

CCA update

Center for Companion Animal Health, UC Davis School of Veterinary Medicine
Vol. 9, No. 2, Fall 2004

Shelter Medicine Program Aims for Healthier, Adoptable Companion Animals

Homelessness kills more animals than cancer or any other disease, and kills them in the prime of life," says Kate Hurley, director of the Shelter Medicine Program at the Center for Companion Animal Health.

"Shelter Medicine at UC Davis is the first program in the world to tackle this major killer of animals, to really take it on from a veterinary perspective," says Dr. Hurley.

"Homelessness kills more animals than cancer or any other disease, and kills them in the prime of life."

The Shelter Medicine Program was established in 2000 with temporary support from Maddie's Fund (a non-profit animal welfare organization) and the CCAH.

"Other veterinary schools have incorporated aspects of shelter medicine into their programs in recent years," says Dr. Hurley, "but the UC Davis program remains unique in its comprehensive scope and commitment to national outreach."

The goals of the program are to improve the quality of life of animals in shelters through advances in preventive medicine and management of disease, and to advance shelter medicine as a veterinary specialty through research, education and service in animal shelters.



Mike Bannasch, RVT

"In short," says Dr. Hurley, "our mission is to develop and distribute the information veterinarians and shelter professionals need to provide the best care possible for homeless animals."

Shelter medicine takes the following three-pronged approach:

■ Fundamental research

Infectious disease and behavioral problems in shelters need to be investigated to determine how to prevent them and how to manage them if they can't be prevented.

■ Education

Shelter animal health presents challenges common to population health (traditionally associated

with livestock medicine in the veterinary curriculum), and there is an urgent need for accurate information at all levels of the sheltering and veterinary professions.

■ Shelter service

"As with any other clinical service, we want to offer direct patient care, and need to be working in the shelter environment to appreciate the issues," says Dr. Hurley.

"The service component of the program, coordinated by Michael Bannasch, RVT, is constantly evolving as we seek to provide consultative and diagnostic services specifically geared toward shelter populations and not readily available elsewhere."

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Director's Message

Dear Friends:

The fall *CCAH Update* emphasizes one of our newest programs—Shelter Medicine.

Although a few veterinarians have dedicated their lives to shelter animal care, and many others have contracted or donated their services when needed, shelters have been largely ignored by the veterinary profession.

The veterinary medical community at UC Davis, however, has realized that shelter medicine is not a part-time occupation, nor something that is best learned on the job. Shelter medicine is a discipline in its own right, and as such, requires the following components—a faculty dedicated to shelter medicine; training of professional students in shelter management and diseases; veterinarians with a high degree of training (i.e., residents); faculty, students and residents who go into the community and work directly with shelters of all types; research into better shelter designs; studies of shelter-linked diseases and how they can best be prevented; and a thorough understanding of the social aspects of pet overpopulation, pet relinquishment and pet adoption.

The ultimate goals of the Shelter Medicine Program are the same as the goals of most shelters—to keep all

animals physically and mentally healthy during their stay, and to find a loving home for every adoptable animal.

Realization of these goals is still in the future, but we believe that it is time for the veterinary profession, through programs like this, to assume a much greater role in sheltering.

The Shelter Medicine Program needs your help. Start-up money from Maddie's Fund provided us with a strong beginning, but the funds were only temporary—we now have to find alternative support.

Our goal, to find the necessary funds to fully operate the program for the next six years, will require about \$300,000 per year. By the end of the six years we hope to have set up a \$6 million shelter medicine endowment, which will then provide sufficient earnings to fund the program in perpetuity.

One of the missions of the Center for Companion Animal Health is to create new programs for veterinary

medicine. I can say, as director of the CCAH and with years of experience at the school, that this is probably the most exciting, timely and relevant program undertaken by the UC Davis School of Veterinary Medicine in decades.

We would love to talk to you more about the Shelter Medicine Program and have you come and visit us at the CCAH. (Contact us at 530-752-7295 or www.vetmed.ucdavis.edu/ccah)

Yours sincerely,



Niels C. Pedersen, DVM, PhD
Director, CCAH



Dr. Niels Pedersen welcomes clients and visitors to the new Center for Companion Animal Health. The second-floor breezeway connects the CCAH to the Veterinary Medical Teaching Hospital.

Corina Rappola/CCAH



Dr. Gordon Theilen, speaking at the grand opening, is one among a handful of visionary veterinary academicians who founded the discipline of veterinary oncology in the 1960s.

