People and their pets come to the Veterinary Teaching Hospital at Colorado State University for some of the best veterinary care in the nation – but it’s not just the professionalism and caring of the people who work here that keeps them coming back, it’s the wonderful “Reception Ladies” volunteers who greet everyone with a warm smile, offer a hot cup of coffee, a hug when needed, and, if you’re here on the right day, maybe even a piece of home-baked coffee cake.

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“Welcome to the Veterinary Teaching Hospital at Colorado State University and this edition of Caring, the magazine dedicated to our clients and our patients. In these pages of Caring, we explore the world of veterinary medicine by sharing with you their stories. Caring is about life and joy, seasoned with wisdom, and served with an extra-large portion of hope – Caring is about who we are and what we do.

Of course, none of the work we do would be possible without your patronage and support. Thank you and we look forward to continuing to serve you and your animal companions at the Veterinary Teaching Hospital. We hope you enjoy this edition of Caring in good health (you and your pet!).

Caring is published twice a year by the Colorado State University Veterinary Teaching Hospital and produced by CSU’s Communications and Creative Services department. We welcome your questions, comments, and story suggestions. You can email your comments to the editor at carol.borchert@colostate.edu.

Colorado State University Veterinary Teaching Hospital 300 West Drake Road Fort Collins, CO 80523

Make an Appointment (970) 297-5000 Monday – Friday, 8 a.m. to 5 p.m.

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Editor/Writer: Carol Borchert
Staff Photographer: Bill Cotton
Production Coordinator: Colleen Rodriguez
Design and Production: Cathay Zipp

Hot cup of coffee sweetened with compassion

People and their pets come to the Veterinary Teaching Hospital at Colorado State University for some of the best veterinary care in the nation – but it’s not just the professionalism and caring of the people who work here that keeps them coming back, it’s the wonderful “Reception Ladies” volunteers who greet everyone with a warm smile, offer a hot cup of coffee, a hug when needed, and, if you’re here on the right day, maybe even a piece of home-baked coffee cake.

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“This is my family,” said Nelson. “It’s nice to be included and needed.”

Since then, Nelson has been joined by Dee Middleton, Susan Selby, and Vicki Paradise. They each volunteer for half a day, once a week, providing coffee to hospital clients and staff, answering questions about Fort Collins, cleaning up the occasional mess (spilled coffee or doggie accident), and lending an ear when needed to clients in the reception area.

“We provide basic hospitality to the people who come here to the hospital with their pets,” said Middleton, who also has a family members who work at the hospital. “We try to be insightful, gentle, considerate, and informed. We let people know we are there to help them in any way we can.”

Selby got involved with the program through Nelson, and also though her previous volunteer experience with the Veterinary Teaching Hospital. Her greyhound dog was a donor to the hospital’s blood bank.

“For me, this is just part of giving back to the community,” said Selby. “How we live and care for others, well, this makes me feel good being able to be here for people coming to the veterinary hospital.”

During their time as volunteers, the women have met many famous animals, a pack of “Hollywood” wolves and Bart the Bear, and even some of their people. They’ve also been delighted by the antics of a litter of nine St. Bernard puppies, all with their own individually colored leashes, a pair of 21-year-old cats coming in for a wellness check-up, and many more. They’ve also seen their share of heartbreak and sadness, and more than once provided a shoulder to lean on.

“Some days are sad and you go home exhausted but feeling good because you know you helped someone through a difficult time,” said Nelson. “It may not seem like much, to offer a cup of hot coffee, but sometimes it’s the most we can do and the gesture is always welcomed. People appreciate knowing someone cares.”

Volunteers at the VTH

Turtles, terrapins, and tortoises

3-D modeling before surgery

Screening foals for jaundice foal syndrome

Rattlesnake bite!

Companion Care Fund

Night at the VTH

Dairy Ambulatory Service

VTH construction

Dr. Timothy Hackett

Pharmacist Rick Allen

Dr. Katie Amend
Turtles, and terrapins, and tortoises! Oh, my!

In case you ever decide to specialize in chelonian veterinary medicine, it's important to learn that the first-line diagnostic tool is an X-ray.

Most of the time, you just have to get under a turtle's shell to figure out what's going on. That was exactly the case recently when a Callagur, a type of Asian water terrapin, was acting a bit under the weather by "hauling out" – spending more time than usual on land rather than her natural water habitat.

At the Veterinary Teaching Hospital's Zoological Medicine Service, turtles, tortoises, and terrapins are all in a day's work, particularly when your clients include the Downtown Aquarium in Denver and the Colorado Reptile Humane Society.

"The Callagur is an endangered species that they have at the Downtown Aquarium, and this one was getting sick," said Dr. Terry Campbell, an exotic animal specialist with the Zoological Medicine Service. "We worked her up, including getting some radiographs, which showed that her bowel was badly impacted with gravel – a lot of gravel and other stuff turtles shouldn't eat."

Impacted bowels are just one of a number of common health concerns in turtles. Dr. Campbell said he regularly sees turtles with peritonitis, nutrition and living environment concerns, egg-bound females (and one egg-bound hermaphrodite male), bladder stones, impactions, and a host of other problems that affect these mostly tropical animals often kept in non-tropical and/or poorly maintained habitats.

