WEST COAST VETERINARIAN

JUNE 2013 | Nº 11

MRSP
A CLINICAL PERSPECTIVE

CAN YOU KEEP A SECRET?
CONFIDENTIALITY AT WORK

COMMERCIAL LEASING 101
WHAT YOU SHOULD KNOW

+ INTERPRETING HOLTER MONITOR RECORDINGS

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DR. ED WIEBE HASTINGS RACECOURSE VETERINARIAN

CVMA ACMV SBCV

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from the editor

COREY VAN'T HAAFF
EDITOR

I pretty much live my life as an open book. I blame the journalist in me, and an innate need to tell stories. Despite this openness, protection of privacy has always been near and dear to my heart. I am as staunchly supportive of the need to keep private things private as I am of the media's right to make known what should be made known. For the veterinary profession—for any health-care profession—the rules around privacy are sacrosanct, and I am so happy that this issue features an article about patient-client confidentiality to help you in your daily work.

While in university, I discovered horse racing at Hastings Park (and the accompanying act of gambling). Placing a bet and watching the horses run; feeling the sound of their hooves at the finish line shudder through my chest; listening to the announcer's voice almost shout the name of the winner—it's all still as exciting, some 30 years later. I envied Dr. Armstrong that same sense of excitement as she entered the track for the first time in pursuit of her story on Dr. Ed Wiebe, race track veterinarian.

Readers will also get to meet two new senior executives: Larry Odegard, the Registrar of the College of Veterinarians of British Columbia, who took over the reins in March, and the new Director of the WCVM Veterinary Medical Centre, Dr. Duncan Hockley. Finally, in the spirit of new challenges and continuing excitement, I also step into a new position as Executive Director of the CVMA-SBCV Chapter, in addition to my editor's duties.

ON THE COVER

Our cover features racehorses at Hastings Racecourse in Vancouver. Photo by Four Footed Fotos, Inc.

TO THE EDITOR

Your letters are welcome. They may be edited for length and clarity. Email us at wcveditor@gmail.com.

IN PRACTICE

Our newest column, In Practice invites submissions from veterinarians about a unique situation encountered in practice. Submissions should answer the following questions: who is the patient, what is the issue, what is the presenting complaint, what is the continuing complaint, what is the outcome?

WCV CONTRIBUTORS

SARAH ARMSTRONG, DVM, graduated from OVC in 2007. Following graduation, she worked full time in general practice and worked part time at a local emergency practice in Southern Ontario before moving to Vancouver, BC, where she currently works at the Vancouver Animal Emergency Clinic. Sarah is Vice-President of the CVMA-SBCV Chapter.

MICHAEL CHARACH, DVM, graduated from the University of Saskatchewan. He went on to complete a two-year residency in Veterinary Dermatology at the University of Florida, becoming the first western Canadian board-certified veterinary dermatologist. In 1994 he opened the Animal Dermatology Clinic of BC and in 2011 opened the Animal Dermatology Specialists of Vancouver.

DOUGLAS JACK is Counsel to the national law firm of Borden Ladner Gervais LLP. He specializes in the law as it relates to the practice of veterinary medicine. A founding and charter member of the American Veterinary Medical Law Association and the only Canadian to have served as its president, he is the author of several books and published articles and a sought-after speaker at veterinary conferences.

ROBERTO SANTILLI, DVM, PhD, D.E.C.V.I.M.-C.A., graduated from the Veterinary College of the University of Milan in 1990. He is chief of the cardiology divisions of Clinica Veterinaria Malpensa in Samarate, Varese, and of Ospedale Veterinario I Portoni Rossi in Zola Predosa, Bologna. His main research activities include the diagnosis and treatment of arrhythmias in dogs, and he directs the worldwide telemedicine service www.ecgontheweb.com.

MARLENE SMITH-SCHALKWIJK, DVM, graduated from the State University of Utrecht, Holland, in 1976. After moving to Canada she worked in mixed animal practice in Alberta and BC, complementing western medical approaches with Traditional Chinese Veterinary Medicine, acupuncture, Chinese Botanical medicine, homeopathy, and chiropractics. Now retired, she continues her research on histiocytosis in the Bernese Mountain Dog.

KATHRYN WELSMAN, DVM, graduated from OVC in 2007 and practiced emergency medicine in the Lower Mainland until recently moving to Clinton, BC, where she works as a locum while taking advantage of the beautiful location for outdoor activities.

DALE WILLERTON is The Lease Coach and a commercial lease consultant who works exclusively for tenants. Dale is a professional speaker and author of *Negotiating Commercial Leases & Renewals For Dummies* (May 2013 release). www.TheLeaseCoach.com.

WCV
JUNE 2013

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SERVING THE NEEDS OF BC VETERINARIANS

BY JIM FAIRLES, DVM

Members of the CVMA-SBCV Chapter benefit from both local and national exclusive member services. At the national level, here's an overview of what the Canadian Veterinary Medical Association has been working on for you lately.

Veterinarians were represented by the CVMA at a recent Health Canada consultation meeting on veterinary drug regulatory modernization, during which key discussions on drug importation took place. For many years, the CVMA has been urging Health Canada to close two regulatory loopholes. These voids in regulation pose risks to animal health, public health, and food safety. The CVMA has concerns about the lack of regulation that allows the importation of active pharmaceutical ingredients and their direct administration to food animals. The CVMA is also concerned with the importation of over-the-counter veterinary drugs not approved in Canada, using Health Canada's policy for "own-use importation" (OUI). In particular, we are concerned about the importation of antimicrobials. This provision was originally intended for people travelling abroad to return to Canada with a short supply of human medications for their personal use. Livestock producers have been using this OUI policy loophole to import veterinary drugs into Canada. Currently, the CVMA is reviewing two proposals brought forward to address these long-standing veterinary drug importation regulatory gaps. National veterinary species associations (Canadian Associations of Bovine, Poultry, and Swine Practitioners) will be consulted so that the feedback to Health Canada from the veterinary profession in Canada is cohesive and complete.

Recently, the CVMA Council approved the following revised position statement on Tail Alteration of Horses: "The Canadian Veterinary Medical Association (CVMA) is opposed to the surgical alteration of the tail of the horse for cosmetic or competitive purposes. This includes but is not limited to docking, nicking, and blocking. These procedures do not contribute to the health of the horse and are used primarily for gain in the show ring (nicking, blocking, and docking) or because of historical custom (docking). Surgical alteration of the tail must only be performed when it is deemed medically necessary by a veterinarian (e.g., injury)."

Council also approved the following revised position statement on Electroejaculation of Ruminants: "The Canadian Veterinary Medical Association (CVMA) holds that electroejaculation is acceptable as a component of a breeding soundness examination of sexually mature ruminants."

Join us in Victoria this summer for the 65th CVMA Convention, presented in partnership with the CVMA-SBCV Chapter. Dr. Jeanne Lofstedt, Scientific Chair for the 2013 CVMA Convention, has designed an exciting and rich program for this year's convention. Four days of continuing education focusing on small animal, equine and bovine, and exotic pet medicine are being offered, in addition to sessions on animal welfare and business management issues. The convention showcases an impressive roster of speakers from Canada and the United States who will address current and emerging issues in the veterinary profession. A total of 24 hours of continuing education credits can be earned to update your professional credentials. Session descriptions are available in the program guide.

Attend the 2013 Summit of Veterinary Leaders "The Two-Edged Sword: Animal Welfare in Veterinary Practice" this summer during the CVMA convention, where animal welfare will be examined from various perspectives. Free one-on-one business consultations are being offered for CVMA members during the convention. A limited number of spaces are available. These personalized and private one-hour consultations (value of $350) can help you make positive changes in your practice. Contact Oliver Hoffmann, CVMA Project Coordinator, at ohoffmann@cvma-acmv.org, to book your free consultation.

We welcome your comments and inquiries. Please contact us by email admin@cvma-acmv.org or by telephone, 1.800.567.2862. Your feedback is extremely valuable to us.

I hope to see many of you in Victoria next month!

