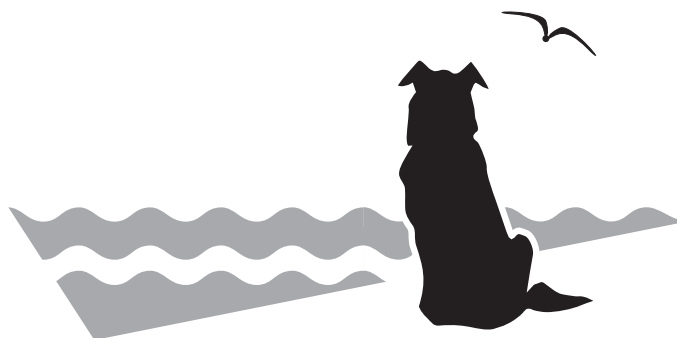




AVC NEWS

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Sir James Dunn Animal Welfare Centre
ATLANTIC VETERINARY COLLEGE • UNIVERSITY OF PRINCE EDWARD ISLAND



From the Coordinator's Desk

Welcome to the fall 2006 edition of the *AWC News*, the newsletter of the Sir James Dunn Animal Welfare Centre (SJDAWC) at the Atlantic Veterinary College, University of Prince Edward Island. In this edition, you will find reports on SJDAWC-funded projects completed this year, including *Canadian veterinarians' use of painkillers in large animals*. Partially as a result of this project, Drs. Lemke and Hewson have drafted a poster for veterinarians concerning analgesic use in cattle, pigs, and horses. This is similar to the educational poster and handout on pain management in small animals (www.upei.ca/awc, Highlights), printed and distributed by the Canadian Veterinary Medical Association (CVMA) in May 2006 to all small- and mixed-animal practices across Canada, including Quebec—2,200 clinics in all. The SJDAWC will work with the CVMA to produce and mail the large animal pain poster next year.

In the newsletter, you will also find a profile of Rachel Lee, winner of the 2006 Christofor Award in Animal Welfare, and reports on conferences this fall. As well, there is an update on the federal Animal Cruelty bill, the most recent version of which was introduced at the end of October. This bill, now called C-373, is the same as the previous legislation, Bill C-50, which died when the Liberal government fell in January 2006. C-373 is different from the Senate bill, S-213. On December 4 in Ottawa, together with CVMA President Dr. Paul Boutet, I had the privilege of making a submission to the Standing Senate Committee on Legal and Constitutional Affairs during its hearings on S-213. Our presentation expressed concerns about serious flaws in S-213, and support for the amendments embodied in C-373. On December 7, Bill S-213 passed third reading in the Senate, and will now go to the House of Commons.

The Search Committee recently concluded the interview process for the new Chair in Animal Welfare at AVC. It was a pleasure to meet and interview several excellent candidates. Please check the SJDAWC website for an announcement regarding the new Chair, which we expect to make early in the New Year.

Please visit our website at www.upei.ca/awc to find out about upcoming events at the Centre, and for information on all projects funded to date, associated publications and presentations, and animal welfare resources at the UPEI library.

Acrook

Help animals by supporting the Sir James Dunn Animal Welfare Centre

We welcome the generosity of animal welfare supporters and friends of the Atlantic Veterinary College. Donations or planned gifts in the name of a special animal companion, friend, or family member can be a fitting and lasting tribute that will benefit animals for generations to come. Donors may choose whether a gift will be used for the direct benefit of animals in the community, to support research projects, or for other priorities of the Centre. For more information on ways that you can support the work of the Centre and the Atlantic Veterinary College, please contact Rosemary O'Malley-Keyes, Major Gifts Officer, at (902)894-2865 or omalleykeyes@upei.ca.



Tel: (902)628-4360
Fax: (902)566-0958
E-mail: acrook@upei.ca
www.upei.ca/awc

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COMPLETED PROJECTS—2006

Improving testing for platelet function in dogs (pilot project)

S Burton, A Nicastro, B Horney

Dogs experience a variety of potentially fatal bleeding disorders. Some of these are due to alterations in platelets, which are essential components of normal blood clotting. Existing tests of platelet function are crude in nature and somewhat uncomfortable for patients, or require expensive and time-consuming shipment to specialized laboratories.

In 2004, the AVC Diagnostic Services Laboratory acquired a Platelet Function Analyzer (PFA-100), a machine that is used in human medicine to assess the function of platelets through a measurement called closure time. Dr. Burton devised this pilot project with the following objectives: to establish a normal reference interval for platelet function (closure time) in healthy dogs using the PFA-100 analyzer at the Atlantic Veterinary College; to perform in vitro testing to assess the level of anemia (PCV) at which the sample can no longer be reliably evaluated; and to make the PFA-100 analyzer available for use by clinicians for the assessment of platelet function in canine patients.

All blood samples used in this study were obtained from healthy volunteered dogs. Forty dogs of various breeds and ages had blood samples taken following signing of consent forms by the owners. CBC, serum biochemical profiles, and von Willebrand factor analyses were performed, and closure time was determined on the PFA-100 analyzer. Several dogs were excluded as outliers following data evaluation or because the preliminary screening revealed high liver enzymes or low levels of von Willebrand factor concentrations. These unexpected findings in presumably healthy dogs alerted the clinician and owner to possible changes in the health status of these dogs, allowing medical care if appropriate. All data from the dogs sampled were reported to the owners and copies sent to Medical Records to be inserted into the files of those dogs who are AVC patients. This will provide useful baseline information on these patients, to which values can be compared in the future if they become ill.

The reference interval for closure time on the PFA-100 analyzer in healthy volunteered dogs was determined to be 48-66 seconds. *In vitro* blood dilutions revealed that the analyzer was only trustworthy at hematocrit values of 0.35 L/L and above. An abstract describing this work has been submitted.

