Periodontal Disease in Cats

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What is periodontal disease?

'Periodontal' comes from two Greek words that mean 'around the tooth.' Periodontal disease is a series of changes that are associated with the inflammation and loss of the deep supporting structures of teeth.

How does periodontal disease develop?

Food particles and bacteria collect along the gumline forming plaque. If plaque is not removed, minerals in the saliva combine with the plaque and form tartar (or calculus) which adheres strongly to the teeth. Plaque starts to mineralize 3-5 days after it forms. The tartar is irritating to the gums and causes an inflammation called gingivitis. This can be seen as reddening of the gums adjacent to the teeth. It also causes bad breath.

If the calculus is not removed, it builds up under the gums. It separates the gums from the teeth to form "pockets" and encourages even more bacterial growth. At this point the damage is irreversible, and called "periodontal" disease. It can be very painful and can lead to loose teeth, abscesses, and bone loss or infection.

> If gingivitis is left untreated, it will progress to periodontal disease which is irreversible.

What factors affect the development of periodontal disease?

Numerous factors play a role in the formation of plaque, tartar, and the development of periodontal disease. These include:

- Age and general health status
- Diet and chewing behavior
- Breed, genetics, and tooth alignment
- Grooming habits
- Home care

Age and Health Status: Periodontal disease more commonly affects older animals. Cats infected with feline leukemia virus, FIV or calicivirus have a much higher incidence of periodontal disease.

Diet and Chewing Behavior: Studies show that hard kibbles are slightly better than canned food at keeping plaque from accumulating on the teeth.

Breed, Genetics, and Tooth Alignment: Oriental short-hair and Siamese cats are more commonly affected than other cats.

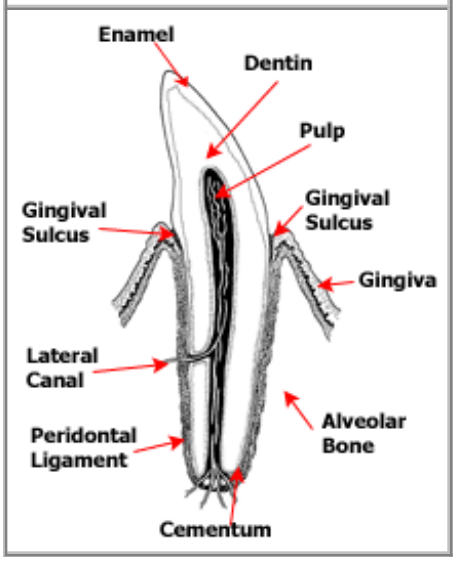
Grooming Habits: Hair accumulation and impaction around the tooth can increase the development of tartar.

Home Care: Regular brushing of your cat's teeth can greatly reduce the accumulation of plaque and development of tartar, thus reducing the risk of periodontal disease.

In general, the more acid the saliva, the more rapid the buildup of plaque.

The number and type of bacteria in the mouth influence the progression of periodontal disease.

Tooth Anatomy



What are the signs of periodontal disease?

As periodontal disease progresses, you may observe the following signs:

- Purulent exudate (pus) around the tooth
- Persistent bad breath
- Gums that bleed easily
- Sensitivity around the mouth
- Pawing at the mouth
- Gums that are inflamed (red), hyperplastic, or receding
- Loose or missing teeth
- Loss of appetite
- Stomach or intestinal upsets
- Drooling

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- Difficulty chewing or eating
- Irritability or depression

How is periodontal disease diagnosed?

A number of criteria are used to assess the oral health of a cat and assign a grade. These include the amount and distribution of plaque and calculus, health of the gingiva (gums), radiologic appearance, and the depth of pockets. ('Deep pockets' do not refer to the financial status of the owner, but to the depth of the gingival sulcus (the 'pocket' formed between the tooth and the gum). The pocket depth is measured using a calibrated probe. In a cat, the normal pocket depth is 1-2 mm.) After assessing these parameters, the severity of disease can be determined and a prognosis made.

	Grade	Plaque and Calculus	Gum Health	Radiologic Changes	Prognosis
Early Gingivitis	Grade I	Mild amount of plaque	Mild redness	No change	Reversible
Advanced Gingivitis	Grade II	Subgingival* plaque	Redness and edema	Little change	Reversible
Early Periodontitis	Grade III	Subgingival* calculus	Redness, edema, gums bleed with gentle probing, gum recession or hyperplasia	Subgingival calculus, 10-30% loss of bone support	Irreversible
Established Periodontitis	Grade IV	Larger amounts of subgingival calculus	Severe inflammation, gum recession, loose teeth and/or missing teeth, pus, gums bleed easily, deep pockets	Over 30% bone loss	Irreversible

*subgingival = below the gumline

What veterinary procedures are used to treat periodontal disease?