A graduate of the Ontario Veterinary College and the University of Guelph, MBA, Jim Fairles, DVM, is retired from a mixed practice in Ontario and currently works at the University of Guelph's animal health laboratory as the client services veterinarian. Not only is he engaged in organized veterinary medicine as a member of CVMA's governing body, his interest in dairy, beef, and swine health management and expertise in diagnostics are put to good use as the CVMA representative on the Canadian Animal Health Coalition.

cvma-sbcv chapter president's report

BY MARCO VEENIS, DVM

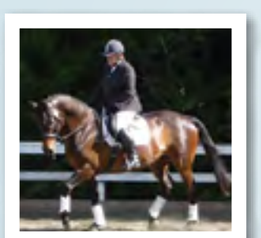
Early this spring, our Executive Director Ilona Rule informed us she wanted to retire so she could spend more time with her family and her horses. We were sad to see her go as she has been a great force behind the scenes. Many have asked us how we find time in our busy lives to run the CVMA-SBCV along with the demands of our jobs. The answer has been Ilona; without her, it would have been impossible. We plan and strategize, but she did the hard work. She was instrumental in organizing our AGMs and conferences and keeping us on track. I would like to express our gratitude for all the hard work she has done and wish her many happy trail rides in retirement.

Ilona leaves big shoes to fill, and we interviewed a number of candidates for the job. We were already quite familiar with one candidate: our Editor Corey Van't Haaff. Corey's knowledge of, and connections in, our industry tipped the scales in her favour, and we have appointed her as our new Executive Director. We are looking forward to working with Corey in her new capacity. She and her team will continue their work for this magazine.

As you may recall, the pet cremation industry got some bad press last year when CTV published a study that showed some crematoriums were not returning the proper remains to grieving owners. This led to a discussion between us and representatives from the pet cremation industry, and the result is that the CVMA's National Affairs committee is now helping to create standards for the industry. The CVMA-SBCV Chapter was also interviewed by CTV on the subject of declawing cats and used this opportunity to advise pet owners to discuss their options with their trusted veterinarian.

This summer our partners at the CVMA will be hosting their annual conference in Victoria in July, and I would like to invite all of you to join us there to enjoy quality CE, to meet old friends, and to enjoy the beauty of Victoria.

Marco Veenis, DVM, graduated with distinction from Utrecht University in the Netherlands and practiced in Holland for nine years before moving to Canada in 1998. For the past 10 years he has raised his family and run a successful small animal clinic in Kelowna. Marco enjoys the daily challenges that practice presents him with and is proud to be a member of BC's veterinary community. As an immigrant and newly minted Canadian, he is grateful for the opportunities Canada has offered him and likes give back to his community by volunteering his time for organizations like the CVMA-SBCV Chapter.



THANK YOU, ILONA

Ilona Rule and her Hanoverian gelding Widakur (barn name Roger). "We ride and show dressage together." Ilona is looking forward to more horse riding and less office work.

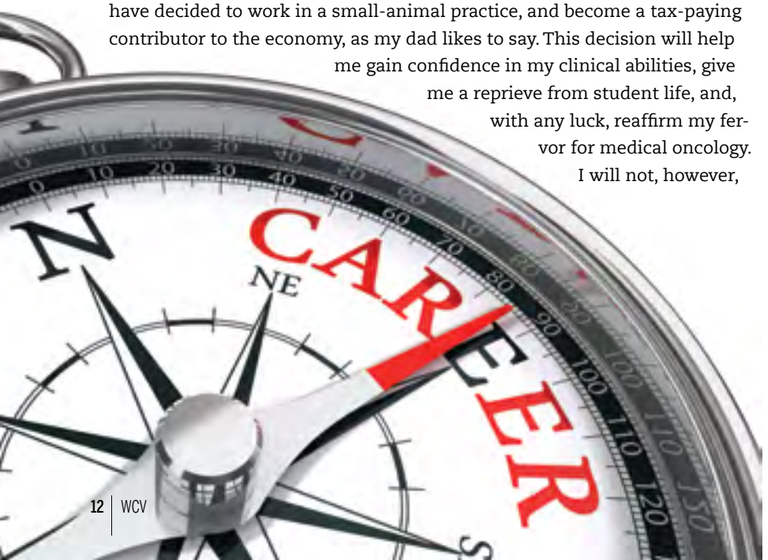
DECISIONS, DECISIONS, DECISIONS

BY JORDIE SCHNARR, DVM

Decisions can be answers to questions as simple as "What should I eat for breakfast?" or as complex as "How should I invest my income?" Never has a year been so full of life-altering decisions as my final year of veterinary school. The choices for what could follow are abundant: an internship, a job, a Master's degree or PhD, even a completely new career! What do we do next when we have been students our whole lives, utterly dedicated to one specific goal? Now that we have obtained that DVM, where do we go from here?

We navigate our own paths. When I began veterinary school, I was already thinking about specializing. Continuing my education beyond vet school seemed to be the only option. I entertained the idea of many different specialties: surgery, internal medicine, anesthesia; and I ultimately settled on medical oncology. Upon entering fourth year, I was ready to make all the necessary steps to apply for an internship. However, as my final year wore on, I was conflicted. While feeling no less passionate about medical oncology, I was looking at another four years of school and feeling hesitant. While suffering from Peter Pan syndrome (the inclination to never grow up), I was astonished to find myself so unsure. At 26 years old, I have never had a "real job," I still live with my parents during the summer, and I have not travelled outside of family and academic trips. To further confound matters, I miss my family, friends, and my beautiful home of Vancouver. I felt myself wanting to pursue another adventure, that of adulthood.

So, after much vacillation and many discussions with colleagues, mentors, and loved ones, I chose to postpone a specialty for the time being. I have decided to work in a small-animal practice, and become a tax-paying contributor to the economy, as my dad likes to say. This decision will help me gain confidence in my clinical abilities, give me a reprieve from student life, and, with any luck, reaffirm my fervor for medical oncology. I will not, however, be closed off to other opportunities outside of specialization. If there is one thing that I have taken from my veterinary education, it is to keep myself open to the multitude of compelling possibilities a DVM degree grants us. I could fall in love with small animal practice and end up owning a clinic. I could decide to pursue a PhD and work in academia. I could work in specialty practice. Or I could do all three.



Essentially, this decision means that, like many of my peers, I am on the hunt for a job. With my search focused mainly around my home of Vancouver, arguably one of Canada's most competitive job markets, it may prove to be challenging. While many of my classmates have found openings in the Prairies, the pursuit of a job in British Columbia has been arduous for everyone. Furthermore, not every practice wants to take on a graduate with minimal experience. For a recent graduate, one crucial criterion when considering a practice is its devotion to mentorship. Our education has given us the foundation to begin our careers, but we have merely laid the bricks and foundation. The idea of practicing on our own can be daunting, but knowing that we have someone in our corner alleviates our anxiety. I will start searching for that elusive job, but for the summer the travel bug beckons me. When I return, I will be eager to discover the diverse and exhilarating path which follows graduation. WCV

Jordie Schnarr, DVM, is a graduate of the 2013 WCVM class. She blogs about wine, but she's a sucker for cappuccinos. Originally from Vancouver, she loves to be near the ocean and the mountains, and spends as much time as possible outside. She has a feline leukemia–positive cat named Scout, who is her favourite cuddle companion.