The PFA-100 analyzer is now available for assessment of platelet function in sick dogs. A proposal to investigate this further was approved in the 2006 SJDAWC competition (AWC News, summer 2006), with the potential to aid in the medical diagnosis and therapy of many dogs.

Pedometer-based physical activity in dogs (pilot project)

C Chan, S Ihle, C Tudor-Locke

Nearly half of pet dogs are overweight, but there has been little research done, outside of diet studies, to determine the best means of helping dogs to reach and then maintain a healthy weight. In people, an increase in physical activity is a crucial component of weight management. Dr. Chan's previous research has shown that the use of pedometers, small devices that count steps taken, can help motivate people to increase their physical activity.

The objectives of this pilot study were to determine if a pedometer-based physical activity intervention can increase physical activity in overweight pet dogs; and to identify factors influencing the success of the programme. Six dogs completed the facilitated programme, one dog completed the unfacilitated programme, and five control dogs completed their commitments. One additional control dog was euthanized prior to programme completion and one intervention dog did not attend any meetings. The interventions have now been completed so far as possible.

Data analysis is not yet completed. Preliminary examination shows that of the dogs completing the facilitated intervention, the average increase in steps was approximately 3000 per day. The owners increased their steps/day by an average of 6000/day. The control dogs and owners also increased their

activity, but only by about 1000 steps/day. This was probably related to improvement in the weather from March to July.

Owners of the dogs in both the intervention and control groups received information about the benefits of physical activity for themselves and their dogs. The owners became more aware of their dogs' present level of physical activity and what the owners can do to increase it. All owners whose dogs completed the study commented on how much their dogs enjoyed the increase in physical activity.

Information about this project is being disseminated in several ways. Dr. Chan attended the International Congress on Physical Activity and Public Health, hosted by the Centers for Disease Control and Prevention in Atlanta, Georgia, in April 2006. She was an invited speaker in the session entitled "Toward Purposeful Physical Activity: Promoting Health and Well-Being Through Dog-Walking." Development of the K9 First Step Program was highlighted in the talk. The investigators plan to publish the results of this pilot study and may also present at an appropriate veterinary meeting such as the American College of Veterinary Internal Medicine (ACVIM). If warranted by results from the pilot study, the plan is to conduct a larger trial, with the aim of demonstrating to owners and veterinarians the benefits of physical activity to dog health, thereby improving animal welfare. Efficacious interventions could then be added to the veterinarian's arsenal of strategies against canine obesity.

Stress reduction by environmental enrichment in shelter cats

S Dohoo, N Guy

Thousands of cats enter shelters in Canada each year. Initially, they are brought into a receiving and assessment area where they are vaccinated and held for several days. Cats who are offered places to hide within their cages generally have reduced levels of anxiety and fear. In this study, working with the PEI Humane Society, Drs. Dohoo and Guy assessed a simple method of providing cats in the smaller receiving cages with a place to hide, if they feel the need, by placing a simple curtain over one half of the door, leaving the other half uncovered.

Specifically, the study was designed to assess the stress reduction provided by cage door modification in cats housed singly in the assessment area of the PEI Humane Society shelter.

The study has been completed. Using various objective observations, the stress levels were compared between cats in the modified cages and those in unmodified cages. Cats housed in large cages with a curtain covering one-half of the cage door had significantly lower stress scores when compared to cats in cages of the same size without curtains on the door. There were no statistically significant differences in stress scores for other variables (food consumption, litter use). The curtain appears to be useful for improving welfare for cats housed in larger cages where it does not obstruct natural light but divides the cage into functional areas. Although further work is required to verify this finding, it is very encouraging that with a relatively small sample size this difference was detectable. Using a curtain to cover half of the cage door of cats housed in shelter situations may indeed provide an inexpensive and simple means of reducing stress levels for these cats.

The honours biology student responsible for the data collection has completed her thesis based upon the study.

Chlamydial status of genital tracts of cats on Prince Edward Island

L Gabor

Chlamydia is a common cause of upper respiratory disease and eye infections in cats, and can progress to pneumonia. It has been speculated that persistent infection in the genital tract is one of the main routes of infection for the general cat population—particularly for kittens—and may be a major cause of infertility in breeding catteries as well as wild populations. In humans and in koalas with chlamydiosis, genital persistence occurs and may be both a major route of, and a reservoir for, infection.

The objectives of this study were to examine formalin-fixed genital tracts from cats neutered through the *Feral cat neutering project*; and to examine the tracts of female cats by polymerase chain reaction (PCR) testing for genital persistence

of the common feline pathogen *Chlamydia* spp. Examination of the anesthetized female and male cats in the study, and of the excised reproductive tracts, was incidental to the cats' participation in the *Feral cat neutering project*, and did not affect the cats in any way.

Sixty complete female reproductive tracts were examined and sampled. In the 35 uteruses examined histologically, there were no significant pathological findings. Additionally, all 60 reproductive tracts were PCR negative. (Positive controls for *Chlamydia* spp. were run in tandem, demonstrating the validity of the technique.) Twenty-five male cats were also examined, with no evidence of abnormalities.

The premise was that a pathogen such as *Chlamydia* would most likely be found in feral cats due to periodic spatial population accumulation and a relatively low plane of health. It has been postulated that genital (and intestinal) infection are the main causes of persistence in feral cat populations; its absence in a large cohort of physiologically stressed animals (trapped and typically pregnant) strongly supports the conclusion that *Chlamydia* spp. are not present in the cat population of PEI in any significant number.