We see many husbandry issues with exotics in general, so a lot of what we do is owner education," said Dr. Campbell. "We talk with our clients about the basic needs of their exotic pets, including optimum temperature gradients, aquatic and terrestrial environmental needs, space and sunshine, proper feeding, and the importance of micronutrients like calcium, phosphorous, and vitamin D."

For the Downtown Aquarium's terrapin, the only way she was going to get better was through surgery – never an easy task but even more challenging when you've got a tough shell separating you from your patient.

"It's amazing what we can do, but there are some real challenges," said Dr. Campbell. "If we look at anesthesia alone, that's pretty tricky with a turtle."

The terrapin was put on a ventilator with a gas anesthetic, and a Doppler device was tucked into the front opening of her shell so her heart rate could be monitored. An oscillating saw was used to cut a window in the terrapin's plastron (the bottom of the shell), to gain access to the bowel. From there, it's "like any other surgery," said Dr. Campbell. The material causing the impaction was scooped out, the bowel sewn up, and the window in the plastron closed and sealed with mesh anchored by epoxy (similar to what's used in repairing a boat).

The shell will take about a year to heal, said Dr. Campbell, who will be checking on the terrapin during regularly scheduled bi-monthly visits to the Downtown Aquarium.

X-ray of the Callagur showing her bowel impaction.

Turtles are cute, but contaminated!

The sale of turtles less than 4 inches has been banned in the United States since 1975 primarily because turtles pose a high risk of spreading disease, especially to children. The ban by the U.S. Food and Drug Administration prevents an estimated 100,000 cases of salmonellosis every year in children. Even with that, reptiles, including turtles, transmit an estimated 74,000 cases of salmonellosis to people in the United States annually.

Despite the health risk, and the threats of collection to endangered species, turtles continue to be a popular pet. It's important for your health and the health of your family to keep in mind that the Centers for Disease Control recommends not keeping pet turtles or tortoises in any household that includes children under 5, the elderly, or people who have lowered natural resistance to disease due to pregnancy, cancer, chemotherapy, organ transplants, diabetes, liver problems, or other diseases. A family expecting a child should remove any pet reptile or amphibian from the home before the infant arrives.

Remember, turtles are cute, but contaminated. Handle all turtles and surfaces that have come in contact with turtles as if they are contaminated with Salmonella, because there is a good possibility that they are!
3-D modeling allows surgeons to plan and practice before surgery

Whenever Andy Bergeron went to the online adoption site of the Intermountain Humane Society in Pine, Colorado, one dog in particular kept catching his eye.

She was beautiful with soft brown eyes and a gentle gaze. Found as a stray outside of Albuquerque, N. M., she had been at IHS for five months, and when Bergeron read more about her he found out why. The rescue agency noted that she had early signs of hip dysplasia and would need surgery down the road. Additionally, she needed a little extra TLC to recover from surgery to remove old, infected stitches left in after a spay surgery earlier in her life.

Bergeron’s heart went out to her. Looking to bring a dog back into his life (when he and his wife divorced, she got "custody" of their two dogs), Bergeron decided he would deal with whatever health issues came up and adopted Leta. When he got her home, he brought her to the Arapahoe Animal Hospital where an X-ray showed she did not have hip dysplasia, but rather an angular limb deformity on her back right leg. The hospital referred Bergeron to the Colorado State University Veterinary Teaching Hospital to investigate surgical options to fix Leta’s leg.

"Historically, one of the challenges we face when an animal has a complex limb deformity is that we take an X-ray and then have to use a 2-dimensional image to figure out how to do a surgery to correct a 3-dimensional object," said Dr. Ross Palmer, Leta’s surgeon and a member of the Small Animal Orthopedics Service at the Veterinary Teaching Hospital. "For many years, I would make paper cut-outs from X-rays and try to model and plan surgeries basically using paper doll technology. Right away, accuracy is questionable."

A CT scan has the ability to build a 3-dimensional image so that surgeons can get a better understanding of what’s going on, but it still doesn’t provide the information needed to know exactly how to fix it. It would be great to be able to "take the 3-D image out of the screen and hold it," said Dr. Palmer, and that’s exactly what he was able to do with Leta. The 3-D image of Leta’s bad leg was sent to a specialized laboratory where it was "printed" out as a 3-D model — an actual life-size model of the patient’s bone.

"No one has touched this dog with a scalpel, and yet I’m holding a part of her skeleton," said Dr. Palmer. "It gives us the ability to do intricate advanced planning, try a few different approaches, and do some advanced assembly based on our modeling. If something doesn’t work, no harm done. We print another model. Obviously, this type of modeling and planning isn’t necessary with orthopaedic procedures where you may have a simple deformity in one plane, but for complex problems with multiple levels of deformity this technology gives us an incredible advantage."

"It’s uncanny to go into surgery, expose the bone, and feel like, ‘I’ve been here before.’ Three-D modeling diminishes the number of surprises and that’s a really good thing when you’re talking about surgery."

Leta had a valgus deformity, where the lower portion of her limb angled outward, as well as twisting of the limb top to bottom, most likely the result of a birth defect. Dr. Palmer worked on Leta’s 3-D bone model to devise the best surgical approach to correct her leg, then took his planning into the surgical suite. Leta had surgery on April 11 and continues to recover, but Dr. Palmer and Bergeron are pleased with the surgical results and with Leta’s prognosis. Post-surgery, notes Dr. Palmer, she is now in that dangerous stage where the bone is still healing but she is feeling better, bored, and wants to move.