METICILLIN-RESISTANT STAPHYLOCOCCUS PSEUDOINTERMEDIUS

A CLINICAL PERSPECTIVE

BY MICHAEL CHARACH, DVM

Meticillin-resistant Staphylococcus pseudointermedius (MRSP) was first reported in North America in 1999. The incidence of meticillin-resistant Staphylococcus (MRS) at the University of California recently has been reported as 38% of their skin isolates, versus 27% reported by private clinics in California, which was considered statistically similar. This incidence would appear to be similar to what we're seeing in the Vancouver area. The MRS infections are resistant to all β-lactam antimicrobials and carbapenems. Meticillin-resistant Staphylococcus aureus (MRSA) is infrequently and equally isolated from dogs and cats which are most commonly infected by Staphylococcus pseudointermedius. MRSP and meticillin-resistant S. Schleiferi (MRSS) isolation rates were significantly higher in dogs than in cats. MRSS was more commonly asso-ciated with superficial (skin and ear canal) infections, whereas MRSA was more commonly associated with deep tissue infections. MRS species have acquired a mobile genetic element known as the staphylococcal cassette chromosome (SCC). The SCC carries a gene (the mecA gene) that encodes the production of an altered penicillin-binding protein (PBP2A). This protein does not allow the binding of β-lactam antimicrobials. The SCC also contains insertion sequences that allow the incorporation of additional antimicrobial resistance markers. These insertion sequences are why many MRS are resistant to many other classes of antimicrobials. Multidrug resistance refers to organisms with resistance to at least three or more drug classes; MRS usually has resistance to four or more drug classes. Most reported MRS infections in small animals have been associated with pyoderma, wounds, or postoperative infections. Otitis, urinary tract infections, and arthropathies have also been reported. MRS infections are similar to Meticillin-sensitive Staphylococcus (MSS) infections and are not considered more virulent in nature.

The diagnosis of an MRSP infection is done by culturing the skin. The lack of response to an empirically chosen antibiotic would be the best reason to suspect MRSP. I generally culture all deep pyodermas and severe recurrent superficial pyodermas if the animals have been on antibiotics within the last year or have a history of being hospitalized recently, both of which have been recognized as risk factors for MRSP. In humans, exposure to cephalosporins or quinolones is also considered a risk factor for MRSA infections. If you've treated a MRSP infection and the infection has recurred, you should repeat the culture as the infection may revert back to MSSP, and you should not assume it's still a MRSP infection.

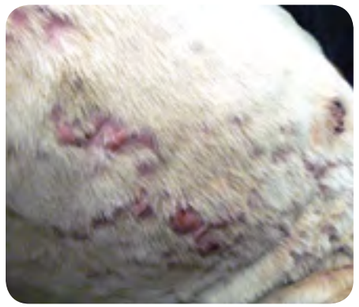
The treatment for successful resolution for MRSP infections is the same as for MSSP infections. Systemic treatment should be for 7 days past a clinical cure for uncomplicated cases and 10–14 days past a cure for complicated infections. Complicated cases would include chronic recurrent infections or immunosuppressed individuals due to disease or drugs. The systemic antibiotics that MRSP are most sensitive to are amikacin, doxycycline, chloramphenicol, rifampin, and trimethoprim-sulfonamide (TMS). Rarely, MRS are sensitive to clindamycin, quinolones, and amoxicillin-clavulanate.

Clindamycin has been used successfully in dogs and humans for MRS infections. If the culture shows erythromycin resistance, then the concern is that there is an inducible resistant gene that will be quickly turned on upon clindamycin exposure, causing treatment failure.

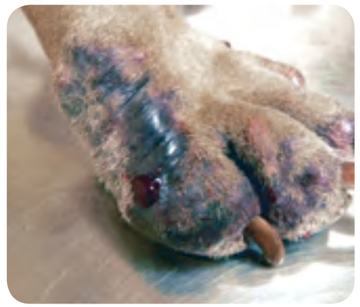
KEY POINTS

- MRSP infections occur in approximately 30% of canine skin infections
- MRSP infections are more likely when antibiotics have been used in the previous year
- Topical chlorhexadine, mupirocin, fusidic acid, and possibly miconazole are good choices for MRSP infections of the skin
- MRSP infections are most sensitive to amikacin, chloramphenicol, doxycycline, rifampin, and trimethoprim-sulfonamide

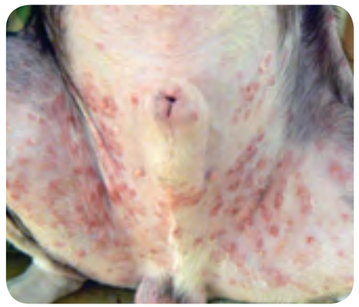
> TMS HAS BEEN USED SUCCESSFULLY IN HUMANS AND IS A REASONABLE CHOICE FOR CANINES



Deep pyoderma



Deep pyoderma pododermatitis



Superficial pyoderma with epidermal collarettes

Quinolones have been used successfully in four MRS canine cases. Quinolones are avoided in MRS infections in humans because of poor clinical outcome and rapid development of resistance and should probably be avoided in dogs.

Amoxicillin-clavulanate has been used successfully in some canine cases, but its affinity for PBP2a is weak, so either it shouldn't be used or it should be used at a higher dosage.

Amikacin is rarely used because of cost, injection administration, ototoxicity (deafness) with prolonged use, and nephrotoxicity concerns. Aminoglycosides are not used as monotherapy for MRSA infections, in people.

TMS has been used successfully in humans and is a reasonable choice for canines. Safety concerns with other drugs, keratoconjunctivitis sicca, arthropathy, and other idiosyncratic reactions should be monitored. Dobermans are at increased risk of idiosyncratic arthropathy.

Doxycycline is the drug we use most for MRSP infections. Occasional gastrointestinal upsets can occur. A retrospective review of skin and soft tissue infections caused by MRSA in people reported a cure rate of 83% for treatment with doxycycline. If the culture indicates tetracycline resistance, then the concern is that resistance to doxycycline can be induced upon exposure to the drug.

Chloramphenicol is used frequently for MRSP. It should be used every 8 hours at 40–50 mg/kg. The most common side-effects are gastrointestinal upset and weight loss. This has resulted in stopping the drug in a third of the cases in one study. Reversible bone marrow suppression and hepatotoxicity is uncommon.

Rifampin is a bactericidal antibiotic with excellent tissue penetration. Resistance strains are observed rapidly when it is used as a single agent for treating human MRSA. Rifampin has been used in combination with other antimicrobial agents that are active against S. aureus to treat MRSA infections, in people. We have used Rifampin successfully as monotherapy against MRSP. Serious liver toxicity will occur in about 16–20% of dogs. We typically monitor liver enzymes at day 20.

Topical therapy is always used along with systemic antibiotics. Chlorhexadine (2–4%) shampoo three time a week is the treatment of choice. This can be augmented with chlorhexadine sprays once or twice daily. Chlorhexadine shampooing as a monotherapy has been successful in 50–65% of MRSP infections in canines.

MRSP is usually highly sensitive to topical mupirocin, fusidic acid, and miconazole. There are no clinical trials with miconazole, only in vitro studies indicating efficacy.

Other possible treatment modalities include dilute bleach, triclosan, honey, and type 4 lasers. WCV

LARRY ODEGARD
NEW REGISTRAR FOR THE CVBC

BY KATHRYN WELSMAN, DVM

On March 11, 2013, the College of Veterinarians of British Columbia appointed its new Registrar and CEO, Mr. Larry Odegard.

Given the enormous 100-year-plus history of the College, it's easy to see the new Registrar will be faced with some equally enormous challenges, but a challenge is exactly what Odegard is wanting.

Born in Swift Current, he graduated from the University of Saskatoon with a Bachelor of Commerce degree and later a Master of Business Administration. He worked in various senior human healthcare, training, and advocacy positions managing hospitals and health authorities. He is well-versed in many medical professional organizations having worked with other regulatory bodies and colleges, in both disciplinary and advocacy work.

When asked about some of his goals, Odegard suggests that perhaps the CVBC needs to better define the standards that are expected of all veterinarians as well as what thresholds need to be met to be a veterinarian in this province. He noted that public confidence could increase with a more enshrined set of standards and clearer thresholds. He is also keen to help the profession celebrate our singular and joint accomplishments with each other and with the public. WCV

DUNCAN HOCKLEY
NEW WCVM VMC DIRECTOR

The Western College of Veterinary Medicine (WCVM) has selected Dr. Duncan Hockley, a veterinarian and University of Saskatchewan alumnus, as the new director of its Veterinary Medical Centre (VMC) on the university's Saskatoon campus.

