Toronto Academy of Veterinary Medicine

The Scalpel

Newsletter of the Toronto Academy of Veterinary Medicine

Vol. 32, #4 Oct. 2016

Guest COLUMN

Happy Ether Day!

Dr. Deanne Caines

Have you wished your colleagues a **Happy Ether Day**? Likely not.

Although admittedly not considered a Hallmark-worthy occasion, Ether Day holds great significance to us as veterinary professionals and the way we practice today. It is the day that commemorates one of the greatest advances in the medical world: the introduction of general anesthesia into medical practice.

It's difficult for most of us to imagine life before anesthesia. However there are multiple disturbing accounts of the unimaginable suffering of surgical patients, endured in the name of life-saving surgery. Eighteenth-century author, Fanny Burney, underwent a mastectomy prior to the practice of anesthesia for surgical patients, a situation unthinkable today. She, unlike many, survived the procedure, and years later described the experience in a memoir:

"When the dreadful steel was plunged into the breast - cutting through veins-arteries-flesh-nerves- I ... began a scream that lasted unintermittingly during the whole time of the incision - & I almost marvel that it rings not in my Ears still! So excruciating was the agony….I then felt the knife (rack)ling against the breast bone – scraping it! …

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Sponsor: Elanco

HOSPITAL PERSONNEL SERIES

Wednesday, November 9

7:30pm-10:00pm

Keeping Sharp on Veterinary Dental Instrument Care

Sponsor: ROYAL CANIN VETERINARY EXCLUSIVE

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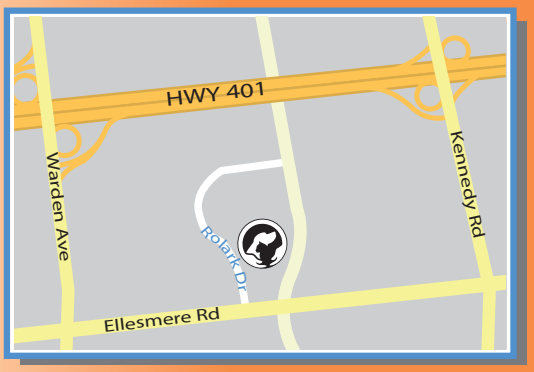

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The Scalpel

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Happy Ether Day!

Continued from page 1

I bore it with all the courage I could exert, & never moved, nor stopped them, nor resisted, nor spoke … When all was done, & they lifted me up that I might be put to bed … I then saw my good Dr. Larry, pale nearly as myself, his face streaked with blood, & his expression depicting grief, apprehension, & almost horror."

Surgeries of the time were performed with great reluctance from surgeons; very few surgical procedures were performed, and only after all other methods of treatment were exhausted. Surgeons described feelings of severe anxiety approaching a procedure, with *"a demeanor as the reluctance of one who has to face an unavoidable evil, and walking in to the operating theater as if going to a hanging".*

There are similar accounts from veterinarians describing methods of hobbling and strapping down veterinary patients while surgery was performed on the completely awake animal. Imagine facing that every day at work!

In the true spirit of the saying "necessity is the mother of invention", many surgeons were highly motivated to investigate methods to alleviate the agony of their patients. Many of the greatest strides in the development of anesthesia were initially made by scientists and surgeons desperate to improve conditions for their patients.

While the analgesic properties of opioids and belladonna alkaloids had been exploited for centuries, many experiments were conducted to further advance the compassionate treatment of surgical patients, and over the course of the 1500s – 1800s, there were multiple reports of experimentation with several chemicals known to cause stupefaction and euphoria in humans and animals alike. Ether had been experimented with in several species, and was known to cause the feeling of exhilaration in humans when inhaled. The recreational use of the drug, coined "ether frolics" was not uncommon, and during these uses it was noticed that an injury could occur without feeling pain. It was this side effect of the drug that prompted extrapolation of its use to the medical field.

"Ether Day" itself refers specifically to the first public demonstration of anesthesia via inhaled ether by dentist and scientist, William Morton, at Massachusetts General Hospital in Boston on October 16, 1846. He administered the drug to a man who then underwent surgery to remove a tumor. The painlessness of the procedure deemed the demonstration a success, and word of the drug and its implications in the medical field quickly spread around the world.

It is believed the use of ether in domestic animals happened shortly after the demonstration by Morton in

1846. In 1847, one year after Morton's demonstration, Edward Mayhew published his experience with ether anesthesia for minor surgeries in dogs and cats. While he acknowledged unconsciousness allowing the absence of obvious pain, the profound excitatory phase of induction was so disturbing to him he questioned if use of ether anesthesia was truly in the animal's best interest. This was one of the many reasons why, although it seems obvious to us today, the value of anesthesia in veterinary medicine was a tough sell in the beginning. Add to this the relatively high mortality rates encountered in the early days of anesthesia and you get a collective resistance to this new idea of alleviating pain and suffering in this manner.

Even once the use of general anesthesia became more widely accepted in veterinary medicine, it was, in its early days, purely for practical reasons. In the Manual of Operative Veterinary Surgery, Alandre Liautard wrote:

"The indication of anesthesia has not, to the same extent as in humans, the avoidance of pain in the patient as its object ... the administration of anesthetic compounds aims primarily to facilitate the performance of the operation for its own sake."

Over time, however, those attitudes changed. In 1919 the Animals Anesthetic Act was written in the UK, making it compulsory to use general anesthesia for many surgical procedures. This act was established as a result of public pressure, not so much on the moral consciousness of veterinarians, sadly. However, as clinicians saw the immeasurable benefits of anesthesia both to patient well-being and ease of surgical performance, general anesthesia soon became an indispensable part of our profession.

The deplorable attitudes about the management of surgical pain in animals is not surprising when you look a little closer at the beliefs of the time regarding the origin and meaning of pain. Early beliefs about pain, originating in 400 BC and continuing into the early 1800s, were in stark contrast from what we understand today. Pain in humans was believed to be the result of an imbalance among the fluid compartments of the body, a general symptom of general ill-health that can be drawn out of the body, not a symptom to be treated locally. For centuries, the pain experienced in the hours leading to death was viewed as a necessary part of the suffering for redemption and granting of eternal life. Eventually, beliefs about the origin and treatment of pain shifted.

From the mid-eighteenth century on, the use of opioids for the treatment of pain in adult humans became accepted. However, there was a long-standing belief that pain, as we know it, was not an experience that was possible in either animals or infants. While nociception, or the ability for the body to detect noxious stimuli, was generally accepted in animals, pain, defined by the International Association for the Study of Pain (IASP) as both a sensory and emotional experience, was beyond the cognitive reach of animals.

Over time, our abilities to both assess and treat pain in our patients, thankfully, has improved. For the past several decades, our understanding of pain mechanisms and pain behaviours in our patients has been the focus of many veterinary professionals. While animals have benefited from the strides that have been made thus far, there are still many areas of improvement, especially in the fields of pain management in research animals and large domestic animals.

The increased interest and passion of our profession to improve the perioperative management and management of both acute and chronic pain in our patients is demonstrated by the establishment of several veterinary organizations and scholarly meetings on the subject. The 1960s saw the appearance of residency-trained veterinarians specialized in anesthesia. The first formal group of veterinary anesthesiologists was the Association of Veterinary Anesthesiology (AVA) formed in Europe in the early 1960s. In 1975 the American College of Veterinary Anesthesia (ACVA) was formally recognized by the AVMA, and later its European counterpart, the European College of Veterinary Anesthesiology (ECVA) was established. What started as a handful of anesthesia specialists has today grown to approximately 250 board certified anesthesiologists in North America who are dedicated to researching and practicing anesthesia in all species. Anesthesia is also recognized as a specialty for veterinary technicians (VTS, Anesthesia) with a corresponding regulatory group, the Academy of Veterinary Technicians in Anesthesia and Analgesia. The evolution of pain management as a focus is also noteworthy. It has prompted the addition of the analgesia focus into titles of existing groups (both the ACVA and ECVA have added Analgesia to their titles, now the ACVAA and ECVAA) as well as the establishment of the International Veterinary Academy of Pain Management (IVAPM).

