

# HEARTBEAT

UC DAVIS VETERINARY HOSPITAL

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*Special Edition*



**UCDAVIS**

**VETERINARY MEDICINE**

*Veterinary Medical Teaching Hospital*





***“The large number of animals we treat provides a unique insight into emerging diseases and animal health patterns, as well as improved understanding of disease outcomes and optimum treatment protocols through retrospective review of large numbers of medical records.”***

– Dr. Jane Sykes,  
Chief Veterinary  
Medical Officer

## World Class Care, Innovation and Education

The UC Davis School of Veterinary Medicine was named #1 in veterinary sciences for the fourth year in a row by QS World University Rankings. We are proud of this recognition because it stems from creating a world-class research and teaching institution that fosters collaboration in the veterinary hospital's specialty services. From cancer to orthopedics, cardiology to infectious disease, our faculty, residents, students and staff provide unsurpassed care for animals large and small, domestic and wild.

The doctors in our hospital collectively treat one of the largest caseloads of any veterinary school in the United States. The large number of animals we treat provides a unique insight into emerging diseases and animal health patterns, as well as improved understanding of disease outcomes and optimum treatment protocols through retrospective review of large numbers of medical records.

With a caseload of 50,000 animal patients annually, our clinical faculty work with our house officers and veterinary students to diagnose and treat many uncommon diseases and disorders that are challenging to treat. In many instances, these students may never again encounter a horse with equine protozoal myeloencephalitis or see a tiger needing dental work, but the experience will forever impact how they deliver care throughout their careers.

You also play an important role in our students' training. Our students learn, test and adapt their communication skills as a result of their interactions with you. We value your partnership in their educational experiences as we train bright, hardworking and compassionate veterinarians.

**Thank you** for entrusting your animal's wellness to our caring team of veterinarians, staff and students. Your animal's health and well-being are what matter most to us, and we appreciate the effort and time involved for you to bring your animal to our veterinary hospital.

## On the front cover

At the UC Davis veterinary hospital, we treat all species of animals, large and small. One of our large animal services is camelid medicine

– providing medical, surgical, reproductive and diagnostic services for alpacas, llamas and other camelids. The dedicated team includes board-certified veterinary specialists, resident veterinarians, highly-trained technicians, and students. Each year, we treat nearly 100 camelid patients.



Pictured on the front cover is my new friend, Verona. With the help of her dedicated owner and the veterinary team, she overcame a hind limb gait abnormality after undergoing a surgical procedure on both legs called a tibial plateau leveling osteotomy, which stabilized her stifle joints. To read more about Verona, see page 6.

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## Celebrating Bella and Her Indomitable Spirit

to helping Bella, they had her fitted with a prosthetic leg. The determined llama soon returned to her normal life and regained her outgoing personality. Bella is now a member of the Gold Country Amputee Support Group and often provides comfort to fellow amputees at events throughout California.

For her therapy work, Bella received the 2017 Placer SPCA Hero Award, recognizing those in Placer County who have gone above and beyond to demonstrate the power of the human-animal bond and heartfelt efforts to make the community a more compassionate place.

“This once tragic situation has opened doors to opportunities I never before thought existed,” Trish said. “Bella, once depressed, is now thriving and knows no boundaries with her indomitable spirit.”

The Robucks appreciate the compassionate care their llamas receive at the veterinary hospital. As long-time clients, they could not think of a better way to celebrate Bella than by making a gift to name a stall at the future Equine Performance Center of the Veterinary Medical Center, which will promote clinical innovation, transformational research discovery, and compassionate healing.

For information about supporting the Veterinary Medical Center, please contact the Office of Development at 530-752-7024.

Trish Brandt-Robuck and Chuck Robuck, loyal clients, share a special bond with their llama, Bella. Their love for Bella helped her triumph over tragedy and serve as an inspiration for others.