Litter box size preference of domestic cats

N Guy, M Hopson

Inappropriate elimination, or failure to use a litter box, is the most commonly reported behaviour problem in cats. It is a frequent reason for relinquishment of cats to shelters, abandonment of cats, and euthanasia. Most cats with inappropriate elimination are apparently normal on physical examination and diagnostic testing, and it is believed that the most common reason for a cat to fail to use a litter box is that the box is in some way considered to be inadequate by the cat. Many treatments are used, sometimes including anti-anxiety medication.

This project was designed to describe normal preferences for cats for an elimination area, so as to identify some simple and effective components of the successful treatment and prevention of inappropriate elimination in cats. Specifically, the

objectives were to determine whether domestic cats living indoors demonstrate a preference for a larger litter box than is traditionally provided, when offered a choice of two different size boxes; to measure the frequency of elimination in these indoor cats and determine whether there is any relationship between this value and the provision of a larger box over a period of time; and to determine whether there is any association between choice of litter box size by the cats and the following factors: gender, number of cats in the household, declaw status, and any history of inappropriate elimination.

Data collection was undertaken in two phases in order to maximize the number of participants. Seventy-four cats from 45 households were enrolled, the majority coming from one- or two-cat households. One household withdrew from the study as the owner believed she was having an allergic reaction to the litter.

Data analysis has been completed. Preliminary analysis reveals an overall preference for the larger litter box over a four-week period, and the effect was typically immediate upon introduction of the new boxes. Some cats showed a much stronger preference for the larger box than others, and some demonstrated a very strong preference depending on the location of the box. It appears that there was also an interaction between the size of the box and its location, resulting in even greater use of the bigger box if it was in the "right" location. Over the four-week trial period there were a total of 5,031 (urine and fecal) deposits in the larger boxes compared to 3,239 deposits in the smaller boxes. In only four households were there fewer deposits in the large box than the small box, even though both were kept equally clean.

The results indicated that many cats clearly showed a preference for the larger boxes. No cats were reported to have eliminated outside of the boxes. A number of owners described their cats as being very interested in the boxes, to the point of rolling in them when they were first introduced and still completely clean. Many owners indicated that they will continue to use a larger box (and/or the new location) as it was obvious that there was a preference.

Determining that at least some cats have a preference for a different type of litter box than is typically provided is likely to have a significant impact on the welfare of domestic cats. Inappropriate elimination is an important welfare issue in cats as it commonly leads to relinquishment, euthanasia, and even unwarranted hospitalization, diagnostic testing, and the use of medication. A simple inexpensive management change such as increasing the size of a litter box is likely to be quickly adopted by veterinarians and their clients. As the cat-owners in this study were all veterinary or graduate students, they are likely to promote better litter box management to their own clients based on their personal experience in the study.

The results of this trial will be submitted for publication. Some of the results were described at a presentation on inappropriate elimination at the Canadian Veterinary Medical Association Annual General Meeting, St. John's, NL, July 2006.

Improved diagnosis in equine diarrhea (pilot project)

J McClure

Acute diarrhea is a life-threatening and costly disease in horses. The three most common infectious causes are bacterial—*Salmonella*, *Neorickettsia risticii*, and *Clostridium difficile*. Clinically speaking, these three bacteria cause similar illnesses, but the appropriate antibiotic therapy differs among them. It is important to start appropriate antibiotics early to reduce mortality and duration of illness; yet current diagnostic tests for these diseases require three to five days, or longer, before the results are available.

Real-Time PCR has promise as a diagnostic test because it can give rapid and reliable same-day results at an affordable cost. Real-Time PCR tests have been developed for *Salmonella* and *Neorickettsia risticii* in horses, but not for *Clostridium difficile*. This project was a pilot study to determine if a Real-Time PCR assay developed for the identification of *Clostridium difficile* in people would work in horses affected with the same bacterium. The specific objective was to develop a real-time PCR assay to detect *Clostridium difficile* in equine fecal samples.

Several different experiments were carried out at Evanston Northwestern Healthcare Institute (ENHI¹). The first involved growing clinical equine *C. difficile* isolates in culture, spiking them into equine feces that were negative for *C. difficile* based on both culture and real-time PCR, and then testing the doctored feces. The real-time PCR assay positively identified all 14 toxin B positive *C. difficile* equine isolates. In the next experiment, the sensitivity of the real-time PCR assay was determined by spiking feces with serial 1:10 dilutions of a known concentration of *C. difficile*. Three different *C. difficile* isolates were used for this study and the trial was repeated twice. Next, equine fecal samples from the veterinary schools at the University of Wisconsin-Madison and the University of Guelph were tested, as well as from two apparently healthy carriage horses from Chicago. A final experiment was carried out to study the effect of a selective enrichment broth on the recoverability of *C. difficile*.

This study demonstrated the utility of using real-time PCR assay for identifying *C. difficile* B toxin gene in horse feces. (The B toxin was used because current knowledge indicates that only *C. difficile* isolates that express B toxin are capable of producing disease.) When the real-time PCR was compared to enrichment broth and culture results performed at ENHI, the assay had a sensitivity of 100% and a specificity of 91%. (If one considers that two of the PCR false-positive results were likely truly positive because they were originally culture positive, then the specificity of the assay increases to 97%.) As with culture, incubation in enrichment broth beyond 24 hours did not result in any additional real-time PCR positive results.

The real-time PCR assay developed in this study will be a valuable diagnostic tool for identifying *C. difficile* diarrhea in horses so that early and appropriate antimicrobial therapy can be initiated, resulting in reduced mortality and morbidity. Future study using fresh clinical fecal samples will help determine if a 24-hour enrichment broth is necessary prior to real-time PCR for the detection of clinical *C. difficile* colitis in the horse. It is also currently unknown how many healthy horses

¹ Dr. McClure carried out this work while on sabbatical leave working with a physician in a research laboratory at Evanston Northwestern Healthcare Institute (ENHI), Illinois, where they are currently validating a real-time PCR test for *C. difficile* in people.

harbour *C. difficile* in their GI system. The PCR and culture methods developed in the present study will be useful tools in studying the prevalence in normal horses versus horses with colitis. In addition, it would be very worthwhile to attempt to multiplex this test with another equine colitis pathogen such as *Salmonella* sp. and/or *Neorickettsia risticii*. If successful, this would make the PCR assay more valuable, since multiple pathogens could be identified using one assay.