October 16th, Ether Day, is an opportunity for all of us to reflect on the strides made within the field of anesthesia and pain management. How fortunate we are to practice in an era when we can do so much to alleviate suffering in our patients.

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Dr. Deanne Caines, *DVM, DACVAA*

Dr. Deanne Caines comes from the province of Newfoundland and Labrador. She attended veterinary school at the Atlantic Veterinary College in Prince Edward Island, graduating in 2008. She then completed a rotating small animal internship at the Ontario Veterinary College in 2009, where she stayed to complete a combined DVSc. and residency in Anesthesiology. She became board-certified with the American College of Veterinary Anesthesia and Analgesia in 2013. She has been the staff anesthesiologist at the Toronto Veterinary Emergency Hospital since 2013. In her spare time she enjoys spending time with her two young boys and husband, also a veterinary specialist in critical care, running and the outdoors.

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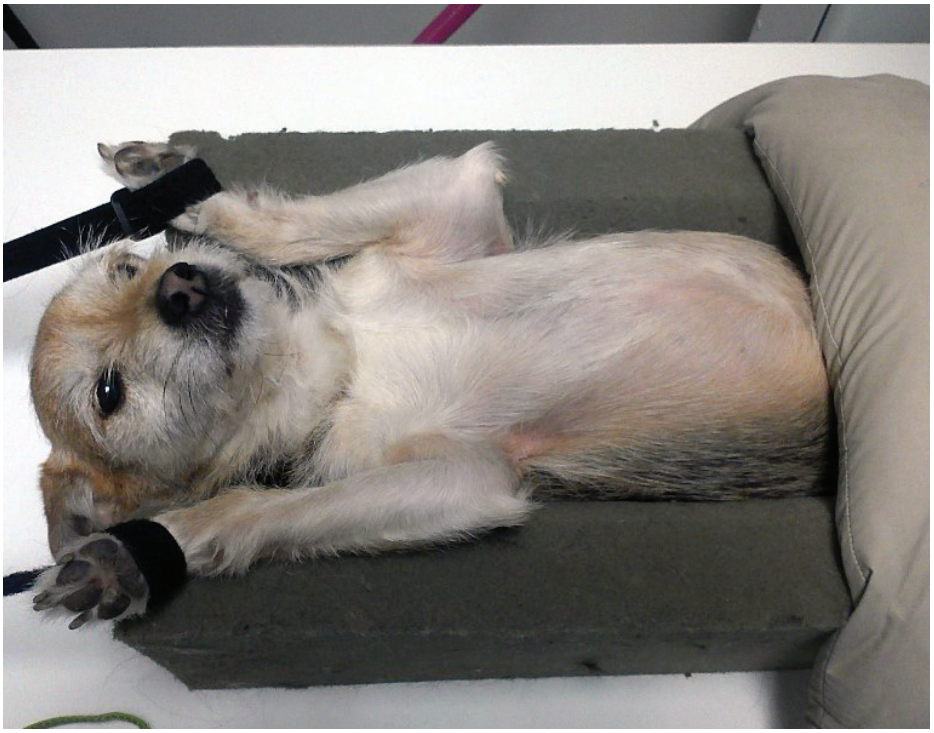
Is it time to put restraints on veterinary radiography?

Julia Bitan, RVT

When Dr. Debrah Berman, a Thornhill veterinarian with over 30 years' experience felt a lump in her tongue, she didn't think much of it. Up until that point her health had been excellent and she was following all current radiology safety regulations such as monitoring her dosimeter values and using all protective equipment. The diagnosis of Mucoepidermoid Carcinoma of the salivary gland (a type of cancer often associated with excess radiation exposure) came as a shock, and made her start questioning the safety of today's veterinary radiography.

"Since the 1990s, numerous jurisdictions in North America, and worldwide, have strengthened their regulations and best practice guidelines to actively move away from holding patients, in recognition that every x-ray taken increases the overall risk of cancer."



Easier than imagined: Restraint of an unsedated patient for radiographs

Outdated regulations

Although there are several provincial and federal laws in place to protect radiation workers in Ontario, the clauses specifically concerning veterinary workers have not been updated since 1990. According to a veterinary radiography survey conducted in partnership with the Ontario Association of Veterinary Technicians (OAVT) in April of 2016, 8 out of 10 RVTs still hold their patients during x-rays most of the time, while 7 out of 10 respondents choose to sometimes forgo the use of gloves and other protective equipment simply due to inconvenience.

Our human radiology counterparts in Ontario are rarely present in the room when x-rays are taken, because regulations state that no person should regularly perform manual restraining for x-rays. Technicians commonly request parents hold their own children if x-rays are required. Since the 1990s, numerous jurisdictions in North America and worldwide have strengthened their regulations and best practice guidelines to actively move away from holding patients, in recognition that every x-ray taken increases the overall risk of cancer.

Because we don't see regular reports of veterinary workers dying of radiation exposure, we may naively assume that modern science has overcome the dangers with newer machine design and intensive research. In reality, current occupational exposure limits are derived from decades-old research and we know that the risk of getting cancer increases with every exposure. Recent findings do show that extended exposure to a low level of radiation increases the risk of developing leukemia, while radiation-induced cataracts are observed at a much lower radiation dose than previously believed. In veterinary medicine, the damage caused by ionizing radiation is simply too low to be felt right away and the ALARA principle (As Low As Reasonably Achievable) is much too ambiguous in the context of our profession.

Change is happening

A small number of veterinary clinics in Ontario, including Toronto Veterinary Emergency Hospital and Referral Center (TVEH), began enforcing a strict no-hold, out-of-the-room x-ray policy to keep their veterinarians and RVTs away from ion-

Continued on page 8

Is it time to put restraints on veterinary radiography?

Continued from page 7

izing radiation emitted by the x-ray machines. TVEH started enforcing the 100 per cent-out-of-the-room radiography six years ago. RVT Ashley Jenner, head of radiology at TVEH, has developed a number of tools and techniques to make out-of-room x-rays possible. "Non-manual veterinary radiography is much easier and faster than most people believe," Jenner says. "All it takes is proper techniques and some extra tools." Jenner uses positioning devices alone on 75 per cent of her cases (non-sedated patients), and sedation on the remainder.

Dr. Debrah Berman is now "cancer-free" and back to practicing veterinary medicine. She now endeavors to obtain all her x-rays using positioning/restraining devices or sedation.

"Radiation exposure is cumulative," says Berman. "You may not realize until 20 or 30 years down the road that you have received too much. It may take a little more effort, but had I known that I would need to have a quarter of my tongue removed because of cancer, and that I'd have permanent nerve damage and varying degrees of chronic pain, I wouldn't hesitate. And, I am one of the lucky ones. We need to protect ourselves".

Transitioning to non-manual radiography is not always an easy task. Change is rarely welcomed in our profession and as long as the minimum standards are followed, there is little reason or incentive to change. We do, however, know there are risks involved with radiation, and alternatives do exist.