In 2010, Bella stepped into a gopher hole and broke her right hind leg. Their primary ranch veterinarian, Dr. Robin Skillman ('82), treated her for the broken leg. Despite best efforts to heal the fracture, her leg worsened when another llama figured how to unlock the gate, and all the llamas left the barn, including Bella. Her leg was not sufficiently healed for this trek around the pastures and up the hills at the Northern California ranch. It fractured again. They had to make a difficult decision whether to have the leg amputated or to euthanize Bella. The decision was amputation.

Bella tried to adjust using three legs but was unable to stand. She seemed to have lost her will to live. Committed

## Helping Animals Injured During Natural Disasters

Katherine Burr's generosity helps animals during their time of greatest need. Her gifts to the Veterinary Catastrophic Need Fund provide support for treatment at the veterinary hospital for animals that are injured in natural disasters or other accidents. Since 2015, she has contributed more than \$30,000 to the fund.

Burr was first inspired to give when catastrophic wildfires erupted in Northern California in 2015. The veterinary hospital treated more than 50 animals injured or displaced by the fires. In 2017, Burr stepped up again and contributed to the fund when more than 70 fire victims were hospitalized at UC Davis.

“My professional life and personal life are dedicated to helping consciousness evolve as exemplified by Dean Michael Lairmore's vision for the School of Veterinary Medicine and to helping heal trauma in all its forms,” Burr said.

With her support and that of other generous donors, the veterinary hospital stands ready to assist animals and their owners as the wildfire season approaches. For more information about giving to the Veterinary Catastrophic Need Fund, visit [give.ucdavis.edu/GO/FireCare](http://give.ucdavis.edu/GO/FireCare) or contact the Office of Development at 530-752-7024.





# Pioneering Surgical Innovations

Of the nearly three dozen specialty services at the veterinary hospital, more than 10 of them perform surgeries, helping thousands of animals every year. Our board-certified faculty surgeons lead teams that include resident veterinarians, highly-skilled technicians and fourth-year students. Working together with post-operative support staff and board-certified veterinary anesthetists, these teams provide cutting-edge surgical procedures. Utilizing the most current technology, our surgeons are leading the way in new procedures, and forging new paths to optimal animal health.

## Surgical Cornerstones

Performing the majority of surgeries are the Small Animal Clinic's Orthopedic Surgery Service and Soft Tissue Surgery Service. Between the two services, nine board-certified surgeons and six residents perform some of the latest techniques anywhere in veterinary medicine. Our faculty are innovators of some of the most advanced approaches in the world, pioneering procedures that are now the accepted protocol of care.

The Orthopedic Surgery Service recently added Drs. Denis Marcellin-Little and Barbro Filliquist to its team. Dr. Filliquist is an experienced orthopedic surgeon, allowing the service to see more patients on a regular basis. Dr. Marcellin-Little is one of the foremost authorities in the field of veterinary orthopedics and helped develop the system for total hip replacements. With his arrival, the service is expanding joint replacement offerings to include all types of total hip replacement, including custom implants for patients with severe problems. The program will grow and incorporate knees, elbows, and fully custom total joints. His background allows the hospital to offer more opportunities to help animals with unique or complicated growth deformities, limb sparing situations, and complicated joint replacements.

Kinako, an 8-year-old female domestic shorthair cat, became the first cat ever treated for a blocked nasolacrimal apparatus (NLA) utilizing UC Davis' pioneering



procedure. The Soft Tissue Surgery Service collaborated with several other services to permanently reopen a blocked tear duct, offering a minimally invasive approach to her nasolacrimal obstruction. With cameras now small enough to fit into the tiny drainage ducts, clinicians utilize endoscopy (as well as CT and fluoroscopy) to identify and bypass or remove NLA obstructions. Whether the obstructions are caused by a scarred duct or a foreign body, temporary stents can usually be placed so as to reopen the duct from eye to nose.

Other minimally invasive surgeries are utilizing interventional radiology, a specialty in veterinary medicine that uses imaging modalities (fluoroscopy, ultrasound and CT) to perform procedures on a myriad of diseases, allowing potential treatments in cases that were previously thought to be without options.

