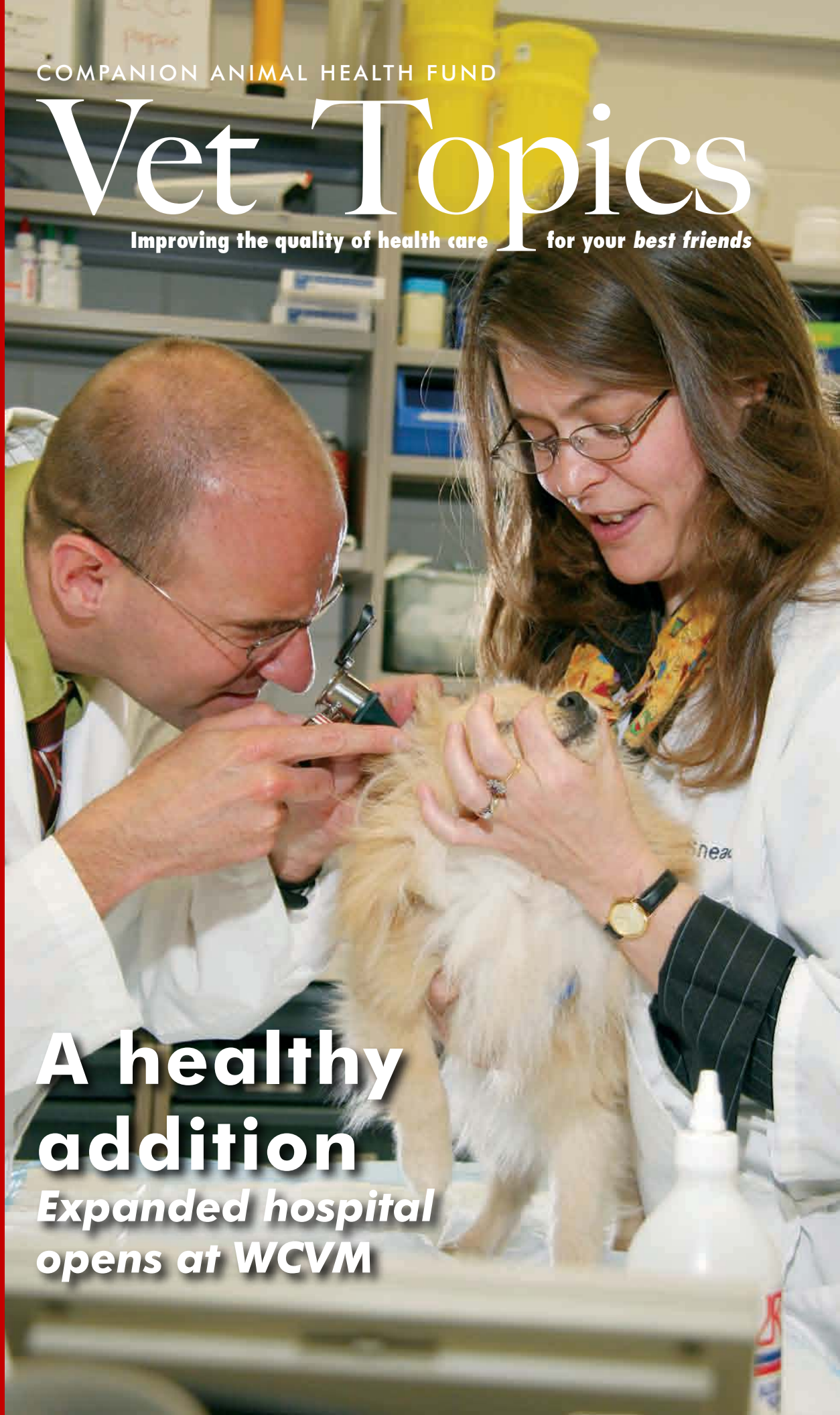
FALL 2007

COMPANION ANIMAL HEALTH FUND

Vet Topics

Improving the quality of health care for your *best friends*



A healthy addition

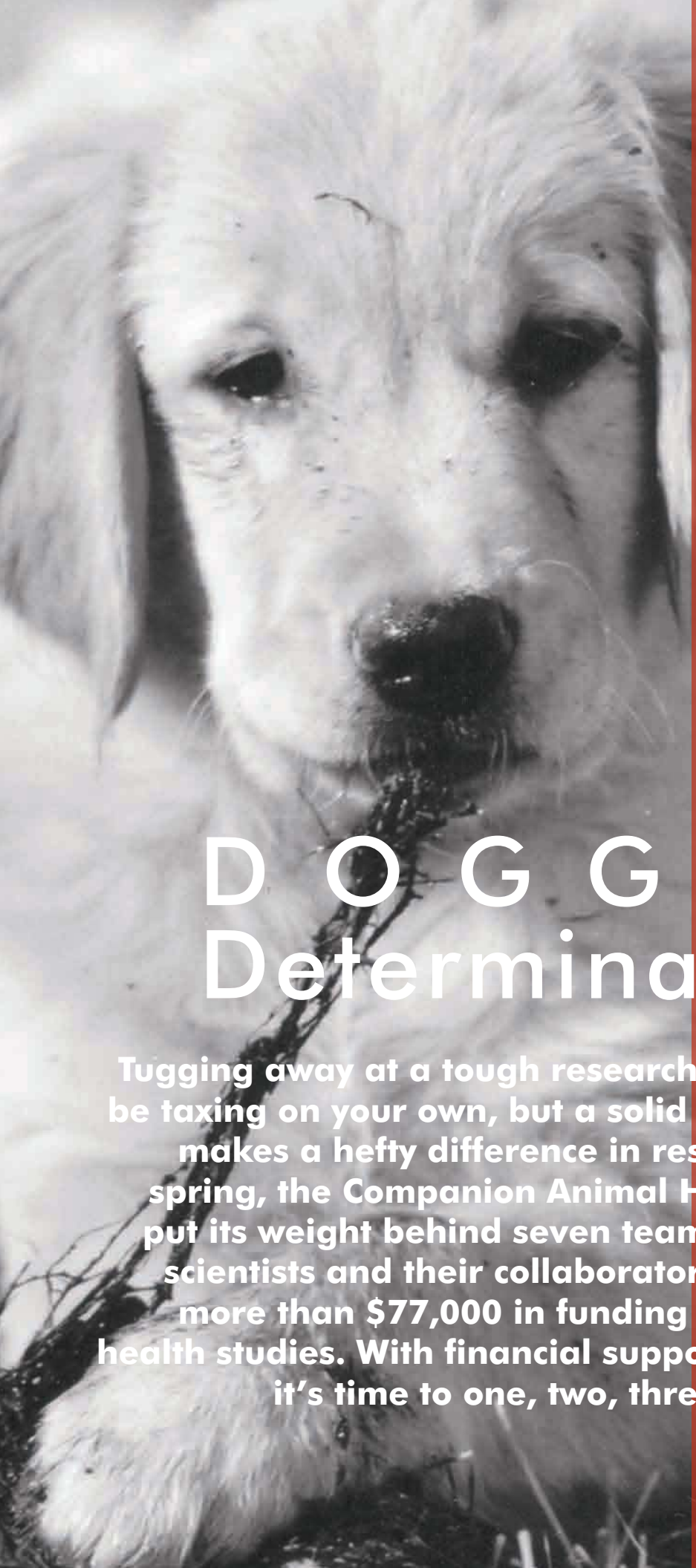
Expanded hospital opens at WCVM

Vet Topics is published by the Western College of Veterinary Medicine's Companion Animal Health Fund. Visit www.cahf.usask.ca

