Do Your Clients Know the Importance of Their Pet’s Oral Health?

Oral health is of great importance when considering the overall health and wellness of equine, small animals, large animals—indeed of every patient who visits your practice. Have you made dental care an area of great importance in your practice? Do you and your staff make each and every client aware of the importance of regular oral health exams, and treatment as necessary? This issue of the INSIDER provides articles about adding dental services to your practice, and educating clients about why it is so very important to schedule regular oral health exams. In many cases, there is a knowledge gap among your clients regarding this important topic.

As you may know, February is National Pet Dental Health Month. February is also Responsible Pet Owners Month. Your practice can recognize both pet health awareness occasions with one conversation!
Establishing a Dental Presence in Private Practice

(source: by Jerzy Gawor DVM)

Introduction
There are many reasons which make creating a dental presence within general practice a natural, necessary and reasonable move in development of the business. Some of these are listed below and should provide more than enough information to motivate the practitioner to provide dental services.

Studies have shown that 85% of patients require immediate dental care. The vast majority of these patients require an oral prophylaxis. This procedure is possible to perform in general practice with a dedicated and well equipped dental room along with a skilled veterinarian and personnel.

By the age of just 2 years, 80% of dogs and 70% of cats have some level of periodontal disease. There are links between periodontal disease and pathologic findings in the liver, kidney and myocardium. With this obvious systemic impact of dental problems we must not neglect dentistry in our general prophylactic program provided for all dogs and cats under our care.

Considering the number of dental cases which may be performed daily in our practices, a dental X-ray, high speed dental unit, scaler and polisher are at the top of the list of profitable equipment in our surgery and the fastest to pay for itself!

Professional Oral Prophylaxis
Regular dental prophylaxis includes: thorough examination in the conscious and sedated animal, radiography (preferably intraoral), dental charting, supra- and subgingival deposit removal with the use of mechanical scalers and hand instruments, polishing, and gingival sulcus lavage. An important part of prophylaxis is homecare utilizing all possible methods: teeth brushing, diet, dental chews and toys.

SMART plan
The plan of providing dental services in private practice shall be SMART: Specific, Measurable, Achievable, Realistic, Time bound.

Specific
Specify what exactly you need. Follow specific dental room requirements (safety, ergonomy, placement in your surgery system). Start with education. Bear in mind the most common procedure is oral prophylaxis.
**Measurable**
Plan your expenses on an appropriate level, commensurate with the local market, service, equipment - plan the prices which will provide you a relatively fast recoup of expenses.

**Achievable**
There are no limits to the possible expenses as well as the minimum amount of money necessary according to local prices and stock.

**Realistic**
Buy what you need according to your facility, human resources, and general business plan of your practice.

**Time bound**
Be realistic. Plan your timing and deadlines, then make it real. Use promotion. If possible plan further development and evaluate results.

**Education**
- University dental program during veterinary school
- Self education: books, articles, journals, training, cooperation with referral vet
- CE courses, dental streams during WSAVA, FECAVA, WVC, AAEP, NAVC national congresses, seminars, conferences dedicated to dentistry

**Promotion**
1. Participate in educational events like Dental Care Month, Pet Smile Campaign
2. Use of oral care products, and merchandising support provided by suppliers and manufacturers: models, posters, leaflets and brochures
3. Information available on your website as well as waiting room and reception desk
4. Dental care should be part of your prophylactic program together with vaccination, deworming, senior care, etc.

**Special Days This Month**
(adapted from Veterinary Education Network)

- **Month - Long Events include:**
  - Month of February • National Pet Dental Health Month
  - Month of February • Responsible Pet Owners Month
  - Month of February • ASPCA’s Adopt a Rescued Rabbit Month

- **February Special Days include:**
  - February 15 • World Whale Day
  - February 20 • Love Your Pet Day
  - February 22 - 28 • National Dog Biscuit Day
  - February 23 • National Squirrel Appreciation Day
  - February 27 • National Polar Bear Day
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- Promotion available in 25 mg, 75 mg, 100 mg strengths and with 60 and 180 count bottles only
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- Promotion period: February 1, 2015 - February 28, 2015

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We know the importance of regularly scheduled dental exams for the patients in your care—make sure your clients do too! This is an easy-to-share guide to educate your clients about the importance of annual exams.