"I’m looking forward to her having a normal dog’s life," said Bergeron. "We’ve got some work to do, and she needs some classes to work on her manners and predictability, but she is so sweet and so smart — I think we are both ready to see what life can be for her now."
Simple screening saving the lives of foals

It’s common knowledge that breast milk is almost always best for the baby, especially when that baby has four legs, weighs about 100 pounds, and is born hungry.

In some equine cases though, a mother’s milk can be toxic and lead to severe illness and, if untreated, even death. Hannibal, a newborn foal, was spared this fate because veterinarians at the Colorado State University Equine Reproduction Laboratory used a simple test to find out if he was at risk.

Neonatal isoerythrolysis (NI), also known as jaundice foal syndrome, is a rare disease that may occur in a foal if the mother has antibodies against the red blood cell type of the newborn foal. Foals are normal at birth and are only affected if they ingest colostrum with anti-RBC antibodies directed against their own red blood cells. If the foal has the same blood type as its mother, there is not a problem. NI occurs if the foal inherits the blood type of its father and if the mare’s antibodies are directed against that specific blood type. These antibodies are sequestered into colostrum, the first “mother’s milk” the foal will suckle. Exposure to these antibodies puts susceptible foals at risk.

“A blood sample from Hannibal’s mom showed a strong positive reaction for antibodies against Aa blood group antigens,” said Dr. Patrick McCue, who is an equine reproduction specialist at the Veterinary Teaching Hospital and Equine Reproduction Laboratory. “The immune system of the mare must have been exposed to ‘foreign’ red blood cell antigens by leakage across the placenta during a previous pregnancy or foaling.”

During the first 24 hours of life, the gut of a foal absorbs antibodies from the mare’s colostrum after nursing. Ingestion of colostrum is critical for the health of the foal as foals are not born with antibodies in their blood that will protect them from various infectious disease organisms they will encounter after they are born. Foals and other large animal newborns are dependent on antibodies from their mother that they obtain through colostrum; a process called “passive transfer of immunity.” However, if a foal ingests colostrum containing antibodies against its blood type its red blood cells can be damaged or destroyed, leading to anemia.

“Hannibal’s case, we collected a blood sample from him immediately after birth and performed a Jaundice Foal Agglutination Test using his blood and colostrum from the mare,” said Dr. McCue. “The test indicated a positive reaction; therefore, the foal could not safely ingest colostrum from his own mother.”

NI-affected foals usually begin to show clinical signs, such as jaundice, weakness, increased respiratory rate, and passage of red-colored urine within 24 to 72 hours after taking in ‘toxic’ colostrum. Severely affected foals may die if untreated.

Hannibal was allowed to stay in the same stall as his mother to help promote maternal bonding, but for 24 hours had to wear a foal-size leather muzzle (hence his name) to prevent him from suckling. His mother’s colostrum was hand-milked and discarded every hour. Meanwhile, Hannibal received colostrum that had been harvested from another mare that was known to be free of the anti-RBC antibodies.

The alternative colostrum provided the immune protection he would need to survive until his own immune system produced antibodies. He also was bottle fed a commercial mare milk replacer until he was allowed to nurse from his mother.

“After 24 hours, the mare did not have any more colostrum and Hannibal was no longer at any risk,” said Dr. McCue. “Fortunately, the mare’s maternal instincts were strong and Hannibal eagerly suckled once his muzzle was removed. A healthy Hannibal and his mom went home five days after foaling.”

For horse owners, said Dr. McCue, the take-home message is that neonatal isoerythrolysis is a life-threatening condition of newborn foals. NI can be prevented by a pre-foaling screening of the mare’s blood and, when a potential problem is detected, screening of the foal to determine if its mother’s first milk – exquisitely designed to protect the foal from infectious disease – is a lifesaver or threat to its health.
Pam and Bob Burt walked along the grass-lined path as their dog, Sheba, sniffed every stick and stem on the trail’s edge. Pam turned to say something to Bob and in a split second they heard their dog yelp, followed by the unmistakable sound of an angry rattlesnake.

Pam quickly pulled on Sheba’s leash, but it was too late. Sheba had been bitten on the paw; one fang puncturing the top of her paw and one fang puncturing the bottom of not only her paw, but also of a blood vessel. Sheba, said Pam, winced in pain and went down quickly.

They were one mile away from the trailhead and parking lot. Bob picked up the 53-pound Sheba, a German shepherd/Labrador/Doberman mix, and started to run. Pam ran ahead to call the Veterinary Teaching Hospital and get help from the park rangers. Cresting the hill above the parking lot, Bob was near the point of collapse but also knew that Sheba was near death – fear kept him going.

“We had a wild ride to the VTH, and when we got there Sheba had stopped breathing,” said Pam. “No one really thought she would make it. But I told Bob, she’s not going out this way.”

Rattlesnake venom in horses also can cause clotting abnormalities, long-term cardiovascular damage (the toxins tend to target the heart muscle in horses), and nerve damage. Early treatment with antivenin can help prevent cardiac damage.

