



The Trouble with Teeth: Dentistry Case Studies for Veterinary Nurses

Becky Smith CVT, VTS (Clinical Practice-Canine/Feline)

DoveLewis Annual Conference Speaker Notes

She's just here for a spay! "Elliot"

- This is typically the patient's first anesthetic procedure and it is the perfect time to perform a full dental assessment.
 - Count all teeth and look for abnormalities
 - Dogs should have 42 teeth and cats should have 30 teeth
 - Check for "missing" teeth. Take a dental radiograph to confirm that the tooth is truly missing.
- "Missing" teeth can be un-erupted
 - Un-erupted (T/U)- a tooth that has not perforated oral mucosa
 - Embedded (T/E)-un-erupted tooth covered in bone
 - Impacted (T/I)-un-erupted or partially erupted tooth whose eruption is prevented by contact with a physical barrier
- If a tooth does not erupt properly, one of three things can happen:
 - 1. Nothing
 - 2. The tooth can be resorbed
 - 3. A dentigerous cyst (DTC) forms and damages the maxilla or mandible and adjacent teeth

During tooth formation, the enamel organ sac produces and mineralizes enamel. Once the coronal enamel is finished forming this organ shuts down. When the tooth erupts, the enamel sac ruptures and becomes a collar around the tooth. If the tooth does not erupt properly the sac can continue to expand and form a dentigerous cyst. This cyst will expand and damage the jaw and adjacent teeth.

Early intervention and extraction of the un-erupted tooth, and cyst wall debridement will prevent further damage.

Breeds predisposed to un-erupted teeth are:

- Pugs
- French Bulldogs
- English Bulldogs

- Lhasas
- Shih Tzus
- King Charles Cavalier
- Boxers

Lower first premolars (#305 and #405) are the most commonly un-erupted teeth, but any tooth can be un-erupted. It is also more common in dogs than cats.

Brachycephalics: Adorable Train Wrecks “Monte”

Due to the anatomy of brachycephalics, they need early professional dental care and intervention to prevent progression of severe periodontal disease, organ damage, pain and tooth loss.

They are prone to multiple dental issues:

- Tooth crowding
 - Small, shortened mouths with normal, or near normal, number of teeth results in crowding. This will cause periodontal disease to advance quicker and affect more teeth. Most commonly crowded teeth are upper and lower incisors, lower premolars and upper premolars.
 - Selective extraction of crowded teeth will help maintain adjacent teeth and slow periodontal disease.
- Un-erupted teeth which can lead to dentigerous cysts
- Rotated teeth
 - Teeth can be severely rotated due to crowding. The most commonly affected teeth are the 3rd upper premolars (#107 & #207) and 4th lower premolars (#308 & #408).
 - One root of the rotated tooth will not be supported by alveolar bone and perio will progress quickly.
 - Extraction of rotated teeth will help save the adjacent teeth.
- Persistent primary teeth (DT/P)
 - Extraction of these teeth will be needed at some time. These teeth have small, shallow roots and are not meant to be kept for years. Dental radiographs are needed to make sure there is not a permanent tooth impacted below the primary tooth.
- Supernumerary (T/SN) incisors
 - Extraction may be needed due to crowding, to prevent perio and prevent tooth abrasion.
- Partially erupted canines
 - Pugs especially tend to have partially erupted lower canines with root tips appearing blunted on rads.

- Usually no treatment is needed. If there is crowding from incisors, selective extraction of incisors may be needed to prevent periodontal disease progression in the canines.
- Shortened and curved mandibles.
 - If an apical abscess forms in a lower mandible, extraction can be difficult and fracturing of the jaw is possible.
- Severe periodontal disease
 - Due to all of the above dental issues, severe periodontal disease will form and advance faster in brachycephalics.

Early intervention is needed. Assess teeth at time of spay/neuter. If you are seeing them for the first time as adults, recommend a cleaning ASAP. The longer care is delayed, the worse their periodontal disease will be and the more expensive treatment will become.

Tiny mouths = PERIO! "Minnie"

Like brachycephalic dogs, tiny breed dogs have smaller mouths with the same number of teeth (or close to it). Early intervention is needed, just as with brachycephalics. This will help prevent more severe periodontal disease, pain, organ damage and tooth loss.

Tiny breeds are prone to:

- Persistent primary teeth (DT/P)
- Tooth crowding (especially lower incisors)
- Missing teeth (+/- leading to dentigerous cyst)
- Severe periodontal disease

Other factors leading to periodontal disease:

- Delayed professional cleanings
- Lack of home dental care
- Puppy mill breeding due to popularity of breeds
 - Breeding for profit regardless of genetics
- Not receiving dental chews/treats
- Not chewing on toys (rope toys, stuffed toys, tennis balls, etc)
- Longer lifespan
- Difficult to brush due to small mouth

Give owners options other than just brushing:

- Water additives
- Chews for small breed dogs
- Yearly cleaning (yearly assessment at exam minimal)

Early intervention and treatment will prevent periodontal disease, tooth loss, pain and expensive treatment. Home care will help!

Cats “Bobby” and “Tiny”

They really need their own hour...

Full mouth dental radiographs should be performed at each cleaning. Cats commonly have tooth resorption, rather than periodontal disease, but they can have both.

Tooth resorption (TR): root resorption begins in the roots and progresses to the crown. Once a lesion forms at the crown, the tooth becomes painful.

- Extraction or crown amputations (CR/A) are the only options. Dental radiographs are needed to perform a crown amputation.

Periodontal disease: gingival recession and bone loss around the tooth.

Depending on the tooth and severity of periodontal disease there are a few options:

- Extraction
- Root planning (RPC or RPO) and reassessment in a year
- Endodontic treatment if appropriate

Remember that cats are predators and prey; they are VERY good at hiding pain. Owners may not realize their cat is in pain.

Important Take-Aways for Today

Know your dental anatomy

- Cats have 30 teeth
- Dogs have 42 teeth
- Know the number of roots each tooth should have
- Know the normal position of teeth
- What do normal dental radiographs look like?

Know common breed abnormalities

Use dental charts—they do not have to be extensive!

References:

VIN.com: "Developmental Disturbances of Teeth", Leen Verhaert, World Small Animal Veterinary Association World Congress, Vancouver 2001.

VIN.com: "Dentigerous Cysts in Dogs", Ayako Okuda

Vetfolio.com: "Oral Examination of Cats and Dogs", Dale Kressin, Compendium, February 2009, (Vol 31, No 2)

"Dental Abnormalities in Puppies and Kittens", Kendall Taney, DVM, DAVDC, FAVD, Clinicians Brief, January 2014

"An Overview of Dentigerous Cysts in Dogs and Cats", D'Astous, Jerome. The Canadian Veterinary Journal. 2011 August. 52 (8): 905-907

AVDC.org (Common abbreviations in parentheses)

DVM360.com