SPECIALTY SERVICES IN SOUTHLAND

UC VETERINARY MEDICAL CENTER—SAN DIEGO

In a collaborative venture, the UC Davis School of Veterinary Medicine and UC San Diego created the UC Veterinary Medical Center (UCVMC)—San Diego in 1998.

The UCVMC enables faculty members from the two institutions to collaborate in teaching and research activities and to offer emerging specialty services in Southern California.

In addition to the Hemodialysis Service established in May 2002, the center offers an Animal Behavior Service that began in 1999.

UC Davis faculty members affiliated with the center collaborate with UC San Diego faculty on animal-related health programs and work with San Diego area wildlife organizations to enhance veterinary teaching, research and service programs.

ON TRACK, YEAR TWO

MOUNTAIN LION STUDY

Under the guidance of Wildlife Health Center co-director Dr. Walter Boyce, researchers have begun year two of a multi-year study to better understand the relationships of mountain lions to deer, bighorn sheep and people in the mountainous region east of San Diego.

Nine elusive and nocturnal lions captured and fitted with radiocollars reveal their spatial and temporal habits when signals from the collars are plotted on a map. The study shows that one male lion crossed four highways almost 70 times in a six-month period—the animal died after he was hit by a car on Interstate 8.

Radiocollars also have been placed on 71 bighorn sheep and 49 mule deer. Signals from animals killed by lions enable researchers to conduct ground searches for clues about prey selection.

Monitoring devices, placed along trails, have provided information about intensity of trail use by humans throughout each week.

In an effort to bring about better decisions concerning the coexistence of lions and people through education, biologists give presentations on lion biology, current research and lion safety to numerous local groups, conservationists, park volunteers, and others who use the parks.

Hemodialysis

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Animal Internal Medicine Service, who pioneered the first hemodialysis program at UC Davis in 1990.

"While the procedure does not cure damaged kidneys, hemodialysis is life-sustaining while the acute kidney injury heals or as a replacement for permanently damaged kidneys," says Dr. Cowgill. "Our goal is to help a pet survive until the animal's own system can return to normal or it is strong enough to undergo treatment for the underlying problem."

For more information about the program, contact Dr. Larry Cowgill, UC Davis Veterinary Medical Teaching Hospital, (530) 752-1393, or Dr. Julie Fischer, UC Veterinary Medical Center—San Diego, (858) 759-7235, or visit the VMTH Web site (www.vetmed.ucdavis.edu/vmth).

Julie Fischer, diplomate of the American College of Veterinary Internal Medicine, coordinates the Companion Animal Hemodialysis Service. Dr. Fischer receives a dog smooch as she monitors Jules' vital signs during several hours of hemodialysis treatment. Even though her kidneys will never regain function, Jules' now has a normal quality of life.

What is hemodialysis?

Strictly speaking, dialysis is the diffusion of water and dissolved molecules (solutes) across a semi-permeable membrane. In hemodialysis, a dialysis machine is used to pump blood from the patient through an artificial kidney, which removes accumulated waste products (urea, creatinine, phosphate and many others) that the patient's own kidneys normally would filter and excrete from the body. Hemodialysis also helps to restore electrolyte and water balance, another task the kidneys would normally perform in addition to removing solute wastes.

When is it used in veterinary medicine?

Most human hemodialysis patients have chronic renal failure—they rely on treatments 2–3 times per week for their entire lives, unless they receive kidney transplants. Conversely, most veterinary hemodialysis patients have acute renal failure—the sudden failure of previously well-functioning kidneys that can result from a variety of causes.

Hemodialysis does not treat or repair kidneys, but serves as a bridging measure for patients with acute renal failure—it re-establishes and maintains metabolic stability in order to give the damaged kidneys a chance to heal. Without the extra time hemodialysis provides, the large majority of acute renal failure patients would die before their kidneys could recover enough function to sustain life.

Most canine hemodialysis patients have damaged kidneys from antifreeze poisoning, kidney infections (like leptospirosis or pyelonephritis) or complications due to other systemic disease. Cats, like dogs, may suffer from antifreeze poisoning, kidney infection or kidney toxins—lilies, for instance, are potent kidney toxins in cats. Hemodialysis can stabilize cats with stones obstructing their ureters (the tubes connecting the kidneys to the bladder), to either give the stones a chance to pass on their own, or to make the cats stronger candidates for surgical stone removal.

Hemodialysis treatments two or three times per week can also maintain some pets with chronic renal failure, when medical management alone can no longer provide a good quality of life. Some of these pets, especially cats, may be candidates for kidney transplantation, and hemodialysis is sometimes needed before and/or after transplantation surgery for stabilization and support.

hemodialysis