“Getting a horse treatment as quickly as possible is absolutely critical in rattlesnake bite cases,” said Dr. Eileen Hackett, who works in the Equine Hospital in large animal surgery and critical care.

“With llamas and alpacas, it’s even worse. Veterinarians may even have to do an emergency tracheotomy in the field so the animal can breathe.”

Sheba was rushed to the Critical Care Unit where she was resuscitated, put on intravenous fluids, injected with three vials of antivenin, and given medication for pain control. Because the poison had gone directly into a blood vessel, Sheba’s case was more critical, even though all instances of snakebite are considered veterinary emergencies. Her veterinary team did not know if she would make it through the night, but she pulled through.

Sheba was released to go home two days later, with no lingering effects, other than being a bit more aggressive toward other dogs and a bit more spoiled at home (she has worked her way up to sleeping with Pam and Bob in their bed).

“With dogs, the typical snakebite victims are not unlike human snakebite victims,” said Dr. Tim Hackett, Director of the Critical Care Unit and an emergency veterinarian who has treated many canine snakebite victims. “People who get snakebites are usually young, healthy men who have been drinking and feeling brave, and get bitten on the hand. For dogs, they’re typically young, curious, and put their faces where they don’t belong.”
Dr. Hackett said most dogs brought to the VTH come from the trails around Hughes Stadium, Poudre Canyon, or west Loveland. Most tend to get bit on the nose, leading to some pretty uncomfortable swelling. When dogs first arrive at the hospital, veterinarians do a blood test to confirm envenomation. Poisonous snakes have one of three types of toxins: cytotoxins (destroys cells so that they die and tissue collapses), hemotoxins (targets red blood cells and destroys blood vessels, or speeds up coagulation so that blood clots); and neurotoxins (blocks all nerve impulses or overloads the nervous system so that it collapses). Prairie rattlesnake venom is mostly a hemotoxin. After the rattlesnake venom has been injected, the poison activates blood platelets that make the cells responsible for clotting blood disappear and can cause a drop in blood pressure. Treatment goals are to support blood pressure, reduce pain, and dilute the effects of the toxin. Dogs that don’t survive typically suffer from organ failure due to critically low blood pressure.

About 20 percent of dogs treated at the Colorado State University Veterinary Teaching Hospital receive antivenin, especially those that present in shock. Antivenin makes the dogs more comfortable and they respond more quickly to treatment. Size of the dog does not seem to make a difference in rates of survival; though smaller dogs do tend to stay in the hospital longer, noted Dr. Hackett. The most critically ill dogs are usually those that have been bitten in the foot. The swelling slowly began to subside and, after three days of uncertainty, Drake was acting weird, bleeding from the mouth, and slobbering. We weren’t sure what was going on so I told him to bring Drake to the hospital right away. 

Drake’s symptoms, said Jones, didn’t “scream snakebite,” but a blood test on Drake showed that was in fact what had happened. There were no obvious fang marks on Drake, but his throat was swollen and his tongue had turned black. Drake’s veterinary team suspected that he may have been hit on the tongue.

“Sheba’s care at the Veterinary Teaching Hospital was just incredible,” said Pam Burt. “She was the miracle dog that week. Two weeks after she was bit, we took her back to Lory State Park to the visitor’s center to visit with the rangers, and everybody was so happy to see her. It’s still kind of hard to think about that day, even though it’s been almost two years. We are simply grateful that she is still with us.”

“We have a large, fenced-in backyard where our dogs play, and we thought they were pretty safe back there,” said Sara Jones, a master’s student at Colorado State University who also works in Diagnostic Services at the Veterinary Teaching Hospital. Jones and her fiancé, Aaron, live in Pierce, just north of Greeley. “One day last summer, in late August, my fiancé came home, checked on the dogs, and found Drake not doing well. He called me at the hospital and said Drake was acting weird, bleeding from the mouth, and slobbering. We weren’t sure what was going on so I told him to bring Drake to the hospital right away.”

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“It was pretty impressive, and he was pretty miserable,” said Jones. “We didn’t know how long it had been since he had been bit, so we decided against antivenin since it may not have made a difference in his outcome. He was given a lot of supportive treatment, but in the longer term we weren’t sure if he’d be able to make a full recovery given the extent of the damage inside his mouth. He was a sick, sick dog. We thought we might have to make a tough decision that night.”

With aggressive emergency care, Drake made it through the night and the next day the staff checked on the dogs, and found Drake not doing well. He called me at the hospital and said Drake was acting weird, bleeding from the mouth, and slobbering. We weren’t sure what was going on so I told him to bring Drake to the hospital right away.”

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With aggressive emergency care, Drake made it through the night and the next day the staff were able to syringe-feed him. Successful feeding avoided the necessity of having to place a feeding tube. In addition to around-the-clock care, Jones also took advantage of some of the complementary therapies available at the hospital. Dr. Narda Robinson treated the inflammation in and around Drake’s mouth using cold laser therapy, helping to heat as much of the tongue as possible. The swelling slowly began to subside and, after three days of uncertainty, Drake was ready to go home.

“He had a long recovery and we weren’t sure what was going to be the outcome for his tongue,” said Jones. “For the first week-and-a-half, we had to feed him with a syringe. That’s really tough for a Lab; they like to eat and eat. As the swelling went down, we could see the two puncture marks on the tip of his tongue. Was he trying to lick the snake, or was he baring it at the snake happened to strike just at the exact right moment?

