"

wearing purple to sit in the back of the room. Whether or not he was serious, I don't know, but we obliged."

Eugene met his wife Jeanie, associate professor of the division of nursing at Emporia State University, while at K-State, and the couple married in 1982. The couple had two sons, Michael and Mark, and K-State was central to most family activities. "We had season tickets to football and basketball and made the trips to Manhattan a couple of times a week all these years despite the weather and the team's record," he says. "I've missed eight home football games since 1971."

Dr. Keith DeDonder, Eugene's nephew, learned of the pharmacy opening during his senior year in veterinary school. He asked his mom if Uncle Eugene might be interested. "I never dreamed I'd leave Newman Hospital, the place I'd built my

entire professional career around," Eugene says.

But after 30 years, it was time for a change, and Manhattan had always been in the couple's long-term plans. "Jeanie was totally behind me," he says. "She said 'Why not do this now since we know it's where we want to retire?'"

From Man to Man's Best Friend

Eugene's enthusiasm explodes when talking about his job. "It's a whole new twist for me," he says. "These clinicians and students work so hard. What's really amazing is being able to walk down a hall and have face-to-face conversations with the doctors about patients. In human medicine, after rounds, the doctors are back to their clinics. So that's a big difference."

The major difference is the purpose. "I'm a farm boy who likes animals," he says. "But, I love teaching. I love to work with the students to make sure they understand why they are using a drug and what to expect. My personal goal is to know all of their names. It makes it so much easier to be a teacher and easier for them to seek me out."

"When I interviewed for this job with Dr. (Roger) Finland, (hospital director), he said, 'Eugene, every moment you're here will be a teaching moment, and we want it to be a teaching moment.' I wasn't exactly certain what he meant until I was here."

Eugene is proud the teaching hospital offers a rotation to pharmacy students at KU through the Advanced Pharmacy Practice experience because there is no formal curriculum for veterinary pharmacy in the country. Two students a month rotate through the hospital



with the exception of December and January, those months being reserved for other schools. "The University of Nebraska-Omaha had about 30 students apply for the two slots, and they were chosen by lottery," Eugene says.

Claudia Mikessell is a KU pharmacy student enrolled in the month-long rotation. "This program has great credibility," Claudia explains. "Everyone who has ever taken the rotation loved it." Claudia points out there is another difference that isn't species related. "In veterinary medicine, the patients are seen and can have a procedure the next day. That's not typically how it works in human medicine. It's so efficient here."

When not attending a K-State sporting event, or talking about K-State or breathing K-State purple air, Eugene enjoys volunteering for his fraternity (Pi Kappa Alpha), his daily 5:30 a.m. workouts, spending time with his sons and reading. "We went on a cruise recently, and I took my favorite books with me—journals," he says. "I ran out of journals and had to resort to novels. Who knew a week could be that long? Now I'm reading the veterinary medicine pharmacology textbooks."

Eugene and Jeanie live in Manhattan with their miniature Daschund, Hunter.



Top left: Eugene in the pharmacy at the hospital.

Bottom Left: Eugene, back row far right, with the cheerleading squad in 1975.

Above top: Eugene and KU School of Pharmacy student Claudie Mikessell working with senior student Holly McCown.

Above: Eugene at home in his office adorned with K-State memorabilia with the family dog, Hunter.

Cheerleaders



BACK ROW: Cheryl Hill, Robert Harper, Jane Fore, Gerald Janssen, Gail Breen, Steve White, Meredith Ramsey, Greg Baker, Karen Cott, Eugene DeDonder
FRONT ROW: Cam Smith, Malcolm Copeland, Sandy Castetter, Brad Case, Karen Johnson, Greg Cline, Robin Walker, Terry Walker.

Photo courtesy of The Royal Purple Yearbook and Student Publications



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Animal **LIFE**



In Memoriam

The spring 2006 edition of AnimaLIFE featuring Sgt. Bill Gollner and his K-9 unit, Riko, created more feedback and action than any other story in magazine history. The crime-fighting crusader, whose story educated and touched readers, passed away April 1.

One reader created a K-9 Officer in Need Fund, and it spawned many more gifts. Most interesting was a call from a retired FBI agent. "I've spent my entire career in law enforcement, and there were things in that article I never knew."

Riko retired from law enforcement and lived the rest of his happy life with Bill and wife, Lori. Bill went back to active duty in 2008 and is deploying to Afghanistan this month. "My biggest fear was him dying while I was gone."

Bill, still emotional from the devastating loss, thanks Dr. Rose McMurphy for her kindness. "Every time I hug her, I say, 'I hope I didn't break your angel wings.' She saved my dog a couple of times and gave him a wonderful quality of life. She is truly an angel."

If you would like to make a memorial contribution to the K-9 Officer in Need Fund in Riko's memory, please contact Patrice Scott at 785.532.4046 or Email her at pscott@vet.k-state.edu.

To read the original story, you can view the spring 2006 edition online at: www.vet.ksu.edu/depts/VMTH/PDF/05_AnimaLIFE_Spring06.pdf.

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