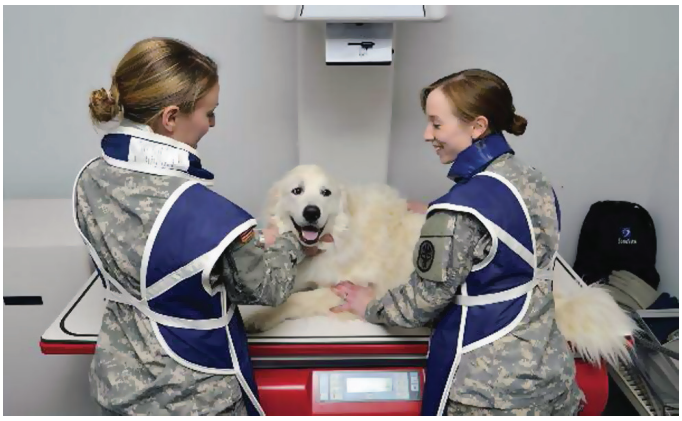
Together with Jenner, we created a program to guide clinics through transitioning to non-manual radiography using different tools and techniques. The Safe Veterinary Radiography Initiative aims to promote awareness and encourage change to current veterinary radiography. For more information about the program, visit www.safevetradiography.com.

For comments, feedback or help bringing change to your clinic, please contact Julia Bitan at info@safevetradiography.com or (647) 502-4843.

Julia Bitan *has been working in a small animal practice since graduating from the Veterinary Technician Program at Seneca College in 2008. She decided to start the Safe Veterinary Radiography Initiative after her friend and colleague Debrah was diagnosed with cancer.*

Julia released a veterinary radiography survey in April 2016, that received a high number of responses and feedback from RVTs, which proved that majority of RVTs are concerned about x-ray safety and are looking for holding-free alternatives. Since then she has been working with a number of provincial and federal organizations to bring awareness to alternatives that could reduce radiation exposure to RVTs. Julia is also involved in a number of outdoor education and leadership projects and spends her free time exploring Canadian wilderness by canoe with her husky Kaya.

"I am one of the lucky ones" - Dr. Debrah Berman



80% of RVTs still manually restrain nearly all their patients for x-rays

Note: This article originally appeared in the Summer 2016 issue of The RVT Journal. References available at www.oavt.org.

What is your Diagnosis?: Internal Medicine

Case STUDY

Joanne Cockshutt, DACVS, Debbie Reynolds, DACVS, Katrina Smith, DACVIM, Colleen Mitchell, DACVR and Ainsley Boudreau, DAVECC
Toronto Veterinary Emergency Hospital

Ruby, a three-year-old spayed female Golden Retriever, was referred to the internal medicine service at the Toronto Veterinary Emergency Hospital with a one-week history of inappetance, lethargy, and pyrexia following an episode of gagging and vomiting. Prior diagnostic procedures performed by the referring veterinarian included a CBC, serum biochemistry profile, 4DX test, and thoracic and abdominal radiographs. There was a mild mature neutrophilia and monocytosis, and thoracic radiographs were suggestive of a soft-tissue opacity in the caudoventral thorax. Ruby was pyrexic on presentation (40.5 C) but her physical examination was otherwise unremarkable. She had received treatment with maropitant and meloxicam prior to referral.

Abdominal ultrasound was normal; however, a lesion was identified in the caudal thorax. Thoracic radiographs were obtained. Lateral and ventrodorsal views are shown in Image 1 and Image 2, below:

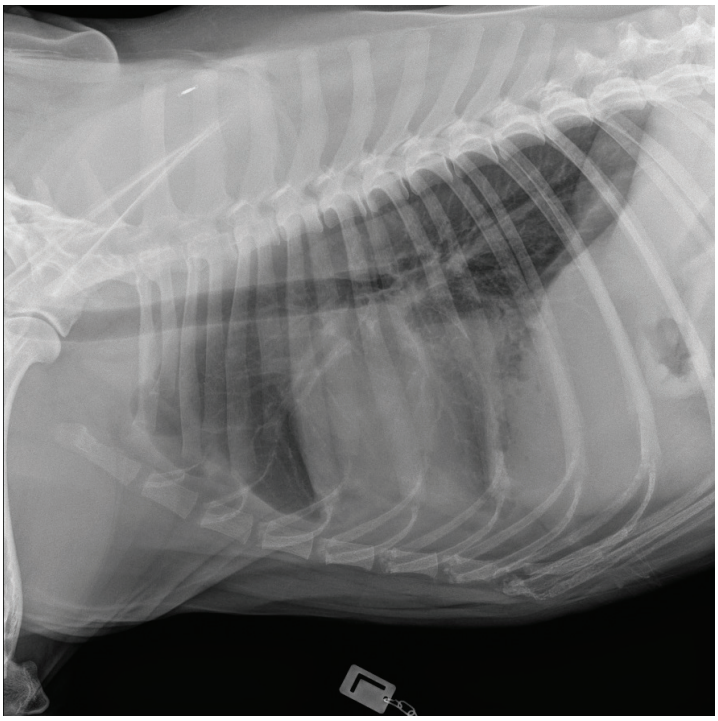


Image 1

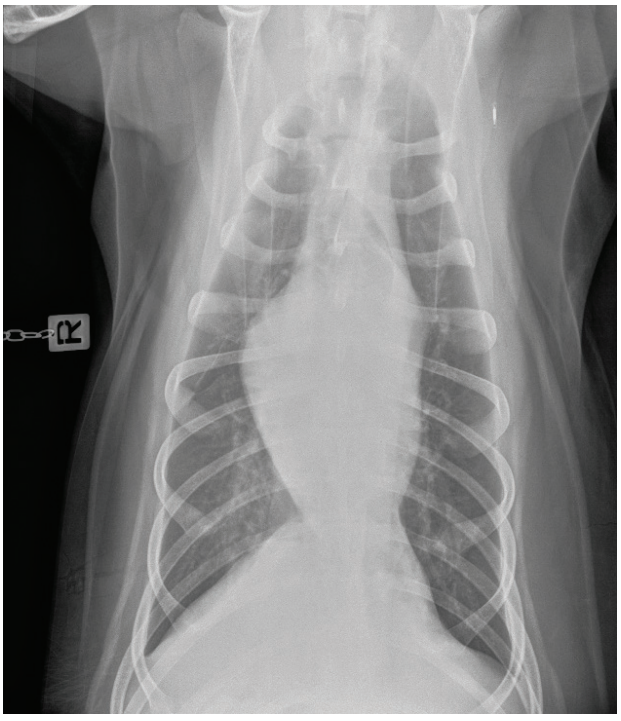


Image 2

What are the radiographic abnormalities and differential diagnoses? *... see page 12*

2016 SEMINARS

NOVEMBER 2016						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

VETERINARY SERIES

Tuesday, November 8
2:00pm-8:30pm

Anesthesia & Pain Management – A Case-Based Approach

SPEAKERS: **Craig Mosley,** *DVM, MSc, Diplomate American College of Veterinary Anesthesia and Analgesia Staff Anesthesiologist*
404 Veterinary Emergency and Referral Hospital
Conny Mosley, *DVM, DACVAA, CVA*
Staff Anesthesiologist
404 Veterinary Emergency and Referral Hospital

In addition to our ever more challenging caseload, there has been an exponential increase in anesthetic and analgesic related information coming to us from a variety of sources. It is often difficult to wade through this vast amount of information to determine what can reasonably, and soundly, be harnessed to improve anesthetic and analgesic care in our own practices. Anesthesia is a necessary tool for many diagnostic and therapeutic procedures and its application can sometimes be influenced by fear and myth rather than guided by confidence and evidence. The first part of the seminar will aim to help address some of the most common anesthetic related challenges and queries. Case examples will be used throughout the seminar to highlight issues ranging from effective sedation for diagnostic imaging through to the anesthetic management of geriatric patients with co-existing diseases (heart and renal). The use of current anesthetic monitoring, such as capnography and oscillometric blood pressure measurement, will be described highlighting both their clinical utility and shortcomings.