“The good news is his tongue recovered completely. The bad news is I don’t think he learned his lesson.”

The hospital rarely sees dogs that have been bit on the tongue; most canine snakebite victims get bit on the snout, with a few getting bites to the paw, legs, or body. The hospital emergency team does, however, see some of the same dogssummer after summer. Often, those are backyard bites. Jones hopes Drake doesn’t tangle with a snake again, but she’s a realist.

“He’s still crazy and hyper, and I think he would do it all over again,” said Jones.
Rattlesnake bite prevention and what to do if your dog or horse does get bit

Common sense is your most important tool in protecting your pet from a rattlesnake strike. If you live or will be in rattlesnake territory with your dog or horse, awareness is your first step toward prevention

In Colorado, prairie rattlesnakes live in open prairies, croplands, as well as in the rocky foothills along the Front Range at elevations below 8,500 feet. They are frequent visitors to backyards, garages, porches, and patios, particularly to homes neighboring open prairies and homes in the foothills. In cooler weather, they are active during the day. In hot weather, they become more active in the early morning and evening. Prairie rattlesnakes prefer to leave quietly rather than confront, but will usually rattle to warn, and will strike if threatened too closely, snifﬁed or stepped on (whether that be a nose, hoof, or paw). Rattlesnakes begin to emerge from their winter dens as the weather warms in late spring. Young are born between August and October, with snake activity greatly decreasing by the end of October as the snakes return to their winter dens.

Prevention

When out hiking, keep your dog on a close leash at all times, particularly in tall grass and rocky areas where you can’t see the ground clearly. Dog parks in western Fort Collins also have rattlesnake visitors, so check the park out and talk with other owners before you let your dog run free.

Avoidation training is the process of a professional trainer working with your dog to recognize and avoid the sight, sound, and smell of rattlesnakes (speciﬁc to the species of snake found in your particular region). If you live in rattlesnake territory, this may be a wise investment. Currently, the VTH does not provide or recommend the rattlesnake vaccine due to a lack of evidence of its efﬁcacy in our region. Vaccinated dogs seen at the VTH have the same symptoms and need the same care as unvaccinated dogs. A possible danger of the vaccine is a sense of security that may delay care if owners assume their dog will be ﬁne because it has been vaccinated. All animals bit by a rattlesnake should receive medical attention as soon as possible.

For horse owners, options for prevention are limited, so awareness on the trail is critical and monitoring your barn and pasture areas for snake activity is helpful.

First Aid

If your dog is bit, the most important thing to do is get to a veterinarian as quickly as possible. Do not attempt to provide any ﬁrst aid to your dog – do not apply a tourniquet, do not cut the bite in an attempt to get the poison out, and do not try to clean the bite. You risk making the situation worse by delaying care, worsening the possibility of infection, as well as getting bit yourself – by your dog! Rattlesnake bites are painful and even your docile dog may bite you out of fear and pain.

If you’re hiking and your dog can walk out, that’s best. If you have to carry your dog, protect yourself and be careful not to touch the bite location.

Have a plan ahead of time. Know where you will take your dog or horse in the event of a snake bite, especially in the evenings and weekends when your regular clinic may be closed. It helps to call your veterinary clinic, if they have emergency hours, or the Veterinary Teaching Hospital when you are on your way so we can prepare for your arrival. Most dogs arrive at the VTH within an hour of being bitten.

Do not attempt to catch the snake. Prairie rattlesnakes are the only poisonous snake in Colorado. If your dog was bit by a rattlesnake, it was a prairie rattler. Dogs can be bit by other snakes as well, including the bull snake, a very large non-venomous species. These bites, while less dangerous, still need veterinary treatment because of the risk of infection.

For horses, always carry with you on the trail or in your barn two large syringe tubes to place in and hold the nostrils open in the event your horse is bit on the nose or face. If the nose swells shut, your horse will not be able to breathe. The tubes keep the airway open, giving you time to get your horse to a veterinarian, or time for your veterinarian to get to your horse.

With any luck, your dog or horse will live through their bite without ever being a victim of a rattlesnake strike. But it’s good to know what to do just in case. Stay calm, and get your animal help.

When Brandon Allison got the call that his dog, PB&J, had been hit by a car, his heart dropped and his stomach turned into a knot.

Allison was in Denver gathering equipment for a spring break camping trip and PB&J was being watched by a friend, while he got back to Fort Collins, PB&J had been taken to the Larimer Humane Society and then to the Colorado State University Veterinary Teaching Hospital for treatment of his injuries.

“I had never even heard of the hospital, so I had to look it up,” said Allison, who moved to Fort Collins in February 2010 to work at the foothills Gateway Rehabilitation Center. “When I got to the hospital, the people taking care of him told me he had fractured his pelvis on the left side. They wanted to keep him overnight to run some tests and keep an eye on him, but that was something I wasn’t prepared to pay for. I was frightened because I didn’t want to take him home early in case there was something else going on, but I couldn’t afford to pay for him to stay.”