Comments? Contact:
Dr. John Pharr, Editor
WCVM, U of S
52 Campus Drive
Saskatoon, SK S7N 5B4
T: 306-966-7060 F: 306-966-7174
john.pharr@usask.ca

Editor: Dr. John Pharr
Managing editor: Myrna MacDonald
For article reprint information, contact sm.ridley@sask.tel.net.

University of Saskatchewan
Western College of Veterinary Medicine



DOGGED Determination

Tugging away at a tough research theory can be taxing on your own, but a solid team effort makes a hefty difference in research. This spring, the Companion Animal Health Fund put its weight behind seven teams of WCVM scientists and their collaborators, granting more than $77,000 in funding to their pet health studies. With financial support in place, it's time to one, two, three . . . PULL!

Does one spaying procedure lead to post-spay urinary incontinence in dogs?

Drs. Kathleen Linn, Régine Bélanger and Cindy Shmon (WCVM).

Up to 20 per cent of spayed female dogs develop *urethral sphincter mechanism incompetence* (USMI) after female neutering surgery. While the underlying cause of this long-term complication is still unknown, some clinicians suspect that traction on the uterus during an *ovariohysterectomy* (removal of the ovaries and uterus) might injure the nerves to the urethral sphincter.

During the next 12 months, a WCVM research team will use two female neutering techniques on 30 canine patients admitted to the College's Veterinary Teaching Hospital for elective spays. Half of the dogs will undergo an ovariohysterectomy — the surgical procedure taught to North American veterinary students. The second group of dogs will undergo an *ovariectomy* (removal of the ovaries) — the procedure taught to European veterinary students.

Before all of the surgeries, the research team will measure each patient's *maximal urethral closure pressure* (MUCP). Clinicians consider this measurement the most important parameter in evaluating urinary incontinence. Twelve months later, researchers will repeat the MUCP measurement during each dog's checkup. Once all of the study's results are evaluated, the research team will determine whether a particular spaying procedure does cause an increase in the incidence of post-spay urinary incontinence among female dogs.

Will synthetic corneal implants work in cats and dogs?

Drs. Bruce Grahn and Lynne Sandmeyer (WCVM) and Dr. May Griffith (University of Ottawa).

Blinding corneal disease is a common problem in cats and dogs. Veterinary ophthalmologists rely on corneal transplants to treat affected animals, but it's expensive and difficult to maintain corneal banks for animals.

As an alternative, two WCVM scientists will work with a researcher at the University of Ottawa to test the use of synthetic corneas that are stronger, more resilient and flexible enough to cover the full range of transplantation needs in companion animals.

In the project's first stage, veterinary ophthalmologists will implant synthetic corneas in rabbits, and if these models are successful, then the team will conduct synthetic corneal transplants in five dogs and cats that have been diagnosed with severe corneal disease.

Throughout the year after surgery, researchers will regularly assess each patient's recovery and determine whether synthetic corneal transplants are successful in restoring vision without significant ocular complications.

Continued on page 3

Is laparoscopy an option for obtaining pancreatic biopsies in cats?

Drs. Anthony Carr, Kevin Cosford, Susan Taylor, Cindy Shmon and Sherry Meyers (WCVM).

A pancreatic biopsy is the most reliable test for diagnosing pancreatitis in cats, but its invasive nature and veterinarians' concerns about potential complications have limited its use. As an alternative, a WCVM research team will evaluate the use of laparoscopy to obtain pancreatic biopsies for analysis — a minimally invasive approach that has been deemed safe and effective in dogs.

During this year-long study, members of the research team will use laparoscopy to examine the cranial abdomens of 12 cats. During the procedures, surgeons will obtain pancreatic biopsies from six of the cats while the rest of the animals will only undergo laparoscopic examinations. Four weeks later, surgeons will conduct *ovariohysterectomies* (female spaying procedure) on all of the cats. During the procedure, the specialists will inspect the cats' pancreas and take additional tissue samples at the sites of the previous biopsies.

After completing the procedures, team members will evaluate the quality of the pancreatic biopsies obtained through laparoscopy as well as the safety of using this approach. Based on the team's findings, using laparoscopy to obtain pancreatic biopsies may eventually become an accepted approach in diagnosing pancreatic disease in sick cats.

Does epidural dosing give better pain relief for cats?

Dr. Tanya Duke (WCVM), Drs. Paulo Steagall and Stelio Luna (Sao Paulo State University, Brazil), Dr. Polly Taylor (Ely, U.K.) and Dr. Peter Gilbert (WCVM).

An international team of researchers is investigating the effectiveness of administering painkilling drugs to cats through epidural catheters. Previous studies have shown that the epidural route produces long-lasting pain relief using lower doses of the drugs, plus there are fewer side effects in comparison to systemically administering drugs.

During the study, the research team will work with a group of eight cats to investigate the epidural use of an opioid called *buprenorphine* and an alpha-2 agonist called *medetomidine*. The team will also test the effectiveness of using a combination of both painkilling drugs. Researchers will measure the analgesic duration of each treatment using a mechanical and thermal threshold device that detects when a drug's effectiveness is wearing off on each cat.

If results show that epidural administration of these drugs is more effective, these treatment protocols may eventually be used in feline patients that are in postoperative or critical care. *For more details about this study, turn to page 4.*

What's living in your cat's intestine?

Drs. Janet Hill and Anthony Carr (WCVM).

Intestinal health issues such as inflammatory bowel disease and diarrhea are among the top problems that prompt owners to bring their cats to veterinarians. These issues are directly or indirectly related to the structure and function of the bacterial community living in cats' intestines. But despite its significance to cats' health and nutrition, veterinary researchers know very little about the actual composition of the "normal flora" within the feline intestine.

During the next year, WCVM researchers will develop a comprehensive description of the microbial community of the cat's distal intestine. The research team's examinations will focus on fecal samples collected from a group of healthy indoor and predominately outdoor cats. After extracting DNA from these samples, researchers will use molecular methods to develop a sequence-based "fingerprint" of the microbial community.

This important body of work will lay the foundation for future studies aimed at understanding the dynamics of this microbial community and its role in feline and human health. Scientists will also use the study's sequence database for the future development of molecular tools that are used for quantitative analysis of intestinal population structure and dynamics.