Hockley, originally from Saskatchewan and a 1992 graduate of the WCVM's Doctor of Veterinary Medicine program, is returning to his alma mater with a broad range of experience in private veterinary practice, the animal health industry, and in veterinary research. His most recent position was as director of global veterinary services at Bioniche Life Sciences in Belleville, Ontario. After graduation, he spent five years as a veterinarian and co-owner of a mixed animal veterinary clinic in southern Saskatchewan. His interest and expertise in bovine embryo transfer techniques led to international opportunities and new roles in the animal health industry as a veterinary researcher and senior leader for several animal health companies.

More than 160 staff and specialized faculty work at the VMC where over 13,000 animals are cared for each year. The VMC's veterinarians annually treat an additional 30,000 animals through field service visits. The veterinary medical centre is an integral part of the WCVM, the regional veterinary college for Western Canada and a key member of Canada's veterinary, public health, and food safety networks. More than 450 students are enrolled at the internationally recognized veterinary college.

"I'm very grateful to the WCVM for my successful career in veterinary medicine, and I have a strong desire to help this college expand its role as a world leader in veterinary education, clinical services and research," said Hockley. WCV

PITFALLS IN THE INTERPRETATION OF 24-HOUR HOLTER MONITOR RECORDING IN DOGS & CATS

BY ROBERTO A. SANTILLI, DVM

Holter monitoring represents an important diagnostic tool for the evaluation of severity and frequency of rhythm disturbances in dogs and cats. When the owner or caregiver provides a detailed diary, Holter monitoring helps the clinician understand the correlation between clinical symptoms and rhythm disturbances and provides information on possible relationships between arrhythmias and autonomic tone, and on heart rate variability.

INDICATIONS

Correlating heart rhythm with clinical signs, especially during episodes of transient loss of consciousness (T-LOC), is one of the most important clinical applications of Holter monitoring. The test's diagnostic yield reaches a value of 42–45%, with about 22–36% of T-LOC episodes showing an arrhythmic origin, 36% of which are neurally-mediated. In 41–54% of the cases, either primary or secondary rhythm disturbances can be ruled out.

Holter monitoring can provide useful information for the early diagnosis of cardiomyopathies in specific breeds, such as during the occult stage of dilated cardiomyopathy in Doberman Pinschers, and arrhythmogenic right ventricular cardiomyopathy in Boxers and English bulldogs. Early recognition of these myocardial disorders is crucial for both therapeutic interventions and recommendations for breeding programs. Holter monitoring is also useful to diagnose a severe, inherited malignant ventricular tachycardia with a mortality rate of 15–20%, which affects German Shepherds. This arrhythmia is evident during periods of bradycardia found at rest, during sleep, or after exercise. The number of runs of ventricular tachycardia during a 24-hour Holter monitor recording correlates to the risk of sudden cardiac death.

Other indications for Holter monitoring include evaluation of antiarrhythmic treatment efficacy over time, pacemaker malfunctions, and assessment of the ventricular response rate in patients affected by atrial fibrillation, such as is common in large-breed dogs. Since the ventricular response rate observed during atrial fibrillation heavily depends on autonomic tone, Holter monitoring allows the clinician to obtain a more reliable assessment of the average ventricular rate compared to the information obtained with a standard ECG performed at a hospital.

Holter monitoring allows the analysis of heart rate variability (HRV) that reflects changes in the beat-to-beat interval displayed on a graphic called a tacogram (Fig. 1). Heart rate variability is the result of the balance between the sympathetic and the vagal influence on sinus node activity. In patients with cardiovascular disease an increase in sympathetic tone and/or a decrease in vagal tone cause a reduced HRV with high risk for the onset of malignant ventricular arrhythmias.

TECHNIQUE

Each Holter system consists of two main components: hardware represented by a monitor used to record the signal, and software used to review and analyze the 24–48 hours of tracing. Contemporary Holter monitors are small and very well tolerated by dogs and cats. Adhesive electrodes are applied on the shaved skin all around the thoracic wall according to the so-called bipolar non-correct orthogonal system (leads X, Y, and Z). The recorder is positioned on the patient's back (Fig. 2) or, in some cats, placed beside the animal in a cage. The owner compiles a diary with all the activity of the animal, the timing of drug administration, and any symptoms experienced during the recording period. After 24 hours, the exam is downloaded and analysed using dedicated software either by hospital staff or by a telemedicine service.

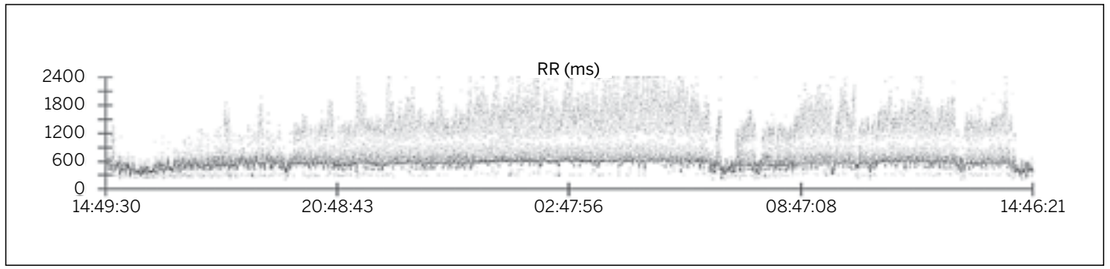


FIG. 1 A 24-hour tacogram in a dog with respiratory sinus arrhythmia as the result of normal sympatho-vagal balance. The graphic displays time of day (X-axis) and beat-to-beat interval duration (Y-axis).

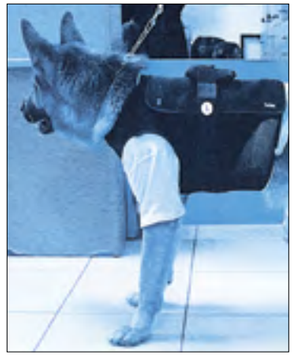


FIG. 2 German Shepherd dog with inherited ventricular arrhythmia and a familial history of sudden cardiac death. The Holter monitor is placed on the back of the dog, which wears a special suit to protect electrodes and recorder.

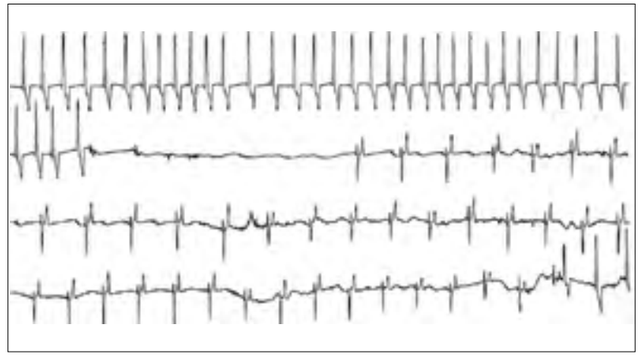


FIG. 3 A two-minute Holter recording in a dog that experienced a syncopal episode during the recording period. The first part of the tracing shows a normal sinus rhythm with progressive bradycardia followed by a sinus arrest interrupted by a ventricular escape rhythm. The arrhythmic pattern is suggestive of inappropriate cardio-inhibitory vagal reflex. Paper speed 7.5 mm/sec – 2 mm/mV.

SIGNAL ANALYSIS

Accurate analysis of the recording is crucial as automatic analysis of data can miss very rapid rates and low amplitude signals, depending on resolution. Manual editing of the 24 hours of tracing should be performed by an operator with sufficient training on the analysis of veterinary Holter data. Algorithms developed for humans cannot be adopted for veterinary patients. Three major technical issues for the correct interpretation and identification of heart beats should be considered: horizontal resolution, vertical resolution, and presence of sinus arrhythmia. The impact of vertical resolution of the system is massive: high voltage P or T waves can be mistakenly recognized as QRS complexes or, conversely, in case of low amplitude QRS complexes, their number can be underestimated. A correct horizontal resolution is mandatory for recognizing fast heart rates such as those encountered during supraventricular or, more often, ventricular tachycardia. In such cases, the shorter R-R intervals are not recognised and the actual ventricular rate is not accurately calculated unless manual inclusion of missed beats is performed. Uncorrected horizontal resolution leads to misinterpretation of the actual malignancy of ventricular arrhythmias and also of the average ventricular rate during rapid atrial fibrillation. Manual correction of errors in horizontal resolution is the most time-consuming part of the editing process. Automatic analysis can also incorrectly classify physiologic respiratory sinus arrhythmia, confusing it with premature supraventricular ectopic beats. This misinterpretation can be avoided with manual correction by adjusting the duration of the coupling interval that should be considered abnormal.