Dr. Theilen authored and coauthored the first textbooks in veterinary oncology and was noted for his stubborn refusal to concede to the ravages of cancer in animals. Thanks to his pioneering work,

the Veterinary Oncology Service at UC Davis, now housed in the CCAH, has continued to grow in caseload, sophistication and research output, and is known for its excellence.

The New CCAH Opens!

The new CCAH officially opened July 14, 2004, with a ribbon-biting ceremony attended by many friends and companion animals.

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Celebrants included Melanie (right), a cockatoo who resides in the Companion Avian & Exotic Service and assists in teaching avian behavior and handling.

In the Spotlight:

Recognizing Our Many Companion Animal Memorial Fund Sponsors

Ocean View Veterinary Hospital Pacific Grove, California

Dr. Frank Kocher is chief veterinarian and owner of Ocean View Veterinary Hospital in Pacific Grove, California.

Located at the tip of the Monterey Peninsula one block from the water, Ocean View deals with small animals—cats, dogs, exotic and pocket pets, a few birds and an occasional hamster or gerbil. Patient services include surgery (with board certified specialist surgeons and with staff surgeons), an in-house laboratory, ultrasound, radiology, dentistry, emergency care, a vaccine clinic (the first Saturday of every month), endoscopy and chemotherapy.

Sometimes Ocean View refers animals to specialty clinics at UC Davis (the Veterinary Medical Teaching Hospital and the Center for Companion Animal Health). Dr. Kocher says, “It’s a tremendous service and very cost effective for what they do at UC Davis.”

Dr. Kocher is a co-author (along with an animal behavior consultant and a companion parrot consultant) of *Birds off the Perch: Therapy and Training for Your Pet Bird*, published last year by Simon and Schuster.

The book shows that rewarding good behavior is a compassionate way to train mischievous domestic birds to alter problem behavior. The guide also deals with choosing the right species of bird for one’s family and how to keep the animal healthy and happy.

Dr. Kocher also has an interest in wild birds and is known to pull over while driving to take a closer look at a bird he spots from the highway.

For five years Dr. Kocher has been a member of the Board of Governors of the California Veterinary Medical Association. With a special interest in advancing the Registered Veterinary Technician profession, he serves on both the RVT Task Force and the RVT Committee.



Meet the Staff of Ocean View Veterinary Hospital



Veterinarians: Dr. Frank Kocher (DVM, UC Davis, 1968) professional interests: ophthalmology and cardiology; Dr. Karen Fenstermaker (DVM, Iowa State University College of Veterinary Medicine, 1985) professional interest: surgery (Dr. Fenstermaker practiced for 11 years in wildlife and exotics before joining Ocean View in 1996); Dr. Jennifer Keil (DVM, UC Davis, 2002) professional interests: internal medicine and surgery; Dr. Annette Richmond (DVM, UC Davis, 1997) professional interests: acupuncture, nutrition, nutraceutical support and surgery; Dr. Amanda Sharp (DVM, UC Davis, 1981) professional interests: oncology and endoscopy; Dr. Molly Williams (DVM, UC Davis 1997)

Managers: Donna Cousette; Roderick J.B. Gilchrist; Nancy Deyerle, RVT; Jacquelin M. Petenbrink, RVT
Registered Veterinary Technicians: Jennifer Coffee, RVT; Tracy A. Cramer, RVT; Jan Fernandez, RVT; Sharon Radel, RVT; Linda Steiger, RVT; Marissa A. Young, RVT

Bookkeeper: Jennie Rouch

Receptionists, Assistants: Christine Clifton, Jennifer Everts, Matthew Hayes, Anna Pemberton, Nancy Reid-Sandler, Maureen Rosenberger, Alyson Singer, Maria Suarez, Sergio Suarez, Melanie Sutton, Lori Zaknich

Dr. Kocher got involved with the Companion Animal Memorial Fund after a classmate told him about it. He has stayed with it because, he says, “The Companion Animal Memorial Fund is more than a charity. When a patient is remembered through the fund, everyone benefits—the client receives the expression of sympathy from the veterinarian, the CCAH receives funds to support research programs, and results of the studies

may benefit other animals with a similar condition in the future.”

“When a client loses an animal, we contribute immediately to the memorial fund,” says Dr. Kocher. “Receiving the letter from the CCAH in a timely manner demonstrates that we care about the pets and their owners. It also empowers the owners and the veterinarians with the knowledge that we are doing something to advance veterinary medicine and combat the scourge of disease.”

In the Laboratory: Advancing Scientific Understanding

Investigators at the CCAH carry out and publish scientific studies to advance our understanding of how best to care for shelter animals. Areas of interest include infectious disease prevention and management in populations (including facility design, data management, and other issues that are important to health care), and behavioral care of shelter animals to improve well-being and adoptability.