Do pulmonary intravascular monocytes and macrophages induce anemia in dogs?

Drs. Baljit Singh and Anthony Carr

WCVM scientists are investigating the potential role of *pulmonary intravascular monocytes/macrophages* (PIMMs) in inducing *immune mediated hemolytic anemia* (IMHA) — one of the most common causes of anemia in dogs. Previous studies at WCVM have shown that recruited PIMMs promote an animal's susceptibility for endotoxin-induced inflammation and mortality. This happens through the production of inflammatory cytokines that play a vital role in the development of coagulation and thrombosis.

Researchers believe that pulmonary complications such as thrombo-embolism play a major role in the development of IMHA, but at this point, no one has thoroughly studied the mechanisms of these pulmonary complications.

To explore this possibility further, the WCVM research team will use a mouse model of IMHA to study if PIMMs are recruited. If PIMMs are part of the disease's progression, then the team will explore whether the depletion or inactivation of PIMMs can rescue a host animal from IMHA. If the latter is confirmed, this research study may lead to the development of better treatment strategies for IMHA.

Can dogs' noses detect canine bladder cancer?

Drs. Elisabeth Snead, Sue Taylor, Monique Mayer and Joe Stookey (WCVM); and Dr. Jim Walker (U.S. researcher).

A definitive diagnosis of *transitional cell carcinoma* (TCC) in dogs requires histopathological examination of tissues obtained by surgical biopsy or traumatic catheterization. But usually, clinicians only perform these tests in dogs that show significant clinical signs — an indicator of advanced disease.

Previously, researchers successfully trained dogs to sniff out the difference between urine samples from people with TCC, healthy people and people with other inflammatory but non-malignant disorders of the urogenital tract. In this study, the WCVM research team will evaluate and compare the sensitivity and specificity of canine olfactory detection of TCC to traditional diagnostic methods. If the results are promising, this may be one option that could help veterinarians make earlier diagnoses of TCC and achieve greater treatment success.

To learn more about the unknown marker that's detected by the "sniffer dogs" in the urine of TCC patients, researchers will also save urine samples from TCC and control dogs so animals trained in detecting human TCC cases can evaluate the samples. These findings, along with chemical analysis, may allow researchers to understand whether dogs and people diagnosed with TCC secrete the same substance — information that could potentially lead to future research. *For more details about this study, turn to page 8.* **V**

FRONT COVER: In WCVM's new treatment room, clinician Dr. Liz Snead supports a patient while small animal resident Dr. Kevin Cosford checks the dog's ear. **PREVIOUS PAGE:** "Meg." Photo by Linda Walker of Winnipeg, Man. Courtesy of the 2005 Great Manitoba Dog Party Photo Contest, organized by the Manitoba Veterinary Medical Association.

Stories by Matt Barron

Purrfect PAIN RELIEF

When cats are feeling the pain, WCVM scientists think it's best to begin at the back.

American author William Lyon Phelps once wrote that "a cat pours his body on the floor like water." But during post-surgery or critical care, that tranquil creature can often turn into one agitated, keyed-up kitty — especially after a dose of conventional pain medication.

Yet pain must be dealt with. Besides causing great discomfort or even torment for a cat, pain delays healing and suppresses immunity. In some situations, it can even sensitize a cat's nervous system in such a way that chronic pain results.

In the hope of finding better pain control options for cats, a research group at the Western College of Veterinary Medicine (WCVM) has begun testing the effectiveness of buprenorphine and metedomidine. Both are classed as *analgesics*, a diverse group of drugs that are used to treat pain in humans and animals.

During the study, the research team plans to evaluate the efficacy of each analgesic as well as the effectiveness of combining the two drugs. The study is still underway, but members of the WCVM research team already have a hunch that buprenorphine may very well be the ace up their collective sleeve. Although the drug isn't licensed yet in Canada, it has proven more effective in some ways than other *opioid* drugs such as hydromorphone and morphine.

While buprenorphine's use in treating cats has been studied widely, this project is the first to investigate the drug's effects after *epidural* administration – a widely-accepted and effective technique for delivering analgesics. Rather than delivering a drug by mouth or by vein, epidural administration directly delivers the pain-killing drugs to the body's pain receptors around the spinal cord.

"So far, any other drug that's administered through the epidural route has been longer-acting since the actual pathways and receptors are right there in the spinal cord. You're putting the drugs right there at the site of action," explains Dr. Tanya Duke, a veterinary anesthesiologist and the research team's leader.

Duke's collaborators are Drs. Paulo Steagall and Stelio Luna of Brazil's Sao Paulo State University, Dr. Polly Taylor of Ely, U.K., and Dr. Peter Gilbert of WCVM. Taylor and Luna are co-supervisors for Steagall, a PhD student who will use this study as part of his graduate program.

One analgesia or two?

As Duke explains, previous studies have shown that buprenorphine is quite effective in smothering pain. For example, common opioids like hydromorphone and morphine given via the muscle offer three to four hours of pain control while buprenorphine's effects can last from six to eight hours. Buprenorphine's effects don't happen as quickly as other opioid drugs, but Duke points out that it doesn't cause agitation, vomiting, or any of the other negative side effects linked with some opioids.

The study's second drug, an alpha-2 agonist called medetomidine, is also relatively free of adverse side effects. As well, its close-chemical cousin — epidural dexmedetomidine — has been shown to kill pain in dogs without altering respiration, behaviour or motor function.

Although medetomidine is found on many veterinarians' shelves and is considered a classic analgesic, the potential use of epidural medetomidine has only been studied in horses and dogs. In fact, Duke is the only researcher who looked at its potential use as a painkilling drug in cats during the 1990s, and based on her findings, medetomidine only keeps cats in its analgesic cradle for about four to six hours.

Although there are no published reports of administering epidural buprenorphine and medetomidine together, Duke says the analgesic combo shows great promise for treating pain in cats. Her reasoning is simple: previous research has shown that mixing an opioid with an alpha-2 agonist creates an effective synergy. And since buprenorphine and medetomidine are members of those two drug families, it's a valid option for researchers to explore.

"Instead of getting the effect of one plus one equals two, you tend to get an effect that is more like one plus one is greater than two," says Duke.

ABOVE: Dr. Paulo Steagall (top) and Dr. Tanya Duke with two of the project's cats.

Proof is in the pain measurements

But studying the drug's pain-killing action and how it affects a cat's central nervous system isn't easy. As a first step, small animal surgeon Dr. Peter Gilbert had to surgically implant catheters in the study's eight cats so scientists could epidurally administer the drugs directly to the animals' spinal cord receptors.

Next, the research team had to come up with an effective way of objectively measuring any pain experienced by the cats — a crucial step in gauging when the painkilling effects of each analgesic (or drug combination) began to subside.

