

7 REASONS YOUR CAT'S ORAL HEALTH SHOULD BE TOP OF MIND



The Ins and Outs of Feline Periodontal Disease

By Veterinarian of Dentistry & Oral Surgery Dr. James Anthony
BScAgr, DVM, DAVDC, DEVDC, MRCVS, FAVD, P.Ag.

Produced By **worksSowell**™
FOR PETS 

Guide overview!



SHOULD I BE CONCERNED ABOUT MY CAT'S BAD BREATH?

Yes. Your cat's bad breath is a sign of poor oral health, the #1 problem pets face. 3 in 4 cats suffer from oral health issues, a precursor to periodontal disease.

If left untreated, oral health issues become serious and, in some cases, life threatening. The bacteria and infection, in your cat's mouth can spread through their bloodstream. Vets believe oral health issues are a silent killer.



SIGNS OF PERIODONTAL DISEASE YOU NEED TO LOOK OUT FOR

- Bad breath
- Red swollen gums
- Unusual sensitivity around the mouth
- Pawing at the mouth
- Dirty teeth (calculus)



WHAT ARE THE PERIODONTAL DISEASE TREATMENT OPTIONS?

Progressive periodontal disease requires treatment from your vet. Such treatments include the following:

- In moderate cases, vets recommend a procedure similar to a scale and polish that you receive at your own dentist
- In severe cases, vets recommend root planing and/or subgingival curettage treatments
- In extreme cases, vets recommend tooth extractions, partial gum removal and advanced periodontal surgery.



CAN I HELP PREVENT PERIODONTAL DISEASE IN MY CAT?

Yes. Prevention is the best medicine. Oral health is the most commonly ignored issue in cats. However, actions you take today can ensure your pet stays healthy and is by your side for years to come.

- Take your cat in for regular vet checkups
- Brush your cat's teeth and give ITDC™ daily to promote healthy gums
- Provide quality toys and chews for your cat
- Feed your cat a healthy, balanced diet

TABLE OF CONTENTS



1 WHAT IS FELINE PERIODONTAL DISEASE?

- What causes feline periodontal disease?
- The four recognizable stages of feline periodontal disease
- Signs and symptoms of feline periodontal disease

2 WHAT ARE THE WARNING SIGNS OF PERIODONTAL DISEASE?

- Warning signs your pet may have oral or dental issues
- How does your vet diagnose feline periodontal disease?
- Treatment options for feline periodontal disease
- Brachycephalic cats
- Preventative measures for avoiding feline periodontal disease

3 HOW CAN YOU PREVENT YOUR CAT FROM DEVELOPING PERIODONTAL DISEASE?

- Taking your cat in for regular vet checkups
- How to brush your cat's teeth
- Providing your pet with quality toys and chews
- Ensuring your pet follows a healthy diet

4 WHAT ROLE DOES DIET PLAY IN FELINE DENTAL AND ORAL HEALTH?

- "Wet" versus dry food
- Food and water additives
- Feeding your cat a "raw" diet



5 WHAT IS GINGIVITIS VS. STOMATITIS IN CATS?

- Gingivitis
- Stomatitis
- Symptoms of stomatitis
- Diagnosis of stomatitis
- Treatment of stomatitis

6 WHAT DENTAL CONDITIONS SHOULD I LOOK FOR IN MY CAT?

- Retained deciduous teeth
- Tooth fractures
- Tooth root abscesses
- Resorptive Lesions
- Orthodontic problems

7 HOW IS ANESTHESIA USED IN FELINE SURGERY?

- Pre-procedure tests
- Preparing your cat for general anesthesia
- Monitoring
- General anesthesia for cats
- Feline recovery from general anesthesia



1 WHAT IS FELINE PERIODONTAL DISEASE?

Feline periodontal disease is a condition that affects a cat's gums, rather than originating in the teeth themselves. Tooth loss and decay usually occur as a direct result of advanced periodontal disease.

Feline periodontal disease develops when plaque and tartar extend below the gumline. The bacteria that are present in this “subgingival” plaque then begin to secrete toxins that result in inflammation, damaging the supporting tissues around the teeth.

Oral health issues are the #1 problem facing pets.

By the time they reach three years of age, **about 80% of cats have oral health issues**, with many showing the tell-tale signs of early onset periodontal disease.

But, other than foul breath odor—something that many owners just write off as “bad breath”—there are a few other symptoms of the disease during its early stages. Consequently, **periodontal disease often goes untreated, leading to multiple problems for your cat, including pain and, eventually, tooth loss.**

Some studies have also shown that older animals with advanced periodontal disease often display evidence of liver, kidney, and heart damage, along with joint health disease.