Often we forget that animals are susceptible to the same kinds of diseases as humans, and in some cases even more so. This is the case with periodontal disease. In fact, periodontal disease is the most common clinical condition affecting adult pets, despite the fact that it is almost entirely preventable.

**What is periodontal disease?**

Periodontal disease is no different in pets than in humans. Periodontal disease is the destruction of bone, gum tissue and structures that hold teeth in place. Periodontal disease is caused by bacterial infection that spreads, unseen, beneath the gumline. As the disease progresses, it destroys the bone around the tooth roots leading to mobile, painful teeth. Dogs and cats with advanced periodontal disease often require oral surgery to extract many teeth.

**How do I know if my pet has periodontal disease?**

The truth is that you don’t. Unfortunately, by the time there are obvious indications of periodontal disease, such as bad breath and loose teeth, there is already significant damage. Periodontal disease begins and exists under the gumline where it is not visible. White teeth do not mean that your pet is free from disease. The only way to prevent or identify periodontal disease early is through regular veterinary dental cleanings under anesthesia, where the pet’s mouth is thoroughly evaluated, cleaned and all the teeth are radiographed to identify bone loss, periodontal pockets and other disease involving the tooth root and surrounding bone.

**Won’t an anesthesia free dental cleaning help prevent periodontal disease?**

No. An anesthesia free dental cleaning provides no benefit to your pet’s oral health. Scaling teeth (scraping with an instrument) only make a tooth whiter in appearance. This procedure does nothing to eliminate bacteria beneath the gumline where damage is done and in fact the scaling without proper polishing leaves the tooth surface primed for bacterial plaque to attach to the tooth surface. Anesthesia free dental cleanings are most dangerous because they give you a false sense of security that your pet has a clean mouth, leaving periodontal disease undetected and untreated.

**How can I prevent periodontal disease?**

Fortunately periodontal disease is very preventable. There are two key components to preventing periodontal disease in your pet – home dental care and annual veterinary dental care. Imagine what your own mouth might be like if you never brushed your teeth. Your pet’s mouth is no different. Daily brushing remains the gold standard to prevent plaque and calculus and slow the progression of periodontal disease. In addition, there are diets, treats, chews and water additives that have the Veterinary Oral Health Council seal of acceptance that can be used to assist you with your pet’s preventive oral healthcare program.

An annual visit for a veterinary dental cleaning is an important part of your pet’s oral health care program. Annual dental procedures under general anesthesia allow your veterinarian to visually examine each tooth and use a dental probe around each tooth, in addition to obtaining radiographs to evaluate the tooth structure that cannot be seen with the naked eye. When you do this regularly, your pet’s mouth is evaluated, thoroughly cleaned and any bacteria or beginnings of periodontal disease can be addressed immediately before it causes extensive and expensive damage. Your pet will thank you with a clean and healthy mouth! - See more at: [http://avdc.org/AFD/pet-periodontal-disease/#sthash.Cgb9TDga.dpuf](http://avdc.org/AFD/pet-periodontal-disease/#sthash.Cgb9TDga.dpuf)
Explaining the Basics of Equine Dental Health

(source: AVMA, September 2014  www.avma.org)

Dental health is a very important aspect of the overall health, care and condition of your client's horses. It's important that they understand the anatomy and problems that can occur in their horse's mouths and what to do about these problems. Share this information with your clients, and educate them. Their equine friends will thank you!