But before the research team could test each drug's ability to kill pain in a cat, they had to inflict slight pain. The answer to this challenge is an elastic, bracelet-like device that fits around each cat's chest. Tucked under the elastic band is a small probe that delivers heat to the cat's skin. As soon as the drug's effects wear off and each cat responds to the heat, the scientists quickly retract the probe.

The study's intensive, hands-on work with the cats began this summer and will wrap up during the fall of 2007. Studying the effectiveness of epidurally administering these painkilling drugs may be a painstaking process, but once their efficacy has been proven, a veterinarian can administer them "fairly easily," says Duke.

What is more difficult to pin down is the potential costs of using a drug like buprenorphine: so far, it's still classified as an experimental drug in Canada and isn't licensed for general practice in the country. Duke, who used the drug as an veterinary analgesic in Britain during the 1980s, says the price of buprenorphine exceeded that of morphine, but the cost wasn't prohibitive. "The drug is a tad more expensive," says Duke, "but the benefits are very powerful."

Besides its remarkable pain-killing clout and its relative lack of side effects, buprenorphine has an interesting perk. Unlike morphine and other opioids that cause agitation in cats, buprenorphine makes feline patients experience a state approaching euphoria.

"The cats usually become happy, friendly, euphoric," describes Steagall. "They even start rolling around and rubbing on things."

In other words, the cats reclaim their fluid composure and once again, they can pour themselves on the floor like water. V

Matt Barron has written for regional and national magazines, including Up Here magazine, Outdoor Canada, and Canadian Geographic. He works part-time on web projects for the Vaccine and Infectious Disease Organization in Saskatoon.


Valerie Millette

Scientists' curiosity kills pain for cats

Curiosity may have killed the cat, but that inquisitive quality comes in handy when you're a scientist who is hunting for a better way to kill pain.

While Drs. Tanya Duke and Paulo Steagall share a boundless curiosity for finding better pain control for cats, the challenges involved in studying the topic this summer have demanded a range of expertise and a workload beyond what even they could offer.

That's partly why Duke's work in the field of feline analgesia became dormant in the first place. Back in the 1990s, the veterinary anesthesiologist developed methods for studying the epidural administration of analgesics to cats, "but I never had time to devote to research," says Duke, who had teaching and clinical duties. "And it would have been too much to take on myself."

Duke met Steagall in 2006 at an anesthesiology conference in Liverpool, England. At the time, Steagall was pursuing his Master of Science degree at Sao Paulo State University in Botucatu, Brazil. For his PhD work, the long-time cat enthusiast wanted to study buprenorphine – the same promising analgesic drug that had been studied by Duke. In clinical research, the drug had garnered slightly longer-lasting analgesic effects for cats and fewer side effects than morphine.

With financial support from WCVM's Companion Animal Health Fund and Pfizer Animal Health in place, Steagall could afford to rent some crucial equipment: a mechanical and thermal threshold device that detects an animal's pain threshold. The device indicates when a drug's effectiveness is wearing off – allowing scientists like Steagall and Duke to accurately measure how long the drug's analgesic would hold. The instrument's co-inventor is Dr. Polly Taylor, a British anesthesiologist specialist who advises Steagall on his PhD alongside Brazilian Dr. Stelio Luna.

But before the study could begin, the cats had to be implanted with catheters, a tricky operation in which small animal surgeon Dr. Peter Gilbert slipped the drug-delivery tube under the skin. "He's done a wonderful job. Not one cat has had post-operative complications," says Duke. She adds that the research group plans to find good homes for all of the cats once the study ends.

Additional research support also had to be found at the last minute, and second-year veterinary student Valerie Millette was, as Duke puts it, "emailed at the eleventh hour." One of her roles was to test three different stimuli for pain detection using Taylor's device, or in other words, "to find the best way to annoy the cat," says Duke. Millette's testing showed that the sensation of heat gave researchers an accurate measure of how well the drugs stifle pain.

Given cats' propensity for agitation, Millette worked hard to familiarize the cats with the researchers and equipment. "It may not sound like an important job," says Duke, "but you need the cats to be as calm as possible because it's good for the cats and yields more accurate results."

Millette proved quite successful in making the cats comfortable despite never having owned a cat herself. As for Steagall, Duke is enthusiastic about his easy way with the cats. "You should see him," she says. "He's like the cat whisperer."

A Healthy Addition

WCVM's health care resources for small animals have had a welcome growth spurt.

For months, chain link fences and safety signs have discouraged people from getting too close to the construction site of WCVM's Veterinary Teaching Hospital addition. But all of that changed in early July when the safety measures came down and the building's new main doors finally opened up to the public.

What exactly do visitors find once they step inside the structure's freshly painted hallways? Plenty! The two-storey addition is now home to new reception areas for the hospital's Small Animal and Large Animal Clinics, plus office and garage space for WCVM's Field Service. Behind the Small Animal Clinic's reception are more bright corridors leading to additional examination rooms as well as to new rooms for specialized services such as veterinary ophthalmology and medical oncology.

The hospital addition includes an expanded pharmacy and a quiet room for the families of critically ill pets. As well, the main floor has kennel space for exotic animals, patients undergoing radioactive iodine treatments and for animals under isolation.

The addition's second floor includes more office space for WCVM faculty and graduate students, an area for medical records and administration, and several seminar rooms that are

WCVM'S "PHILANTHROPIC MATCHMAKER": Patti Tweed has only had the chance to meet a handful of WCVM's donors since she became the College's new development officer on May 1. "But the donors I have met are just as I would have expected: very down to earth, genuine people with a strong commitment to their animals," says Tweed. "It's been a pleasure to get to know people who have that kind of connection and all that it entails."

For Tweed, meeting the College's supporters and learning more about what's behind their interest in supporting WCVM's research, clinical and educational activities is a vital aspect of her job: "Part of my role is to act as a conduit or a 'philanthropic matchmaker' between the work that's being done at the College and the interests of the donors. It's an ongoing – and fascinating – learning process for all of us."

Becoming WCVM's development officer was a natural progression for Tweed whose career has combined physical and spiritual health with development and philanthropy in a unique way. A 1972 graduate of the U of S College of Home Economics, Tweed practised as a dietitian for two decades – serving as director of the Royal University Hospital's dietetic internship program for 10 of those years.

In the early 1990s, Tweed shifted her focus from nutrition to studying theology at the University of Winnipeg. After earning her Certificate in Theology in 1995, she became the program's director for five years.

During that time, she became part of a development council that looked at possibilities for fund raising at the university. "I began to apprentice with some very fine people in the field, I started taking courses, and eventually, I moved into fund raising," explains Tweed, who helped to establish the University of Winnipeg Foundation in 2003.

Two years later, Tweed returned to the U of S and became the development officer at the College of Nursing – an experience that showed her the value of building strong networks between professions, private and public sectors and communities. **Continued on page 7**

allocated for teaching smaller groups of students or for impromptu meetings. Two floors down, the addition's basement is now home to the hospital's materials management including laundry services, glassware cleaning and autoclaves for equipment sterilization. Further down the hallway is the hospital's new aquatic treadmill — a valuable rehabilitative tool for canine patients.