After editing, the clinician analyses the timing of the arrhythmia and correlation between arrhythmias and autonomic tone. This allows differentiation between intrinsic and neurally-mediated arrhythmic patterns, and provides information on the underlying electrogenic mechanism and therefore appropriate treatment.

Soon, Holter monitor recording may become an even more powerful and widespread diagnostic tool through standardisation of manual editing processes which should be exclusively performed by dedicated and well-trained veterinary personnel before review by a veterinarian with expertise in veterinary cardiology and cardiac arrhythmias. WCV

"ACCURATE ANALYSIS OF THE RECORDING IS CRUCIAL"

DR. ED WIEBE

CHARMED BY THE TRACK

BY SARAH ARMSTRONG, DVM

PHOTO BY FOUR FOOTED FOTOS, INC.

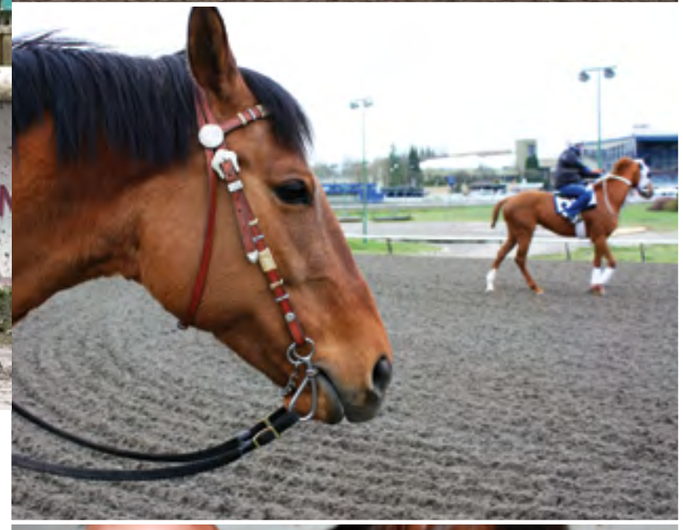
Entering a racetrack for the first time can be as exciting as Christmas morning is for a small child. There is almost a giddiness to it, like being in another world. Horse racing has been a part of Vancouver's history—and charm—since the first race happened in 1889, along what is now Howe Street.

Today, on my first ever visit, Hastings Racecourse offers current entertainment options amid a mixture of old-world-charm barns. The track is a hub of activity with a mess of jockeys and trainers and barn helpers and farriers, all bustling in different directions.

In the middle of all this activity is Dr. Ed Wiebe, a centre of calm.

Wiebe has always wanted to be an equine veterinarian as far back as he can remember. While in Grade 9, he wrote about his career goals of becoming an equine vet, and hasn't wanted to do anything else since. He grew up around lots of animals on a ranch in Alberta and rode western before applying to "the first and best class" of WCVM, the class of 1969. Upon graduation, he did a two-year surgical specialty at Cornell Veterinary College in New York, and it was there that he started working with racetrack horses. He loved it so much that after his surgical specialty he moved to Vancouver and started at Hastings Racecourse in 1972, and has been there ever since. He shares veterinary duties with a partner, Dr. Leakos. He also runs a clinic at his home where he does arthroscopic surgeries and laryngeal tiebacks among other procedures.

On this particular day, the track is fresh and ready to go, engineered to accommodate the demands of both racehorse and jockey. Its substrate, which is sand and plastic fibre, has been groomed according to the dictates of the weather to provide maximum grip to prevent slippage. Banked corners allow speeds of 37–40 mph around the bend, with rails designed to be safer for jockeys unfortunate enough to take a fall onto them.



PHOTOS (THIS PAGE, PAGE 24 & PAGE 28) BY PAULA GRASDAL

> "IN THE MIDDLE OF ALL THIS ACTIVITY IS DR. ED WIEBE, A CENTRE OF CALM"

Jockeys on thoroughbreds and trainers on ponies (non-racehorse mounts) enter the track. The ponies guide and calm horses that are anxious or out-of-line. They all begin slowly, and then reach a full gallop of up to 40 mph. Each thoroughbred—whether experienced or new and young—is trained for a short time, perhaps only fifteen to thirty minutes, before retiring back to the barn.

Hastings Racecourse is a smaller facility both in track size (5/8 mile compared to a full mile) with a capacity of 950 stalls. The horses train almost every day during the week, alternating between a training day when they run fast and hard to get "built up" and a slower walking day. Training lasts for 90 days, and then they race. Races are held on Saturdays and Sundays from mid-April to mid-October, with the addition of Friday races in the summer season. Horses generally start racing at two years of age after being broken at a training facility. Their career on the racetrack can span up to nine years, and generally—perhaps surprisingly—they only race

OPPOSITE PAGE Racehorses crossing the finish line at Hastings Park. **THIS PAGE** (from top) Racehorses guided by a pony during a training session; a pony waiting to guide a racehorse; Dr. Wiebe at work.

every 14 days or longer, depending on racing conditions. Most of the horses boarded here race mainly on the Hastings track but may also be shipped to Seattle, Alberta, Ontario, or California for races. When horses are retired, either they are sold as pleasure horses, or, if they are too arthritic to be ridden, they can be retired to a facility called New Stride, an equine rehabilitation centre which adopts horses and finds them new homes.

Racetrack practice is essentially equine sports medicine due to high speed-training and competition. A typical racetrack injury is musculoskeletal, says Wiebe. Chip fractures, fractures of the fetlock and carpus joints, are not uncommon. Chips are removed arthroscopically, and the horses are rested for three months. Long bone fractures are repaired by internal fixation under general anesthesia. When a racehorse is lame, Wiebe will examine it, diagnose the problem, and take radiographs, if required, to determine whether it requires further intervention, such as arthroscopy.

Airway disease, such as laryngeal hemiplegia, is diagnosed based on clinical signs (roaring) and laryngoscopy. The horses are not sedated for this procedure as sedation inhibits laryngeal function and diagnosis; trainers restrain the horses by the shank, and most horses, surprisingly, stand still for the procedure. The scope is passed through the nostril, into the nasopharynx to the larynx where the arytenoids are readily visible.

If horses require laryngeal tieback surgery, Wiebe takes them to his clinic and puts them under general anesthetic for the procedure.

Another common racetrack condition is one many small animal veterinarians may have forgotten about after leaving school: exercise-induced pulmonary hemorrhage (EIPH). The etiology of the disease is debated (elevated pulmonary pressures, airway obstruction, inflammation, airway trauma). It usually afflicts the right dorsal lobe and is normally diagnosed by endoscopy, but a small proportion of horses will have such a severe episode that they will have epistaxis. Wiebe sees EIPH in all types of high-performance horses, including race horses, show horses, and barrel horses. He estimates that approximately 90% of the horses on the track are affected each racing year, so he uses furosemide, which he gives prophylactically for its anti-bleeding properties. This is administered by a technician under the supervision of federal regulators.

Colic, heaves, and laminitis are uncommon in horses at the track, as these are more commonly seen in show and pleasure horses, although he does see some spasmodic colic.

Wiebe works a lot and loves it. He works six days a week and usually starts at 6:00 am. He is also on shared call several days a week. Daily duties include lameness exams, horse sedations, and endoscopies. Race-day duties typically require two veterinarians. One tends to horses prior to and after the race, while the other oversees the race directly. It is this second veterinarian who has the final say to pull a horse from a race if he or she suspects there may be a health risk.

