

Dental Home Care
By Jenna Lenarz DVM

The Tooth, the Whole Tooth and Nothing but the Tooth

Looking in the mouth we see the crown of the tooth (the part we see when looking in the mouth), the root of the tooth (the part we do not see), and the attachment of the tooth to the bone. The tooth sits in a socket and is held there by periodontal ligaments. The tooth receives nutrients from blood vessels inside the pulp chamber of the tooth. Periodontal disease takes place inside the socket in which the tooth is seated.

Out of all the members of one's family, the chances are it will not be difficult to guess who has the worst dental hygiene: the pets. They do not brush their teeth, nor do they floss, and this goes on for years. If you are ever curious as to what happens if teeth go for years without brushing (or you want to show your children what will become of their teeth should they fail to brush regularly), you have only to look at your pet's teeth and smell your pet's breath.

A full 85% of pets have periodontal disease by age 3 years.

This should not be surprising since there is little difference physically between the dog or cat's tooth and the human tooth. We all have a set of baby teeth that come in and fall out to make way for adult teeth. We all have nerves and blood vessels in our teeth surrounded by dentin, surrounded in turn by a hard coat of enamel. The enamel is bathed in saliva and quickly is covered by plaque, which is bacteria mixed with saliva. If we do not regularly disinfect our mouths and brush away the plaque, the plaque will mineralize into tartar (also called calculus – gritty material that the dental hygienist scrapes away). Tartar, being solid and gritty, blocks oxygen from bathing the outer tooth and thus changes the nature of the bacteria that can live around the tooth. The bacteria that can withstand the oxygen-poor environment (anaerobic bacteria) are more harmful to the bone and tissues of the gum. The periodontal ligament becomes damaged, the bone around the tooth is literally eaten away, and the gums become sensitive. Eventually the tooth is lost and, if the bone damage is severe enough, the jaw can break. Worse still, the bacteria of the mouth can seed other areas in the body, leading to infection in the heart, liver, kidney or virtually anywhere the bloodstream carries them.

Gingivitis is reversible. Bone loss, once it starts, is not reversible.

It is a good idea to become comfortable opening your pet's mouth and looking inside. Lift the lip and look at the teeth, especially the back teeth. Open the mouth and look at the inside of the teeth and at the tongue. If you have pets of different ages, compare what you see inside.

Regular Professional Cleaning

It should not be surprising that dental health requires periodic professional cleaning regardless of whether the mouth in question belongs to a person, a dog, a cat, a horse, or some other animal. Home care of the tooth is never perfect and periodically tartar must be properly removed and the tooth surface properly polished and disinfected. The professional cleaning performed at the veterinarian's office is similar to what a person receives at their dentist's office:

Gross (visible) tartar is removed with instruments.

- More delicate tartar deposits are removed from the gum line with different instruments.
- Periodontal sockets are probed and measured to assess periodontal disease.
- The roots are planed (meaning tartar is scraped from below the gum line) until the roots are smooth again.
- The enamel is polished to remove any unevenness left by tartar removal.

- The mouth is disinfected and possibly treated with a fluoride sealer or plaque repellent.
- Professional notes are taken on a dental chart, noting abnormalities on each of the dog's 42 teeth or the cat's 30 teeth.

Home Care Products

Toothpaste and Brushing

Just as with your own teeth, nothing beats brushing. The fibers of the toothbrush are able to reach between teeth and under gums to pick out tiny deposits of food. A toothbrush acts as a tiny scrub brush for the closest possible cleaning.

Notice the shape of the canine and feline brushes and how they conform to a pet's mouth. You can use a human toothbrush but you will probably find it difficult to manipulate in the pet's mouth. Never use a human toothpaste for a pet as these contain sudsing agents (people like to see foam when they brush their teeth) that are not meant to be swallowed in quantity. Animal toothpastes come in pet-preferred flavors (chicken, seafood, and malt) in addition to the more human-appreciated mint. All are expected to be swallowed.

Finger brushes are available and are smaller for puppies and kittens.

Studies have shown that brushing three times a week was adequate to maintain healthy teeth and gums but daily brushing was needed to control existing gingivitis.

Dental Wipes, Rinses and Pads

Some animals, especially those with tender gums, will not tolerate brushing but are more amenable to disinfecting wipes or pads. These products will wipe off plaque deposits from the surface of the tooth and, though they lack the ability to pick food particles out of the gum socket, they are probably the next best thing to brushing and, like brushing, these products are best used daily.

Dental Treats

For many people, doing anything inside their pet's mouth on a regular basis is simply never going to happen. Fortunately, all is not lost: chewing on a proper dental chew can reduce plaque by up to 69%. This may not be as good as brushing but it certainly beats doing nothing. There are many products available for both dogs and cats. How often does the pet need to chew? One study using the Pedigree Dentabone showed excellent results but dogs were provided with a chew bone six days a week. Many dogs are not as interested in chewing.

Not all chews are alike. Chewing provides abrasion against the tooth removing plaque and tartar. Some chews and biscuits include the ingredient hexametaphosphate, which prevents the mineralization of plaque into tartar. (In one study, two such biscuits daily removed 46% of tartar in time.) The Forte feline chews were found effective in reducing plaque and tartar but cats had to eat one chew daily to achieve benefit.

Greenies

This particularly popular chew treat has generated some recent controversy and deserves some special mention. The Greenie is a green chew treat for dogs, found effective in removing plaque and is generally found highly palatable to dogs. Original Greenies were made with wheat gluten that dissolved slowly in the stomach. Some pets swallowed large chunks of a Greenie, the Greenie failed to dissolve in the stomach and intestinal obstruction resulted. Some deaths were reported. Since then, the Greenie has been reformulated using soy instead of wheat. The new Greenie is actually flexible and its manufacturer feels past problems have been resolved. The new formulation came out mid-2006 and is available in both canine and feline treats. Both are approved by the Veterinary Oral Health Council, a group that awards its seal of approval to treats and diets showing scientific evidence of plaque and tartar retardation. See a list of the VOHC's approved products.

Use your judgment with chew toys.

A chew can be readily swallowed in a large chunk and lead to intestinal obstruction.

A pet with diseased teeth may break teeth on a hard chew.

Dental Diets

There is a common misconception that simply feeding a kibbled diet will protect the teeth from dental disease. Consider what it would be like to attempt to replace brushing your own teeth with eating crunchy foods and it is easily see how ineffective this method would be. When it comes to pet foods, much of the kibble is swallowed whole and not chewed at all.

Clearly, there must be more to a dental diet than simple kibbling and in fact there is. Dental diets on the market today use several techniques to help reduce plaque. The first is that the kibbles are large, which means the pet must chew them before swallowing them. These diets are high in fiber, which means the kibbles do not shatter when chewed but instead the tooth sinks into the kibble, allowing plaque to be essentially scrubbed away. The large kibbles may pose an acceptance problem for the pet leading the owner to use them as treats or mixed with other kibbles. The smaller the percentage of the diet these kibbles represent, the less benefit will be reaped. It is also important to realize that these diets are helpful only in cleaning the molars and premolars (i.e. the chewing teeth) and do not help the fangs or incisors.