Our aging patient population continues to challenge us clinically as we are faced with more questions concerning pain management and quality of life issues. Pain services, adapted from the human model, are becoming increasingly available in veterinary medicine and may help prolong and improve the quality of life for patients suffering with chronic pain. The second part of the seminar will describe novel and creative approaches currently being used for the management of chronic pain. These therapies frequently require a more holistic and balanced approach to patient assessment and treatment.

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SPEAKER BIOGRAPHIES:

Craig Mosley, *DVM, MSc,*
Staff Anesthesiologist
404 Veterinary Emergency and Referral Hospital

Dr. Craig Mosley graduated from the Ontario Veterinary College in 1996 at the University of Guelph where he also completed a residency and Master's of Science program in veterinary anesthesia. Dr. Mosley has been actively involved in many facets of veterinary medicine since graduation including; mixed animal practice, critical care medicine, teaching, management, and of course, anesthesia in both private and academic practices throughout North America. Dr. Mosley's varied experiences have provided him with the foundation for his practical and "real-world" approach to anesthesia and pain management.

Dr. Mosley is currently working as a staff anesthesiologist with the 404 Veterinary Emergency and Referral Hospital. Dr. Mosley also consults independently with Mosley Veterinary Anesthesia Services, provides direct clinical support, continuing education and consultations to both private and academic institutions.

In his spare time, Dr. Mosley keeps bees, works on his "sailboat" and spends time re-exploring his home province with his veterinary anesthesiologist wife, and two young daughters.

Conny Mosley, *DVM, DACVAA, CVA*
Staff Anesthesiologist
404 Veterinary Emergency and Referral Hospital

Dr. Cornelia Mosley graduated in 1997 from the University of Leipzig in Germany. She completed her thesis in Munich and an anesthesia internship in Glasgow, Scotland. She then completed an anesthesia and analgesia residency at the University of Washington and Florida, where she developed her long-time interest in anesthesia of non-domestic species.

Dr. Mosley has held faculty positions at North Carolina State University, Oregon State University and most recently the Ontario Veterinary College at the University of Guelph. She has a passion for teaching veterinary trainees and her experience at several different institutions has given her a unique and broad perspective on teaching and learning. She has been formally recognized several times for her excellence in clinical teaching and brings these skills to her current position at the 404 Veterinary Emergency and Referral Hospital where she works closely with the staff and other doctors to improve and maintain the quality of anesthesia and analgesia.

In her spare time, she tries to keep up with her two busy daughters and her even more busy husband ... and sometimes she event gets to relax and read a book or two.

HOSPITAL PERSONNEL SERIES

Wednesday, November 9
7:30pm-10:00pm

Keeping Sharp on Veterinary Dental Instrument Care

SPEAKER: **Lee Jane Huffman,** *D.V.M., D.A.V.D.C. (Diplomate of the American Veterinary Dental College) Veterinary Dentist, Owner and Head of the MOVEH Dentistry Department,* Mississauga Oakville Veterinary Emergency Hospital and Referral Services

Veterinary Dental Instrument care involves dos and don'ts. The dos far outweigh the don'ts. The don'ts of veterinary dental instrument care are do NOT drop or improperly use instruments and do NOT fully immerse (water/cleaners) turbine-driven slow or high speed handpieces. The dos of veterinary instrument care include: adhering to manufacturer's recommendations while protecting your investments (instruments, staff), rapid sterilization of environmentally-contaminated (eg fell on floor) instruments, and end-of-procedure separation of instruments for and their proper pre-, intra-, and post-sterilization care including gross and fine debris removal (ultrasonic/manual), inspection for cleanliness and damage, rinsing, drying, lubricating, sharpening (in-house or out), pouching/wrapping, sterilization and drying, and organized storage in dry and protected areas.

Instruments should be safely handled (proper operating technique, replacement back in proper holders when not in the operator's hands) and transported (always in handled carrier vs hands or arms) against inefficient and expensive repairs. Back-up instruments on-site (more than one sterilized pack, scaler, high speed and slow-speed) or a buddy system with another clinic prevents having to embarrassingly reschedule or abort procedures when an instrument fails or becomes irreparably damaged before or in-use during a procedure. Professional maintenance or emergent repair largely applies to dental units and their handpieces. Such maintenance and repairs are costly and avoidable with scheduled daily, weekly, monthly, and yearly equipment maintenance (manufacturer/distributor outlined) such as the bidaily lubrication of handpieces and pressure setting checks, weekly draining water drain valves and discharge bottles, monthly compressor oil level checks and yearly oil and filter changes.

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SPEAKER BIOGRAPHY:
Lee Jane Huffman, *D.V.M., D.A.V.D.C.*
Veterinary Dentist, Mississauga Oakville Veterinary Emergency Hospital and Referral Services

Dr. Lee Jane Huffman attained her specialty in veterinary dentistry in 2005 after a two year formal residency at the University of Wisconsin-Madison followed by a year in San Diego with Dr. Brook Nierniec, DAVDC while awaiting her board exams. Prior to joining MOVEH in 2012, Dr. Huffman practiced as a veterinary dental specialist in Ottawa, then Thousand Oaks and Ventura, California. Before her residency, Dr. Huffman completed two small animal rotating internships (University of Missouri-Columbia; Meroplex Veterinary Centre in Irving, Texas) and worked in general practice and emergency-critical care in Burlington and Oakville. Dr. Huffman graduated from the Ontario Veterinary College in 1999 where she was awarded the Katherine Elizabeth Long DVM Memorial Scholarship for the student who demonstrates the highest standard of skill, knowledge and compassion for the animals under his/her care.

2016 SEMINARS

Mark your calendars for these exciting continuing education seminars. As always, seminars are held at Dave and Buster's in Concord.

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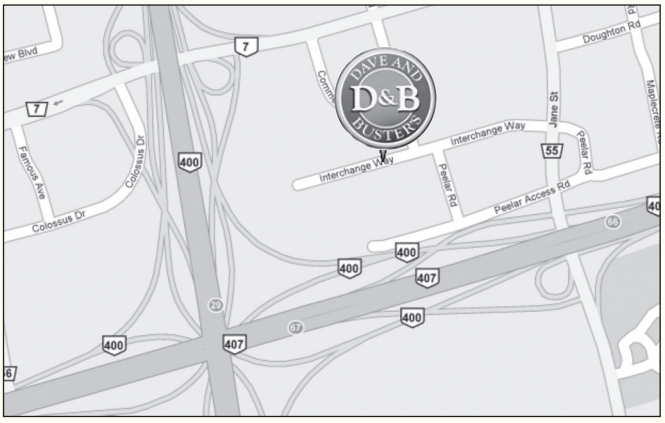

What is your Diagnosis?: Internal Medicine

Case STUDY

Continued from page 9

In the caudoventral thorax, effacing the cardiac and diaphragmatic borders, there is a poorly-defined soft tissue opacity containing multiple irregularly-shaped gas opacities. The accessory lung lobe is not clearly visible. The cranial mediastinum is mildly wide and in its ventral aspect, there is a round soft tissue nodule. In the pleural space, there is a small amount of free fluid. The differential diagnoses for the caudoventral thoracic mass include accessory lung lobe or caudal mediastinal lesion (e.g., lobe torsion, abscess, neoplasia). Differential diagnosis for the cranial mediastinal widening includes lymphadenopathy (reactive hyperplasia, metastasis, other), mediastinitis, granuloma and neoplasia. Thoracic CT exam was recommended and performed, images obtained post intravenous contrast administration are pictured here: Sagittal and dorsal reformatted multiplanar reconstructed images, Images 3 and 4 respectively.