The information from this pilot project will be submitted for an abstract at a scientific meeting this year, and funding for additional studies will be sought.

Improved diagnosis of feline infectious peritonitis (FIP) in cats (pilot project)

C Yason, S Burton, A Lopez, D Shaw

Feline infectious peritonitis (FIP) is a serious viral disease that affects cats, causing debilitation, suffering, and, ultimately, death. The disease is caused by feline coronavirus (FCoV), a virus group that consists of the less pathogenic feline enteric coronavirus (FECV) and the more pathogenic feline infectious peritonitis virus (FIPV). The two viruses cannot currently be differentiated based on available sequencing; nor can they be differentiated by serology. Around 10% of the FCoV that infect cats can potentially cause FIP.

Young and older cats, and those that are under stress or in poor body condition, are most susceptible. The incidence of FIP is higher in catteries, shelters, and multi-cat households. There is currently no effective treatment and the effectiveness of the available vaccine is still uncertain. The diagnosis of FIP is a challenging task for feline practitioners and laboratories, because of the lack of a reliable blood test and because clinical signs of FIP mimic those of other diseases. Currently, the final diagnosis of FIP is based on histopathology of biopsy or postmortem materials confirmed by immunological tests. Without early methods of diagnosis, veterinarians and owners face the difficult decision of whether to euthanize a cat with suspected FIP, or to wait, recognizing that the cat may infect others.

The Regional Diagnostic Virology Service (RDVS) at the AVC is the only virology service for companion animals in Atlantic Canada. The goal of this project was to use technology developed by the RDVS laboratory to improve testing for earlier diagnosis of FIP, before the disease progresses to the terminal stage. Over the last several years, due in part to this pilot project, the tests for FIP have gradually been improved, with the following tests now available for clinicians and pathologists in Atlantic Canada.

1. Serology to detect antibodies to FCoV

The old inconsistent ELISA test has been replaced by the Indirect Fluorescent Antibody Test (IFAT), in which commercially available substrate (infected cells) is combined with serum from the cat in question. The degree of fluorescence, graded 1–4, generally correlates with the amount of antibody. This serology test is semi-quantitative and more consistent than previously.

2. Direct Fluorescent Antibody Test on tissue

This test is used to confirm FIP by reacting cryostat sections of biopsy or postmortem specimens (pyogranulomatous lesions) with fluorescent-labeled antibodies against FIP or FCoV. Some of the FIP cases in Atlantic Canada with typical FIP lesions based on histopathology did not react with the commercially available fluorescent-labeled FIP antibodies; this has been resolved through the use of FIP RT-PCR (#3 below).

3. Reverse Transcriptase Polymerase Chain Reaction (RT-PCR)

Through the pilot project, the test was optimized on field specimens such as peritoneal effusions, mononuclear cells from non-coagulated blood, serum, plasma, and tissues. The preliminary results show promise for the possible utilization of RT-PCR for clinical diagnosis of FIP. This needs to be validated further.

In addition, the RDVS under Dr. Yason is working on a quantitative assay using Real Time PCR equipment that has recently become available (Smart Cycler). RDVS will continue developing the quantitative FIP molecular assay, and carry out validation and investigation on whether it can be used for clinical (i.e., antemortem) diagnosis of FIP. Once validated, the Real Time PCR will replace the Reverse Transcriptase-PCR because it is sensitive,

fast, automated, and inexpensive, and can be used quantitatively.

Earlier diagnosis of this serious feline illness will enable better clinical care to minimize suffering in affected cats, even if the disease cannot be cured. Also, earlier identification of FIP carriers will be beneficial in the prevention and control of this fatal disease in animal shelters, catteries, and multi-cat households.

Canadian veterinarians' use of painkillers in large animals

C Hewson, I Dohoo, K Lemke, H Barkema

The objectives of this project were to determine the extent of use of analgesics (pain relievers) in cattle, pigs, and horses by Canadian veterinarians; to determine the reliability of these data; to determine the factors influencing analgesic use; and to transfer to Canadian veterinarians, veterinary students, and animal-owners pertinent information arising from the survey.

The survey was very successful, with a response rate of 50.1% (twice that obtained in comparable surveys conducted in the UK). The results can be said to be a fair representation of at least 50% of Canadian veterinarians who work with the species concerned. Moreover, the confidence intervals of the estimates of analgesic usage are narrow, indicating good precision of the estimates. Approximately one-fifth of the respondents (n=116) completed the questionnaire on two occasions and some 80% showed very repeatable responses. This indicates that the results are generally reliable.

The survey generated a great deal of information. Analgesic use was high for equine surgeries and for invasive surgeries such as Cesarean section in farm animals, although some 5 to 10% of respondents appeared not to give analgesia to cows undergoing that procedure. There were significant differences between all four groups in the prevalence of analgesic use for castration: <0.001% of piglets received analgesia compared to 6.9% of beef calves and 18.7% of dairy calves up to 6 months, 19.9% of beef calves and 33.2% of dairy calves over 6 months, and 95.8% of horses. The mean pain rating given for castration without analgesia in horses

(7.4 / 10) was significantly higher—by at least 1.5 units—than that in dairy calves, beef calves, and piglets ($P=0.0001$). There were additional differences between beef and dairy calves: among calves over 6 months, the proportion of respondents providing analgesia was significantly lower for beef calves than dairy calves ($P=0.001$). In the case of dehorning, the proportion of veterinarians providing analgesia to beef animals was also significantly less than to dairy calves, both up to 6 months old ($P<0.001$) and over 6 months old ($P<0.001$). Incidental findings, from voluntary comments by veterinarians, were that some veterinarians think rubber-ring castration is painless, and that dedicated continuing education on pain management of farm animals is not commonly available. Discussion with colleagues was highly ranked as a source of knowledge about analgesia, which is a concern in light of the low-level of use of analgesics for some procedures.