FCV, FHV and FECV in Shelters

N.C. Pedersen, R. Sato, J.E. Foley, and A.M. Poland carried out a study (published in the *Journal of Feline Medicine and Surgery* in 2004) to determine the origin and subsequent spread of feline calicivirus (FCV), feline herpesvirus (FHV), and feline enteric coronavirus (FECV) in cats relinquished to shelters.

They found that the spread of all three viruses was rapid and efficient in the shelter environment. Although shelters were not the primary source of these viruses for many relinquished cats, factors intrinsic to the shelter environment were critical in amplifying shedding and spread to susceptible individuals.

In particular, the speed and magnitude of the increase of FHV shedding, which was very low at the time of entry, suggests there was reactivation of latent infections as well as acquisition of new infections once an animal entered the shelter environment.

The Feline URI Initiative

The shelter medicine program has recently launched the Feline Upper Respiratory Infection Initiative to begin addressing a significant problem for homeless cats.

Feline URI, while treatable in any one cat, is a nightmare to treat in shelters, says Dr. Hurley. Cats die in shelters because of this simple infection, which is induced by stress and crowding.

Because many shelters cannot effectively isolate and treat cats with URI, the animals must be euthanized. URI creates an enormous financial and emotional strain on shelters. Even if treatable, an animal must spend weeks in isolation. When people adopt a cat with URI, they may spend \$200 at the vet, other cats get sick, and people lose faith in shelters and stop coming to adopt animals, which adds up to lost lives.

In a few terrible cases, simple URI agents have mutated to cause killer diseases that migrate to the owned pet population. Dr. Hurley has carried out research on virulent mutant strains of calicivirus, which spread throughout the cat's system. Signs of normal calicivirus infection are mostly upper respiratory, but sometimes include lameness, diarrhea or other conditions. In the mutant

form, cats experience severe swelling of the head or limbs, widespread sores and hair loss, and involvement of various organ systems.

"There is currently no treatment for virulent mutant calicivirus," says Dr. Hurley. "Vaccination does not seem to offer any protection, and it's very easy to spread and hard to kill. Early recognition is currently our only tool to prevent outbreaks from spreading out of control. Research from the Shelter Medicine Program has allowed cases to be quickly recognized and preventive measures have protected other cats from exposure."

"We need to know so much more," says Dr. Hurley. "We have done a study accepted for publication (in a refereed scientific journal) that looks at 500 cats in various shelters to determine the frequency of the different viruses and bacteria that cause feline URI. Now that we have some idea of 'what,' we need to find out 'how much' and 'how bad.'"

"The next step in combating the problem is simply to develop a system for tracking how much URI there is in a shelter. It may seem trivial, but it is fundamental to get a handle on the problem. When shelter personnel say URI is 'out of control' we need to know what that means," she says.

"A URI tracking project was initiated at the Sacramento SPCA. Some other shelters are collaborating (Tony La Russa's Animal Rescue Foundation in Walnut Creek and East Bay SPCA), and we hope to expand the involvement. We want to know the number of cats with URI, how long each has been sick, the qualitative measure of severity, and how long the cat has been in the shelter.

"For instance, a vaccination program might reduce the disease by 20 percent, but in order to measure success we need to have a baseline before we begin. If we can track incidence and look at the differences between infection rates in shelters and how animals there are managed (e.g., housing to reduce stress, vaccination strategies, nutrition and ventilation), we could begin to make appropriate changes to decrease the incidence of feline URI."

Shelter Medicine

Continued from page 1

The Shelter Medicine Program offers consultation and population-based diagnostic services for shelters at the lowest possible cost. "Consultations include facility design, husbandry issues such as cleaning and housing, vaccination, and protocol development," says Dr. Hurley.

"...simple information can have a profound effect on a shelter's ability to take good care of its animals."

"We aim to provide shelters with evidence-based guidance on managing common shelter infections such as upper respiratory infection (URI) and diarrhea. We also assist shelters in dealing with disease outbreaks and cruelty cases, along with providing education and outreach programs.

"Our goal is to create a model program of medical care for shelter animals—one that can provide hands-on training for veterinary students and a place for residents to become experienced shelter veterinarians. On-site service—by veterinarians who can provide information about policies, protocols and successful strategies—benefits the animals, shelter organizations (public and private), students and residents—not only locally, but nationally."



“One of the most striking and satisfying things about the Shelter Medicine Program, from the viewpoint of a veterinarian,” says Dr. Hurley, “is that really simple information can have a profound effect on a shelter’s ability to take good care of its animals. The shelter staff members don’t need a lot of high-tech equipment—using an effective cleaning agent or making a small change in vaccination strategy can impact thousands of animals.”