In the caudoventral thorax, there is a mass (7.7 cm x 5.5 cm x 2.4 cm) that has a thin-walled, contrast-enhancing periphery and contains fluid and gas densities. This mass is dorsally in contact with the accessory lung lobe, ventrally with the sternum, cranially the heart and caudally the diaphragm. The accessory lung lobe is moderately compressed and dorsally displaced by the mass. The ventral aspect of the accessory lung lobe has an alveolar pattern. The cranial mediastinal lymph nodes are moderately enlarged. There is a small amount of pleural fluid, which contains contrast-enhancing strands of tissue. The differential diagnoses for the cavitated mass includes abscess and mediastinitis. For the lymphadenopathy, the primary differential diagnosis is reactive hyperplasia.

With ultrasound guidance, three milliliters of serosanguinous fluid were aspirated from the left cranial thorax. Cytology demonstrated highly cellular fluid with predominantly nondegenerate neutrophils with fewer foamy macrophages and small lymphocytes. A few reactive mesothelial cells were noted individually and in small clusters. The cytologic interpretation was marked neutrophilic inflammation, with bacterial infection the most likely explanation. Non-infectious causes (organ inflammation, trauma or underlying neoplasia) would not be expected to produce this degree of inflammation. Based on these findings, a mediastinal abscess was considered likely and thoracotomy was recommended. A median sternotomy was performed. Approximately 150 mls of purulent fluid was present in the thoracic cavity. The mediastinum, pleura and pericardium were moderately inflamed. Caudal to the heart, the mediastinum was adhered to the diaphragm, predominantly on the left hand side. Here, a wellcircumscribed abscess containing purulent and inspissated material was identified (see the intra-operative picture Image 5). The majority of the abscess was resected, but involvement of the vagosympathetic trunk and phrenic nerve precluded complete excision. No foreign bodies were visualized or palpated. The area was lavaged copiously. Excised tissues (abscess wall and a left caudal lung lobe lesion) were submitted for histopathology and the purulent material was submitted for culture. A thoracic tube was placed prior to closure to manage potential fluid and air accumulation in the thoracic cavity. A diffusion catheter was placed to allow local anesthesia administration along the sternotomy incision.

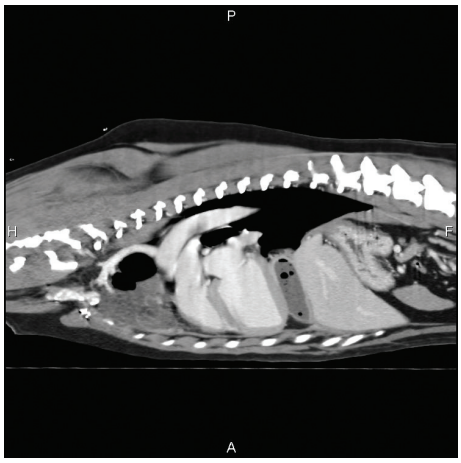

Image 3

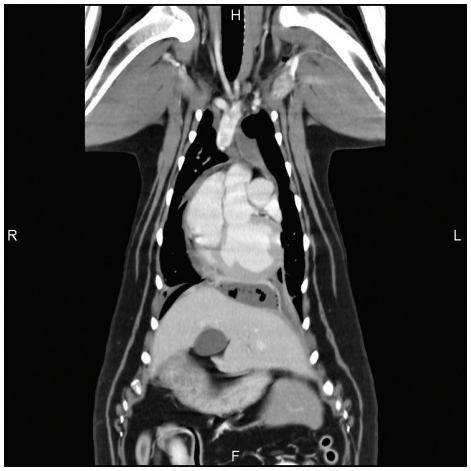

Image 4

Ruby recovered uneventfully from

Continued on page 14

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What is your Diagnosis?: Internal Medicine

Case STUDY

Continued from page 12

general anesthesia in the ICU. She received intravenous fentanyl, bupivacaine through the pain diffusion catheter and meloxicam for analgesia. Ampicillin and enrofloxacin were continued intravenously pending fluid and tissue cultures and Gram and acid-fast stain results. Histopathology results were consistent with severe, chronic, necrotizing and pyogranulomatous bronchopneumonia and mediastinitis. The abscess contained a marked mixed bacterial population including cocci as well as filamentous rod bacteria. While no foreign material was seen, activated macrophages containing abundant granular intracytoplasmic material were present. These gross and histologic features are most consistent with aspiration of foreign material or a migrating grass awn carrying in mixed opportunistic bacteria, which, thriving in necrotic foci, formed a mediastinal abscess.

Ruby remained in the ICU while being transitioned to oral analgesics (tramadol and meloxcam). The pain diffusion catheter was removed 36 hours after surgery. The chest tube was maintained for 72 hours post-op until the thoracic fluid cytology appeared nonseptic and the fluid volume reduced to < 5 ml/kg/day. Cultures revealed a *Bacteroides* species, therefore Ruby was transitioned to oral amoxicillin. She was discharged home on day four post-op on tramadol, meloxicam and an eight-week course of amoxicillin. At recheck six weeks post operatively, Ruby was doing very well. Physical examination was unremarkable, and thoracic radiographs revealed no evidence of pleural effusion.

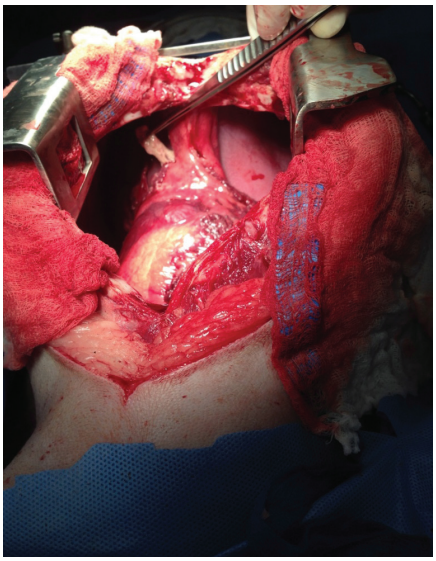

Image 5

Author Biographies

Dr. Joanne Cockshutt, DACVS, *was born in northern B.C. but grew up in Toronto before returning to the west coast to study at the University of Victoria. She received her DVM from the Western College of Veterinary Medicine, graduating with great distinction in 1979. Joanne returned to Ontario for an internship in small animal medicine and surgery at the Ontario Veterinary College, followed by a surgical residency. After completing an MSc in Surgery in 1984, she joined OVC's small animal surgery faculty. For the next 15 years Joanne was involved in management of referral surgery cases, clinical research, training of veterinary students,interns and residents, and speaking at veterinary conferences in North America and Europe. She is board-certified by the ACVS and has received multiple awards for excellence in teaching. She is particularly proud of having helped over 2000 Canadian veterinarians gain proficiency in surgery; some, sharing her passion for surgery, have themselves become specialists. In 2000, Joanne returned to private practice and in 2008 helped launch TVEH's referral service, bringing almost 30 years of surgical experience to the hospital. Dr. Cockshutt's areas of special interest include soft tissue and minimally invasive surgery. The author of many articles and book chapters on surgery, she serves on the editorial review board of Veterinary Comparative Orthopaedics and Traumatology, a leading surgery specialty journal. She is an enthusiast of anything outdoors, particularly hiking, kayaking, photography and travel, ideally in combination. These adventures are shared by her partner Kit, although not by Willis, their streetwise black cat rescued from Toronto.*