Like most clients at the Veterinary Teaching Hospital, Allison wanted the best care for PB&J. But for some clients that care is too great a ﬁnancial burden, especially in times when unemployment is high, food and fuel costs are rising, and funds need to stretch a long way. The Companion Care Fund at the Veterinary Teaching Hospital helps qualiﬁed clients afford emergency and non-elective veterinary care for their companion animals, even when they have limited means.

The Companion Care Fund was established in 2000 by the Student Chapter of American Animal Hospital Association. In 2003, the Student Chapter of the American Veterinary Medical Association got involved and developed it into the current program. SCAWMA contributes to its balance on an annual basis and it has additionally received funds from other sources, including from the annual Fast and Furrnest Fun Run held in April. Hospital clients, like Kristy Glicksman, regularly support the fund as well. When Glicksman celebrated her birthday in September 2010, she asked her family and friends to make a contribution to the Companion Care Fund.

Her own dog Jake had just been through life-saving surgery and Glicksman was grateful for the veterinary care she received. But, at the same time, she was acutely aware that for some pet owners, especially in difﬁcult economic times, such care for their critically ill pets is simply not an option. She realized that Jake was one of the lucky ones. For Allison, those gifts made all the difference.

“While I was trying to decide what to do, one of the counselors came over to me and explained about the Companion Care Fund and what options I had,” said Allison. “She made me feel a lot more comfortable. I felt so guilty about not being able to pay, and I wanted to take good care of PB&J. He’s just such an important part of my life and helps me so much.”

The staff at the VTH also arranged to get Allison a crate to help keep PB&J quiet while he recovered from his injuries. For Allison, a caring and giving person who works with special needs populations, it was a change to be on the receiving end of such care for their critically ill pets is simply not an option. She realized that Jake was one of the lucky ones. For Allison, those gifts made all the difference.

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The Companion Care Fund helps qualiﬁed clients afford emergency and non-elective veterinary care for their companion animals, even when they have limited means.
Katie Ginderske, Andy Scott, and Dr. Jake Jacobson treat Jasmine.

DVM student Kelsy Walker assesses a dairy cow with a breech calf. Late-night deliveries happen at veterinary hospitals, too.

Resident Scott Chamberlin checks a chart.

Stephanie Meyer listens as Dr. Jake Jakobson explains Howie's aftercare. Howie was attacked by another dog.

Laura Kelly takes a patient for an evening stroll.

Veterinary student Sarah Shropshire inspects a laceration on Marshall Page's dog, Ruby, in the CSU Veterinary Teaching Hospital waiting room.

Katie Googar has Andy Scott and Dr. Jake Deception treat an inmate.
Jake Hirsch sits at his desk surrounded by stacks of papers listening to a sales pitch from two of his suppliers about the positive benefits of a new feeding program for his dairy cows. He jokes, asks questions, and tells them he’ll have to talk it over with his veterinarian. As the owner and operator of Hirsch Dairy, Hirsch relies on advice from his veterinary team to keep his 1,000 milk cows healthy and productive.

Hirsch is one of four clients of the Dairy Ambulatory Service at the Veterinary Teaching Hospital, a program that not only provides a valuable service to local dairy farmers but also provides a living classroom for students in the Professional Veterinary Medical Program. The program’s dairy farms range in size from 400 to 1,400 cows.

Dairy farming has been an integral part of human civilization for thousands of years, first developing when people began to congregate in villages and local farmers would sell extra milk from their cows. Today, dairy farms range from small “boutique” dairies with fewer than 50 cows, to large farms of up to 5,000 cows that supply milk to industries including cheese, yogurt, and ice cream manufacturers. In the United States alone, there are an estimated 65,000 dairy farms producing 79.3 million tons of milk annually.

Through all the years though, one thing has remained unchanged: the importance of veterinary care and responsible animal husbandry to harvest high quality milk while keeping milk cows healthy and productive. The Dairy Ambulatory Service at the Veterinary Teaching Hospital works with commercial dairy farms, both on-farm and in-hospital, to provide complete veterinary service through weekly visits for primary care that can greatly reduce the necessity for emergency calls.

“Our relationships with our commercial dairy farms allow us to use their farms as teaching laboratories for our third- and fourth-year veterinary students as well as provide high quality, on-farm care,” said Dr. Page Dinsmore, a large animal veterinarian with the Dairy Ambulatory Service. “We bring students along as we provide routine hands-on veterinary service as well as advice and analysis to help farmers manage their dairies.”

Hirsch has been at his current location near Windsor for 17 years, and has been on his own as a dairymen for 23 years. Dr. Dinsmore, who has been with Colorado State University since 1989, has been Hirsch’s primary veterinarian for 16 of those years. Dr. Dinsmore and his students visit the dairy once or twice a week throughout the year. They provide pregnancy checks; exams and treatment of sick cows and calves; dehorning and vaccinating for calves; monitoring herd health; blood sampling; and they evaluate herd problems with herdsmen and dairy owners.

“An important part of what we do is training for dairy employees who work directly with the cows,” said Dr. Dinsmore. “This is especially important around the delivery of calves and catching signs of infection and disease early on to protect individual and herd health.”

Hirsch says that as his dairy has grown – 500 cows when he first opened his Windsor dairy to 1,000 milk cows today – he has had to delegate the day-to-day care of his cows to his employees and supervisors and relies on the dairy expertise from Colorado State University to help keep his herd healthy.

