

# Oral Health & Compliance

Almost 15.5 million dogs and cats with stage 2, 3, or 4 periodontal disease had not received dental prophylactic therapy according to a recent AAHA study funded by an educational grant from Hill's Pet Nutrition, Inc.<sup>1</sup> Periodontal disease is a serious consequence of poor dental care and it is progressive. In the absence of regular professional oral health examinations, periodontal disease often remains undiscovered until pet owners notice bad breath, stained teeth, or mouth pain. Timely early detection, professional therapy, and home care can prevent damage, pain, loss of teeth, and possible systemic disease.

## KEY POINTS

- Periodontal disease is the most common disease of adult dogs and cats.
- Oral disease may compromise systemic health.
- A complete physical should include extraoral and intraoral examinations.
- Accurate charting is essential to monitor oral health over the lifetime of the pet.
- Material accumulations on teeth include stains, plaque, and calculus.
- The primary cause of periodontal disease is bacterial plaque accumulation and inflammation.
- Special dental foods provide mechanical cleaning of tooth surfaces, helpful especially for clients who find they cannot brush their pet's teeth.

## PERIODONTITIS PRECONDITIONS<sup>2</sup>

**Dental Plaque.** The pellicle is a thin, invisible protein and glycoprotein protective cuticle that covers tooth enamel. Bacterial deposition and aggregation on the pellicle form plaque. Normal tongue actions, water drinking, or forced water spray do not easily remove dental plaque, but it can be removed by mechanical and chemical means. As plaque matures, Gram-negative anaerobes take over. Inflammation and destruction are a direct result of bacteria and their by-products, which also activate the immune system.

**Dental calculus.** With time, plaque mineralizes and hardens, forming dental calculus that can be seen with the naked eye. Calculus is a secondary contributor that further irritates inflamed gums. Calculus control in the absence of plaque control is cosmetic only.

**Dental stain.** Owners often will notice discolored teeth. This can be due to either tooth trauma, or most commonly, a variety of discolorations from dental plaque and calculus.

## WHAT IS PERIODONTAL DISEASE?

The ligaments, gums (gingiva), and tooth sockets of the jaw comprise the periodontium, which holds the teeth in place. Accumulation of plaque on the teeth causes inflammation of the gums. If not removed, the buildup of plaque results in the formation of tartar (calculus), a hard mineral deposit that collects on tooth surfaces and under the gingival margin. Malodor and pain are often the first signs of periodontal disease. Left unchecked, the disease progresses and receding gums, loose teeth, erosion of tooth sockets and bone, and tooth loss follow. Recent research indicates that inflammatory cytokines associated with periodontal disease are correlated with systemic disease.

## THE ORAL EXAM

Examination of the head and oral cavity should be part of every physical. Inspect the entire facial area for any abnormalities such as muscle atrophy, swellings, or draining tracts. The lips should be retracted to view the oral mucosa. The facial surfaces of the teeth and gums should be examined first and then the lingual. The entire oropharyngeal area should be evaluated and abnormalities should be charted

and treated. If the mouth is painful, patients may not tolerate any manipulation without sedation. An in-depth oral exam can only be performed on a patient that is sedated or under general anesthesia.

## CASE STUDY

### ORAL HEALTH Tiger



#### Hx

- 8-year-old neutered male domestic shorthair
- Neutered at 6 months
- 10 pounds, BCS 3 (ideal)

#### Dx

- Plaque, dental calculus, and gingivitis were found at Tiger's annual physical exam and wellness checkup.

#### Rx

- Previous recommendations for daily brushing have not been carried out.

## PROBLEM

Client is unable to brush her cat's teeth.

## SOLUTION

Please turn the page ...

**SOLUTION**

Tiger, a patient at the Oak Village Hospital for Cats, appeared to be in good health except for the plaque, calculus, and gingivitis noted during his annual physical exam. In addition, Tiger had resisted the oral exam, and her owner, Mrs. Burton, volunteered that Tiger's breath seemed to smell worse than usual. Dr. Thomas had recommended daily brushing in the past, but Mrs. Burton found she could not manage it, which often happens, especially with cats. Dr. Thomas pointed out that if his condition was not treated, Tiger would become more uncomfortable, could lose his teeth, and complications could result in serious disease.