Dr. Debbie Reynolds, DACVS *was born in rural Australia where her family had a sheep and wheat property. It is also where she developed her passion for veterinary medicine. Dr. Reynolds completed a Bachelor of Science at Melbourne University in 1994 and then went on to complete her veterinary degree in Queensland, Australia in 1999. After graduation Dr. Reynolds began practicing veterinary medicine in a private mixed practice for 4 years working with both large and small animals. It was after that time that she decided to pursue specialization in Small Animal Surgery. After 18 months working as a surgical intern in Melbourne, a year in England working and travelling, she was accepted into a rotating internship at Washington State University. Following completion of her internship she went on to complete research positions in both gait analysis at WSU and regenerative comparative stem cell therapy at Michigan State University. After her time as a research associate, she was accepted into a 3 year surgical residency program in 2009 at the Ontario Veterinary College. Dr. Reynolds became boarded as a Specialist in Small Animal Surgery in 2013 at which time she joined the surgical team here at the Toronto Veterinary Emergency Hospital. Dr. Reynolds areas of interest are minimally invasive surgeries, fracture repair and osteoarthritis. In her spare time she enjoys a few rounds of golf, running, boating, fishing, travelling and looking after her black Labrador, Veronica.*

Dr. Katrina Smith, DACVIM, *obtained her BSc. from the University of Alberta in 1986, and her DVM degree from the Western College of Veterinary Medicine in 1990. She completed a small animal medicine and surgery internship at the Atlantic Veterinary College in 1991, followed by two years in private practice in Ottawa. Dr. Smith completed her medicine residency at the Ontario Veterinary College in 1996 (DVSc.), and received board certification with the American College of Veterinary Internal Medicine in 1998. She has been working with Dr. Avery Gillick since 1996. Outside the world of veterinary medicine, Dr. Smith enjoys spending time with her family, especially sons Matthew and Lucas, and the occasional free moment in her garden.*

Dr. Colleen Mitchell, DACVR, *graduated from OVC in 1986. She spent 18 years in small animal practice in southern Ontario. During this time, she developed a special interest in radiology and ultrasound which prompted her to enter the diagnostic imaging residency program at OVC in 2004. Dr. Mitchell became a Diplomate of the American College of Veterinary Radiologists in 2007 and completed her thesis (MRI findings in spinal ataxia) and DVSc degree in 2009. Dr. Mitchell joined the referral service at the Toronto Veterinary Emergency Hospital in 2008 as the first board certified radiologist in private practice in the GTA. Dr. Mitchell performs all in-house ultrasounds and reviews all imaging studies done at TVEH (radiographs, CT and off-site MRI). Dr. Mitchell also accepts radiographic studies from referring veterinarians by electronic transfer or courier for evaluation.*

Dr. Ainsley Boudreau, DAVECC, *graduated from the Ontario Veterinary College in 2005. She completed a small animal rotating internship at the Atlantic Veterinary College in PEI, in 2006. She then moved to Calgary, Alberta to work at the CARE centre as an emergency veterinarian in 2007. The following year she completed an internship in emergency critical care at the Iowa State University. After this she returned to Guelph, Ontario to complete a small animal emergency and critical care residency and DVSc at the Ontario Veterinary College from 2008 to July 2011. Some of her outside interests include: cycling, soccer, basketball, hiking and running. She currently shares residence with her three-legged dog "Molly".*

Can You Negotiate Free Rent? It is Possible for Veterinarian Tenants

Dale Willerton and Jeff Grandfield – The Lease Coach

As we explain in our new book, **Negotiating Commercial Leases & Renewals FOR DUMMIES**, free rent is just one negotiable factor in a commercial lease. Even if you did not receive a rent-free period when you signed your first lease, you may be eligible for one when you renew (although you may have to work harder to get free rent on a renewal).

This is probably the most unpredictable but most interesting part of the lease agreement we negotiate. Some landlords are quite flexible when it comes to free rent but others are not so liberal. To demonstrate, we remember negotiating for the first four years minimum rent-free (on a 10-year lease) for one tenant. For another tenant, The Lease Coach negotiated for 18 months free plus a $180,000 tenant allowance. Free rent on lease renewals is not unreasonable and often achievable in some situations – if you know what buttons to push with your landlord. Here are some tips for veterinarian tenants to remember:

Negotiate (Ask) for More Than You Expect to Get: Free rent is often one of the easiest concessions for a landlord to make. As a general negotiating rule, always ask or negotiate for more free rent that you need or want. This is especially pertinent if other commercial spaces in the premises are vacant and have been so for some time. Aim for at least one month of free rent for each year of your initial or lease renewal term. But remember to begin your negotiations at more than that. If you begin your negotiations at five months' free rent, you may be counteroffered three months of free rent.

Negotiate Half Rent-Free: Suppose you want seven months of free minimum rent but the landlord will give you only three months free. Rather than concede your position, you might counter propose that months 4, 5, 6, and 7 are half rent-free; that is that you pay only half the agreed-upon monthly rent. When renewing your lease, you will have more history on your side (you will have a track record of paying your rent on time), so you can easily ask for more.

Cashing in Your Free Rent: You may find it necessary to raise capital at some time in your business. If you have negotiated a free rent period for your lease agreement or your lease renewal, it may be possible for you to exchange that free rent for cash. Mind you, there is often a price to be paid! For example, if your rent is $3,000 per month and you have five months of free rent spread out throughout the lease term, the cash value is $15,000. However, because this means an outlay of cash for the landlord, he or she may want you to discount this cash value by up to 20 percent. You will have to weigh the pros and cons of your particular situation to determine if cashing in free rent minus a discount for the landlord still makes sense for you and your practice.

Be Observant: If your lease is coming up for renewal and you see signage on the outside of the building offering landlord-supplied inducement packages for new tenants, speak up! As an existing tenant (and proven customer), you should qualify for the same – or even better – inducement packages.

For a copy of our free CD, Leasing Dos & Don'ts for Commercial Tenants, please e-mail your request to DaleWillerton@TheLeaseCoach.com.

Dale Willerton and Jeff Grandfield - *The Lease Coach are Commercial Lease Consultants who work exclusively for tenants. Dale and Jeff are professional speakers and co-authors of Negotiating Commercial Leases & Renewals FOR DUMMIES (Wiley, 2013). Got a leasing question? Need help with your new lease or renewal? Call 1-800-738-9202, e-mail DaleWillerton@TheLeaseCoach.com or visit www.TheLeaseCoach.com.*

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In the NEWS

SASKATOON DOG DEATHS DEVASTATE FAMILIES
Toronto Star, The Associated Press
Tuesday September 13, 2016

SASKATOON—Families are mourning the loss of their pets after an apparent heating problem led to the deaths of 14 dogs at a Saskatoon boarding kennel over the weekend.

Ailish Irwin tells radio station CKOM the pain of losing autism service dog Arden is compounded by the void it now leaves for her six-year-old son, Easton.

She says the boy is "absolutely devastated" and she's not sure if he fully understands that Arden won't be coming back.

Officials with Playful Paws Center posted news of the tragedy to their Facebook page, saying a rooftop heating unit malfunctioned, pushing heat into an upstairs kennel room. Business owner Bonnie Clark said Monday there's still no confirmation on the cause of death but the heating units are being inspected to help pinpoint "exactly what happened."

