#### What Is Halitosis?

Halitosis is the medical term for bad breath. It is caused by bacteria in your pet's mouth; undigested food particles left in your pet's mouth; or bacterial infections surrounding the base of your pet's teeth.

Tooth and gum problems are the most common medical condition seen in pets. Because bad breath in dogs and cats go hand in hand with other health problems it is important to treat this problem even if the pet's breath is not objectionable to you.

All dogs/cats eventually suffer from some form of dental disease. This is because of the soft diets we feed them, canine and feline genetics, as well as the fact that our pets now live very long lives.

Dogs and cats, unlike people, rarely suffer from tooth enamel decay. What is generally found is infection, inflammation, receding of the margins of the gums (where they about touch the teeth), as well as tartar accumulation on the teeth and just below the gum line surrounding the teeth. Combinations of these problems are the number one causes of strong bad breathe in your pet, drooling and discomfort. It is also suspected that dental disease be a primary cause of kidney and heart disease in older pets. This may be because the bacteria that live in the infected tissue surrounding the teeth enter the blood stream and lodge in their other organs.

#### Why Does My Pet Have Bad Breath?

The most common cause of bad breath is tartar buildup surrounding the teeth. As in people, small particles of food remain in the mouth after eating. These particles decompose creating conditions where oral bacteria thrive. This bacterial growth forms into plaque which is a combination of bacteria, mineral and decomposed food. Plaque and associated oral infections give the pet's breath an objectionable odor. Plaque also clings to the base of teeth causing the gums to become inflamed and recede. Inflamed gums leak blood serum which combines with and increases the amount of plaque. This plaque or calculus is visible as a hard yellowish coating on the outer base of your pet's teeth.

Remarkably, pets with this condition rarely eat less. Early in the disease, the plaque is no more than a thin brownish or yellowish coating on the sides of the teeth. It is most noticeable on the outer (lateral) surface of the larger molar teeth. In severe cases the margins where teeth and gums meet become highly inflamed and bleed when they are touched. For reasons we do not understand, these problems are most severe in toy and smaller breeds of dogs and in purebred cats. Maltese have the highest rate of tooth and gum disease of all dog breeds.

This buildup of calculus causes the gum margins to recede past the tooth enamel exposing the softer dentin material that covers the tooth roots. Dentin is much more porous and rougher than enamel and so it holds the infection in place. Once dentin is exposed periodic tooth care must be done more frequently and the teeth are eventually lost. This is why successful tooth care and good dental hygiene needs to begin early before these processes are advanced.

# Other Causes of Bad Breath:

Immature pets that are in the process of shedding their "baby" teeth often drool and have bad breath. This is a transient problem, sometimes accompanied by fever. Brushing your pets' mouth with a dilute baking soda solution gives them relief and minimizes the odor.

In older pets, disease of the kidneys and liver often affect the mouth. These pets are often thin and frail. When it is suspected that a pet with halitosis has major organ failure, diagnostic testing can be done to check liver enzyme levels, as well as blood urea nitrogen, and creatinine levels to check kidney function. Pets with organ damage require extra special care when tending to their teeth. Anesthesia during dental prophylaxis must be administered lightly and with special care. Often these pets are placed on antibiotics after a teeth cleaning as well as on special diets engineered to help failing organs.

When seeing young cats with strong smelling breathe and dental disease, screening is done for feline leukemia as well as feline immunodeficiency disease. When they are negative for these diseases, they often have resorptive dental disease, in which deep cavities form in many teeth simultaneously for no apparent reason. In resorptive dental disease, the roots of the canine teeth are often exposed. Often incisor teeth in these cats drop out for no apparent reason. It is unclear if these cats are born with soft susceptible teeth or if another undescribed form of dental disease is present. Cleaning the teeth of cats with resorptive dental disease is not very effective. Eventually, these teeth need to be extracted.

#### What Problems Are Associated With Tooth and Gum Disease?

As kidney and liver disease can lead to dental disease; dental disease can lead to kidney and liver disease. Tartar accumulation around the teeth allows harmful bacteria to proliferate. These bacteria occasionally break loose and enter the pet's blood stream. Once in circulation, the bacteria accumulate in the kidneys, liver and heart valves. Liver inflammations, as well as scarred, poorly functioning kidneys, are the result of bacteria lodging in these organs. When the heart valves are attacked by bacteria they shrink and scar causing blood to flow in the wrong direction. This is why dogs and cats with severe dental disease may have heart murmurs.

Dogs and cats with chronic dental problems often drool. This wetness and the infection associated with tooth infections may cause the lips and the skin folds surrounding the lips to become inflamed. Once the teeth are cleaned these problems usually are resolved.

# How Can We Treat Bad Breath In Your Pet?

#### 1) Yearly Checkups

Even if you do not give yearly booster vaccinations it is wise to take your pet to a veterinarian yearly to get a general checkup that includes a dental exam. The older your pet is the more important exams become.

# 2) <u>Diet</u>

To retard the formation of plague, feed your pet a dry commercial pet food. The crunchy

biscuits help massage gums and wear away tartar. Some brands market dental diets engineered to minimize plaque and massage the gums. Other brands incorporate enzymes to dissolve plaque. The buildup of plaque in pets fed soft, canned diets is very rapid. Feeding only canned food may lead to rapid build-up of plaque and is therefore not recommended.

## 3) Treats and Foods

Feeding chewy treats, bones, rawhide and treats impregnated with enzymes minimize dental plaque. Nylon bones work equally as well if the pet accepts them. Science Diet Hills Prescription Diet t/d food, CET chews and toothpaste, and Greenies dental chews are also quite helpful.

## 4) Brushing Teeth

Brushing your pet's teeth is the most important thing you can to maintain healthy teeth and gums. Use a toothbrush and meat or malt favored toothpaste designed for animals. Use a very small amount of toothpaste – it is the brushing that is important – and concentrate on the gum margins. If you start when your pet is a puppy or kitten your pet will not dislike the procedure. Even older pets learn to accept the toothbrush. Even if only the outer tooth surface is brushed it is beneficial; the inner tooth surface next to the tongue is often difficult to brush.

# 5) Mouth Washes and Sprays

Veterinary hospitals and pet supply outlets sell chlorhexidine sprays and mouthwashes that contain enzymes that dissolve plaque and help reduce bacteria. They are helpful but not nearly as effective as brushing the teeth.

# Manual Tartar Removal

If your pet has a placid temperament it is not difficult to scrap the tartar from the teeth and clean under the margins of the gums. However, this procedure needs to be done with care. If plaque and calculus are abundant professional scaling and polishing are required. At the same time, teeth can also be examined more thoroughly for disease, including receding gums and deep sub-gingival pockets which indicate abscess formation.

## Removal of Diseased and Loose Teeth

Once the ligaments that fasten teeth to the bone of the jaw have been damaged by periodontal disease cleaning will not heal them. Mildly loose teeth can sometimes be preserved by cleaning and several weeks of doxycycline therapy either with oral tablets or oral patches. Severely loose teeth are best removed. Dogs and cats do very well with few remaining teeth.

If the dental procedures are done correctly, problems which may be perceived or feared by owners rarely occur. Trust that your vet is doing their very best to make your pet happier and healthier.