Besides all of the resources inside the hospital's new addition, the College's faculty, staff and students have also been using newly-renovated space in the hospital's existing space — areas that have been in operation since November 2006.

The renovated areas include an expanded treatment room and a closed small animal surgery area where surgical teams have access to new surgical suites, an intensive care unit and an anesthesia-recovery room. The redesign also puts clinical and surgical teams in close access to the variety of technological resources in the hospital's medical imaging area.

After so many months of juggling space and resources, WCVM's newly-opened areas are a huge boon to the College's staff, faculty, students and patients. But the sounds of construction won't go away just yet. Renovations have now begun on other parts of the existing hospital — a sign of more good things to come. **V**

PREVIOUS PAGE, bottom left: Health care workers in the new small animal anesthesia room. Top left: A team prepares for feline surgery in one of the new small animal surgery suites. Top: The hospital addition's second floor windows catch the early morning sun. **ABOVE,** top: The new reception area in the Small Animal Clinic. Top right: The expanded treatment room for small animals. Right: Resident Dr. Kevin Cosford meets with clients and their pet in one of the new examination rooms.

Those experiences will also be valuable in Tweed's new job where she will work closely with WCVM's family of donors to ensure that they see the results of their commitment.

For example, Tweed looks forward to meeting with the College's companion animal health researchers, learning about their research initiatives, and gaining a better understanding of how those projects could potentially benefit pet health care.

"I want to understand the high level of research that's going on at the College so I can talk about these research goals with our donors and heighten their awareness of the possibilities that we can achieve through their support of these kinds of exciting projects."

To reach Patti Tweed, please call 306-966-7450 or email patti.tweed@usask.ca.

Patti Tweed

Does Fido's NOSE **Know**?

The ideal tool for sniffing out canine bladder cancer may be right beneath our dogs' noses. *By Roberta Pattison*

While people have long recognized and used the dog's incredible sense of smell for many useful purposes, a whole new dimension unfolded in 1989 when two British dermatologists described a case where a pet dog kept returning to a skin growth on its owner's leg. A biopsy confirmed that the growth was a malignant melanoma, leading to an intriguing possibility: could a dog's nose actually detect cancer?

Since then, clinical trials have shown that dogs can be successfully trained to use their noses for detecting several cancers in people including breast cancer, lung cancer, malignant melanoma of the skin, and bladder cancer.

And if dogs can detect cancer in humans, are they also able to track down the disease in other dogs? That's a question that Dr. Elizabeth Snead of the Western College of Veterinary Medicine hopes to answer with the support of a research grant from the College's Companion Animal Health Fund.

Over the next three years, Snead will team up with three other WCVM researchers: Drs. Susan Taylor, Monique Mayer and Joe Stookey. Her fifth team member is Dr. Jim Walker, a sensory specialist who was previously affiliated with the University of Florida. As part of the project, researchers will train four dogs to distinguish — by scent alone — urine samples collected from dogs diagnosed with *transitional cell carninoma* (TCC) of the urinary bladder.

Timely tracking of bladder cancer

TCC is the most common bladder cancer in dogs, accounting for up to two per cent of all canine cancers. Snead says clinicians regularly see the disease at WCVM's Veterinary Teaching Hospital where about 10 to 12 cases are diagnosed per year. Surgical treatment works well if TCC is detected early, but unfortunately, most cases aren't detected until it's too late for treatment options. On average, dogs diagnosed with advanced TCC only survive for about three to 12 months.

To make a definitive diagnosis of this cancer type, veterinarians must conduct a surgical biopsy to obtain tissue for histopathological exams — and these tests are usually done only on dogs that already show significant clinical signs of the disease.

If practitioners had access to a highly sensitive, specific and non-invasive test, Snead believes that would help to improve the chances of diagnosing the cancer early on so more dogs could be successfully treated.

But besides the chance to improve testing for TCC, there are other reasons that make this a compelling subject for a study. Since dogs' urine samples are easy to collect and store, Snead says the research team will work with private veterinary clinics across Western Canada to gather at least 40 canine urine samples for the pilot project.

"With any luck, we will have enough left from the collected samples to make a start on other studies that might look at such issues as identifying the marker the dogs are detecting. That would be very useful to know because researchers could then start working to try to develop a test for it. Eventually, we would like to find out if it's the same marker in dogs as in humans by having our samples evaluated by sniffer dogs trained to identify TCC in human urine."

During the study's first year, the research team will focus on collecting enough urine samples from dogs diagnosed with TCC, along with another 80 to 90 control samples from healthy, non-medicated dogs that have no signs of urinary treat disease.

Training dogs to "sniff away"

Taylor, an experienced dog trainer, will be in charge of training the sniffer dogs — a process that should take about four weeks. She will use a food reward system to train four young dogs with basic obedience training. While the dogs will be of all different breeds and sizes, they will all have one thing in common: an eagerness to sniff objects.

During the first stage of training, a handler will bring each dog into a room and give the animal unlimited time to sniff four "control" samples and one holding a urine sample from a TCC-diagnosed patient. As soon as the dog sniffs the patient's sample, the handler will command the dog to sit and the scientist will hand out a food reward. The training team will repeat the process in the second stage, but during this part of training, only the researcher will know the identity of the patient sample. The team will phase

Continued on page 9

out the food reward during the third and final stage.

Once the sniffer dogs have completed training, the research team will use single-blind and double-blind trials involving plain water as well as urine samples from dogs diagnosed with TCC and from control dogs. As much as possible, the research team will match up the urine samples from control dogs and TCC-affected dogs in terms of sex and age.

"We're not planning on using any unidentified samples in this first study," points out Snead. "But if all goes well, we do hope to introduce samples from dogs with urinary tract infections or inflammation to see how our sniffer dogs do with that variable."

How does the nose rate?

The team will compare the accuracy and sensitivity of the dogs' olfactory detection with traditional diagnostic methods where clinicians use *cytology* (cell-based) tests to evaluate urine and histological techniques to test tissue biopsy samples. The team will also compare the outcome of the sniffer dogs' trials to the results collected from a newly developed veterinary bladder tumor antigen test.

Snead can't predict the project's outcome — but the recent results from a small study may offer some insight into what researchers can expect from the WCVM investigation. In that study, researchers trained dogs to distinguish between urine samples from healthy "control" subjects, from people diagnosed with TCC, and from humans with other inflammatory but non-malignant disorders of the urogenital tract. The dogs correctly identified the TCC-affected urine samples 41 per cent of the time. That accuracy rate was lower than the rate recorded in other studies involving other human cancer types, but still, Snead says the percentage is statistically significant.

"We want to keep the study tight, and make specific comparisons with standard tests," stresses Snead, "but over the years, you learn to expect the unexpected. For example, in one of the human research studies, the dogs kept going back to one of the controls. It turned out the dogs were right: further testing showed that the person had a cancer that had gone undetected until that point."

