

Dental Disease in Dogs



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Table of Contents

I. Types of Dental Disease

A. Periodontal disease

B. Other common problems

II. Health issues related to Periodontal Disease

A . Oral disease

1. Infected gums

2. Abscess teeth

3. Silent pain

B. Other organs affected

1. Kidney

2. Heart

3. Liver

4. Other systems

III. Treatment of Periodontal Disease

A. Professional treatment

1 Proper cleaning under anesthesia

2. Dental Radiographs needed to id disease under gum line

3. Periodontal surgery and extraction required in advance disease

B. Home treatment

1. Brushing

2. Chews

3. Water additives

I: Types of Dental Disease

A. Periodontal Disease

In dogs as in people, periodontal disease starts out as gingivitis or inflammation of the gums. However, if it is left untreated, your dog's dental problems can progress to periodontal disease. With time periodontal disease will progress to irreversible dental disease.

Here's how it starts. Just as with humans, food particles and bacteria from your dog's dinner collect along the gum line. This hardens and becomes plaque. If the plaque is not removed, minerals in your dog's saliva mix with the plaque and form tartar or calculus. That is the hard yellowish shale-like build up you can see on your dog's teeth unless they are regularly brushed.



Periodontal Disease: Notice the swollen gums and tartar buildup

Tartar is unsightly but it's more than aesthetics we need to worry about. This is now gum disease. It can inflame your dog's mouth and cause such problems as pain, eroded gums, missing teeth, and even bone loss.

B. Other common problems

Veterinarians estimate that 85% of dogs over four years of age have some sort of gum disease. Besides gum disease, dogs also suffer from dental infections, lost or broken teeth, crooked teeth and abscesses.

Another dental problem is halitosis or bad breath. Although it is not physically dangerous or painful for your dog halitosis, may make him highly unpopular with humans and therefore avoided. This may be emotionally harmful to your pet.

For puppies, just like children, loose teeth are common. They are simply baby teeth being lost to allow permanent teeth to erupt. Retained baby teeth that don't allow space for permanent teeth are a problem. There should never be both a baby tooth and a permanent tooth of the same time tooth present at the same time. These retained baby teeth may cause pain, malposition of other teeth and premature loss of the permanent tooth. These retained tooth should be removed immediately.

Retained Baby Tooth: Permanent Canine Tooth is Erupting in Front of Baby Canine

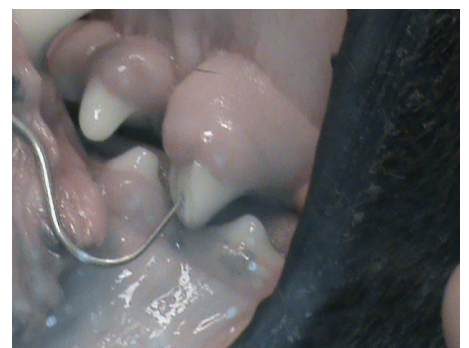


Loose teeth are only worrisome in adult dogs. Loose teeth in adult dogs are a sign of trauma, gum disease or illness. In addition loose teeth are uncomfortable and often painful.

Another dental problem found in dogs is called malocclusion. This means your dog's teeth are poorly aligned. It may be caused by misalignment of his upper and lower jaws. This malocclusion may make chewing his food difficult resulting in choking or digestive problems. It could also mean that while your dog's jaws are aligned, he has one or more teeth rubbing his mouth, causing sores, and making eating painful. It is often necessary to remove or shorten teeth that are causing pain.

Broken teeth are also a concern. They may have become broken from chewing on toys too hard or biting down on such objects as bones or stones. Broken teeth can also result from rough tug of war with your pet. Broken teeth may be jagged or slab fractures. The latter are caused by biting down on a hard object like a stone or an ice cube.

Broken canine tooth



with open canal

The problem with broken or cracked teeth is that they may make chewing painful. The nerve of the tooth may become exposed and painful. The tooth may become infected producing harmful bacteria that go through your dog's system. Broken teeth with open canals should be treated with extraction or endodontic therapy (root canal).

Abscess teeth occur when the root of one of your dog's teeth becomes infected. Your dog may then have trouble eating. He may drop his food or tip his head to one side when eating to avoid the painful abscess. The abscess may build enough to create facial swelling. Abscessed canine teeth frequently look like an eye infection because the roots are so close to the eye. More commonly dogs with abscess teeth show absolutely no clinical signs to allow us to know our pet is suffering. Abscess teeth are often cause of unrecognized pain.

II. Health issues related to Periodontal Disease

A . Oral disease

1. Infected gums

One of the first signs of periodontal disease is gingivitis or infected gum. The infection is caused by tartar build up. It is important to recognize gum disease and treat it before it becomes advanced periodontal disease. Advanced disease results in tooth loss and pain. Prevention is the key. Proper, regular brushing and removal of plaque is vital.

How can you detect infected gums? You don't have to be a veterinarian to spot infected gums. In its earliest, reversible stages, gingivitis will appear as a mild redness of the gums but the gum's surface is smooth. Some plaque may be present. If untreated gums will become infected and plaque will turn hard and become tartar.

2. Abscessed teeth

Abscessed teeth occur when the tooth root becomes infected. This may occur as a result of broken or cracked teeth or periodontal disease. Abscessed teeth are painful and may

result in your dog's refusal to eat. Large abscesses will puff up your dog's face and may irritate his eye if the abscessed tooth root is close to the eye.

The abscess is actually pus that builds up near the infected tooth. You can spot an abscess by checking inside your dog's mouth. There will be a swelling and redness around the gums surrounding the affected tooth. Check regularly inside your dog's mouth for an abscess. Red flags for abscesses are refusal to eat or tipping head to one side to avoid the abscess while eating. There may also be puffiness if the abscess is large.