**Recommendation**

Dr. Thomas recommended that after appropriate laboratory work, Tiger should have a comprehensive oral examination under general anesthesia, along with periodontal therapy. Stage 2 periodontal disease was diagnosed. Probing revealed a sulcal depth close to normal, with early changes to the periodontium. Prophylaxis included supragingival calculus and plaque removal with an ultrasonic scaler. Subgingival scaling and tooth polishing was done by hand. Dr. Thomas also recommended that Mrs. Burton bring Tiger in for periodontal therapy every 6 months and that she should feed him a specially formulated dental food to help prevent future recurrence.

■ Tiger was sent home with Hill's® Prescription Diet® Feline t/d®, a food that has the VOHC seal for plaque and tartar control.\* Transition was to be 25% Feline t/d and 75% previous food for a few days; 50%/50% for a few days; and 75%/25% for a few days until 100% Feline t/d was being consumed.

**Acceptance**

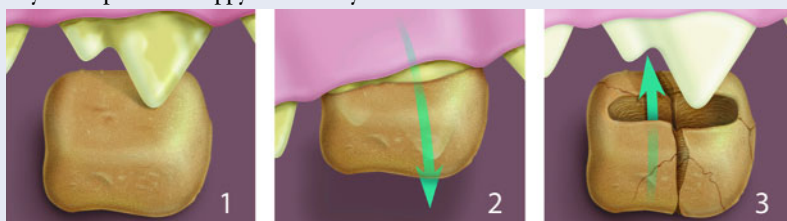
Judy, the technician, showed Mrs. Burton how the new food has a unique, specially developed fiber matrix that resists crumbling as the tooth penetrates. The kibble gently scrubs the entire supragingival tooth surface, not just the tip. Teeth receive a mechanical cleansing, free of mineral abrasives or active chemical agents. Like a squeegee cleans glass, the food helps clean the tooth surface as the cat eats, helping to prevent plaque build-up. Mrs. Burton was glad to know that there is an alternative to daily brushing of her cat's teeth!

**PROMOTING ORAL HEALTH<sup>3</sup>**

- 1) Control plaque, the cause of periodontal disease
- 2) Assess the level of daily plaque control needed
- 3) Determine each pet owner's ability to comply with recommendations
- 4) Feed a food with an appropriate texture and nutritional profile

**Follow-Through and Outcome**

A few days later, Judy called Mrs. Burton to see how Tiger was doing. Tiger was making the transition to the new food and was already eating a 50/50 combination. At 3 weeks, when Judy again spoke with Mrs. Burton, Tiger was doing very well and his teeth and gums were now healthy. Mrs. Burton agreed that feeding Tiger the new food and taking him in for a complete dental prophylaxis every six months would be a good way to keep her cat happy and healthy.



Dental kibble provides mechanical cleansing by maintaining contact with the tooth surface instead of crumbling.



\* The Veterinary Oral Health Council (VOHC) awards a Seal of Acceptance for products that successfully meet preset criteria for effectiveness in controlling plaque and/or calculus deposition in dogs and cats. The VOHC is an entity of the American Veterinary Dental College.

**REFERENCES**

1. *Compliance in Companion Animal Practices*. © 2003 American Animal Hospital Association (info@aahanet.org), sponsored by an educational grant from Hill's Pet Nutrition, Inc.
2. *Veterinary Dentistry: Principles and Practice*. Wiggs RB, Lobprise HB (eds). Lippincott-Raven, 1997.
3. *Small Animal Clinical Nutrition IV*. Hand MS, et al (eds). Topeka, KS: Mark Morris Institute, 2000.



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**The "Gold Standard" for preventive oral care is brushing the pet's teeth at home, a practice that should always be recommended. However, by realizing that it was difficult for Mrs. Burton to follow this recommendation, the veterinarian and staff wisely worked with her to find a preventive health care solution that she could follow. Even with a motivated owner, teamwork plays an important role in improving compliance and quality care. The follow-up calls to Mrs. Burton at home helped her switch Tiger to the new dental food and reminded her about Tiger's 6-month dental appointment.**

**FORMULA FOR COMPLIANCE SUCCESS<sup>1</sup>**

**C = R + A + FT**

C = Compliance standards of quality patient care

R = Recommendation & Reinforcement by health care team

A = Acceptance of protocol by owner

FT = Follow-Through by health care team

<sup>1</sup>See also, *Compliance in Companion Animal Practices*, © 2003 American Animal Hospital Association (info@aahanet.org), sponsored by an educational grant from Hill's Pet Nutrition, Inc.



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