Now, what if dogs can repeat the favour for their own kind? Well then, "man's best friend" may just turn out to be his own best friend as well. **V**

Roberta Pattison is a freelance writer who is a regular contributor to the national publication, Dogs in Canada. Recently retired from grain farming, she still lives on her farm near Delisle, Saskatchewan.

AT LEFT: "Oakley." Photo by Michelle Braun of Winnipeg, Man. Courtesy of the 2005 Great Manitoba Dog Party Photo Contest, organized by the Manitoba Veterinary Medical Association. **ABOVE:** Dr. Elisabeth Snead examines one of her canine patients at the WCVM Veterinary Teaching Hospital.

Dr. Jennifer Stelfox and Tessie

ONCOLOGY ADVOCATE JOINS CAHF: Dr. Jennifer Stelfox, a 1986 graduate of WCVM and a long-time advocate for pet radiation oncology therapy in Western Canada, is the newest member of the Companion Animal Health Fund's advisory board.

Stelfox, whose practice is based in Spruce Grove, Alta., steps in for Dr. Greg McFetridge, a small animal veterinarian in Edmonton, Alta., who served more than a dozen years on the CAHF board.

Besides bringing more than 20 years of professional expertise to the board, Stelfox can share her experience with the Animal Cancer Therapy Subsidization Society (www.actsalberta.org). ACTSS a non-profit organization in Alberta that concentrates on making cancer therapies affordable for pet owners.

In 2001, ACTSS (previously known as the Veterinary Cancer Institute) donated its cobalt radiation machine to WCVM in support of the College's pet radiation therapy centre. Working with the College, ACTSS promotes oncology training for veterinary students and practitioners out in the field to ensure that all veterinarians are aware of available oncology treatment options for pets. Stelfox, one of VCI's original founders, now serves as ACTSS' president.

Members of CAHF's advisory board ensure that WCVM's companion animal health research and training programs continue to be valuable and relevant to veterinarians, pet owners and companion animal associations across Western Canada. These volunteers also help to promote the goals and achievement of the Fund. To view the complete list of CAHF advisory board members, visit www.cahf.usask.ca and click on "Organization."

Our Contributors

A partial list of contributors to the Companion Animal Health Fund during the period between July 1, 2006, and June 30, 2007. Visit www.cahf.usask.ca to view the complete CAHF donor roll.

$25,000 and over

Heather Ryan and L. David Dubé Foundation, Saskatoon, SK.

$2,500 to $9,999

Central Animal Hospital, Saskatoon, SK • General Veterinary Hospital Ltd., Edmonton, AB • Procter & Gamble Inc., Toronto, ON • Shumiatcher, Jacqui, Regina, SK.

$1,000 to $2,499

Anderson, M, North Vancouver, BC • Big Hill Veterinary Services, Cochrane, AB • Bridlewood Veterinary Clinic, Calgary, AB • Bryne, Linda, Calgary, AB • Calgary Trail Pet Hospital, Edmonton, AB • Campbell River Veterinary Hospital Ltd., Campbell River, BC • Delton Veterinary Hospital (1991) Ltd., Edmonton, AB • Dewdney Animal Hospital Ltd., Maple Ridge, BC • Du Mont, Patricia, Aldergrove, BC • Folstad, Mark, Saskatoon, SK • Harper, Douglas, Lanigan, SK • Landing Animal Hospital, Calgary, AB • McKinstry, Lynn, Saskatoon, SK • Mill Creek Animal Hospital Ltd., Edmonton, AB • Mills Haven Veterinary Clinic (2001) Ltd., Sherwood Park, AB • Priddle, Craig, Edmonton, AB • Ross, Anita, Greenwich, CT • St. Francois Xavier Animal Hospital, St. Francois Xavier, MB • Stewart, Gord, and Styacko, Maria, Saskatoon, SK • Town Centre Veterinary Hospital Inc., Edmonton, AB • Victoria Veterinary Clinic Inc., Regina, SK.

$500 to $999

17th Avenue Animal Hospital, Calgary, AB • A • Airport Animal Hospital, Regina, SK • Animal Medical Hospital, West Vancouver, BC • Applecross Veterinary Hospital, Nanaimo, BC • B • Betts, David, Calgary, AB • Blackstock, Gwen, Edmonton, AB • Blonski, Judith, Humboldt, SK • Britannia-Kingsland Veterinary Clinic (1985) Ltd., Calgary, AB • C • Centennial Animal Hospital, Winnipeg, MB • D • Devonian Veterinary Clinic, Devon, AB • E • Edmonton Cat Fanciers Club, Edmonton, AB • Edwards, Gerald, Calgary, AB • G • Garry Oak Veterinary Hospital, Sidney, BC • Gateway City Obedience Training, Winnipeg, MB • Grande Prairie Animal Hospital Ltd., Grande Prairie, AB • H • Heule, Mark, Edmonton, AB • Huff Animal Hospital Ltd., Delta, BC • I • Innisfail Veterinary Services, Innisfail, AB • J • Jackson, Linda, Calgary, AB • Johnston, Laura, Creston, BC • K • Kappel, Joanne, Saskatoon, SK • L • Lloydminster Animal Hospital, Lloydminster, AB • M • McCaig, Doreen, Salmon Arm, BC • McPhillips Animal Hospital, Winnipeg, MB • Milliken, June, North Vancouver, BC • N • North West Nuclear Medicine For Animals Inc., Vancouver, BC • P • Pioneer Veterinary Services Inc., Sundre, AB • S • Saskatoon Kennel and Obedience Club Inc., Saskatoon, SK • St. Andrews Kennel and Obedience Club Inc, East St Paul, MB • Saskatoon Working and Herding Dog Association, Saskatoon, SK • Street, Cindy, Vancouver, BC • T • Tracey, Shelagh, North Vancouver, BC • W • Westbrook Veterinary Clinic Ltd., Edmonton, AB • Westward Animal Hospital Ltd., Saskatoon, SK.