The principal factors affecting veterinarians' use of analgesics were analyzed using dehorning of calves as the signal procedure. Dehorning was chosen because it is a common procedure, questions about it provided the greatest number of complete responses, and the data showed the most even division between analgesic users and non-users (necessary for statistical power). An analgesic user was defined as someone who gave analgesic drugs to all calves undergoing dehorning. Factors affecting usage were as follows. (i) The odds of being a user increased with increases in the perception that dehorning without analgesia is painful. (ii) The odds of a vet perceiving dehorning without analgesia to be very painful were reduced if the vet perceived that owners were unwilling to pay, and that using analgesics did not greatly increase their personal safety. (iii) The odds of being an analgesic user were also reduced if the vet perceived that the owner was unwilling to pay. However, (iv) a very positive influence on analgesic use was the region where the veterinarian was in practice. Specifically, veterinarians in BC or Alberta were some six times more likely to be analgesic users than were veterinarians in Atlantic Canada. This finding may reflect the influence on veterinarians and farmers of groups such as the Animal Welfare Program at the University of British Columbia, and Alberta Farm Animal Care.

Two papers describing the results have been submitted to the *Canadian Veterinary Journal*. Dr. Lemke reported the findings at the American College of Veterinary Anaesthesiology (ACVA) meeting in Chicago in October. This information will also be presented at the Manitoba Veterinary Medical Association meeting in December, and the Ontario Veterinary Medical Association meeting in January. A summary of the results have been sent to all the provincial veterinary bodies and the CVMA, stressing the need for dedicated continuing education lectures about analgesia in farm animals. The authors and the SJDAWC have begun development with the CVMA of a poster and information sheet based on the results of the survey, and giving examples of pain management protocols for common surgical procedures in all animal groups, for distribution to all farm animal, equine, and mixed practices in Canada. In all these ways, the information will reach practitioners, farmers, veterinary academics, and, in turn, students.

This study was funded jointly by the SJDAWC and the Animal Welfare Foundation of Canada. To the authors' knowledge, this is the first national survey of analgesic use in farm animals in North America. The results provide a strong base from which to improve veterinarians' management of pain in these species.

Health management services for the PEI Equine Retirement Society Inc. (2004–06)
W Duckett

This project provides the means to help maximize quality of life for the horses that have been given a new lease on life through donation to the PEIERS. The objectives of this service project are to provide basic preventive medical care to incoming and resident horses; to minimize the spread of respiratory disease; to minimize the chance of contacting neurological disease, including West Nile Virus; to decrease parasite burdens for the horses at the facility; to increase the adoptability of the horses; and to provide an educational opportunity for senior veterinary students.

Through this project, each of the horses at the facility receives a physical examination; vaccination against influenza, rhinopneumonitis, viral

encephalidites, and tetanus; parasite treatment; and dental floating as required. Random fecal floatations on individuals in the herd have been performed to monitor parasite burdens. A relatively recent anthelmintic approved for horses, Praziquantel, was introduced into the deworming programme as an option for controlling tape worm infestations. Senior veterinary students were involved in each of the visits to the facility, thereby providing an opportunity for them to perform routine equine management work not commonly seen in academic practice.

One of the farm's horses, Gem's Dale, was diagnosed with a unilateral guttural pouch infection. Funds from the project allowed Gem's condition to be diagnosed and treated appropriately and he made a full recovery.



"Patlyn" with Danielle Doubleday (AVC 2006) and Dr. Tammy Muirhead carrying out deworming treatment

The PEIERS, as a non-profit organization, relies on private and corporate donations of money, goods, and services to continue operations. This

service project, funded through the SJDAWC since 1997, not only provides health care for the horses, but tremendously decreases the financial burden of caring for them. The basic veterinary services provided through this project are very much appreciated by the members of the PEIERS. A proposal to continue this project was approved by the SJDAWC for 2006–08 (AWC News, summer 2006).

Health management services for Handibear Hills Horse Sanctuary Inc. (2004–06)

W Duckett

With similar objectives to the above project with the PEIERS, this project provides consistent basic health care to the horses at Handibear Hills Horse Sanctuary Inc. in Breadalbane, PEI (www.handibearhills.com). There are currently 21 sanctuary horses at the facility, who vary in age and background. Examples include “Jeannie,” a 21-year-old Standardbred mare who was retired from racing to the farm seventeen years ago with a fractured carpal bone; “Sunday Scotia Maid,” a 21-year-old Quarterhorse mare who came to the farm eight years ago due to behaviour complaints and is now a riding horse; “Bunny,” a 5-year-old Standardbred filly who has been at the farm three years, following a severe hoof injury which has resolved; and “Darling,” a 5-year-old Shetland pony from an abusive situation, who is now in her third year on the farm. Some of the work on the farm is carried out by volunteers (both young people and adults) who learn to ride, drive, groom, and generally care for the horses, under the watchful supervision of owner Yogi Fell.

The care provided through this project includes necessary vaccinations, deworming, and dental care. Parasitologist Dr. Gary Conboy has worked with Ms. Fell to devise an effective deworming programme based on periodic monitoring of fecal samples from individuals and the herd. Deworming for strongyles, roundworms, bots, and tapeworms has been done in this manner, with Praziquantel now included to control the latter. The horses receive vaccinations against tetanus, the encephalidites (including West Nile virus), influenza, and rhinopneumonitis. Routine yearly dental exams are carried out, as well as teeth floating as needed.