Objectionable behavior is one of the main reasons animals are relinquished to shelters. Veterinarians have the perfect opportunity to help prevent such behaviors from developing, and veterinarians familiar with shelter medicine and behavior can also guide clients who adopt animals from shelters.

Educational Programs and Outreach

Educational programs include post-graduate veterinary residencies in shelter medicine, veterinary school classes, student activities and externships in shelters, Web-based scientific resources, and lectures to veterinary, shelter and rescue groups.

Clinical Expertise

The residency program in Shelter Medicine gives veterinarians clinical expertise and prepares them for leadership in this emerging field of veterinary medicine.



Michael Bannasch, RVT, and Dr. Kate Hurley examine a sick shelter kitten and take laboratory samples of the kitten’s nasal secretions to test for calicivirus, which can be a serious problem in the shelter environment.

Dr. Hurley, DVM (1999, UC Davis), MPVM (Master of Preventive Veterinary Medicine, 2003, UC Davis), became the first veterinarian to complete a residency under the Shelter Medicine Program. Sheila Segurson, DVM (1996, UC Davis), has completed two years of a three-year residency in Shelter Medicine and Behavior.

Since 2000, opportunities for shelter veterinarians have greatly increased—at least eight recent DVM graduates from UC Davis are now practicing shelter medicine—which is helping to supply the expanding need.

Shelter Medicine in the DVM Curriculum

Since the program began at UC Davis, more than 200 students have taken a shelter medicine class taught by Dr. Hurley in the DVM elective curriculum. The class, also open to shelter professionals, includes several guest lecturers from different backgrounds, who promote shelter medicine and also give a realistic view of what shelter veterinarians are trying to accomplish with available resources.

Continuing Education

Dr. Hurley and the shelter medicine team have given more than 30 continuing education presentations in the last year at veterinary and shelter conferences all over the nation, on topics such as the following: developing preventive medicine programs for shelters, management of outbreaks in shelters, canine and feline parvovirus in shel-

ters, recognition and control of canine distemper and virulent systemic feline calicivirus, the veterinarian’s role in recognizing and reporting animal cruelty, behavioral recommendations for newly adopted dogs, the private practitioner/technician’s role in ending euthanasia as a means of population control, and vaccination strategies for animal shelters.

A Shelter Medicine Textbook

The first-ever textbook is now available that covers all aspects of shelter medicine, including topics such as husbandry and care of various species, population dynamics, nutritional challenges, spay/neuter techniques and behavior programs.

The book, *Shelter Medicine for Veterinarians and Staff*, was edited by Dr. Lila Miller and Stephen Zawistowski of the ASPCA. Dr. Kate Hurley, Dr. Janet Foley and RVT Michael Bannasch—all from the CCAH Shelter Medicine Program—contributed chapters on health planning, infectious diseases and diagnostic testing, respectively.

The Shelter Medicine Program is now hosting an on-line discussion group for shelter veterinarians and staff to discuss the book and better understand the challenges of animal shelter medicine.

In November 2004, Dr. Hurley and Dr. Brenda Griffin from the College of Veterinary Medicine, Auburn University, will receive the Alex Lewyt Veterinary Medical Center Award of Achievement from the North Shore Animal League America for their dedication to the humane treatment of homeless animals everywhere, their efforts to determine the best methods and procedures for improving the lives of all dogs and cats, and their unselfish commitment to educating others.



Debbie Aldridge/UC Davis

Dr. Kate Hurley and Dr. Cindi Delany examine a dog at the Sacramento County Animal Shelter.

Our Friends & Companions

Dear Doctor Pedersen:

We would like to thank you so much for letting us know that Dr. Suzanne Lee and her staff from Monte Vista Veterinary Hospital were so thoughtful and caring to make a financial donation in memory of our Kona.

Kona was a "Rott-a-dor" (Rottweiler and Labrador) who we adopted from our county animal shelter, just minutes before the final walk. We were really the lucky ones to have her.

Kona was protective, well-behaved, loving, compassionate and a tease. She loved opening Christmas presents for everyone including herself. If we were slow on opening ours, she was there to help. Kona loved her rabbits and always



Kona
(1993–2004)
Concord, CA

had a lick for them. The rabbits would walk on her and sleep with her. She was a great mom to them.

In February 2004 we discovered she had lymph node cancer. Chemotherapy was advised and we tried to save her. During her weight loss and the trips to the doctors she never hesitated to lead the way into the office for her therapy. She waited for her medication and took it with no effort.