The horse has two types of teeth: deciduous and permanent. Deciduous teeth, or baby teeth, are the first teeth that erupt (break out of the gums). Permanent teeth take the place of deciduous teeth and will remain in the mouth for the life of the horse. There are several types of teeth: incisors, canines, premolars, and molars. Incisors are the teeth that are present in the front of the horse's mouth and the incisors enable your horse to pick grass. Canines are the teeth immediately behind the incisors in the area of the “bar” and are most often present in males. These teeth are very sharp in younger horses and can be used as weapons. Canines become more rounded as the horse ages. Premolars are the first cheek teeth. These are large teeth along the sides of the mouth and the first premolars are also known as “wolf teeth”. Molars are the last teeth along the sides of the mouth. The premolars and molars are used to grind food into small particles which can then be digested by the horse.

Dental disease in your horse can be viewed as weight loss, dropping food or quidding, swelling on the face, halitosis (bad odor from mouth), excessive salivation (drooling), head shaking, bit problems, large food particles in manure, colic, drainage from mouth or nose, or difficulty swallowing. The horse chews its food by moving the jaw from side to side in a circle. The horse opens its mouth, moves the jaw to one side, and then closes its mouth. The ability to move the jaw to one side is decreased if dental abnormalities are present. Thus, mastication (chewing) of food is incomplete and digestion and absorption of minerals and nutrients is also decreased. Routine dental prophylaxis should be performed on your horse to prevent and treat problems which decrease your horse's ability to masticate food properly.

Incisor problems can prevent the molars from meeting properly which is evidenced as decreased mastication. Parrot mouth or an overbite is a congenital trait (foals are born with the problem) which interferes with correct premolar and molar contact. The incisors can also wear incorrectly due to missing teeth or other abnormalities which results in the inability of the cheek teeth to grind feed correctly. The incisors can also be offset (long on one side and short on the other), have a dorsal curvature (frown), or a ventral curvature (smile). These problems can be addressed by regular dental floating to somewhat correct the anatomic variation in the incisors.
The “wolf teeth” or first premolars can interfere with the bit due to their anatomic location in the area of the bar. A horse can have from 0-4 “wolf teeth”, which are most often found on the upper jaw. These teeth can remain un-erupted (under the gums) and appear as a bump on the gums in the area of the bar that can be painful to the horse and can cause infection. These teeth are usually removed to prevent any training problems associated with their anatomic location in the mouth.

As a horse ages, the teeth grow until the entire reserve tooth is gone. A horse usually has molars until 30 to 35 years of age when the reserve tooth is no longer present. Routine dental care and examination in your elderly horse is very important to determine if feed changes should be made which will enable the nutrition of your horse to remain adequate for the remainder of its life.

The most common problem noted on routine dental examinations is sharp ridges on the outside of the upper molars and the inside of the lower molars. These points can cut into the gums and cause pain and infection. Other common abnormalities include hooks and ramps which occur on the front and back of the upper and lower rows of teeth. These abnormalities are caused by an abnormal chewing cycle where the entire surface of the molar does not gain contact with the opposite side. This problem can prevent further jaw movement and lead to worsening hooks and ramps. Caps occur in young horses and are a remnant of the deciduous tooth which remains over the permanent tooth. This abnormality can cause pain when eating, dental abnormalities later in life such as a “step mouth”, impacted teeth, and can become infected. Remaining caps should be removed by your veterinarian. Another common dental abnormality which occurs when the molars are not perfectly aligned is accentuated transverse ridges. These are sharp points on the grinding surface of the teeth which are not in normal wear due to the mis-alignment of the teeth. These common dental findings can be corrected and prevented by regular dental examination and floating.

A “wave mouth” occurs when an entire row of teeth are uneven. The tooth line forms an “S” and interferes with the normal mastication of food. This abnormality can occur due to caps, missing teeth, or large hooks and ramps. Another dental abnormality that occurs when teeth are missing is a “step mouth”. The tooth opposite the missing one will continue to grow and can puncture the gum where the missing tooth would have originated. These overgrown teeth interfere with the normal gliding of the teeth in food mastication. This abnormality should be corrected by reshaping the tooth until it is parallel with the remaining teeth on that arcade (line of teeth).