Through this project, Dr. Duckett and senior veterinary students have been able to find and correct conditions affecting the behaviour of young horses and add to the comfort of the older horses.



Students Kim Kulik and Yvette MacLean carrying out dentistry on Molly

The provision of consistent, supervised basic health care helps to maximize the quality of life for all the horses at the farm. A proposal to continue this project was approved by the SJDAWC for 2006–08 (AWC News, summer 2006).

Medical and surgical care of homeless animals (2004–06)

C Runyon, J Miller

This service project is a continuation of the programme first funded through the Animal Welfare Unit in 1994. The primary objective of this project is to provide veterinary care for sick and injured companion animals brought in by the PEIHS or by Good Samaritans. The project also supports some pre-adoption neutering of animals from area animal shelters.

In the last 12 years, over 2,700 animals (primarily dogs and cats) have been presented to the

Veterinary Teaching Hospital (VTH) at the Atlantic Veterinary College through this grant. In the two years funded by this specific project (July 1/04 to July 1/06), 320 animals were treated at the VTH, including 104 cats, 121 dogs, and 5 rabbits. The majority of these were presented for illness or injury. Animals from the shelter population are seen and treated on an emergency basis or as routine hospital admissions, depending on the nature of the problem. Students within all fourth-year companion animal clinical rotations are involved in the diagnosis and care of these animals. The clinicians at the VTH work closely with Dr. Els Cawthorn, PEIHS Shelter Manager, to ensure that sick and injured animals are presented in a timely manner for best care and then returned to the Humane Society for adoption. Most animals, once healthy, are placed in homes. Some lost animals are claimed by their owners; others have such serious medical problems that euthanasia is the best option for them. Animals brought in for treatment by Good Samaritans are also sent to the Humane Society for adoption, after recovery. Additionally, some animals from the PEIHS are neutered at the VTH by fourth-year students or by interns, and then returned to the PEIHS to be adopted.



“Lucy” Mullaly, adopted after receiving care through this project for a broken pelvis and other injuries. As is typical, Lucy was brought into the VTH after being hit by a car. Her new owner reports that she now plays fetch, and loves to play chase with her fellow adoptee, a six-month-old German shepherd/husky mix.

This programme addresses the welfare of homeless dogs and cats through direct action and education. Clinicians and students appreciate the opportunity to aid in the treatment and recovery of hundreds of dogs and cats that

would otherwise most likely be euthanized. Many members of the AVC community have adopted shelter animals, particularly those with special needs, that have come to the VTH through this project. The increased cooperation

and communication between AVC and regional shelters helps veterinary students to better appreciate the problems of homeless animals and pet overpopulation, and the veterinarian’s role in resolving these problems.

A proposal to continue this project was approved by the SJDAWC for 2006–08 (AWC News, summer 2006).

Pegasus feral cat neutering programme (2005–06)

A Crook, W Grasse, D Eisenbart

Feral cats are neutered on Fridays at the AVC Veterinary Teaching Hospital through this project, which is funded by the Pegasus Family Foundation through the Peninsula Community Foundation. The original project goal was to neuter an average of five cats per week, but that number was surpassed over a year ago, at which time the project goal was increased to an average of six cats per week. Procedures are carried out as established by Dr. Peter Foley in consultation with the PEI Cat Action Team (CAT) for the SJDAWC-funded project, *Neutering feral cats on PEI*. Over the last year, procedures were carried out by Dr. David Eisenbart or by senior veterinary students under his supervision. Additional feral cats are neutered at participating Island veterinary clinics with funds privately raised by CAT. This neuter programme benefits the individual cats by decreasing fighting activity associated with mating and by preventing the spread of disease. On a broader level, the programme is also decreasing the proportion of reproducing feral cats on PEI, with the ultimate goal of achieving negative population growth.

The Pegasus Family Foundation has renewed funding for this project for a further six months, during which Dr. Anne-Marie Carey will be the clinician responsible for the programme.

Publications

Papers published in 2006 from SJDAWC-supported work are listed below. All publications to date are listed on the SJDAWC website.

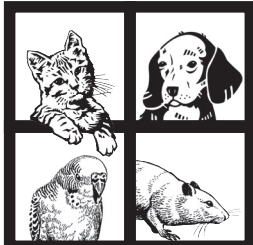
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- Vijarnsorn M, Riley CB, Shaw RA, McIlwraith CW, Ryan DAJ, Rose PL, Spangler E. Use of infrared spectroscopy for diagnosis of traumatic arthritis in horses. Am J Vet Res 2006;67(8):1286-1292.
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CONFERENCE NEWS

Animal Welfare: In Practice September 22–23, 2006

In September, the AVC Humane Ethics Club and the SJDAWC hosted the second annual “Animal Welfare: In Practice” symposium, with additional

ANIMAL WELFARE



IN PRACTICE

support from the Animal Welfare Foundation of Canada and Vetoquinol. This year's conference focussed on small and exotic animal welfare. As the keynote address, the 2006 Invited Lecture in Animal Welfare was given by Andrew Luescher, DVM, PhD, Diplomate of the American College of

Veterinary Behaviorists, and Director of Purdue University's Animal Behavior Clinic. Dr. Luescher's lecture was titled “Stress-related behaviour problems in dogs.” There were also talks on “Local and regional anesthetic techniques”

(Dr. Kip Lemke, AVC), “Psittacine management for problem prevention” (Dr. Andrew Luescher), “Issues in companion animal breeding” (Dr. Norma Guy, AVC), and “Zoo animal welfare” (Dr. Georgia Mason, Canada Research Chair in Animal and Poultry Science, University of Guelph).