The health of racehorses is tightly regulated. It is important to the industry that horses are sound and free of performance-enhancing drugs. The winning horse and another horse, randomly selected from the same race, are both tested for illicit drugs after the race by blood and urine analysis. Equine health and treatment ethics are at the forefront in today's racing climate.

In the event of a horse being severely injured mid-race, an equine ambulance removes the horse from the track for examination. If euthanasia is the only option, this is done by injection of T-61 (embutramide). All horses that die on the track are sent for a post mortem to determine cause of death.

Wiebe also consults on horse sales for trainers who solicit him when buying horses. Wiebe checks for any conformational deficiencies or pre-existing injuries by observation, examining repository radiographs, and endoscopy exam of the upper airway.

He has some advice for any veterinary students or hopefuls wanting to work in the racing industry: Do lots of volunteer work, get involved, hang out at the racetrack, and do lots of networking. "Above all," says Wiebe, "they must have a love for horses." He adds that there is a shortage of racetrack vets. The hours are long, but the reward, he says, of working with magnificent animals in an exciting environment is worth it.

Leaving the track, I had the urge to hang up my small-animal emergency gig and exchange it for a pair of jeans and paddock boots and a racecourse ID badge. That's the charm of the racetrack. WCV

* For information on the annual Delta Equine Seminar, see next page.

GREAT THINGS HAPPENING FOR THE CVMA-SBCV CHAPTER

EQUINE SEMINAR 2013

The Equine Chapter of the CVMA-SBCV Chapter will hold its 42nd Annual Fall Equine Seminar on Monday and Tuesday, October 28 and 29, at the Town and Country Inn, Delta, BC.

Dr. Lisa Fortier, University of Cornell, NY, will speak on Regenerative Therapies, and Dr. Stephen White, UC Davis, CA, will speak on Dermatology.

Registration packages will be mailed out in August. For further information, please contact Dr. John Twidale at 604.930.8090 or by email: horse-doctor@telus.net.

CHAPTER NEWS

CVMA-SBCV CHAPTER VICE-PRESIDENT

Sarah Armstrong, DVM, is the new Vice-President of the Chapter. Sarah also continues her work on the Magazine Editorial Committee and the Student Liaison Committee.

CVMA-SBCV CHAPTER FACEBOOK PAGE

Don't forget to look for our Facebook page! Find us, like us, add us to your interests. We post news updates and reports on matters of interest to veterinarians.

CHANGE IN EXECUTIVE DIRECTOR

The CVMA-SBCV Chapter says goodbye to Ilona Rule, wishing her well in her retirement, and welcomes Corey Van't Haaff to the position of Executive Director.

INDUSTRY NEWS

PADS NEEDS HELP! WWW.PADS.CA

Pacific Assistance Dogs Society needs at least 30 puppy raisers and sitters for several litters of nine-week-old puppies. PADS' Mission is to breed, raise, train, and place assistance dogs for persons with a physical disability or who are deaf or hard-of-hearing and to support these client/dog teams for the working life of the PADS Assistance Dog.

CANINE BREEDING: INNOVATION IN VETERINARY POCT DIAGNOSTICS WWW.AGPLUSDIAGNOSTICS.COM

UK diagnostics development company AgPlus Diagnostics and New Zealand-based BioTest Diagnostics will collaborate in the development of a rapid and convenient test for canine progesterone to pinpoint accurately the narrow window for artificial insemination in canine breeding programs.

BC FARM INDUSTRY REVIEW BOARD PCAA MANDATE ANNOUNCEMENT WWW.FIRB.GOV.BC.CA.

Effective March 20, 2013, people can file an appeal with the BC Farm Industry Review Board (BCFIRB) about specific decisions of the BC Society for the Prevention of Cruelty to Animals (BCSPCA) that were issued on or after that date. WCV

If you have any industry news, please send it to wcveditor@gmail.com for consideration. Thank you.

THE CANADIAN VETERINARY RESERVE

BY KATHRYN WELSMAN, DVM

Foreign animal diseases (FAD) and emerging animal diseases (EAD) are becoming more of a concern for nations and their governments around the world. These diseases not only present a growing threat to human and animal health but also jeopardize food security, as seen in the Foot-and-Mouth (FMD) outbreak in the UK in 2001 and the Bovine Spongiform Encephalopathy (BSE) outbreak here in 2003. These examples serve as a reminder of the importance of disease outbreak response plans, and that governments should constantly be vigilant and prepare for such events. Canada had been lucky enough to avoid a major FAD since the FMD outbreak in 1952, and it would have been easy to become complacent. However, in 2003 we saw the devastating effects of BSE and the first of many Notifiable Avian Influenza (NAI) outbreaks. These events are unfortunately part of a growing number of epidemics reported around the world.

Canada's response to these diseases is led by the Canadian Food Inspection Agency (CFIA) as both of these diseases are reportable under the Health of Animals Act in Canada and under the Terrestrial Animal Health Code for the World Animal Health Organization. The CFIA's actions following these outbreaks have been carefully examined in an attempt to assess what changes need to be made so that future outbreaks are managed effectively. It was found during one of the NAI outbreaks that the CFIA could potentially run into a situation where there would not be enough staff to respond to a lengthy outbreak, which could compromise the integrity and effectiveness of a response. The problem of staffing surge capacity was addressed, and a solution that has evolved from this is the Canadian Veterinary Reserve (CVR), which is run by the CVMA with financial assistance from the CFIA. CVR members are trained to provide surge capacity as needed and would respond under the direction of the CFIA. In addition to the FAD training, another goal is to have CVR members trained and ready to respond to civil emergencies, such as floods or earthquakes, where animals are affected.

A recent three-year agreement between the CFIA and the CVMA will ensure funding for the FAD component of the CVR and allow more CVR members to be trained. At present, BC has approximately 60 veterinarians who have applied to the CVR, and at least half of those have gone through the required FAD training. This training consists of online modules and a hands-on week-long training session run by the CFIA.

Of interest to BC is that in June of 2012, a joint exercise based on a fictitious outbreak of FMD was run in Dawson Creek. The participants were from various backgrounds, including representation from various BC ministries (agriculture, environment, public health), the CFIA, Agriculture and Agri-Food Canada, the Alberta government, the City of Dawson Creek, and Emergency Management BC. The CVR was represented by two Alberta veterinarians, Drs. Hunt and Marshall. CVR members worked in areas of bio-containment, destruction, and disposal alongside other veterinarians, technicians, and personnel from the CFIA.

For the rest of the CVR members, an online practice event was staged in February 2013 which simulated a call-up for members to deploy to a region of Canada. The main goal of this exercise was to alert CVR members to how such deployments would be communicated to the members and how we should respond. It was a good way to keep the trained CVR members interested and alerted to such events.

Veterinarians who are interested in the Canadian Veterinary Reserve can contact the CVMA for more information. WCV

CAN YOU KEEP A SECRET?
CLIENT CONFIDENTIALITY

BY DOUGLAS C. JACK, LL.B.

All veterinary practitioners are aware that one of the key ethical tenets of the profession is the maintaining of client and patient information on a confidential basis, a duty that arises both from the applicable veterinary legislation and well-established common law principles. Notwithstanding the acknowledgment of this duty, too often the confidentiality obligation is treated in a cavalier manner by both veterinarians and laystaff leading to compromises of this obligation.

THE OBLIGATION

Simply put, all personnel within the clinic are under a legal and ethical obligation not to disclose information, in any manner, to anyone except in accordance with well-established rules and guidelines. Unfortunately, there are numerous examples where this obligation is breached: the telephone conversation at the receptionist's desk overheard by other clients awaiting their appointment times; the posting of inappropriate and hurriedly placed "posts" on hospital websites and through social media accounts; the release of information to humane society investigators who arrive at the clinic without appropriate warrants or subpoenas demanding the immediate release of information. The prudent practitioner will have a sound understanding of the obligations and ensure that all hospital personnel are advised of the appropriate protocols to ensure confidentiality.