Abscesses can occur due to missing teeth, loose teeth, and dental impactions. If teeth are missing, loose, or impacted, food can accumulate in the area of the abnormality and form an abscess. Clinical signs include drainage from the tooth itself, odor from the mouth, decreased appetite, head shaking, dropping food, pain when eating, and if the root of the tooth communicates with the sinus, signs of sinusitis which are sneezing, fetid odor, purulent nasal discharge, and sinus pain.

Routine dental care of your horse can prevent and treat many of the above problems and enable your horse to live a long, healthy life. If you notice any abnormal behavior or signs of oral pain which could be attributed to a dental abnormality, please contact your regular veterinarian to schedule a dental examination.

Coming up in the INSIDER:

✓ March - Dermatological
✓ April - Vaccinations
✓ May - Flea, Tick & External Parasites

Question? Comments? Suggestions for topics? Want to be on our mailing list, add a friend, or be removed from our mailing list? Please email us at insider@animalhealthinternational.com
Assessing Equine Oral Health

(by J. M. Gieche, Kettle Moraine Equine Hospital & Regional Equine Dental Center, Whitewater, WI, USA.)

Practitioners must understand the current standard of care with regard to the equine oral examination. This ensures that patients are receiving an accurate evaluation and appropriate recommendations for treatment. The recent advances and availability of improved instrumentation used to diagnosis and treat oral pathologies make treatment less labor intensive. With these advances, the field of equine dentistry is accessible for all veterinarians. A complete exam is the basis for appropriate treatment and as a result, a better quality of life for the patient.

When to Schedule the Oral Examination

Horses that seem normal in every way should be examined at 6 - 12-mo intervals, starting with their newborn exam. Congenital problems should be detected as early as possible so that appropriate treatment and monitoring will have the greatest positive effect. Young horses’ (<6 yr) dentition and surrounding tissues are going through dramatic changes, and it is important to evaluate them frequently. Six-month intervals are appropriate if findings are normal at each successive exam. Normal adult horses (>6 yr) might only need annual exams as long as no pathologies are found. Any horse showing clinical signs that might be related to dental issues should be examined as soon as possible.

Dental issues might be the cause of problems at sites distant from the mouth. Periodontal disease, for instance, may cause bacterial infections at locations such as the heart valves through anachoresis. Examination might reveal exercise intolerance, depression, and/or fever. Even if the secondary conditions are treated successfully, they are likely to recur if the un-
derlying dental disease is not found and treated.

**Execution of the Examination**

The execution of a proper oral exam starts with a complete history. Important components of a horse’s history include age, breed, sex, horse’s use, housing, nutrition, if it has to compete for food or if it is fed as an individual, date of deworming, if the horse cribbs or wind sucks, appetite, past dental problems, date of last oral exam and equilibration, frequency of dental exams, and who performed the dental exams.

An overall physical exam of the entire horse should be performed. What is the horse’s body condition? Is its chewing cycle correct?

Look for evidence of pain. Does the horse chew hay, but not grain, correctly or vice versa? Is the horse quidding hay or grass? Does the horse refuse treats? Is its head level when eating? Is there excessive drooling before or after eating? Is halitosis present? Does anything about the horse’s appearance indicate a condition that might be caused by abnormal dentition?

Facial symmetry should be evaluated both externally and intra-orally. Pathology can be subtle, such as a deformed maxilla or mandible. When evaluating facial symmetry, the patient’s head should be in its natural position. The examiner should evaluate external symmetry without sedation so that he/she can accurately assess muscle mass and head carriage. The eyes should be level and set in a natural position, not protruding from or retracting into the eye sockets. There should be no abnormal swellings, protrusions, or indentations on the head.

