

Oral ATP™ — The Oral Treatment

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Oral disease is one of the most common, yet serious health problems in veterinary medicine—affecting approximately 80% of dogs and 70% of cats by age three! The Oral Assessment, Treatment and Prevention, or Oral ATP™, protocol helps veterinarians minimize this risk, improve client compliance and develop sound oral healthcare practices.

This is the second installment of three reports exploring each part of Oral ATP™ in more detail.

Upon completion of a thorough oral assessment, it is essential to chart and explain any problems to clients and emphasize the need for treatment. If possible, conduct treatment the same day while the patient is anesthetized. Be sure to clean, polish and probe all teeth one by one, address any abnormalities and discuss an at-home and follow-up care plan.

Dental Equipment

You will need specialized equipment to diagnose and treat canine and feline dental problems. When proper equipment or training is not available, a referral to a dental specialist is recommended.

Common pieces of dental equipment include:

- Dental table, chair and lighting
- Hand instruments
- Polishing tools
- Intraoral radiography equipment
- Anesthesia delivery equipment
- Patient monitoring tools

A full list will be available on OralATP.com.



Specific Diseases

Performing oral treatment for pathology found during the tooth-by-tooth examination requires broad knowledge of the different types of oral diseases and conditions. The following sections review oral health problems that you may encounter with your patients as well as recommended therapies.

Congenital Disease

Congenital diseases are present at birth. They can be a result of inherited abnormalities, gestation environment or a mixture of both. A congenital disorder can have minor or major consequences. Be sure to check a puppy or kitten for congenital disease as part of the initial examination.

Retained deciduous teeth—An adult tooth erupts next to a deciduous tooth, dislodging it into an abnormal location. Remove the deciduous tooth so the adult tooth can have sufficient room to erupt properly.

Missing teeth—Either the patient was born without a tooth or it is impacted below the gum line. If an impacted tooth is oriented normally, perform an operculectomy (for patients younger than nine months) or extract the tooth. If the tooth is abnormally oriented, it must be extracted.

Extra (supernumerary) teeth—Extra teeth erupt in places they do not belong. If an extra tooth creates crowding, extract the tooth. If not, leave it in place and periodically follow up to make sure no inflammation occurs.

Rotated teeth—A result of retained deciduous teeth, trauma or an inherited defect. If a rotated tooth affects adjacent teeth or gingiva, it should be extracted.



Rotated upper 3rd premolar

Periodontal Disease

Periodontal disease is one of the most common, yet serious issues in veterinary medicine. It directly affects the tooth support and may indirectly affect vital organs, including the heart, kidneys and brain. The disease starts as a minor reaction to plaque (gingivitis) and often progresses to major inflammation, pain and tooth loss.

Stage 1: Gingivitis

Therapy involves removing plaque and calculus from the teeth and encouraging pet owners to perform home care such as tooth brushing, wipes and/or dental treats.

Stage 2: Early periodontal disease (<25% tooth support is lost)

Therapy involves removing a small amount of gum tissue (gingivectomy) or applying a local antibiotic (Doxirobe®) in cases of small pockets. Where there is gum recession, usually home preventive care is all that is recommended after the teeth are cleaned.

Stage 3: Established periodontal disease (25%–50% tooth support is lost)

Therapy involves decreasing or eliminating the periodontal pocket if present.

Stage 4: Advanced periodontal disease (>50% tooth support is lost)

Because there is very little support of the teeth, extraction is the treatment of choice. Prevention of periodontal disease affecting adjacent teeth is very important.

Common warning signs of periodontal disease include:

- Plaque and calculus buildup
- Gingival recession
- Mobile teeth
- Excessive salivation
- Chewing difficulties
- Halitosis

It is critical that we effectively communicate the risks of periodontal disease to our clients and gain their compliance for optimum oral healthcare.

Fractured Teeth

Evaluation is always important to determine the appropriate treatment when canine or feline patients fracture teeth. Even an animal that may not appear to be in pain and is eating normally requires therapy.

Types of fractures:

- Complicated fracture—The pulp (nerve and blood vessels) is exposed to the oral environment.
- Uncomplicated fracture—The pulp is not exposed.

When the pulp of a tooth is exposed to the oral environment, the tooth must be treated either by root canal or extraction. Base your decision on the tooth's general condition, equipment and materials available and the availability for a referral.

A discolored tooth (pulpitis) occurs from trauma. In most cases, the pulp is dead and should be removed via root canal or the tooth may need to be extracted.