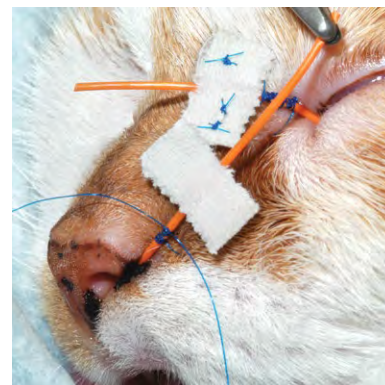
## Anesthesia Safety

Of course, no surgeries are possible without safe and effective anesthetic care. Our experienced team of board-certified clinicians and specialty-certified technicians in the Anesthesia/Critical Patient Care Service individually determine the best approach for each patient. This innovative group

anesthetizes a wide variety of animals and provides invaluable expertise for the management of chronic or severe pain in non-anesthetized patients throughout the hospital. UC Davis is the only veterinary hospital in Northern California with multiple board-certified anesthesiologists.

Animals being under general anesthesia carries little risk, according to Dr. Bruno Pypendop.

"Many factors have improved anesthesia safety over the years," said Dr. Pypendop. "These include drugs with more consistent and predictable effects, better knowledge of the effects of drugs on vital function, better ability to monitor and therefore prevent or treat abnormalities, and better pre-anesthetic screening."







## Equine Surgical Success

More than 350 equine surgeries are performed each year in the hospital's Large Animal Clinic. For horse owners, one of the most daunting of these is a colic surgery. Thankfully, survival rates for colic patients have greatly improved over the past 20 years. A retrospective study over five years showed that UC Davis maintained a success rate above 90 percent in colic surgeries. This rate was three percent higher than the worldwide published data on colic surgeries at that time.

## Unique Surgeries

When two female black bears were injured during the Thomas Fire in Southern California, a UC Davis veterinarian

performed a unique surgery to heal their badly burned paws. Gleaned from a procedure used on humans in Brazil, Dr. Jamie Peyton of the Integrative Medicine Service used sterilized tilapia skins to successfully treat their burns. While the treatment had never been performed in the United States and never on animals, she decided it was worth trying. Before the fish skins were sutured to their paws, the bears could only sit with their paws off the ground. After affixing the fish skin bandages, the bears stood up. This unique approach accelerated the healing process, allowing the bears to return to the wild before becoming acclimated to humans.

Stormie, a 4-year-old female Siamese cat, has always had a history of heartworm disease. An echocardiogram revealed a heartworm in her pulmonary artery, and an abdominal ultrasound confirmed that the heartworm extended into her abdominal aorta and down her leg into the right femoral artery. The worm was cutting off blood supply to the right leg and needed to be addressed immediately in order to avoid amputation.

Cardiologists and surgeons removed the heartworm through her femoral artery – a first in cats. A video of the procedure has been viewed online more than a million times.





# Dedicated Owner Sees Alpaca through Long Hospitalization

Verona, a 1-year-old alpaca, has become a fixture at the UC Davis veterinary hospital's Large Animal Clinic over the past few months, having been hospitalized there for more than 100 non-consecutive days over a 5-month span.

Since only a few months of age, it was evident that Verona had a hind limb gait abnormality. Her leg deformity progressed in her first year, causing increased recumbency and difficulty standing over time. Veterinary intervention was needed, so Verona was brought to see Dr. Julie Dechant who has a special interest in camelid medicine. Dr. Dechant and a team of other veterinarians, technicians and students examined Verona, took x-rays, and consulted with Drs. Amy Kapatkin and Denis Marcellin-Little of the Orthopedic Surgery Service. There was a general consensus that Verona's stifles (joints in hind limbs of quadrupeds that are equivalent to human knees) suffered severe damage or were possibly missing cruciate ligaments since birth. Regardless of the cause, she would need a surgical procedure on both legs called a tibial plateau leveling osteotomy (TPLO), which would stabilize her stifle joints.