Attendees included veterinary and animal science students, veterinarians, and animal welfare scientists, with the keynote address open to the general public as well. Congratulations to students Shawn Llewellyn and Tasha Kean on their successful organization of this conference. Plans are under way for the next “Animal Welfare: In Practice” symposium, fall 2007. Watch for further information in our summer 2007 newsletter, and on our website www.upei.ca/awc.

OTHER NEWS

2006 Christofo Award in Animal Welfare

Fourth-year student Rachel Lee is the recipient of this year's award, presented November 2 at the Atlantic Veterinary College Awards Night. Rachel is deeply committed to rural and international veterinary medicine, and has served as a Rural Area Veterinary Services (RAVS) volunteer for the



Presenter Dr. Alice Crook and 2006 Christofo Award recipient Rachel Lee

past two years. The RAVS programme, run by the Humane Society of the United States, promotes animal welfare by providing medical care to animals who would not normally receive it, educating community members about how to provide better care for their pets, and helping to control feral and stray populations, thus reducing illness and death among these animals and having a positive impact on public health within the community. As a RAVS volunteer, Rachel has traveled to communities in Ohio and Tennessee, and to the Republic of Palau in the Pacific Islands (AWC News, summer 2005). Using her experience with RAVS, Rachel assisted with planning, and participated in, the SJDAWC-funded *Chinook project* — *providing veterinary care to Kimmirut, Nunavut*, through which AVC clinicians and students carried out a week-long clinic in July in an isolated community on the south shore of Baffin Island to provide neutering and other veterinary care for 115 dogs, primarily sled dogs. Besides these programmes to provide veterinary care in under-served areas, Rachel also assists at her local animal shelter in Glen Cove, NY.

As a student at AVC, Rachel also participated in the Humane Education programme, using her parrot “Blue” to teach children about animal safety and care. She has been very active in enriching conditions for the teaching animals, including both participating in established programmes such as working with the teaching beagles, and developing new programmes with the teaching cows, horses, and birds—most recently leading a project to install a new custom-built aviary.

Rachel is a leader with vision, the capacity to motivate others, and the determination to follow through on initiatives. It is inspiring to hear of her passion for helping animals and people, and her desire to “make a difference.” There is no doubt that she will continue to do so, no matter where her career takes her. The SJDAWC wishes her well in all her endeavours, and congratulates her most heartily on her well-deserved receipt of the 2006 Christofor Award.

Animal abuse—web tool for veterinarians

Veterinarians are likely to encounter some form of animal abuse during their career. Whether providing expert advice to local humane authorities,

visiting neglected farm animals, or treating an animal victim of violence, veterinarians are on the front lines of dealing with abuse. Both to protect the animal, and because the abuse may be a sentinel for other violence that is occurring within the family, it is crucial that veterinarians respond effectively when abuse is suspected.

To assist veterinarians in such situations, the CVMA and the Animal Welfare Committee, with the collaboration of many contributors, have launched a new Animal Abuse section of the CVMA website. There are six sub-sections: Recognizing animal abuse; The link—animal abuse, child abuse, and domestic violence; Reporting animal abuse; Collecting and documenting evidence; Veterinarians as expert witnesses; and Building a safe and humane community. Go to <http://canadianveterinarians.net/animal-abuse.aspx> to learn more about this new resource for veterinary practitioners.

Update on Federal Cruelty to Animals Legislation Bills—C-373 and S-213

The most recent version of legislation to amend the animal cruelty provisions of the Criminal Code was introduced in the House of Commons on October 30, 2006, as a Private Member’s Bill. The new bill, now called C-373, is the same as the previous legislation, Bill C-50, which died when the Liberal government of Paul Martin fell in January 2006.

The amendments in Bill C-373 would replace sections 444-447 of the Criminal Code, which are largely unchanged since they were enacted in 1892. Bill C-373 would move cruelty to animals out of the property section of the Criminal Code, reflecting current societal views that cruelty against animals is a crime in its own right, and not merely a crime against property. The new bill would provide tougher punishments for killing or harming an animal, or for failing to provide adequate care, and would include new provisions to make it an offence to train animals to fight other animals or “to kill an animal brutally or viciously, whether or not it dies immediately.” The latter provision would address particularly violent, heinous actions such as the recent incident of extreme cruelty to a dog in Didsbury, Alberta.

The animal cruelty legislation has been before

Parliament in various guises since 1999. The legislation has received careful scrutiny in both the House of Commons and the Senate, and many organizations provided input through the respective Standing Committees, leading to some changes to the amendments initially proposed. A previous version of Bill C-373—C-10B—came excruciatingly close to becoming law in 2003 and was supported by the vast majority of Canadians, most animal industry groups, animal protection groups, as well as all parties in the House, but was held up in the Senate and then died when the election was called.

S-213

Bill C-373 is NOT the same as S-213, a private member's bill that was just passed by the Senate. Other than including provisions for increased penalties, S-213 contains the exact same wording for offences as the current Criminal Code legislation. Thus, many of the problems with the current legislation are retained in Bill S-213, as below. Each of these areas is addressed in C-373.

1. Bill S-213 maintains the outdated and confusing language of the original legislation, written in 1892. As well, S-213 protects different types of animals differently. Cattle are covered in a different section (444) from "dogs, birds or animals that are not cattle" (445).

2. S-213 maintains the wording of the current offence of wilful neglect. The requirement to show proof that a person intended to neglect their animals makes it extremely difficult to lay charges in cases of neglect, even where the animals have starved to death.

3. S-213 maintains the animal cruelty provisions in the property section of the Criminal Code. There is ample case evidence that treating animal offenses as property offenses has resulted in inadequate sanctions for those committing animal abuse.