Saskatoon's SPCA has also started an investigation into the deaths.

Irwin said she and her family usually took Arden everywhere with them but decided to leave her at the kennel on the weekend while they were attending a wedding in Calgary.

"We thought, 'Let's give her the weekend off. She would have more fun,'" Irwin said.

Arden was paired with her autistic son two years ago. The family waited three years for the highly trained dog and fundraised to cover the $30,000 cost.

"(Easton) went everywhere with her and she provided him with so much comfort, with safety," said Irwin. "She was always a constant in his life."

She called the dog's death "utterly horrendous and shocking."

There has been both condemnation and support for the boarding kennel in the wake of the deaths.

Fred Glawischnig, a former kennel operator who says he was hired by Playful Paws in January to evaluate what the company was doing, said he had warned of a problem with ventilation and inadequate air quality in the building.

"I said it's just a matter of time before an animal dies," he told CKOM.

He also said he recommended the company employ staff at night so the dogs would not be left unattended.

Clark said dogs at the kennel are left alone for 10 hours overnight, and described that as "standard" and information that customers are provided during an introductory tour of the facility.

Corman Park Veterinary Services, which rents a space beside Playful Paws, posted online that the kennel immediately took the deceased dogs to the local veterinary college for confirmation on cause of death.

"The staff of Playful Paws have acted professionally and respectfully in the aftermath of this situation," the post read.

"At times of such grief it is normal to lash out in anger and despair as has happened on the social media, however, it is also important to understand that real caring people are at the butt of these condemnations."

Clark said she has spoken personally with each and every owner who lost a dog and has offered to pay for the pets to be cremated, and for a private memorial service for each animal and their families.

"There has been nothing but tears in this building with every customer who's come through these doors," said Clark.

Acadia McKague's Funeral Centre is planning a public memorial for the dogs and their families on Saturday at 11 a.m. The service can seat 300 people with the possibility of outdoor broadcasting depending on turnout.

COMPANY AIMS TO GET THE SCOOP ON DISCARDED DOG POOP
The Toronto Star
Steven Goetz
Tuesday September 6, 2016

With no witnesses and few leads, the hapless detective is left shaking his head and covering his nose at the scene of this common crime: dog poop left on the street, in our parks and, increasingly, in our hallways and stairwells.

Fortunately, a new service in Toronto promises to track down scooping scofflaws and make them pay.

Poo Prints Canada has just launched in the city, offering its doggie DNA registry and poop-testing service to condo boards and property managers.

President Garry Bradamore says he got the idea last year when he started walking his girlfriend's dog outside his Fort York condo.

"There was dog waste everywhere," he said. "It was pure disgust. It was upsetting to see people were not being responsible for their pets."

Bradamore reached out to property management in his and other buildings in the neighbourhood to see if anything was being done. What he mostly heard were horror stories.

"In Liberty Village, Fort York and Queens Quay, they're telling me they find it in the stairwells, hallways and parking garages," he said. "People are throwing it off the balconies."

So Bradamore started his investigation into what could be done. Stations providing waste bags were well-intentioned, he said, but were often empty at the decisive moment. Dog bans — like one being considered by two CityPlace condo towers — are too extreme, he said.

Enter Poo Prints and its dog DNA registry and test kits, currently being used in 1,800 condo complexes in the U.S.

For a fee of $50 per animal, the company will facilitate a mouth swab of all dogs in a building to be sent to a lab for testing and registration. Property management can then send any poop they discover to the same lab where its source can be identified.

From there, fines can be issued to cover the costs of cleaning the mess, which Bradamore said could be as high as $300.

That may seem like a steep penalty to some, but Bradamore says it fits the crime.

"Some dog owners think it's good for our lawns, but it is identified as a toxic chemical," he said. "It carries bacteria and viruses and leaches into our water. We have to keep our residents safe."

DOGS IN THE OFFICE BOOST HAPPINESS, PRODUCTIVITY
The Toronto Star
Seth Porges
Tuesday September 6, 2016

With a growing body of research suggesting that a dog-friendly office could have a real impact on employee well-being and productivity, it's no wonder that more companies are welcoming furry friends into the workplace.

First, some background. In perhaps the most famous study on dogs in the workplace, researchers at the Virginia Commonwealth University Center for Human-Animal Interaction found that having dogs around the office produced a wide array of benefits for both pet owners and their pet-less co-workers.

The study, which was published in a 2012 edition of International Journal of Workplace Health Management, examined Replacements Ltd., a manufacturing services company in Greensboro, N.C., where several dozen dogs are present on a typical day. The study found that employees who brought their dogs to work experienced significantly lower stress levels during the workday and that a sizable portion of pet-free co-workers viewed the dogs' presence as having a positive impact on their productivity as well.

These results were consistent across a wide range of departments, from traditional white-collar fields such as sales and marketing to blue-collar sectors such as manufacturing.

The VCU study also supports the idea that

Continued on page 18

Continued from page 17

dogs could help inspire buzz-wordy concepts such as collision and cooperation. "When there were dogs at the office, we found that people who normally wouldn't talk to each other did and that all of a sudden there was a connection and a feeling that they were part of a team," said Randolph Barker, Ph.D., a professor of management at the VCU School of Business and one of the study's authors.

"The dog becomes a social lubricant."

Further studies support the notion that pets are natural stress relievers.

"Animals reduce activity in the hypothalamic-pituitary-adrenal axis, which is our primary stress response system," said Evan MacLean, Ph.D., an assistant professor of anthropology at the University of Arizona who studies the relationship between humans and dogs. "Stress can have a wide range of negative impacts on cognition, mood, and our interpersonal interactions. Keeping this system in check is critical for keeping us in the best shape to be creative, interactive, and productive."

Exposure to dogs could also increase the release of the hormone oxytocin, new research suggests. Although oxytocin is best known for its role in human and animal bonding, it has a wide range of effects related to overall health, sociability, trust, and how we generally get along. "With so much of our work depending on team dynamics and interactions in the workplace, these effects can be critical for well-being and productivity," MacLean says.

Of course, an office in which our canine companions run wild would also be extremely unproductive. Barker says organizations need to manager pets' presence effectively. That means talking to employees before dogs are introduced into the office and accommodating those who may have allergies or phobias.

Having a comfortable place for the dogs themselves to while away the working hours is probably a good first step toward mitigating any potential issues. Mattress Company Casper just released its first dog bed, which is made of foam the company claims lasts longer than a typical fiber-filled dog bed, while giving Fido a firmer surface to curl up against. (The version for large dogs might even passably do double duty for humans looking to sneak quick naps while curled up under their desks.)

Giving employees the ability to bring their pets to work could also serve as a low-cost wellness intervention or an effective recruiting perk, Barker says. And if the research is to be believed, the pros of a dog-friendly office could be worth making accommodations for our four-legged friends.

DOGS UNDERSTAND SOME HUMAN SPEECH, STUDY SUGGESTS
Toronto Star
James Gorman, The New York Times
Tuesday August 30, 2016

Who's a good dog?

Well, that depends on whom you are asking, of course. But new research suggests that the next time you look at your pup, whether Maltese or mastiff, you might want to choose your words carefully.

"Both what we say and how we say it matters to dogs," said Attila Andics, a research fellow at Eotvos Lorand University in Budapest.

Andics, who studies language and behavior in dogs and humans, along with Adam Miklosi and several other colleagues, reported in a paper to be published in this week's issue of the journal Science that different parts of dogs' brains respond to the meaning of a word, and to how the word is said, much as human brains do.