“Dr. Dinsmore and his team offer us a great service at a good price, and we also kind of like that we can be a part of training the next generation of large animal veterinarians,” said Hirsch. “This is a demanding business, but having a professional veterinary team come in each week helps us to keep our herd healthy. Taking good care of our cows is important to us, so we really appreciate that CSU’s dairy service is here, partnering with us to help provide that care.”

Pregnancy testing and checks are part of the routine care provided by the Dairy Ambulatory Service.
In 1883, the newly formed Department of Veterinary Medicine at the Colorado Agricultural College offered its first course in veterinary instruction – a weekly clinic where a few local citizens would bring their animals for treatment. Nearly 130 years later, the Colorado State University Veterinary Teaching Hospital sees 25,000 appointments a year and has grown from a one-room clinic to the internationally recognized College of Veterinary Medicine and Biomedical Sciences. As the College and Veterinary Teaching Hospital have grown, so have demands for facilities and space. The current Veterinary Teaching Hospital, now more than 30 years old, continues to expand and remodel to meet the needs of today’s veterinarians and veterinary clients. The newest construction at the hospital includes two very visible spaces and one space of critical importance to patient care, but not very visible to clients.

Reception

In early 2010, the hospital reception area was completely redesigned and reorganized, reflecting a new way of taking care of clients and their companion animals. Staff members working at the reception area focus solely on clients coming into the hospital and the needs of their companion animals. Calls come into a call center and are routed from there to the appropriate person. Along with the call center and new reception area, signage at the hospital has been upgraded to direct clients. “When our clients come into our door, we want to provide them with 100 percent of our attention so that they get the best service possible,” said Gail Gumminger, Hospital Administrator. “We also have an information desk so that we can take questions that may or may not relate to hospital services. For example, we often have individuals come in looking for the main campus and we want to be able to help them as well.”

Pharmacy and Client Services

Another area of high traffic, and right across the lobby from the reception desk, is the Pharmacy and Client Services (formerly the Business Office). Construction began in March 2010 to upgrade and seamlessly integrate the Pharmacy and Client Services to better serve clients and to improve the facilities used by these two important hospital functions. At Client Services, clients can pay their bill, check on their pet’s status, get connected to a clinician or student, or get help with other needs while they and their pets are at the Veterinary Teaching Hospital. Convenience for clients and an improved workflow for the staff of the Pharmacy and Client Services should result in even better service for VTH clients.

Small-Animal Isolation Unit

The Veterinary Teaching Hospital recently completed construction on a state-of-the-art, small-animal isolation unit that helps veterinarians provide the highest quality of care to infectious patients while dramatically reducing exposure risks to other patients at the hospital. For veterinarians in private practice, the new isolation unit gives them a place to send infectious patients they can’t house in their own clinics without putting other patients at risk. “We’ve been able to significantly upgrade our isolation unit to the benefit of all our patients,” said Dr. Katharine Lunn, Assistant Professor in the Department of Clinical Science, and head of the Small Animal Internal Medicine Service. “This new unit greatly enhances our ability to treat sick animals while protecting others from infection.”

Construction projects at the Veterinary Teaching Hospital have been completed with one-time funds from the College of Veterinary Medicine and Biomedical Sciences, the Veterinary Teaching Hospital, as well as one-time construction funds from Colorado State University.

Dr. Timothy Hackett has been practicing emergency and critical care medicine for almost 22 years and in that time he has learned a few essential truths.

You will see bad cases every day in critical care. Life does not equal success and death does not equal failure. If you can help a client get through a difficult situation and make choices about their companion animal’s care that they feel good about, you have done them a great service.

“I work with the veterinary students extensively in this rotation, and they are seeing some of these more complicated cases for the first time,” said Dr. Hackett, who is a Professor in the Department of Clinical Science, and head of the Emergency and Critical Care Service at the Veterinary Teaching Hospital. “It’s exciting to see them apply what they’ve learned and begin to understand their role in helping clients through a difficult time with their pet. Beyond the practice of veterinary medicine, that’s what it’s really about for us.”

It was the nature of emergency medicine itself that first drew Dr. Hackett to the Critical Care Unit. After graduating from Colorado State University in 1989 with his Doctor of Veterinary Medicine, he headed to West Los Angeles Animal Hospital where he had lots of exposure to emergency and critical care. One case in particular stayed with Dr. Hackett: a Los Angeles police dog had been stabbed in the back of the head and helicoptered to the hospital. Over the course of several days, as shifts of police officers and handlers came to visit, the medical team did everything possible to keep the dog alive, including putting him on a ventilator. The staff did what they could but in the end could not reverse the damage and save the dog’s life. The case, said Dr. Hackett, was “as much about taking care of the people who knew the dog as taking care of the dog itself.”

After the internship, Dr. Hackett went into general practice but missed the pace of emergency medicine. The American College of Veterinary Emergency and Critical Care had recently been recognized by the American Veterinary Medical Association, so he decided to return to Colorado State University and complete a three-year residency as well as the master’s program in clinical sciences training under Drs. Debbie Van Pelt and Wayne Wingfield. After completing his residency in 1994, he returned to California as the first Diplomate in Emergency and Critical Care in Southern California. In 1996, Dr. Hackett came back to Colorado to take a faculty position at the Veterinary Teaching Hospital.