Orthodontics

Canine and feline orthodontic problems occur from either inherited jaw length discrepancies called skeletal malocclusion, or from individual teeth that have erupted in abnormal locations and caused injury, called dental malocclusion. Orthodontic issues include:

- *Base narrow (lingually displaced) canines*—The lower canines are deflected toward the midline and penetrate the hard palate.
- *Rotated teeth*—Occur from retained deciduous teeth, a trauma or an inherited defect.
- *Rostral crossbite*—One or more of the upper incisor teeth are located behind the lower jaw counterpart in a dog that has a mesatiscephalic skull type.
- *Mandibular mesiocclusion (underbite)*—A skeletal abnormality in which the lower jaw is abnormally in front of the upper jaw.
- *Mandibular distocclusion (overbite)*—A skeletal abnormality in which the lower jaw is abnormally behind the upper jaw.
- *Lance canine (rostrally deviated canine)*—Either the upper or lower canines are abnormally pointed forward.

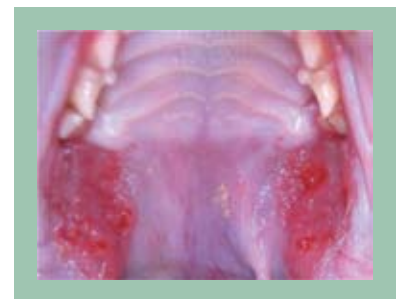
In these cases, orthodontic care is recommended to move or remove teeth and create a pain-free mouth. Sometimes teeth are moved with elastic bands attached to cemented brackets on the teeth. Other times fixed appliances are installed on one jaw to move the teeth on the opposite jaw into a functional bite. When teeth cannot be moved to correct positions, they can be reduced in height and restored or they might need to be extracted.

Feline Stomatitis

Stomatitis occurs as a generalized inflammation around the teeth and often affects the back of the mouth. Many therapy options exist, but extraction of the teeth behind the canines has traditionally resulted in the most consistent success.

Extraction results in cases of feline chronic gingivostomatitis:

- 60% are cured
- 20% require further therapy (medication, laser)
- 20% experience little improvement



Extraction of the back cheek teeth and laser ablation of the inflamed caudal stomatitis



Tooth Resorption

Canine and feline teeth may be affected by decreased tooth substance called tooth resorption. External resorption starts from the outside of the tooth and progresses inward. Internal resorption begins at the pulp (nerve) and progresses outward. The exact cause of tooth resorption is unknown.

Recommended therapy for canine patients:

- For internally resorbed teeth—Extract the tooth or perform a root canal.
- Externally resorbed teeth—if the resorption extends to the oral cavity, extract the tooth. If not, monitor the patient closely with periodic clinical and radiographic examinations.

Therapy for feline patients depends on the visualization of the periodontal ligament.

- If the periodontal ligament is present, the tooth should be extracted. X-rays should be taken afterward to ensure complete extraction.
- If the periodontal ligament is absent, the exposed crown should be surgically removed, leaving the root. The surrounding gum tissue should be sutured over the defect, allowing the root to continue to resorb.

Oral Tumors

Oral tumors can occur in both dogs and cats. As soon as you observe a tumor, perform diagnostic tests, including cell examination (cytology and/or histopathology) to determine whether the tumor is malignant or benign.

Benign oral tumors can often be surgically removed, resulting in a cure.

Malignant oral tumors usually carry a guarded to poor prognosis in dogs and cats.

Melanoma is the most common type of oral tumor in canine patients. Squamous cell carcinoma is the most common oral tumor in cats and the second most common type in dogs.

Treatment depends on many variables, including size, location and classification as benign or malignant. The goal when performing tumor removal should be to include a wide surgical margin around the lesion—1 cm for benign lesions and 2 cm for malignant lesions.

A number of excellent resources exist to assist the general practitioner in developing a sound oral healthcare practice by implementing Oral ATP.™ On-demand CE credit webinars, technical reports, staff guides and client communication pieces are available at vet.greenies.com. In addition, a new online resource—OralATP.com—is under development. OralATP.com will provide the most convenient, comprehensive and in-depth source of information on Oral Assessment, Treatment and Prevention.



Dr. Jan Bellows is a Fellow of the Academy of Veterinary Dentistry, a Diplomate of the American Board of Veterinary Practitioners, a Diplomate of the American Veterinary Dental College and a Veterinary Information Network (VIN) consultant. He is a frequent speaker at conferences and has authored many articles on veterinary dentistry as well as two books, *The Practice of Veterinary Dentistry*, *A Team Effort* and *Small Animal Dental Equipment, Materials and Techniques*. He practices at All Pets Dental Clinic in Weston, FL.

References

- 1 American Veterinary Medical Association, 2006.