“TOO OFTEN THE CONFIDENTIALITY OBLIGATION IS TREATED IN A CAVALIER MANNER”

THE EXEMPTIONS

The duty to not release information is not absolute; rather, it is subject to a number of exemptions of which all team members should be aware. In British Columbia, the obligation is contained in Appendix “A” of the Bylaws published under the Veterinarians Act.

CLIENT CONSENT

The most well-known exemption to the confidentiality rule arises from having the consent of the client to such disclosure. Section 86 of the British Columbia Bylaws provides that the owner of the information (most typically, the patient’s owner) has the sole authority to permit the release of information. By way of example, in the context of a thank-you note received from a client that often contains a photograph of the pet, it is arguable that the posting of that note in a publicly-accessed waiting room would constitute a breach of confidentiality. In such cases, it would be prudent to have a staff member contact the client and seek permission to display the note in a public area.

HUMAN OR ANIMAL HEALTH

Confidential information may also be disclosed if there is an urgent and compelling need to release such information for the purpose of ensuring the well-being and health and safety of another animal or a member of the public. This would typically include information with respect to reportable diseases or vaccination records.

LAWFUL REQUIREMENT

Another exemption relates to the release of information when required by law—this would include court orders or the presentation of a subpoena or warrant. In the example referenced above, a humane society investigator should be asked to present an appropriate document authorizing the release of information upon request by clinic staff.

REGULATORY INVESTIGATION

Medical records and other information are permitted to be released in the context of an investigation by a provincial regulatory body such as the College of Veterinarians of British Columbia. In fact, the failure to release information could be viewed as inappropriately refusing to co-operate with its investigation.

ANIMAL CRUELTY OR MISTREATMENT

As referenced above, section 91 of the Bylaws in British Columbia specifically permits the release of information when the practitioner is satisfied that there is an urgent and compelling need for the well being of the animal; a review of the policy statements of the former BCVMA does not disclose whether or not that provision in the Bylaws would be interpreted such that a practitioner is at liberty to report cases of suspected animal abuse. It is respectfully submitted that the general wording of section 91 would, indeed, permit such disclosure; particularly in light of changing societal norms with respect to animals, and the links being drawn between those who participate in animal abuse also being prone to engaging in cases of child, elder, or spousal abuse. In many jurisdictions throughout North America, the permission to report such information is coupled with granting an immunity against civil or criminal prosecution for defamation if the disclosure later proves to be false so long as the release of information was made in good faith.

THE CONSEQUENCES

The breach of the duty of confidentiality can lead to sanctions arising from disciplinary proceedings by the appropriate regulatory authority; failure to comply with this ethical obligation would, in most cases, be viewed as a serious departure from professional conduct giving rise to some significant sanctions. As such, it is important that practice owners ensure that all professionals and laystaff be reminded regularly of this important element of ethical conduct. WCV

BY DALE WILLERTON

COMMERCIAL LEASING

FOR VETERINARIAN TENANTS 101

For many veterinarians, negotiating a good lease or lease renewal against an experienced landlord or their agent can be a challenge. While veterinarians focus on animal care, savvy real estate agents and brokers are specialized sales people. Their job is to sell tenants on leasing their location at the highest possible rental rate. Here are some tips for veterinary tenants:

NEGOTIATE TO WIN

Frequently, veterinary tenants enter into lease negotiations unprepared and don’t even try to win the negotiations. Motivated by big commissions, the landlord’s agent is negotiating fiercely to win. Negotiate assertively.

BE PREPARED TO WALK AWAY

Try to set aside your emotions and make objective decisions. Whoever most needs to make a lease deal will give up the most concessions. A good veterinarian stuck in a poor location will never achieve the full potential of his/her practice.

ASK THE RIGHT QUESTIONS

Learning what other commercial tenants are paying for rent or what incentives they received will position you to get a better deal. Consider that your landlord and his agent know what every other tenant in the property is paying in rent, so you must do your homework, too.

BROKERS … FRIEND OR FOE?

Real estate agents and brokers typically work for the landlord who is paying their commission. It is not normally the agent’s role to get the tenant the best deal—it is their job to get the landlord the highest rent, the biggest deposit, etc. The higher the rent you pay, the more commission the agent typically earns. When researching multiple properties, try to deal directly with the listing agent for each property, rather than letting one agent show you around or show you another agent’s listing. Your tenancy is more desirable to the listing agent if he can avoid commission-splitting with other agents.

NEVER ACCEPT THE FIRST OFFER

Even if it seems reasonable, or you have no idea of what to negotiate for, never accept the leasing agent’s first offer. In the real estate industry, most things are negotiable, and the landlord fully expects you to counter-offer.

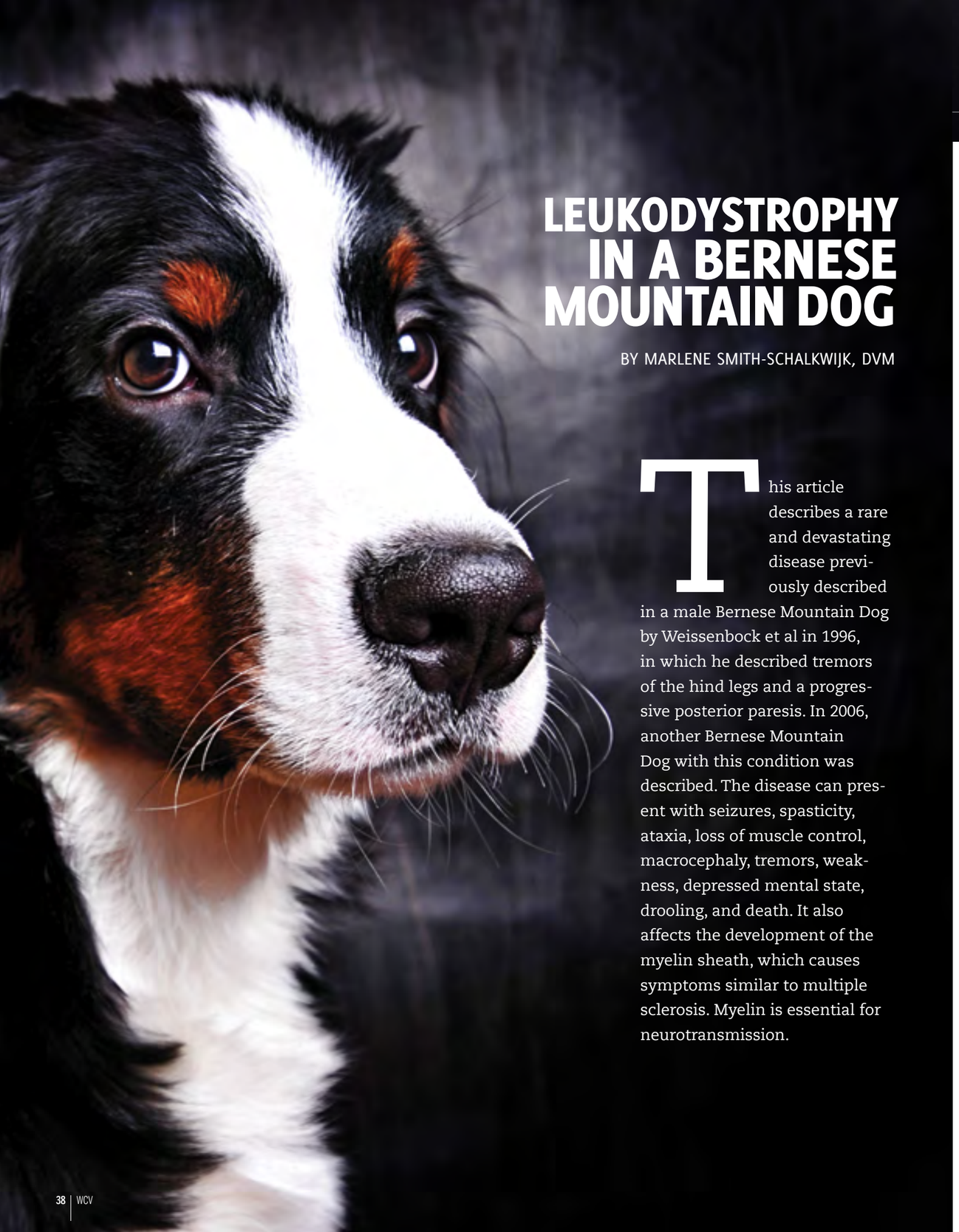
NEGOTIATE THE DEPOSIT

Large deposits are not legally required in a real estate lease agreement. Deposits are negotiable and often serve to compensate the landlord for the commissions he will be paying to his agent. The Lease Coach is frequently successful in negotiating to have the tenant’s deposit returned when renewing a lease.

