

Straight from the

HORSE'S MOUTH

A Specialist's View on Equine Dentistry in Western Canada

Dr. James Anthony is a 1983 graduate of the Western College of Veterinary Medicine and a diplomate of the American Veterinary Dental College — the certifying organization for North American veterinary dentists. Since joining WCVM's faculty in 2006, Anthony has provided referral and clinical services in veterinary dentistry to a wide range of small animal and large animal patients at the College's Veterinary Teaching Hospital. He also offers advanced training to undergraduate students and practising veterinarians, and he will soon implement Canada's first accredited residency program in veterinary dentistry. As a veterinarian with more than 20 years of experience in veterinary dentistry, Anthony offers a unique perspective on issues related to this specialized field, the growing recognition of dentistry's importance in equine health — and a glimpse of its future.

Q. Why is equine dentistry such a hot topic in horse health today?

I think that's fueled by the growing interest of horse owners and veterinarians. People now recognize that dental pathology is there, it's not going away, and it needs to be addressed.

In turn, veterinarians are gaining the owner's acceptance for the need to sedate a horse and do a thorough oral evaluation with a full mouth speculum. Now, it's just not enough to pull the tongue to the side and take a quick look anymore: people now appreciate why it's just as important to examine the horse's mouth as it is to examine any other part of its body.

Q. What's the most significant change that you've seen in equine dentistry during the past decade?

The biggest change is that veterinarians are now taking a real good look in the horse's mouth: they're conducting oral examinations and recognizing what's normal and reporting what's abnormal.

Simple things like having more specialized equipment available for equine dentistry have made that possible: besides the traditional full mouth speculum, we now have dental mirrors, dental probes, dental picks, some of the newer extraction forceps and elevators, plus equipment for root canals in equine teeth. These tools have really come along in the last few years, and it's made life a lot easier for veterinarians.

Q. What about technology: what's the most important development?

I would say it's the advances that have been made in dental radiography for small animals and horses. Dental radiographs are imperative for visualizing lesions and planning treatments. Without them, you're using insufficient data to develop a treatment plan, so that's why they're really the foundation of your examination.

With the advent of computerized radiographs, it's actually become affordable for veterinarians to conduct and produce dental radiographs. That's why I think we'll see more and more veterinarians using dental radiography for their equine patients.

In the past, there were dangers related to sedatives that are necessary for taking dental radiographs. But with the introduction of better, faster and safer drugs, the incidence of adverse reactions is much, much lower. An experienced veterinarian will be on alert for any problems and have all of the precautions ready for those types of situations.

Q. What do you think horse owners want when it comes to equine dentistry?

I think people are demanding that dental practices be evidence-based. They want to use practices that are proven scientifically sound instead of just relying on hearsay or anecdotal evidence.



Veterinary Medicine's Equine Health Research Fund that supports equine health research projects addressing critical health issues in the horse industry.

Q. How is veterinary dentistry education changing at WCVM?

Beginning next year, our veterinary students will have even more training in veterinary dentistry than they currently receive. During the students' second year at WCVM, we'll focus on teaching them the principles and fundamentals of veterinary dentistry so they're capable of working with any species — everything from dogs, cats, horses and cattle to exotic species and wildlife.

It's the most extensive dentistry program in the world as far as the number of teaching hours and the time spent in hands-on laboratories. Plus, the students will also have the option of taking further dental rotations in their senior year to focus even further on the discipline before graduation.

EQUINE DENTAL RESEARCH DOLLARS: Investigating the incidence of oral pathologic conditions in horses is a topic that's high up on Dr. James Anthony's (above) research priority list. Last fall, that research goal received a boost when Anthony and his co-investigator, Dr. James Carmalt, received a \$5,000 research grant from the Peter Emily International Veterinary Dental Foundation that supports research initiatives in veterinary dentistry. Anthony accepted the research award during the annual Veterinary Dental Forum that was held last October in Minneapolis, Minn. Besides accepting funding, Anthony also presented two papers at the Forum: one on the problem of "furcation" (the area where roots join the crown in a tooth with multiple roots) and the other on a new crown design to enhance retention.

Q. As equine dentistry gains acceptance, how will health care teams evolve?

I think the growing awareness of equine dentistry has already helped most veterinarians appreciate the need to add to their existing knowledge of the discipline through continuing education. For some, it's also underlined the value of referring certain patients on to someone who specializes in veterinary dentistry and can address specific problems.

Ultimately, the goal is to ensure that all dental procedures in horses are done correctly and safely, and I think that future includes qualified lay equine dentists. However, they also have to realize their limitations. They can have a lot of knowledge about basic procedures in oral hygiene, but they don't have the specialized training in the discipline and in veterinary medicine to resolve an unexpected problem or to reduce the pain and trauma for a patient.

What I foresee is a system similar to human medicine where dentists work closely with dental hygienists in their clinics. Lay dentists will do oral hygiene procedures, teeth floating and other procedures, but their work will be under the supervision of a veterinarian who ensures the patients' safety at all times. If we work together for the common good of our patients, I think everyone is going to benefit.

