

Trouble with Teeth: Prevention and Treatment of Dental Disease

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Teeth are specialized organs used for:

- killing pray, defense (canine teeth/fangs)
- picking/pulling/grabbing (incisors)
- chewing, cutting, grinding of meat and bone (premolars and molars)

Parts of a tooth:

- crown: made of enamel, the hardest substance that our body can produce
- root: made of bone-like, porous dentin; attached to alveolus (tooth socket) by periodontal ligament
- neck: junction between crown and root, normally below gumline.

Teeth must be used for their intended purpose in order to remain healthy.

Types of dental problems:

- Tartar/calculus: thick, calcified deposit adhering to surface of the tooth (both inner and outer surfaces); it is a result of long term accumulation of food residue (plaque). Space between tartar & gingiva (gum) harbors bacteria which causes gingivitis: redness, swelling, bleeding, gum pain.
- Gingival recession: gradual loss of gum due to chronic gingivitis. Inflammation at gum line leads to loss of gingiva and eventually the bone socket that houses dental root. Exposure of root dentin makes it an easy target for decalcification, decay, and root infections.
- Periodontal disease: combination of chronic gingivitis, gingival recession, and loss of periodontal ligament that connects dental root to walls of its socket. Periodontal ligament is gradually replaced with scar tissue or is lost completely, leading to loose tooth. Gingival pocket gets deeper harboring more decomposing food residue (and bacteria that uses it as food source producing acidic, enamel leaching waste).
- Dental infections: this pertains to both infections of the boney socket housing the root, and ones affecting root canal (pulp cavity containing nerves and blood vessels).
- Apical root abscess: collection of pus around the root tip (normal entrance to the root canal in a healthy tooth). Abscess will either erode to the surface (draining tracts usually below eye/over maxillary sinus), or drain along the shaft of the root into mouth. Some root abscesses rupture into maxillary sinus, causing sinusitis and nasal congestion and discharge.

Consequences of dental disease

Chronic infections can lead to:

- bacteria disseminating to other organs: heart (vegetative endocarditis), liver (liver abscesses and cholangiohepatitis), kidneys (nephritis)
- pain (source of stress): can lead to improper/inadequate chewing of food, indigestion/heartburn, reluctance to eat
- depressed immune function: fighting chronic dental infections combined with pain reduces immune strength and consumes immune resources (less protection against bacterial and viral infections, higher likelihood of cancerous growth development)
- tooth loss: once teeth are damaged past certain point they become useless (patient can't use them b/c of pain), and a source of chronic infection/significant increase in total inflammatory load on the body. Infected/damaged teeth must be removed, which will impact patient's ability to chew food properly.

How to prevent dental disease:

1. **Physical removal of bio-film** (food residue or plaque) that accumulates on surface of teeth:
 - increasing dietary moisture (promoting proper hydration) to thin out food residue/prevent dry mouth
 - wiping teeth every night before bedtime: use enzymatic toothpaste applied to cheese cloth, gauze bandage, or other porous material to buff the enamel and remove food residue
 - brushing: can be painful in patients who already show signs of gingivitis (red, inflamed gums), bristles can slide under the gumline and hit root dentin causing pain and bleeding
 - enzymatic food additives (Plaque Off, Healthy Mouth): plant enzymes added to food or water; break down of chemical bonds in plaque, some anti-microbial activity
 - dental treats/toys: chewing after meals helps to remove plaque: Kong, raw hide, bull sticks, pig ears/hooves
 - whole foods:
 - a. large chunks of fruits or vegetables: apple, radish, carrot, celery (crispy, sour foods help to induce saliva production which will
 - b. organ meats (well rinsed or blanched): tripe, gizzards, hearts, tendons
 - c. meat on bone: poultry necks, wings, drumsticks, feet vs knuckle bones (cut beef bones): this option is not for everyone, may not be possible for patients with significant dental disease or extensive tooth loss.
2. **Dental cleaning:**
 - a. non-anesthetic: ultrasonic scaling/polishing while patient is awake; requires proper restraining technique, can be stressful for anxious/fearful dogs, or ones who have significant dental disease/pain already
 - b. anesthetic: ultrasonic scaling/polishing while patient is under general anesthesia: allows for detailed exam of mouth, measurement of gingival pocket depth, checking for damaged/infected/lose teeth; dental extractions if needed (teeth with more than one root must be cut, each root is elevated and extracted separately; socket is thoroughly cleansed/rinsed, and sutured with dissolving suture material)
3. **Periodontal support:** micronutrients promoting optimal health of periodontal ligament and connective tissue in general (Standard Process BioDent)
4. **Anti-microbial management of dental infections/pain:** short term use of oral or injectable antibiotics to manage dental pain; pain medications might need to be used even if infections are addressed.

Conclusions:

- healthy teeth are a necessary to maintain healthy body
- dental disease and tooth loss is a natural consequence of aging process but it can be exacerbated by inadequate dental care or bad eating habits
- damaged and infected teeth must be treated to prevent other health problems
- teeth that are damaged beyond repair/not responsive to medical management must be surgically removed

IT'S BETTER TO HAVE NO TEETH THAN TO HAVE PAINFUL/INFECTED TEETH.

If you are concerned about your pet's dental health, contact Healthy Pets for an appointment:

info@sfhealthypets.com or call 415-742-5961
Healthy Pets is located at 373 West Portal Avenue in San Francisco
Visit our website at www.SFHealthyPets.com