4. S-213 does not address brutally or viciously killing an animal as a form of violence. Particularly violent, heinous treatment of animals should be a criminal offence, whether or not the animal dies immediately. For example, several years ago, two men were charged with beating their dog with a baseball bat but were not convicted because the dog died on the first blow.

5. S-213 does not make it an offence to train animals to fight other animals, nor to receive money for the fighting of animals. Society has a stake in addressing these issues, in part because these activities are commonly associated with organized crime.

Organizations that support Bill C-373, including the Canadian Veterinary Medical Association and the Canadian Federation of Humane Societies, do not support Bill S-213.

SPONSORS

The Centre recently received renewed funding for the sixth six-month phase of the *Pegasus feral cat neutering programme*. We are very grateful to the Pegasus Family Foundation, through the Peninsula Community Foundation, for this continued support.

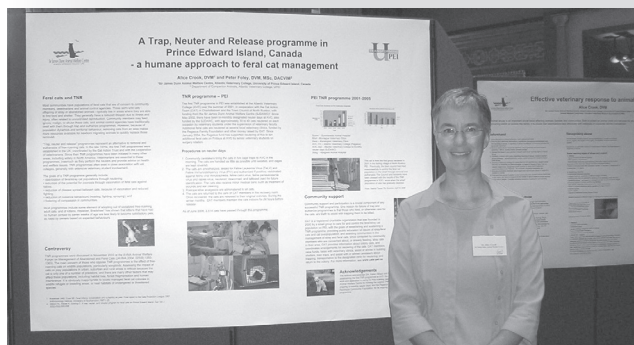
We are also very pleased to acknowledge generous financial support from Mr. David Madren, for three consecutive years, and we thank those pet owners who have made donations *in memoriam*. As always, we most gratefully acknowledge the ongoing financial support of the Friends of the Christofer Foundation, without which the SJDAWC would not exist.

Quality of life: the heart of the matter

September 13–14, 2006

by Alice Crook

I attended the conference, “Quality of life: the heart of the matter,” in London, England, in September. Organized by the British Veterinary Association (BVA) Ethics Committee and the UK-based scientific and educational animal welfare charity, the Universities Federation for Animal Welfare (UFAW), the conference brought together veterinarians, animal scientists, and physicians to discuss areas such as recent advances in methods for assessment of quality of life (QoL) in people and other animals, species variation in factors affecting quality of life, and ethical and practical implications for veterinarians and others of advances in understanding in this field. The main emphasis was to promote concern for quality of life in the care of companion animals.



A Crook with two posters presented at the QoL conference: “Effective veterinary response to animal abuse” and, with co-author P Foley, “A trap, neuter, and release programme in Prince Edward Island, Canada—a humane approach to feral cat management.”

Presentations on the first day looked at QoL measurement and its applications in people and animals, and at making inferences about animals’ feelings, with topics such as “Quality of life and evolution of the brain,” “Can we really measure quality of life? Methodologies for measuring quality of life in people and animals,” and “Quality of life, good welfare and the animals’ point of view.” In her presentation, “Communicating quality of life: the qualitative assessment of animal behaviour,” Dr. Francoise Wemelsfelder argued that we can gain a great deal of information about an animal’s own experience of its life by qualitative judgement of the whole animal—i.e., its expressive body language—to help us in assessing QoL. She pointed out that scientific research increasingly

supports the validity of such assessments, which must be done carefully, based on experience and training, and should not be dismissed simply as anthropomorphic.

Presentations on the second day looked at more specific issues—for example, “Enhancing quality of life for dogs and cats in confined situations,” “Cats are different from dogs! Developing behavioural indicators of pain in cats,” “Animal ethics dilemma—an interactive learning tool for university and professional teaching” (www.aedilemma.net). Dr. Paul McGreevy talked about “Breeding for quality of life,” including the major problems facing pedigree dog breeding that have resulted in the current situation in many breeds where inherited disorders can substantially impair a dog’s QoL. He also described the project he has established to gather, collate, and disseminate data on the prevalence of inherited disorders among Australian dogs (www.vetsci.usyd.edu.au/lida). Dr. Frank McMillan, in his presentation, “Predicting quality of life outcomes as a guide for decision-making: the challenge of hitting a moving target,” talked about the “disability paradox,” in which people with chronic illness and disabilities typically report greater satisfaction and QoL (through habituation, changes in perspective, coping strategies, etc.) than do healthy people imagining themselves similarly afflicted. Dr. McMillan hypothesized that the problem of mis-predicting QoL introduces a risk of poor decision-making regarding an animal’s welfare. In her presentation, “Autonomy and paternalism in quality of life determinations in veterinary practice,” Dr. Carol Morgan looked at how assessment and predictions of patient QoL permeate many veterinary decisions, and at some factors in how vets manage such decisions. Both Drs. McMillan and Morgan highlighted the lack of uniformity in defining and assessing patient QoL, which makes decision-making more difficult.

I have touched on only a few of the many interesting presentations at this conference. Abstracts of the talks can be found at www.ufaw.org.uk/quality-of-life.php, and the full papers, as well as abstracts of the scientific posters, will be published as a special supplement to *Animal Welfare*, the UFAW’s refereed international quarterly journal.



MANDATE

The Sir James Dunn Animal Welfare Centre exists to promote animal health and well-being in the broadest sense.

Objectives:

- 1) The Centre promotes research projects and service activities where there is a clear potential for tangible benefits to animals.
- 2) The Centre serves as a resource centre to compile, generate, and disseminate information relevant to the well-being of animals.
- 3) The Centre strives to raise the awareness of the public and the veterinary profession on broad questions of animal welfare and animal use, and to provide accurate, scientifically based information on these questions.

The Sir James Dunn Animal Welfare Centre gratefully acknowledges the continued support of the Friends of the Christofoor Foundation.