Treatment depends upon the severity (Grade) of the problem. In all cases, a pre-surgical exam should be conducted. This may, in some instances, include some pre-anesthetic blood testing. These exams and testing are done to assess the health of your cat and point out any potential problems. Many times, your cat will be started on antibiotics several days before the scheduled dental procedures. Your cat will be anesthetized and monitored during the procedure.

Grade I or Grade II: A routine professional prophylaxis (dental cleaning and polishing, often called a 'prophy') will be performed on pets with Grade I or II disease. The plaque and tartar build-up will be removed from the teeth, both above and below the gumline, with handheld and ultrasonic scalers. The teeth are then polished to remove microscopic scratches that predispose to plaque formation

It is important to treat and control periodontal disease for 2 reasons:

- to maintain the health of teeth

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and calculus build-up. Each tooth and the entire oral cavity are checked for any disease. Fluoride may be applied.

Grade III and Grade IV: After the teeth are scaled, as described above, probing and dental radiology will be performed in order to select the appropriate treatment. Treatment options are root planing and subgingival curettage, periodontal debridement, gingivectomy, periodontal surgery, special therapeutics, and tooth extraction.

and gums

- to guard against infection spreading to other parts of the body

Root planing: Root planing involves removing residual calculus and diseased cementum or dentin, and smoothing the root surface. This procedure is difficult to learn and usually requires months of training and practice.

Subgingival curettage: Subgingival curettage removes diseased epithelium and connective tissue. This is also a difficult procedure.

Periodontal debridement: Periodontal debridement may be performed instead of root planing and gingival curettage. In this procedure, irritants to the tooth and root surface such as bacteria and endotoxins produced by the bacteria are removed. This is accomplished through special ultrasonic scalers.

Gingivectomy: During a gingivectomy, hyperplastic or excess gingiva is removed. The area between this excess tissue and the tooth is a perfect habitat for bacteria.

Periodontal surgery: These surgeries involve opening a flap of the gingiva over the root of the tooth to be able to reach the deeper structures.

Special therapeutics: Newer products on the market include artificial materials that can be placed inside the pockets to stimulate bone and periodontal growth. Some include antibiotics that are released for several weeks after the application. Others are sealants and plaque preventives.

Tooth extraction: In some cases, a tooth cannot be saved or the owner elects not to have other procedures performed. In these cases, tooth extraction is the only alternative.

What types of aftercare and home care are needed for cats with Grade I or II disease?

Pets with Grade I or II disease will be placed on a regular brushing and home dental care program to control plaque. Measures include the mechanical removal of plaque through brushing and chewing; the chemical removal of plaque through toothpastes, gels, and rinses; and proper nutrition and the possible use of specially formulated foods which reduce the amount of plaque and stain on teeth.

Owner commitment to home care is crucial.

What types of aftercare and home care are needed for cats with Grade III or IV disease?

Pets with Grade III or IV disease will need to be placed on several types of therapy. Owner commitment to this care is crucial.

Pain and anti-inflammatory medication: Medication for pain relief and to decrease the amount of inflammation may be administered post-operatively and for several weeks following the dental procedures.

Antibiotics: Antibiotic therapy is important. Commonly used antibiotics include amoxicillin-clavulanic acid (Clavamox), clindamycin (Antirobe), and cefadroxil (Cefa-Tabs and Cefa-Drops). These antibiotics may be given 1-2 weeks postsurgically. Pulse therapy, in which antibiotics are administered for the first 5 days of every month in an attempt to lower the bacterial count in the mouth, may also be used.

Topical medications: Products containing zinc ascorbate, stannous fluoride, chlorhexidine, or plaque preventives may need to be applied to the teeth on a regular basis.

Diet: Depending on the situation, it may be necessary to feed your cat only soft food for the week or so after treatment. Your veterinarian may then suggest feeding your cat a specialized dry diet that helps control the build-up of plaque and tartar.

Brushing: Your veterinarian will explain to you the best toothbrushing routine for your cat. You may need to wait until your cat's mouth heals before starting to brush. Often you will start out with a soft finger brush for the first 2-3 months and then graduate to a bristle brush.

Regular check-ups: Cats with periodontal disease will need frequent check-ups to assess their oral health. For some animals, it may be advisable to recheck pocket depth 4-6 weeks after treatment. For others, routine examinations 2-4 times a year will be needed.

PREVENTION --- PREVENTION --- PREVENTION

Periodontal disease is **ir**reversible. We do not want you or your cat to have to go through that diagnosis. Do not wait. Get your cat on a good dental care program that includes:

- Regular visits to your veterinarian, which include an oral exam

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- Veterinary dental cleaning as advised
- Daily oral care

You and your cat will be glad you did!

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