$100 to $499

• A • Acadia Drive Animal Clinic, Calgary, AB • Alberta Sporting Hound Association, Calgary, AB • Allen, James, Calgary, AB • Andres, J, Winnipeg, MB • Appleyard, Debra, Regina, SK • Argue, Shawna, Regina, SK • Attwell, Paul, Nanaimo, BC • B • Badger, Rex, Saskatoon, SK • Balcarres Animal Clinic, Balcarres, SK • Barker-Patillo, Dale, Cochrane, AB • Begg, Joy, Kelowna, BC • Bender, Joan, Winnipeg, MB • Betteridge, William and Kathleen, Edmonton, AB • Birchwood Animal Hospital, Winnipeg, MB • Bodner, Marilyn, Lanigan, SK • Boldt, Esme, Edmonton, AB • Booth, Ken, Saskatoon, SK • Bow Valley Veterinary Clinic, Brooks, AB • Bracken, Jim, Saskatoon, SK • Bryant, Charles, Coaldale, AB • Buchanan, Janis, Abbotsford, BC • Burnaby Veterinary Hospital, Burnaby, BC • Burns, James, Cochrane, AB • C • Campbell River Dog Fanciers Society, Campbell River, BC • Campbell, Amanda, Fort McMurray, AB • Campbell, Andrew and Aileen, Surrey, BC • Cardinal, Guy, Edmonton, AB • Cebryk, Wendy, Saskatoon, SK • Central Veterinary Clinic, Ponoka, AB • Cerny, Peter, Winnipeg, MB • Clark, Hobert, Edmonton, AB • Cleary-Stuart, Patricia, Edmonton, AB • Copeland, Sherry, Vancouver, BC • Coppola, Vera, Calgary, AB • Critchley, Kathleen, Edmonton, AB • D • Danon-Schaffer, Monica, West Vancouver, BC • Davis, Lorne, Saskatoon, SK • Dempsey, Karen, Winnipeg, MB • Departure Bay Veterinary Hospital, Nanaimo, BC • Dobie, Jim, Edmonton, AB • Doyle, Sylvia, Edmonton, AB • Driver, Edwin, Saskatoon, SK • Duke, Tanya, Saskatoon, SK • Duncan, Shirley, Quathiaski Cove, BC • E • Eastern Canada Dachshund Club, Battersea, ON • Edmonton Veterinarian's Emergency Clinic, Edmonton, AB • Ellis, Brian and Lorraine,

Saskatoon, SK • EnCana Cares Foundation, Calgary, AB • Esposito, Mary, Calgary, AB • Evans, Mark, Spiritwood, SK • Evans, Sean, Calgary, AB • F • Fernando, Sujatha, Edmonton, AB • G • Gibson, Betty, Kelowna, BC • Grande Prairie Regional Kennel Club, Grande Prairie, AB • Green Acres Animal Hospital (2004) Ltd., Lethbridge, AB • Greenwood, T, Winnipeg, MB • H • Hardy, Larry, Saskatoon, SK • Herdy, Olga, West St Paul, MB • Herman, Leo, St Albert, AB • Highlands Animal Hospital Ltd., North Vancouver, BC • Hodgson, Edythe, Victoria, BC • Hornby, Janet, Stony Plain, AB • Humphries, Kathleen, Sundre, AB • I • Investors Group Inc., Winnipeg, MB • Ireland, Jollean, Sturgis, SK • J • Jackson, Marion, Saskatoon, SK • Jackson, Pat, Saskatoon, SK • Jansen, Helen, Winfield, BC • Jochmaring, Maria, Saskatoon, SK • K • Karn, Doris, Winnipeg, MB • Karwandy, Nick, Saskatoon, SK • Keegan, David and Carolyn, Saskatoon, SK • Kilimnik, James, Russell, MB • Klok, J., Edmonton, AB • Kootenay Animal Clinic, Creston, BC • Kostek, Janet, Edmonton, AB • Kowalczyk, Carmen, Holbein, SK • Leach, Mary, Regina, SK • L • Leduc Veterinary Hospital Ltd., Leduc, AB • Lee, Ingrid, Winnipeg, MB • Lee, Shannon, Fort McMurray, AB • Lessard Callingwood Veterinary Hospital, Edmonton, AB • Lewis, Marion, Winnipeg, MB • Lomsnes Veterinary Hospital, Red Deer, AB • Ludwig, Wendy, Saskatoon, SK • Lynn Valley Veterinary Clinic Ltd., North Vancouver, BC • M • MacDonald, Sandra, Edmonton, AB • Marda Loop Veterinary Centre, Calgary, AB • Maxwell, Allison, Maple Ridge, BC • Mayfield Veterinary Hospital Ltd., Edmonton, AB • McAllister, William, West Vancouver, BC • McGillivray, Janet, Winnipeg, MB • McLeod Veterinary Hospital, Winnipeg, MB • Mellon, Bernadette, Winnipeg, MB • Melnyk, Regina, Springside, SK • Milburn, Wes, Paradise Valley, AB • Miller, Glenna, Saskatoon, SK • Mission Ridge Animal Hospital Ltd., St Albert, AB • Mitchell, Joan, Grasswood, SK • Mitchell, Margaret, Parksville, BC • Moffatt, Doug, Edmonton, AB • Monckton, Jean, Edmonton, AB • Moncur, William, Victoria, BC • Morgenthaler, Peter, Trail, BC • Mousseau, Anna, Winnipeg, MB • Murray, Frances, Edmonton, AB • Murray, Geraldine, Edmonton, AB • N • Nash, Michael, Saskatoon, SK • Nicholson, A, Winnipeg, MB • Nicholson, Helen, Edmonton, AB • Nixon, Howard and Elva, Saskatoon, SK • North Saanich Dog Obedience Training Club, Sidney, BC • Northwest Veterinary Services Ltd., Turtleford, SK • O • Oakley, John, Burnaby, BC • Olds Pioneer Veterinary Centre Ltd., Olds, AB • P • Prince Albert Kennel and Obedience Club, Prince Albert, SK • Pembroke Welsh Corgi Association, Victoria, BC • Penner, Holly, Traverse Bay, MB • Pennock, Patricia, Calgary, AB • Pharr, John, Saskatoon, SK • Plunkie, Brian, Edmonton, AB • Portage Kennel Club Inc., Portage La Prairie, MB • Postnikoff, Peggy, Lloydminster, SK • Proctor, Gitta, Wetaskiwin, AB • R • Reishel, Paul, Longbow Lake, ON • River Heights Animal Hospital, Saskatoon, SK • Roberts, Gillian, West Vancouver, BC • Roozen, Harold and Cathy, Edmonton, AB • S • Saluki Club of Canada, Cambridge, ON • Sampson, Catherine, Picton, ON • Scenic Acres Veterinary Clinic Ltd., Calgary, AB • Scott, Nelson, Kelowna, BC • Servos, Carrie, Calgary, AB • Shaw, Jennifer, White Rock, BC • Smith, Diane, Winnipeg, MB • Stanford, Lois, Belfair, WA • Stark, David, Saskatoon, SK • Strand, Kenneth, Kamloops, BC • Strang, Shirley, Calgary, AB • Strong, Janice, Cranbrook, BC • Summerland Animal Clinic, Summerland, BC • T • Tryhuk, Wally, Winnipeg, MB • Tuffs, Brian, Calgary, AB • Tyler & Associates Financial Services Ltd, Regina, SK • W • Wascana Animal Hospital, Regina, SK • Watt, Barbara, Victoria, BC • Wedepohl, Rosemary, Delta, BC • Weir, Doug and Debbie, Lloydminster, AB • West Kootenay Animal Hospital, Trail, BC • Westwind Sporting Dog Club, Calgary, AB • Whitemud Creek Veterinary Clinic, Edmonton, AB • Wigelsworth, Robert, Calgary, AB • Wilkinson, Brian, Moose Jaw, SK • Winnipeg Area Shetland Sheepdog Association, Winnipeg, MB • Z • Zelinski, Teresa, Winnipeg, MB.

