Periodontal Disease

What is periodontal disease?

- Periodontal disease is infection and inflammation of the tooth's support structure. It occurs when bacteria in the mouth mix with saliva to form a soft, sticky substance known as "plaque."
- Plaque can adhere to the tooth surface and even below the gum line. If not brushed away, plaque can become mineralized over time and lead to the formation of calculus or tartar.
- Calculus formation allows a safe haven for bacteria to grow and multiply within the mouth.
- These bacterial agents secrete various toxins that can result in damage to gum and bone around teeth. This overgrowth of bacteria causes inflammation within the mouth.
- Small-breed dogs and older dogs tend to be the most affected; however, cats and dogs of any breed at any age may show signs of periodontal disease.

What impact does periodontal disease have on my pet?

- Halitosis (bad breath)
- Pain/discomfort
- Excess salivation
- Weight loss, not eating well
- Can affect heart, liver and kidney health due to the presence of chronic infection

What diagnostic and treatment options are available?

- An initial evaluation of your pet's mouth can be done in the exam room without anesthesia, but general anesthesia is needed for a complete oral examination and treatment.
- Full mouth x-rays are essential to evaluate oral and dental disease.
- Dental cleaning and polishing provide manual removal of plaque and calculus.
- More advanced periodontal treatment may be needed for some teeth with moderate levels of disease; this includes deeper cleaning of the teeth and pockets around them, as well as administering antibiotics.
- Extraction may be needed for some teeth with significant levels of disease.
- Home care is a must to keep periodontal disease at bay.

How can I prevent periodontal disease in my pet?

- Implement a home care regimen:
  - Brushing is the "gold standard" for preventing periodontal disease. In order for brushing to be effective, however, it must be done at least three to four times per week; daily brushing is best.
  - Oral rinses are available. These rinses typically contain an antibacterial agent, such as chlorhexidine, to reduce the amount of bacteria within the mouth.
  - Dental chews and dental diets specifically formulated for oral health are also available.
- Ensure that your pet receives annual dental cleanings, or more frequently if your veterinarian requests it.

Photograph of a dog with moderate periodontal disease

Photograph of a dog with severe periodontal disease

Fractured, Worn, or Discolored Teeth

What is a fractured tooth?

- A tooth fracture, or break, is typically caused by some form of trauma or injury (such as chewing on hard objects).
- If a tooth fracture exposes the pulp canal (where the blood supply and nerves are), the tooth is initially painful until the nerve dies in a few days.
- Later, the dead pulp can become infected, and this infection can spread to the bone at the tip of the root (the apex), and even into the rest of the pet's body.

What are discolored teeth?

- Teeth can become discolored as a result of sustaining trauma (blunt force or thermal/heat) that does not break the tooth but causes internal bleeding of the pulp canal.
- Tooth discoloration can be an indication of a condition known as pulpitis, which is inflammation of the pulp (blood vessels and nerves).
- Pulpitis can result in a disruption of the blood supply to the tooth at the root tip.

What impact do tooth fractures or discoloration have on my pet?

- Pain/discomfort
- Tooth root abscess (occurs in fractures with pulp exposure or pulpitis)
- If the pulp dies (irreversible pulpitis), it can become infected with bacteria that travel through the pet's bloodstream.

What diagnostic and treatment options are available?

- Your pet will undergo a thorough oral examination while under general anesthesia.
- Dental x-rays will be obtained.
- Surgical options depend on age of the pet, the location of the fracture (crown vs. root), and the duration of the fracture.
  - Extraction—the most common treatment option—removes the source of infection.
  - Vital pulp therapy – if a tooth has a very recent fracture, sometimes it can be treated to keep the remaining pulp alive.
  - Root canal therapy is a procedure in which the pulp material is cleaned out and replaced with an inert material, removing the infection but retaining the structure of the tooth.

What are some preventive measures?

- There are a few ways to minimize potentially traumatic insults:
  - Provide your pet with compressible or bendable—not hard—chews. Dental-friendly chewables include Kong toys, plush stuffed animals, and CET chews (or other brands of dental-friendly chews).
  - Try to discourage your pet from chewing on items such as bones, rocks, hard Nylabone toys, tennis balls, and certain types of rawhide.

Feline Tooth Resorption

What is feline tooth resorption?

- Tooth resorption is erosion or a defect in the crown, (the uppermost part of the tooth, covered in enamel) and/or root of tooth.
- Resorption is NOT a “cavity”—there is no bacterial decay.
- Bone cells start to turn tooth roots into bone, then the disease progresses into the crown which can cause significant pain.
- The crown of the tooth can eventually be lost.
- Cats are commonly affected, and the incidence increases with age.

What impact does tooth resorption have on my pet?

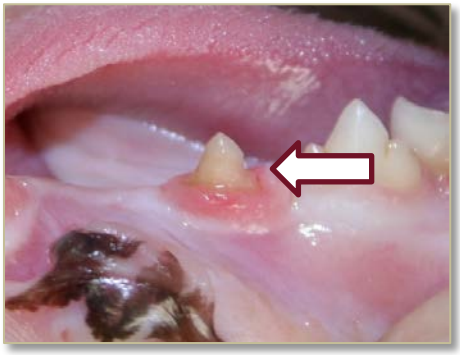
- It is typically **very painful**—even under general anesthesia.
- Appetite loss can occur.
- The animal chews only on the unaffected or less affected side of the mouth.
- Gum tissue can grow into the defect, potentially hiding it.
- Resorption is typically a progressive condition; therefore, additional lesions are highly likely to occur in the future.