Facial swellings and ophthalmic asymmetries might indicate tooth-root problems, sinus pathologies, or cancers. Unilateral nasal discharge can also indicate tooth-root problems within a particular sinus. Other possibilities include sinus cysts and bacterial or fungal sinus infections. Sinuscopy and/or radiographs might be indicated. Conditions such as droopy eyelids, chronic tearing, and nasal and labial deviations might also indicate tooth pathologies caused by the close proximity of ducts and nerves to the teeth.

Based on the history and external exam, the practitioner might need to gather more information from additional tests, such as complete blood counts and chemistry profiles, before proceeding to the internal oral exam. Provided that the patient is healthy, the practitioner performs an intra-oral exam on the horse during standing anesthesia. The examination consists of a thorough review of all structures within the mouth, including symmetry and function.

Incisor symmetry, lateral excursion, drawer, evidence of trauma (soft tissue, bone, and dental), caries, and periodontal disease are all evaluated, staged, and recorded in the dental record. Lateral excursion is the distance that the mandible moves laterally before the incisors begin to separate because of molar-occlusal contact. It is measured to the left and the right. This measurement helps estimate the amount of molar occlusion and the molar-occlusal surface angles.

Drawer is the distance that the mandible moves from mesial to distal in relation to the maxilla. It is measured as the distance that the labial side of the lower central incisors move in comparison with the same point on the upper incisors as the head is extended and flexed. The mandible should move distally as the head is extended. These measurements help to evaluate functional efficiency of the mouth.

After positioning a full-mouth speculum, the mouth is rinsed, and all surfaces of the teeth, tongue, cheeks,
gingiva, and palate are examined for abnormalities. The examiner records any evidence of pathology including hyperemia, ulcers, lacerations, periodontal pockets, scarring, swelling, diastemas, trauma, and the presence of any masses, supernumerary teeth, and missing teeth.

Contact with sharp enamel points can result in ulcers and scarring of the soft tissues involved. Masses might include cancers (such as melanomas and squamous-cell carcinomas), fungal granulomas, and reactions to foreign bodies.

Periodontal disease might be obvious on gross physical examination of the oral cavity, or it can be more elusive. It might be found relative to any tooth in the mouth. The examiner will notice evidence of one or more of the following problems: halitosis, bleeding at the gingival margins of the teeth, pocketing and necrosis of tissues around the teeth, loose teeth, and teeth that might be compressed into the alveoli. The examiner should measure pocket depth with periodontal probes. Some instances will require intra-oral and/or extra-oral radiology to confirm and grade the severity of periodontal disease. Periodontal disease is progressive and can be very painful. The chewing cycle might be affected, because the horse attempts to change how it chews in response to pain.

The practitioner must keep in mind the age of the horse and correlate this with tooth structures. Retained deciduous teeth can result in damage to permanent teeth and/or the surrounding tissues. Failure to remove these teeth or their fragments can result in pain or pathologies of permanent dentition.

First premolars or wolf teeth might be absent naturally, present and erupted in one or more cheek-teeth arcades, or blind (incompletely erupted) in one or more arcades. They also might be malpositioned within the arcades.

Under ideal circumstances, the opposing teeth would wear out simultaneously, because the composition of opposing teeth would be equal. On successive exams, the examiner would see the crown disappear because of attrition, and eventually, the root would do the same. With quality dental care and good genetics, some horses reach this point. These horses can do well if their diets require little or no mastication; watered-down complete nutrition pellets are an example of a feed that would work for such a horse.

The physical structure of each cheek tooth must be examined in detail. Head lamps, retractors, dental explorers, probes, and mirrors are used to assess each tooth and the surrounding structures. The examiner evaluates for conformational and functional abnormalities and supernumerary, missing, malpositioned, and traumatized teeth. Structural malformations include hyperplasia and hypoplasia of dentin, cementum, and enamel. All pathologies are recorded in the permanent dental record.