All who met her loved her. She tried so hard to always do the right thing and never gave us a bit of a problem. Our son, Bob,

said he learned more from Kona than he did from most of the people in his life.

We as a family can say the very same thing. She was truly a "teacher" of patience, love, compassion and stamina, and was truly a wonderful, fun friend. We hold on to her "spirit" that is still with us.

We hope and pray that what was learned from her can be passed on to other animals and her death was not in vain. We are not so naive to think we can hold on to our pets forever, but can be proud that she has perhaps been able to help doctors help other animals.

Thank you for all of the great work you and your staff perform. We wish you much success in helping and curing our animal friends.

Animals are truly a gift from God, and He always knows the people that want and need them the most.

Thank you again from Kona's family.
Sincerely, Hank, Ginny and Bob Risser



Guide Dogs
Libra
(1989–2004)
Novato, CA

Dear Dr. Pedersen,

Last September we lost our dog, Taler. He died of heart disease. There are no words to express our sadness and loss. Taler was a big part of our family for almost 12 years

We brought him home when he was just 7 weeks old. Since then, he was always with us, including our big move from Russia. He brought so much of love and joy to our lives. He knew how much we love him.

At age 9 1/2, Taler's adrenal tumor was discovered. At UC Davis, Taler had sur-

gery, which turned out to be very difficult and complicated. He survived.

We are very grateful to Dr. Walsh and Dr. Nelson. Their expertise and skills, combined with Taler's will to live, gave us two more years of wonderful companionship. Our thanks also go to Dr. London for her experience and the great, kind care of Taler during re-checks.

We celebrated Taler's 12th birthday last December, for the first time not having him with us. Please accept our donation in Taler's memory.

Sincerely, Ludmila Ioffe



Taler
(1991–2003)
San Pablo, CA



Chelsea
(1991–2004)
Alamo, CA

Nobody has ever measured how much a heart can hold.



Niner
(1988–2004)
Santa Rosa, CA

Niner was a water dog, could not get her out of the water, no matter where the water was. Ocean was the best. She is forever in our hearts, and missed so much.

—John and Suzie Lewis



Rocco
(1992–2003)
Berkeley, CA



Stupsi
Summerfield, FL

*Your gifts help to carry out the CCAH mission
Thank you for supporting the Center
for Companion Animal Health!*

One thousand three hundred generous donors contributed a total of \$150,000 between April 2, 2003, and June 30, 2004, for important health studies at the CCAH. Every gift is very much appreciated, even though space doesn't permit public acknowledgement of everyone who so graciously helped.

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“Friends of Companion Animals” Honor Roll

Thank you for supporting CCAH research at the \$1,000 and higher levels:

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Thank You!

Many thanks to everyone who helped to make the new Center for Companion Animal Health a reality.

Now we can focus on what we do best—merit-based faculty research projects that continue the CCAH reputation for making new discoveries and increasing the understanding of companion animal health.

Thank you for supporting the CCAH building and equipment fund at the \$1,000 and higher levels:

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The new CCAH houses clinics and clinical research in the same building—to facilitate interactions between clinicians, clients, patients and researchers. The keys to solving disease problems lie within the animals that suffer disease, but the actual unlocking requires sophisticated and intuitive laboratory study. The genetics and oncology laboratories of the new CCAH building are large, fully equipped and shared by faculty and staff—many different thinkers in the same space maximize the chances that answers will be found.



Jessie, canine companion of the Duffield family, bites the ribbon of hot dog links to officially open the new CCAH.

Vickie Gustafson/VM Dean's Office



A large reception area serves clients of the cancer clinic and several other hospital services.



(1409)

Center for Companion Animal Health
c/o Dean's Office—Development
School of Veterinary Medicine
University of California
One Shields Avenue
Davis CA 95616-8734

The Center for Companion Animal Health (CCA) is dedicated to advancing studies in veterinary medicine—including new ways to prevent, diagnose and treat diseases such as cancers, genetic and immune disorders, infectious diseases, kidney and heart diseases, and nutritional disorders in companion animals.

CCAUpdate is published by the UC Davis School of Veterinary Medicine, Bennie I. Osburn Dean, Niels C. Pedersen CCAH Director, Sharon Anglin and Celeste Borelli Executive Producers, Susan Donahue Editor. CCAUpdate is also available online (www.vetmed.ucdavis.edu/ccah). Articles of interest may be reprinted in breed magazines and newsletters with the following credit: "Reprinted from CCAUpdate (include Vol. and No.), Center for Companion Animal Health, UC Davis."

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