What diagnostic and treatment options are available?

- A thorough oral examination (with the pet under general anesthesia) will consist of a full mouth evaluation and charting of any abnormalities noted.
- Full mouth x-rays will help determine the stage of resorption and the best treatment approach.
- Extraction—complete removal of the tooth down to the root—may not be possible, but removing the visible crown and as much of the root as possible, then suturing the site, should make the pet much more comfortable.

What is the prognosis (likely outcome) for tooth resorption?

- The prognosis following extraction is typically good.
- The prognosis for preventing progression to other teeth is fair to guarded.



This tooth has a resorptive lesion (see arrow). The surrounding gums are also inflamed.

This x-ray image shows destruction (resorption) of the tooth root (see arrow).

Tooth Extraction Treatment Sheet

Why does my pet need an extraction or extractions?

- There are a number of reasons why your pet may need one or more teeth extracted:
  - Advanced periodontal disease and infection around a tooth
  - Periodontal disease between a larger tooth and smaller tooth, or between crowded teeth—extraction of the smaller tooth can provide room for better treatment of the larger tooth
  - A broken tooth with an open pulp canal or dead pulp (indicated by a purple or gray tooth)
  - Root and tooth resorption, which can be painful
  - Retained deciduous (baby) teeth after the permanent teeth have erupted
- Keeping a tooth with deep periodontal disease, or a tooth that contains dead pulp, can lead to continued infection that can spread to surrounding teeth, to bone, or even into the rest of the body.
- Deciduous teeth that are not lost (around 4 to 6 months of age) can cause the adult teeth to grow in abnormally; if not removed, they can also cause crowding and increased periodontal disease.

How is the extraction done?

- Some teeth have significant disease and are already somewhat loose, so simple elevation (further loosening) may be all that is needed.
- Many teeth will need additional steps for full extraction. For these patients, oral surgery may include:
  - Injection of a local anesthetic
  - Creation of a gingival flap, in which the gum tissue is raised up (it will be sutured following the procedure)
  - Sectioning teeth with multiple roots into single root segments
  - Removing small amounts of bone to facilitate tooth loosening
  - “Finishing” the site to remove sharp edges of bone, clean out any infected material, and sometimes place a material that will encourage bone growth into the area.

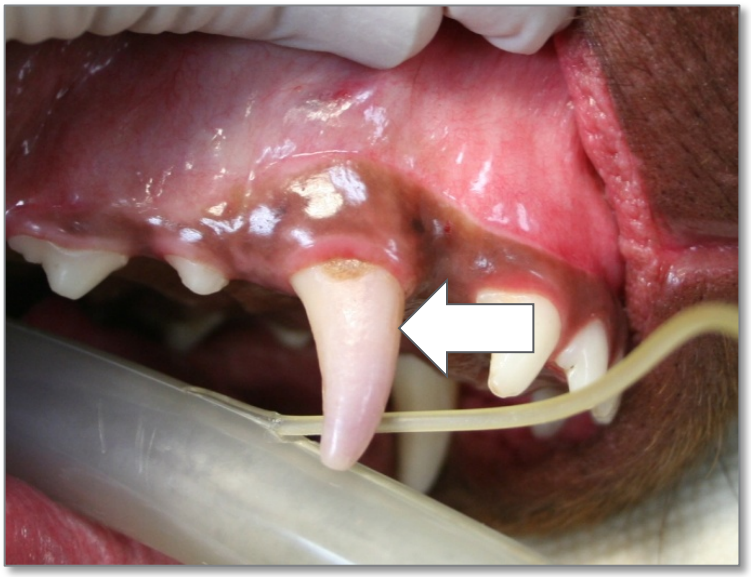
What other treatment options are available?

- Some teeth with moderate periodontal disease can be treated with advanced techniques, if meticulous home care (oral rinses, brushing) will be maintained after treatment to help keep the mouth healthy.
- Some fractured or discolored teeth can be treated with root canal therapy to remove the infected pulp. An inert material will be placed inside the tooth to keep its structure intact.

How will my pet handle the extraction?

- Most patients do very well immediately following surgical tooth extraction. In fact, once the infection is removed, many pets feel better than they have in a long time, and most eat better without the damaged teeth. Dogs have 42 teeth and cats have 30 teeth, so removal of one or more teeth will not affect function.

- Your pet may need to eat soft food for up to 2 weeks after surgery, and chew toys and other items should be avoided to keep the sutures intact.
- Antibiotics, pain medications, and oral rinses may be dispensed to help in the postoperative period, but care should be taken not to handle the mouth too much.
- After a recheck, the pet can often go back to its regular diet, and home care efforts should be continued (brushing, appropriate chewing devices and food).



This discolored tooth (see arrow) has a damaged blood supply and should be extracted or have a root canal treatment.

This tooth has a fractured crown with exposed pulp and should be extracted or have a root canal treatment.