After performing oral exams over a 20-yr period of time and being a part of the "learning curve" in equine dentistry, I am convinced that current methods are far superior to those which were considered acceptable in the past. The frequency with which I currently find oral pathology is in itself enough to convince me of this. By using a thorough knowledge of cranial anatomy and assessing the extra-oral cranial function and symmetry as well as the intraoral structure, function, and symmetry, veterinarians can more fully evaluate the patient’s oral health. The medical equipment and drugs available to us are constantly improving and makes the field of equine dentistry more rewarding and less laborious. Standing anesthesia, full-mouth speculums, intraoral mirrors, explorers, probes, retractors, digital intra-oral and extra-oral radiology, and intra-oral cameras allow practitioners to complete these comprehensive exams.

The single most important task veterinarians are charged with as examiners is simply to "look" at the target tissues involved. How we "look" will determine whether we are casual observers or competent medical professionals. What we find shapes the treatment protocols that keep our patients as healthy as possible.
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Staying Current with Dentistry

Are you offering your clients dental services? Already a member of a Veterinary Dental Society or College? If you answered ‘no’ to either of those questions, please visit the following societies and organizations to learn more, to stay current in your field, and to most fully participate in this ever-growing field of study and practice.

**American Veterinary Dental College.** The American Veterinary Dental College has 18 equine dental specialists. Their locations and qualifications are listed on the AVDC website along with valuable information regarding client education and referral to specialists—both small animal and equine.

[http://avdc.org/AFD/](http://avdc.org/AFD/)

**American Veterinary Dental Society.** The Academy of Veterinary Dentistry is an international organization of veterinarians with a special interest in the dental care of animals. Most of the members are active practitioners, serving the oral health needs of their patients. Some work with exotic animals in the wild and at exhibition parks and zoos. Others are involved in research, teaching, consulting and medical sales.

[http://www.avds-online.org/newweb/index.php](http://www.avds-online.org/newweb/index.php)

**International Association for Equine Dentistry.** The IAED is a group of Equine Dental Technicians and Veterinarians working together to improve equine dentistry all over the world. We use scientific based evidence and peer reviewed equine dentistry techniques to maintain an IAED Certification Standard. This Standard is the foundation for our independent and blind Certification Examinations, which include both written and practical exams. IAED Certified Members have proven their skills to be of the highest caliber, and are required to maintain their Certification by attending continuing education lectures and workshops.


And for Veterinary Dental Technicians, the **Academy of Veterinary Dental Technicians**, which can be found by visiting

[www.avdt.us](http://www.avdt.us)
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In this issue of the INSIDER, please meet one of our instructors, Dr. Brook Niemec, DVM.

Dr. Brook Niemec, DVM
Diplomate, American Veterinary Dental College
Fellow, Academy of Veterinary Dentistry

Dr. Brook Niemec is a 1994 graduate of the University of California, Davis School of Veterinary Medicine. He is a Board Certified Specialist in Veterinary Dentistry as well as a Fellow in the Academy of Veterinary Dentistry, and past member of the board of directors, and immediate past President of the Academy of Veterinary Dentistry.

Dr. Niemec has been serving the dental needs of Southern California animals for more than a decade. In this time he has personally performed over 20,000 dental procedures, including: endodontic therapy (root canals and vital pulp therapy), oral and maxillofacial surgery, periodontal therapy and surgery, orthodontics (braces), restorative and cosmetic dentistry, and prosthetic (crowns and bridges) dentistry.

Dr. Niemec, as one of seventy-three Board Certified Veterinary Dental specialists, is recognized internationally as one of the leading authorities in Veterinary Dentistry. An advocate for improved understanding, prevention and treatment of disease, Dr. Niemec lectures extensively to professional and non-professional groups at local, national, and international meetings. Additionally, he has published numerous articles in well-respected journals at the local, state, national, and international levels.

Dr. Niemec currently is a past member of the board of directors and President Elect of the Academy of Veterinary Dentistry. In addition, he serves on the credentials committee for the college of veterinary dentistry, and is chair of the Examination Committee for the Academy of Veterinary Dentistry.