What happens when your dog's tooth gets abscessed? First antibiotics will be prescribed to control the infection. An anti-inflammatory and/or medication for pain relief will be prescribed. This merely deals with the pain and swelling. It does not treat the cause.

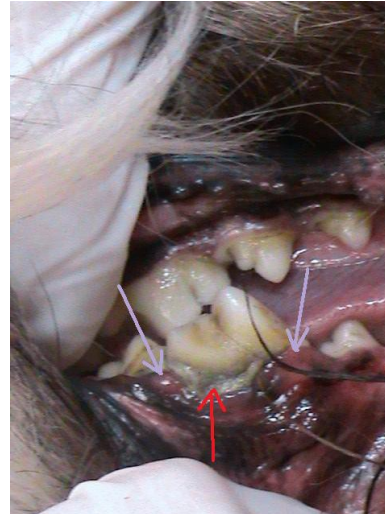
Root canal surgery is one way to treat broken teeth with open canals. Its success is largely determined by your dog's age and health and the condition of the tissue around the tooth. The other alternative is extraction. If the abscessed has bone damage or significant damage to the crown the best solution may be extraction. Abscess teeth that are the result of periodontal disease generally require extraction.

3. Silent pain

It is not in dogs' nature to complain about pain. That's why painful dental and other conditions often go undetected. Owners have to look at symptoms rather than the pain itself. Symptoms may include any or all of the following:

- Changed eating habits: Your dog may be avoiding eating or eating to one side of his mouth. He may avoid crunchy food but bolt down soft foods.
- Lethargy: Your dog may not be as energetic as usual.

Abscess Tooth: Notice the Swollen Gums with Pus at the Base of the Tooth



- Enlarged pupils
- Hair standing up in places
- Flattened ears
- Restlessness: pacing; getting up and down repeatedly; excessive panting; licking and/or scratching at an area. Your dog seems bothered.

It is important to recognize signs of pain in your best friend. He cannot tell you in words that he needs help in easing his pain and having the condition that caused the pain attended to. If in doubt have your pet's teeth evaluated by a veterinarian.

C. Other organs affected

While the pain caused by dental disease is a concern, there are other side effects of dental disease that are a major concern. The poisons from dental disease travel to organs of your pet's body. We've already discussed how untreated dental problems can result in irreversible periodontal disease. The plaque becomes calculus or tartar. Chronic periodontal disease affects your dog's heart, kidneys, and possibly the liver. Studies have shown a high correlation between dental disease and systemic diseases in people, dogs, and cats.

1. Kidney

When bacteria from dental disease invades your kidneys, the bacteria compromises the glomerulus membranes whose job it is to filter plasma to produce glomerular filtrate. This goes down the nephron tubule to form urine. The bacteria causes these membranes to fail to function properly. The results of this may be premature kidney failure.

2. Heart

Studies revealed a strong link between gum disease and heart disease in humans and dogs. This correlation was strongest in endocarditis, inflammation of the heart valves. Dogs and people with gum disease are twice as likely to have coronary artery disease and other coronary problems. Researchers suspect this is because the surface of your dog's gums is weakened and compromised by periodontal disease. The breakdown of

gum tissue allows mouth bacteria to enter the bloodstream. The bacteria thickens the walls of the arteries leading to constricted or clogged arteries. The bacteria is also suspected of creating blood clots and damaging the lining of the heart.

3. Liver

Bacteria cause functional changes in the liver of dogs resulting in the breakdown of the organ's tissues. The bacteria from periodontal disease are suspected of causing such liver disorders as hepatitis and scarring of the liver in dogs. By-products of periodontal bacteria stimulate cells that lead to liver scarring or tissue damage.

4. Other systems

Bacteria which collect in the mouth has a direct channel to the respiratory system. It is believed to result in respiratory disease. The bacterial contamination in the lungs produces bacterial pneumonia. Long-term exposure to periodontal bacteria damaged the mucociliary function and the lymphatic system. This produces chronic inflammation of the windpipe and bronchi.

III. Treatment of Periodontal Disease

While home care is an absolute necessity in prevention of dental disease, there are procedures that must be done by professionals. Home care does not replace professional care but reduces the degree of professional care.

A. Professional treatment

1. Proper cleaning under anesthesia

As of November 1, 2013, all veterinary practices accredited by the American Animal Health Association must anesthetize and intubate patients for dental procedures. This includes cleaning. This is because the AAHA Dental Care Guidelines for Dogs and Cats have determined that cleaning without general anesthesia and intubation is substandard dental care and unacceptable practice. These guidelines state:

General anesthesia with intubation is necessary to properly assess and treat the companion animal dental patient. It is essential that aspiration of water and debris by the patient is prevented through endotracheal intubation. Cleaning a companion animal's teeth without general anesthesia is considered unacceptable and below the standard of care. Techniques such as necessary immobilization without discomfort, periodontal probing, intraoral radiology, and the removal of plaque and tartar above and below the gum line that ensure patient health and safety cannot be achieved without general anesthesia.

Most dogs older than three years should have teeth professionally cleaned every year.

2. **Dental Radiographs needed to find disease under gum line**

As with your visit to the dentist, X-rays are very important. Over 60% of the symptoms of dental disease are hidden below the gum line. Veterinarians are looking for loss of *density* and sharpness of the root socket. In later stages of periodontal disease the X-rays will show loss of bone support around the root of the affected tooth or teeth. While there are certainly measures you can take to prevent dental disease, there are procedures and treatments that require professional attention.

Abscess root only detected with radiographs



Closing Statement

Dentistry is not optional for proper patient care. All dogs should have an oral examination at least yearly to help maintain good body health. Failure to provide dental care will increase the risk of oral pain and major health problems.

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