

# PERIODONTAL DISEASE IN YOUR PET

Dental disease is the **number one** diagnosis in dogs and cats, 80% of dogs and 70% of cats have periodontal disease by 2 years of age. It is a chronic, progressive disease, which is worse in older people and pets.

Periodontal disease is a relatively recent problem in our pets for several reasons. First, commercial pet foods have decreased the need to chew compared with natural diet, which allows plaque to accumulate. Next, our pets, like us, are living longer, which allows time for the production of more severe disease. Finally, there has been an increase in the ownership of small breed dogs and purebred cats, which are especially predisposed to periodontal disease.

Periodontal disease is initiated by bacteria adhering to the teeth in a substance called plaque. Plaque is composed almost entirely of bacteria with some sugars and proteins to hold them together. If not removed, plaque will extend under the gum line into the area known as the gingival sulcus (between the tooth and gum). The bacteria in this subgingival plaque will secrete toxins and metabolic products. These in turn cause inflammation, which results in damage and possible destruction of the tooth's attachment.

Periodontal disease is broken up into two entities, gingivitis and periodontitis. Gingivitis is the initial, *reversible* stage in which the inflammation is confined to the gingiva. This inflammation may be reversed by a dental cleaning and homecare (brushing). Gingivitis, if left untreated, may progress to periodontitis. Periodontitis is the active stage of inflammation of the deeper tooth supporting structures which results in their destruction. Periodontal disease is the *irreversible* (without surgery) loss of the supporting structures (bone and soft tissue) of the tooth. While it is irreversible, it is possible to arrest its progression with proper professional therapy and home care.

The bacterial toxins also elicit an inflammatory response from the pet. White blood cells migrate into the area to destroy the bacterial invaders; however, they will also damage the attachment of the tooth. These inflammatory events cause the attachment of the tooth to move down towards the root tip. This will result in either gingival recession where roots are exposed, or the gingiva can remain the same height while the area of attachment moves down, thus creating a periodontal pocket.

Therapy at any point in the disease process will stop or slow this progression. Without therapy, the end stage of this disease is tooth loss; however the disease has likely caused problems well before this.

The inflammation that allows the body's defenses to attack the invaders also allows those invaders to gain access to the body. Animal studies suggest the possibility that these bacteria will negatively affect the kidney and liver.

Bacteremias have also been linked to heart attacks and strokes in people. These bacteria may become attached to heart valves and cause endocarditis which results in an intermittent infection and strokes. While these studies are not definitive, this is an infectious process which can lead to a state of chronic disease.

Clinical signs of gingivitis are swelling, a gingival color change from pink to red, bleeding gums, significant tartar, and bad breath. Clinical signs of periodontitis include the above plus gum recession, difficulty eating, and increased tooth mobility.

Finally, there are two common sequela to severe periodontal disease. Both of these are most common in older small breed dogs. The first and most common sequela is an **oral-nasal fistula**. These result from periodontal disease progressing up the inside surface of the upper canines. The roots of these teeth are next to the nasal cavity, and are separated from it by only a thin sheet of bone. Periodontal disease destroys this bone resulting in a communication between the oral and nasal cavities. The bacteria, food particles, and other oral debris will enter this area and cause an infection in the nasal cavity. Signs are chronic nasal discharge, sneezing, and occasionally loss of appetite and bad breath. This is diagnosed by the veterinarian introducing a probe into the area under general anesthesia.

Interestingly, this condition can occur even when the remainder of the teeth are relatively healthy. Unfortunately there is little recourse for this problem other than extraction of the tooth. In addition, periodontal disease will weaken the bone in the affected areas. In the mandible it can weaken to the point of causing a **pathologic fracture**. The fractures occur most commonly due to mild trauma (like jumping off a couch); however some dogs have broken their jaw while eating. These fractures will usually have a very difficult time healing due to the lack of remaining healthy bone.

This common and severe disease process can be prevented or slowed with routine professional cleanings and homecare. Please note that the bacteria that cause this disease are located under the gum line. Anesthesia free "cleanings" **DO NOT** address this area and are of little to no medicinal value. Please consult with your veterinarian as to the proper therapy for your pet. For further information on veterinary dentistry, ask your Veterinarian.