In his spare time, Dr. Niemec is an enthusiastic outdoors man who favors hiking, fishing, skiing, camping and playing golf as well as visiting museums, attending live theater, and sporting events. He also enjoys daily trips to the beach with his Labrador Retriever, Caeli, and returns home to his black cat Nez.
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Also visit www.animalhealthinternational.com for more information on Animal Health International, to visit our e-commerce site, and to learn about the full array of products, services, and educational opportunities we offer to help you and your practice better serve your customers and patients.
### 2015 Small Animal Dental Lecture and Labs

**Dental - Level 1 - 2015**
- Dental Lecture & Lab w/Dr. Brook Niemiec: March 28-29, 2015, El Paso, Texas
- Dental Lecture & Lab w/Dr. Brook Niemiec: April 11-12, 2015, Nashville, Tennessee
- Dental Lecture & Lab w/Dr. Brook Niemiec: June 13-14, 2015, Tampa, Florida
- Dental Lecture & Lab w/Dr. Brook Niemiec: August 22-23, 2015, New Orleans, Louisiana
- Dental Lecture & Lab w/Dr. Brook Niemiec: September 26-27, 2015, Atlanta, Georgia
- Dental Lecture & Lab w/Dr. Brook Niemiec: October 17-18, 2015, Houston, Texas
- Dental Lecture & Lab w/Dr. Brook Niemiec: November 21-22, 2015, Midwest - IWCC
- Dental Lecture & Lab w/Dr. Brook Niemiec: December 5-6, 2015, Site TBD

**Dental Lecture & Lab w/Dr. Brook Niemiec 2015**
- Dental Lecture & Lab w/Dr. Brook Niemiec: March 28-29, 2015, El Paso, Texas
- Dental Lecture & Lab w/Dr. Brook Niemiec: April 11-12, 2015, Nashville, Tennessee
- Dental Lecture & Lab w/Dr. Brook Niemiec: June 13-14, 2015, Tampa, Florida
- Dental Lecture & Lab w/Dr. Brook Niemiec: August 22-23, 2015, New Orleans, Louisiana
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- Dental Lecture & Lab w/Dr. Brook Niemiec: October 17-18, 2015, Houston, Texas
- Dental Lecture & Lab w/Dr. Brook Niemiec: November 21-22, 2015, Midwest - IWCC
- Dental Lecture & Lab w/Dr. Brook Niemiec: December 5-6, 2015, Site TBD

### 2015 Orthopedics Lecture and Labs

- Comprehensive Stifle Disease: February 5-7, 2015, Oquendo Center, Las Vegas, NV
- Cora-Based Tibial Leveling Osteotomy (CBLO): February 8-9, 2015, Oquendo Center, Las Vegas, NV
- Basic Orthopedics: March 21, 2015, Midwest/High Plains - IWCC
- Basic Orthopedics: April 25, 2015, New Orleans, Louisiana
- Basic Orthopedics: May 16, 2015, Roanoke, Texas
- Juvenile Hip Dysplasia (JPS, DPO, TPO, FHO): June 13-14, 2015, Oquendo Center, Las Vegas, NV

### 2015 Anesthesia Lectures and Labs

**Anesthesia - Level 1 - 2015**
- Advanced Anesthesia Level-1 w/Dr. Victoria Lukasik: June 6, 2015, Denver, Colorado

**Anesthesia - Level 2 - 2015**
- Advanced Anesthesia Level-2 w/Dr. Victoria Lukasik: April 18-19, 2015, Sioux Falls, SD
- Advanced Anesthesia Level-2 w/Dr. Victoria Lukasik: May 30-31, 2015, Houston, Texas
- Advanced Anesthesia Level-2 w/Dr. Victoria Lukasik: September 12-13, 2015, Austin, Texas

### 2015 Equine Lecture and Labs

- Equine Anesthesia w/Dr. Victoria Lukasik: October 3-4, 2015, Site TBD
- Advanced Equine Dentistry w/Dr. Jack Easley: September 19-20, 2015, Elk River, Minnesota
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