EDUCATE YOURSELF AND GET HELP

Reading about the subject or listening in on a leasing webinar will make a difference. Have your lease documents professionally reviewed before you sign them. With hundreds of thousands of dollars in rent at stake, personal guarantees, and other risks, you can’t afford to gamble. In leasing, veterinary tenants don’t get what they deserve, they get what they negotiate. WCV

For a copy of my free CD, *Leasing Do’s & Don’ts for Commercial, Retail & Office Tenants*, please email your request to DaleWillerton@TheLeaseCoach.com.



LEUKODYSTROPHY IN A BERNESE MOUNTAIN DOG

BY MARLENE SMITH-SCHALKWIJK, DVM

This article describes a rare and devastating disease previously described in a male Bernese Mountain Dog by Weissenbock et al in 1996, in which he described tremors of the hind legs and a progressive posterior paresis. In 2006, another Bernese Mountain Dog with this condition was described. The disease can present with seizures, spasticity, ataxia, loss of muscle control, macrocephaly, tremors, weakness, depressed mental state, drooling, and death. It also affects the development of the myelin sheath, which causes symptoms similar to multiple sclerosis. Myelin is essential for neurotransmission.

THE ISSUE

A female Bernese Mountain Dog was diagnosed with leukoencephalopathy and demyelination. Leukodystrophy has been described in several breeds, including Bernese Mountain Dogs. Veterinarians play a crucial role in advising breeders to make good choices for their breed lines and should be aware of this disease, because of a suspected genetic mechanism.

THE PRESENTING COMPLAINT

A 2½-month-old female Bernese Mountain Dog presented with weakness of the hind limbs. She had an abnormal gait, and another veterinarian had suspected a neuromuscular problem. The pup was subdued at puppy classes, lying down a lot, and not engaging in play with other dogs. Both hind legs had straight angulations in the stifle and hock with poorly developed hindquarters. A positive Ortolani sign was elicited, the right worse than the left. The dog was also extremely sensitive on digital palpation of the lumbo-sacral area. Initially, hip dysplasia was suspected, and a juvenile pubic symphiodesis was suggested, but was precluded by an excessive Penn HIP score. A variety of treatments including hydrotherapy, measure for rehabilitation, acupuncture, and several nutritional supplements were employed to help improve the dog's condition. The signs of neurologic disease progressed over the next several weeks, with development of a lateral rotation of the right patella. Referral to a neurologist as well as an orthopedic specialist was recommended.

CONTINUING COMPLAINTS

At 16 weeks, a neurologist who was consulted was also puzzled by the dog's gait. However, the puppy responded well to the non-invasive neurological tests, and the neurologist considered that this was not a neuromuscular problem. The orthopedic specialist diagnosed grade 3 lateral luxated patella on the right stifle and grade 1 on the left. Both hips felt loose, and re-evaluation for surgical repair at six months of age was suggested to the owner.

At five months, the gluteal muscle mass had improved, but an undiagnosed problem causing the orthopedic issues was suspected. The owner continued with all treatments, but the puppy became increasingly unable to walk. The right knee was an obvious cause of pain, and she now showed muscle weakness and trembling.

At six months of age, it was agreed that it was time to repair her right stifle to relieve pain and to prevent further problems with other joints. However, the surgery was postponed because the puppy was ataxic and was salivating during the pre-surgery examination. The surgeon requested another neurologic evaluation by a neurologist; results of this examination were inconclusive. To preserve the puppy's ability to walk, lateral patella luxation surgery was performed the following day. A biopsy of the gastrocnemius muscle and cranial tibial muscle as well as a nerve biopsy of the peroneal nerve (20% of the fibres) was performed during the surgery. The results of the biopsies were inconclusive, with a note suggesting the possibility of an early onset of polyneuropathy. Post-surgical treatment consisted of Percocet and Cephalexin. The first few post-surgical days went well with the puppy touching her toe lightly to the ground and getting up on her own. But within a week, her toes started to knuckle under.

OUTCOME

Over the next four weeks, her incision and surgery site healed normally. There was no indication the puppy was in pain, but her other hind leg became weak. The owners had to help her up and support her when she went outside. Three weeks post-surgery, the puppy began underwater treadmill therapy to help regain leg strength. Increasing weakness with exercise suggested the possibility of myasthenia gravis (MG), but anticholinerase receptor antibody testing did not support the diagnosis, while treatment with Mestinon (Mestinon ICN 60mg. Valeant Pharmaceuticals Aliso Viego California) at 2.5 mg/kg body weight BID for seven days resulted in muscarine effects and was discontinued.

Follow-up examination by the orthopedic surgeon found nothing abnormal at the site of surgery. At eight months, the puppy's weakness had progressed to the forelimbs and was affecting her swallowing reflexes. Patella reflexes were also absent, and her menace reflexes were decreased, left worse than right. The neurologist examined her once again and suspected fibrinoid leukodystrophy, and gave an unfavourable prognosis and short life expectancy.

Because of the poor prognosis, the puppy was euthanized as paresis had affected not only the hind legs, but the front legs as well.

A post mortem gave the final diagnosis: necropsy and histology of the brain tissues describes the diagnosis as "leukoencephalopathy with demyelination, which would be consistent with some other form of leukodystrophy, quite possibly having an inherited basis. Rosenthal fibres were not noted." WCV

The author would like to acknowledge the assistance of Drs. Nick Sharp and Alan Kuzma, Canada West and Critical Care Hospital, Vancouver, B.C., Dr. Art Ortenburger, UPEI, and Dr. Jim Bilenduck, True North Veterinary Diagnostics.

WCV BUSINESS DIRECTORY

CLASSIFIED ADS

AHT POSITION

Ready for a change? Come to the beautiful West Kootenays and find the perfect balance of a rewarding career and quality of life. Unlimited recreational opportunities await you as well as a new facility, fun and dedicated team and flexible scheduling. West Kootenay Animal Hospital in Trail, British Columbia provides high quality, compassionate care to a clientele whose pets are viewed as family members. We are looking for a positive, mature individual with excellent communication skills. Develop your skills in a progressive and supportive environment. Competitive salary, 24 to 36 hours per week, generous CE stipend, medical and dental benefits. Position available immediately for an AHT looking for a rewarding career, a wonderful community and quality of life. Check us out at www.wkanimalhospital.com. Send resume and references to West Kootenay Animal Hospital 8450 Green Gables Road, Trail BC V1R 4W8 or e-mail wkah@shawbiz.ca

To place a classified ad in West Coast Veterinarian please contact Inga Liimatta at ingal@telus.net. Deadline for ad submission is August 2, 2013 for the Fall issue.

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ANNUAL DELTA EQUINE SEMINAR
Delta, BC
Organized by the Equine Committee of the CVMA-SBCV Chapter, the 42nd Annual Equine Seminar at the Town and Country Inn, Delta, BC, will feature Dr. Lisa Fortier from Cornell University speaking on Regenerative Therapies (stem cells, etc.,) and Dr. Stephen White from UC Davis speaking on Equine Dermatology. Registration brochure available in August.

JANUARY 30–FEBRUARY 1, 2014
ONTARIO VMA ANNUAL CONFERENCE
Toronto, ON
www.ovma.org

FEBRUARY 16–20, 2014
WESTERN VETERINARY CONFERENCE
Las Vegas, NV
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