A Year in Review

The Companion Animal Health Fund's statement of revenue, expenditures and fund balances for the year ended, December 31, 2006.

EXPENDABLE	2006	2005
Revenue		
Donations		
Private	$89,437.13	$92,105.49
Organizations	6,066.85	7,739.50
Memorial & Special (Estate)	9,863.05	0.00
Note card sales	890.57	1,056.05
Other Revenue	0.00	0.00
	106,257.60	**100,901.04**
Expenditures		
Fellowship Program	31,385.32	33,928.93
Grants in Aid of Research	68,490.00	59,141.46
Cost Recovery From Previous Grants	(8,674.46)	(5,283.35)
Extension & Fund-Raising	15,818.20	14,031.19
Vet Topics	9,476.51	7,736.94
	116,495.57	**109,555.17**
Surplus (deficiency) of revenues over expenditures	**(10,237.97)**	**(8,654.13)**
Balance, beginning of year	32,327.24	40,981.37
Balance, end of year	**$22,089.27**	**$32,327.24**

RESTRICTED	2006	2005
Balance, beginning of year	$386,554.31	$374,100.49
Interest Income	17,675.60	12,453.82
Transfer from (to) unrestricted	0.00	0.00
Balance, end of year	**$404,229.91**	**$386,554.31**
Total fund balance	**$426,319.18**	**$418,881.55**

CAHF Donor Roll Thrives

The number of Companion Animal Health Fund donors has grown in the past 12 months — a welcome surprise for everyone! But the large number of donors' names has created an interesting challenge in this issue of *Vet Topics*: even with some layout changes, we were unable to include the entire donor roll on two pages.

We know *Vet Topics* readers enjoy receiving a healthy dose of pet health research news, so we've decided against expanding the space for CAHF's annual donor roll. As an alternative, we're publishing a partial list of donors in this issue and posting the entire CAHF donor roll on the Fund's web site (www.cahf.usask.ca).

What if your name isn't published in *Vet Topics* and you don't have access to the web site? Don't worry: your annual donor package will include a printed copy of the complete CAHF donor roll.

Thank you to everyone who has contributed to the CAHF in the past 12 months. Your support is remarkable, and we'll continue to do our best to acknowledge your annual gifts to the Fund!

Questions? Please contact WCVM's Development Office (306-966-7268 or wcvm.supportus@usask.ca).

PATIENT ADVOCACY AWARD (from left to right): L. David Dubé and his wife, Heather Ryan, present the "Buddy and Dr. Snead Award in Small Animal Care" to Dr. Jennifer Fowlie. The Saskatoon couple presented the $7,000 award to Fowlie during the 2007 WCVM Graduation Banquet in June. The annual scholarship, which was created by the Heather Ryan and L. David Dubé Foundation, recognizes a fourth-year student who has provided compassionate care for their small animal patients and has acted as their advocate.

Putting Patient Care First

Dr. Jennifer Fowlie of Calgary, Alta., is the first recipient of the Buddy and Dr. Snead Award in Small Animal Care. The 2007 WCVM graduate shares some of her thoughts about patient care, communicating with pet owners and "going the extra mile" for people's pets.

Q. Did this award come as a surprise for you?

I can't express how much I appreciate receiving this scholarship: it was an unbelievable surprise. There were a lot of very deserving people in my class, so yes, it was quite unexpected.

Q. Why do you think you received this honour?

I believe that Dr. Snead nominated me for the award — she had been my supervisor during the small animal medicine rotation. During that time, I had a lot of intensive care patients all at one time including a dog hit by a car and a very sick dog with diabetes.

There were a couple of weeks where I lived and breathed small animal medicine! There was one day where I stayed all night to treat my intensive care patients because the people on call were busy with multiple emergencies. Dr. Snead said that I put patient care ahead of everything else and went further than expected to ensure that my patients had the proper care.

Q. What did you think of that rotation?

I loved it — I know that sounds crazy, but I really did! The rewards you get from the experience far outweigh the drawbacks, and I learned so much from working with the veterinarians at the college who are experts in their fields.

Q. What did the experience teach you about communicating with pet owners?

One of the owners was an elderly lady who was having trouble understanding the complex treatments for her diabetic dog. I spent a lot of time talking with her on the telephone, making sure that she understood everything.

I think we have to remember that there's a person attached to every animal. What I've found is that people really appreciate it when you draw them pictures, show them X-rays and do whatever you can to help them understand what's going on with their pets.

If pet owners can understand the problem and all of the potential treatment options, then I think they're more at peace with the choices they make in the end.

Q. What do you think has helped to shape your approach to patient care?

I've always felt that the bond between humans and animals is an extraordinary thing. Based on experiences with my own pets and working with other people's pets, I know how much an animal can mean to someone. If you go the extra mile to ensure the best care for an animal, it's very rewarding. It's a pretty awesome job we have: being able to provide that kind of service to animals and people.

Q. Can WCVM teach students how to be patient advocates or is it part of people's personalities?

I think it's both. I suppose you need to have to have the desire to put animal care first (over things like your own sleep). And then you gain more skills in school: "the how's and what's" behind veterinary medicine that give you the tools to care for your patients. As for talking to clients, all of those skills come with practice. I think it takes a lot of patience and understanding on our part.

Q. The award is named after WCVM clinician Dr. Liz Snead. What does she teach about patient care?

Dr. Snead used scientifically-based reasoning and the latest advancements in veterinary medicine to provide the best care to her patients. With every case, she would ask, "What is the best possible thing that we can do for this pet and this owner?"

She would start from there and sometimes economics or other things got in the way — but her number one goal was always shaped by that question. I think that's amazing how she can maintain her focus on what's best for the patient and owner — and that's something I really try to remember as I start every day.

Q. Dr. Snead's relationship with "Buddy" (the donors' cat) inspired this award. Does one patient stand out for you?

I'll never forget the diabetic/ketoacidotic dog that I treated during my small animal medicine rotation. She was critically ill when she came in to the clinic. We talked to her owner about the poor prognosis and treatment options, and she decided that she wanted to try. Jasmine eventually went home and since then, she has been doing very well so it was one of those incredible success stories that keep us going.

I'm grateful that I got to help such a kind person and her pet. Every day, I think how lucky I am to have the job that I do.

Check out *Vet Topics* online at www.cahf.usask.ca

PUBLICATIONS MAIL AGREEMENT NO. 40112792
RETURN UNDELIVERABLE CANADIAN ADDRESSES TO:
Research Office, WCVM
University of Saskatchewan
52 Campus Drive
Saskatoon SK S7N 5B4
E-mail: wcvm.research@usask.ca

Printing Services Document Solutions • 966-6639 • University of Saskatchewan