Q. What are key areas where more research is crucial?

The challenge is that right now, we really don't have a true grasp on the incidence of oral pathologic conditions of the horse, and that's why an incidence study of oral pathology in horses is at the top of my list.

Developing new types of equipment and testing better ways of doing certain procedures would be another key research area. For example, we need to develop some proper instruments for extracting horses' teeth.

Another area where we need further research is dealing with tooth loss in horses. A big problem with horses — or any type of herbivore species — is that when they lose a tooth, other teeth move into the open space causing "collapsing of the arcade." We need to try and find a way to stabilize the remaining teeth while still having a functional mouth.

Q. What are the pitfalls of conducting dentistry research?

Clinical studies can be very challenging to do, plus the investigations are not cheap. The main concern is that you have to compare "apples to apples": you need to ensure that there are no other causes of the specific oral problems in the equine cases that are participating in the study and no other influences on the research.

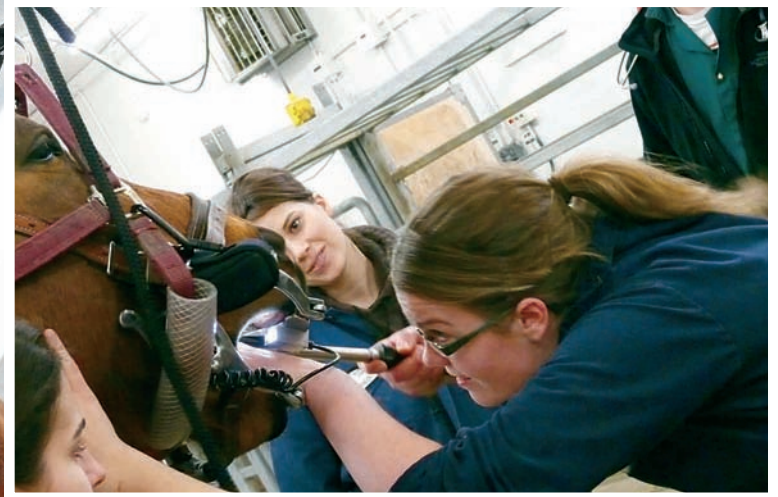
One source of veterinary dentistry research funding is the Peter Emily International Veterinary Dental Foundation that awards annual research grants to researchers. Another potential source is the Western College of

Q. What's your vision of equine dentistry in 10 years?

By 2018, equine dentistry will be at the same level as small animal dentistry: it's been growing by leaps and bounds and the amount of knowledge is increasing exponentially.

One of the main reasons is that as we treat these animals, the horse owners and their veterinarians see the true benefits of the treatments and they're recognizing that oral pathologies are a real problem. It's not some kind of marketing scheme, but rather, it's a reality that will benefit the whole horse and ultimately benefit the owner and rider since the treatments can increase a horse's performance level.

I've had many, many clients tell me, "I never even realized how much my animal was suffering until I saw the response after the procedure was done." That's become a very common statement from owners of small animals as well as large animals, and to me, that's why veterinary dentistry is such a great profession. The results are almost instantaneous, and it's very gratifying to see the difference you can make. **H**



Students Sink Teeth into Equine Dentistry

In late January, a group of equine-minded veterinary students at the Western College of Veterinary Medicine (WCVM) spent an entire Saturday polishing up their knowledge of equine dentistry.

Organized by the WCVM student chapter of the American Association of Equine Practitioners (or the WCVM Equine Club), the one-day event included a morning lecture by Dr. James Carmalt, an associate professor of large animal surgery who has clinical and research interests in equine dentistry.

More than 70 students from all class years attended Carmalt's four-hour lecture that gave a comprehensive overview of horses' oral anatomy and common pathologic issues, dental therapy techniques and oral management.

After lunch, about 30 third-year veterinary students participated in an equine dentistry wet lab that began with a hands-on training session in the college's anatomy lab. With the help of large animal clinicians and residents, the students practised their oral examination skills and manual floating techniques on equine cadavers.

Afterwards, the group moved to one of the college's barns where clinicians demonstrated sedation, power floating and oral examination methods on live horses. During lab's final two hours, the students had the

chance to work with the sedated horses and hone their skills with the help of faculty and residents.

While the equine dentistry lab has been an annual event for the past few years, this was the first time that the Equine Health Research Fund invested \$2,500 in the student-organized activity. The Fund helped to pay for the day's expenses and resources as well as refreshments for the morning's coffee break.

The students' equine dental lab fits in well with the EHRF's mandate to support veterinary training in equine-related health care. The financial support also recognizes the valuable contributions that members of the WCVM Equine Club make to the Fund's activities and events throughout the year. **H**

Top left: Dr. Steve Manning steadies a sedated patient while resident Dr. Kristin Poirier demonstrates the use of a PowerFloat®. Above: Veterinary student Tamara Quaschnick peers into a horse's mouth. Centre: Resident Dr. Nathalie Tokatelloff holds up a horse's lip so students can get a better view.