A CT scan was performed to evaluate for other abnormalities, and it was concluded that the TPLO surgery should be sufficient. The surgery changes the orientation of the joint so ligaments are no longer needed to stabilize the joint. Verona's surgeries would need to be staged (one leg at a time) in order to give each the proper capacity to heal.

Since this surgery is often performed on dogs (and an alpaca's stifle is similar to a dog's), Verona's surgeries were performed under the direction of Dr. Kapatkin with assistance from the Equine Surgery Service. During her first surgery, Verona's cranial cruciate ligament and her caudal cruciate ligament were not identifiable. A painful torn meniscus was also repaired, and a degree of medial-to-lateral instability of the joint was discovered.

Verona remained hospitalized for 23 days for ongoing care and monitoring before continuing her recovery at a nearby alpaca farm. Two months later, she returned for TPLO surgery on her other stifle. There were no cruciate ligaments identified in her joint during that surgery. Unfortunately, the surgery failed the next day, and she had to undergo a revision surgery the following day. During that surgery, three plates and a wire were used to stabilize the repair. X-rays taken three weeks post-surgery showed a luxated patella which was surgically repaired shortly thereafter.

To be sure of the best recovery possible, her owner kept her hospitalized for more than two months. During Verona's convalescence at the Large Animal Clinic, she received acupuncture and physical therapy treatments by Dr. Jamie Peyton of the Integrative Medicine Service. Under the watchful eye of UC Davis veterinarians, technicians and students, Verona made a steady recovery.





# Family Travels 3,000 Miles for Specialized Veterinary Care

Niya, a 15-year-old female Keeshond, was battling urinary tract infections and incontinence, and her medication was decreasing her appetite, so her primary veterinarian in Maryland thought that help from a specialist was warranted. Around that time, Niya's owners, Debora and Chris Luther, were planning a trip to California to see family. The Luthers were familiar with the UC Davis veterinary hospital—Debora graduated from the university in 1977, and Chris grew up in Davis with his mother a university employee—so they decided to bring Niya with them to California.

"We know how wonderful UC Davis is," said Debora, having utilized the hospital's services with a previous dog in the '80s. The Luthers loaded up Niya in their new travel trailer and headed to California.

Dr. Sean Hulsebosch of the Internal Medicine Service found Niya to have stones and moderate mineralization in her kidneys as well as thickened walls of her ureters. Both of her kidneys showed signs of infection. Due to the severity of her kidney injury, Dr. Hulsebosch determined she would do best with aggressive fluid therapy, antibiotics, and appropriate supportive care. Niya was hospitalized for five days, with her kidney function being reevaluated and improving daily. She responded well to the treatment and was discharged with home care instructions.

Unfortunately, kidney bloodwork at her one-week recheck appointment showed kidney values that were higher than at discharge. Niya's kidney condition was determined to be persistent—possibly as a result of the infection, or more likely was a sign of chronic kidney disease (CKD)—and thus required long-term treatment.

Dr. Hulsebosch consulted with the Nutrition Service to devise a specialized diet to help manage her CKD. They determined that a balanced home-cooked diet formulated specifically for Niya's needs was appropriate for her renal disease. The diet consisted of simple ingredients such as ground beef, eggs, white rice, and flour as well as sources of fatty acids and other essential nutrients. Niya loved the diet, so a second home-cooked diet using chicken, eggs, and white rice was later developed to provide variety.

"She's starting to feel like her old self," said Debora. "I can't believe how much life she has in her again. She's 15 years old, and she plays with her toys again like she's a puppy."



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– Debora Luther

The Luthers returned home to Maryland and continued to consult with the Nutrition Service via phone and email. Niya has been on her new diet for several months, and it is working well to control her CKD. The Luthers report that Niya's veterinarian in Maryland is pleased with her progress. Her kidney disease is stable, the elevated liver enzymes are back to normal, and all else appears well.

"Having the right diet is the key to keeping Niya happy, healthy, and with us longer than we might otherwise expect," said Debora. "We just think the world of UC Davis."



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## UC Davis School of Veterinary Medicine Ranked #1 in the World

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