As with people's brains, parts of dogs' left hemisphere react to meaning and parts of the right hemisphere to intonation — the emotional content of a sound. And, perhaps most interesting to dog owners, only a word of praise said in a positive tone really made the reward system of a dog's brain light up.

The experiment itself was something of an achievement. Andics and his colleagues trained dogs to enter a magnetic resonance imaging machine and lie in a harness while the machine recorded their brain activity.

A trainer spoke words in Hungarian — common words of praise used by dog owners like "good boy," "super" and "well done." The trainer also tried neutral words like "however" and "nevertheless." Both the praise words and neutral words were offered in positive and neutral tones.

The positive words spoken in a positive tone prompted strong activity in the brain's reward centers. All the other conditions resulted in significantly less action, and all at the same level.

In other words, "good boy" said in a neutral tone and "however" said in a positive or neutral tone all got the same response.

What does it all mean? For dog owners, Andics said, the findings mean that the dogs are paying attention to meaning, and that you should, too.

That does not mean a dog won't wag its tail and look happy when you say, "You stinky mess" in a happy voice. But the dog is looking at your body language and your eyes, and perhaps starting to infer that "stinky mess" is a word of praise.

In terms of evolution of language, the results suggest that the capacity to process meaning and emotion in different parts of the brain and tie them together is not uniquely human. This ability had already evolved in nonprimates long before humans began to talk.

GIANT PANDA IS NO LONGER ENDANGERED, EXPERTS SAY
The Globe and Mail
Gerry Shih, Beijing, The Associated Press
Monday September 6, 2016

A leading international group has taken the giant panda off its endangered list thanks to decades of conservation efforts, but China's government discounted the move on Monday, saying it did not view the status of the country's beloved symbol as any less serious.

The International Union for Conservation of Nature said in a report released Sunday that the panda is now classified as a "vulnerable" instead of "endangered" species, reflecting its growing numbers in the wild in southern China. It said the wild panda population jumped to 1,864 in 2014 from 1,596 in 2004, the result of work by Chinese agencies to enforce poaching bans and expand forest reserves.

The report warned, however, that although better forest protection has helped increase panda numbers, climate change is predicted to eliminate more than 35 per cent of its natural bamboo habitat in the next 80 years, potentially leading to another decline.

In a statement to The Associated Press, China's State Forestry Administration said Monday that it disputed the classification change because pandas' natural habitats have been splintered by natural and human causes. The animals live in small, isolated groups of as few as 10 pandas that struggle to reproduce and face the risk of disappearing altogether, the agency said.

"If we downgrade their conservation status, or neglect or relax our conservation work, the populations and habitats of giant pandas could still suffer irreversible loss and our achievements would be quickly lost," the forestry administration said. "Therefore, we're not being alarmist by continuing to emphasize the panda species' endangered status."

Still, animal groups hailed the recovery of the bamboo-gobbling, black-and-white bear that has long been a symbol of China and the global conservation movement.

The panda population reached an estimated low of less than 1,000 in the 1980s due to poaching and deforestation until Beijing threw its full weight behind preserving the animal, which has been sent to zoos around the world as a gesture of Chinese diplomatic goodwill.

The Chinese government and the World Wildlife Fund first established the Wolong National Nature Reserve in Sichuan province in 1980. Wild panda numbers have slowly rebounded as China cracked down on the skin trade and gradually expanded its protected forest areas to now cover 1.4 million hectares (5,400 square miles).

International groups and the Chinese government have worked to save wild pandas and breed them at enormous cost, attracting criticism that the money could be better spent saving other animals facing extinction. The IUCN drew attention on Sunday to the 70 per cent decline in the eastern gorilla population over the past 20 years.

But the WWF, whose logo has been a panda since 1961, celebrated the panda's re-classification, saying it proved that aggressive investment does pay off "when science, political will and engagement of local communities come together."

Compiled by Brandon Hall

***Brandon Hall** is the acting Communications Manager for the Toronto Veterinary Emergency Hospital (TVEH). With a background in Event Planning and Hotel Management combined with his passion for animals, he is grateful for the opportunity to have both incorporated into his work-life. In his spare time Brandon enjoys evenings out with friends and family, riding horses and is usually seen with his dog Spencer tagging along beside him*

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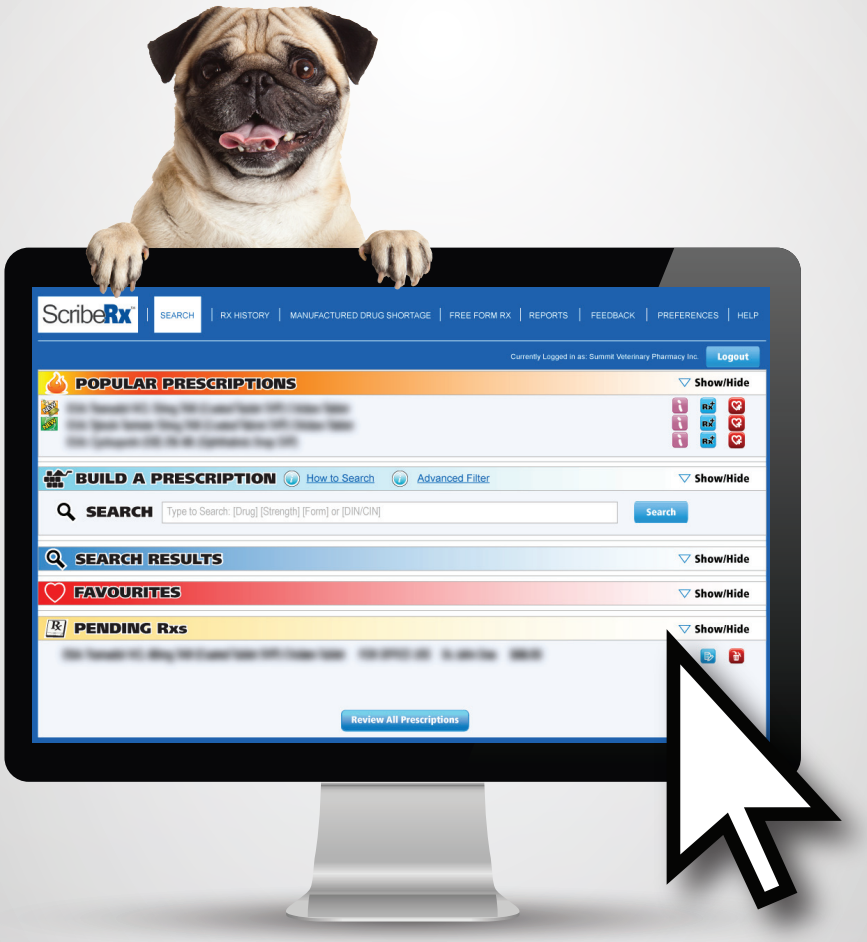

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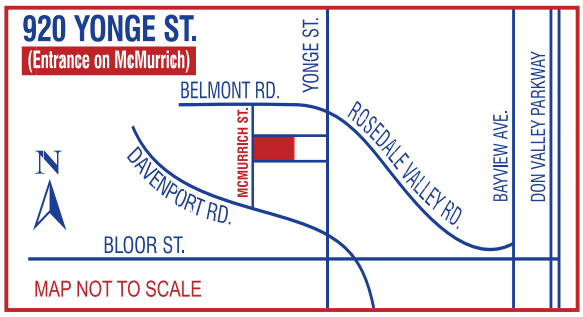

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