“When you work in critical care, you get to see cases from all over the hospital,” said Dr. Hackett. “We see patients before and after surgery, work with emergency patients that come in at all hours of the day and night with everything from poisioning to car accidents, and get to help our patients and clients make it through some difficult situations. We have a big team of people who interact with daily, and you just never know what each day will bring.”

The Emergency and Critical Care Service provides patients with 24-hour monitoring and care, complete supportive therapies from oxygen to ventilators and tube feeding to renal replacement, board-certified veterinarians and four residents in training, and an Urgent Care service to handle non-emergency patients. Dr. Hackett, widely respected for his knowledge about emergency and critical care medicine, also travels internationally to lecture and share cases around the world. This year, he begins a two-year term as President of the American College of Veterinary Emergency and Critical Care.
It’s a Tuesday afternoon at the Veterinary Teaching Hospital Pharmacy and Rick Allen is a man in constant motion. Phones are ringing nonstop. A steady stream of veterinary students, technicians, and faculty and staff members come in through the side door to ask questions and order supplies. Clients with their dogs in tow stop by the front window to pick up medications (dogs that seem to know intuitively that there is a treat jar perched just above nose level). A row of waiting prescriptions line the countertop.

“This isn’t too busy,” smiles Allen, who is fixing a label on a bottle with practiced hands. “It’s a little slower today.”

In fact, the only time Allen slows down is when counting pills, labeling bottles, and triple-checking medication, dose, species, and name. He completely focuses on the task at hand, knowing he is the final step between the patient and the right medication delivered at the right dose.

The Pharmacy is the hub of the Veterinary Teaching Hospital, and Rick Allen is the heart of the Pharmacy. Now approaching 30 years as a veterinary pharmacist, Allen is a wealth of information and knowledge about veterinary pharmacueticals and the use of human pharmacueticals in veterinary medicine. He is a Diplomate of the International College of Veterinary Pharmacy, just one of 25 board-certified veterinary pharmacists nationwide. He oversees a Pharmacy staff of three pharmacists and two pharmacy technicians.

Allen attended the University of Colorado’s School of Pharmacy where he received his Bachelor of Science in Pharmacy, a five-year program. After leaving CU, he opened a pharmacy in Fort Collins while his wife, Sandra, worked toward her Doctor of Veterinary Medicine at Colorado State University. When Dr. Allen completed her degree, she stayed on at CSU and now works in the Anesthesia and Pain Management section. Allen soon decided to sell his pharmacy and when a position opened at the Veterinary Teaching Hospital, he entered the world of veterinary medicine.

“When I started here, there was very little drug information for veterinary use,” said Allen. “Veterinary applications came from new drugs for humans, but the trick was figuring out proper doses and the possibility of toxicity. We sometimes think a mammal is a mammal, but that is not always the case when it comes to drug toxicity and reactions. Something toxic in a dog might be OK in a cat. Something fine for a human might be toxic to a cat.”

At the Pharmacy today, 60 percent of the drug formulations come from human medicine and 40 percent are specific to veterinary medicine. Twenty percent of the drugs the Pharmacy dispenses are compounding, where drugs are mixed by the compounding pharmacist to fit the unique needs of a patient. On an average day, the Pharmacy fills between 200 and 300 prescriptions, though some busy days bring as many as 500. A relatively new area of study and focus, said Allen, is the interaction between prescription drugs and nutraceuticals, including herbal products, vitamins, and dietary supplements.

Allen turns to answer a question about the availability of powdered interferon for a clinical trial, and a resident comes in to let him know that a horse owner needs a phone call, answer an email, chat with a working supervisor you’ll find in the Pharmacy. “We have good people here, great cases, and a fantastic location,” said Dr. Amend. “It’s hard to beat. I’ve had some great clients who have become regulars. I’ve been able to get to know them and their horses and develop some wonderful friendships. For me, I wanted to be really good, even in a smaller area of veterinary medicine, and that’s what this residency has allowed me to do. I’ve learned an immense amount. I hope all this work pays off when it comes time to get a job.”

Large animal surgery focuses in two primary areas; soft tissue surgery and orthopaedic surgery. Dr. Amend said that while she finds a great sense of satisfaction in both, soft tissue surgery is those to treat colic are very personally rewarding for her, providing instant gratification when a horse near death and in intense pain makes a turnaround in 24 hours.

As Dr. Amend approaches the end of her residency, she is looking forward to continuing her experience at CU as a clinical instructor. She is excited to further develop her relationships with the people who made her time here memorable. And, who knows, she hasn’t ruled out the possibility of a PhD to go along with that residency.
AUGUST 20
International Homeless Animals Day
Family, food, water, shelter, and a warm place to sleep…

SEPTEMBER 28
World Rabies Day
Make sure your pet’s rabies vaccination is up to date…

OCTOBER
Adopt-a-Dog Month
A great month to give a dog a forever home…

OCTOBER 4
World Animal Day
Consider making a donation to your favorite animal organization…

NOVEMBER
Adopt-a-Senior-Pet Month
Senior pets make wonderful companions…

DECEMBER 13
National Day of the Horse
Extra TLC, carrots, and sugar cubes for your equine friends…

Marshall Page with Ruby. See Night at the VTH, page 16 and 17.