Did you know that cats hide their pain as a survival tactic?

WHAT ARE THE CAUSES OF FELINE PERIODONTAL DISEASE?

A cat's mouth is full of bacteria. Almost immediately after a cat eats, saliva and bacteria begin to form a sticky film over the exposed surfaces of the teeth. Over time, minerals in the cat's saliva react with the plaque, causing it to harden into tartar (dental calculus), which remains firmly attached to the teeth.

Although tartar is unsightly, it's not the actual cause of periodontal disease. Together with gum inflammation though, it's a diagnostic indication of it.

The bacteria contained in plaque are deemed foreign invaders by the cat's immune system, triggering white blood cells (leucocytes) and inflammatory chemical signals. The leucocytes and other chemical messengers travel to the space between the bone or gum and the tooth. The white blood cells' function is to destroy the invading bacteria and remove necrotic debris. However, with chronic inflammation, chemicals produced by the white cells inflict damage on the gums and the tooth's supporting tissues. Rather than helping to tackle the problem, **the cat's own natural defenses combined with chronic inflammation can lead to advanced periodontal disease.** Further, due to the inflammatory situation, resorptive lesions can develop on the teeth, compounding the periodontal disease and increasing pain.



THERE ARE FOUR STAGES OF FELINE PERIODONTAL DISEASE:

Grade 1 – Gingivitis

The first sign of impending periodontal disease is when **the cat develops “gingivitis.”**

Gingivitis is a medical term, meaning **inflammation of the gums**. The condition occurs when bacteria enter the gingival sulcus, the small pocket between the tooth and the gum.

The cat’s **gums appear swollen and red around the tooth margins, and they may bleed when the teeth are brushed**. A film of plaque also coats the teeth. Gingivitis is almost always accompanied by “bad breath.”

Grade 2 – Early periodontitis

In the early stages of periodontal disease, **the inflammation of the gums becomes more pronounced. Subgingival plaque and tartar have formed**, and bone loss has begun, although the tooth root is not exposed at this stage.

Grade 3 – Established periodontitis

As the disease becomes more established, the cat's gums look inflamed and reddened. **The gums bleed easily** when the cat is eating or playing with toys, or when the cat's teeth are brushed.

Beneath the gumline, up to **30 percent of the tooth's supporting structures have been permanently damaged by infection and tartar**. At this stage, teeth in affected areas of the mouth may become loose.

Grade 4 – Advanced periodontitis

In advanced periodontitis, chronic inflammation has set in, destroying the teeth, gums, and supporting bone. **The gums usually recede, exposing the roots of the affected teeth** and causing the cat **severe pain**.

In serious cases, **a fistula (hole) may form from the oral cavity into the cat's nasal passages**, causing continual, chronic nasal discharge. **Severe infection of the jawbone** (osteomyelitis) can weaken the whole structure, leading to fractures.



Inflammatory by-products carried by the bloodstream readily spread through the cat's body, potentially causing damage to the vital organ systems.

SIGNS OF FELINE PERIODONTAL DISEASE

Cats are instinctively hesitant to show signs of weakness. This is one of the reasons that feline periodontal disease often goes undetected until it has become established.

There are several signs and symptoms of early feline periodontal disease that cat owners should look out for:

- foul breath
- red, swollen gums
- loose teeth
- plaque and tartar on the cat's teeth

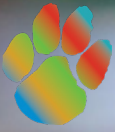
As feline periodontal disease progresses, these symptoms may appear:

- reluctance to eat; difficulty eating and chewing
- bleeding gums

In advanced cases of periodontal disease, the cat often display the following signs:

- teeth “chattering” (in response to discomfort or pain)
- depression
- receding gums
- loose or lost teeth
- weight loss
- other associated conditions such as kidney or liver problems
- weakness, lethargy





2 WHAT ARE SOME WARNING SIGNS OF FELINE PERIODONTAL DISEASE?

The most common warning sign of feline periodontal disease is “bad breath.” This foul odor results from the activity of the bacteria that cause the formation of plaque, and ultimately, dental calculus (tartar).

Responsible and caring cat owners **should be aware of the early warning signs of feline periodontal disease.** If the condition is spotted and treated early, its progression can be stopped **before permanent damage** and serious complications occur.

Warning signs your cat may have oral or dental issues:

- bad breath
- inflamed gums that bleed easily
- gums that appear red
- receding gums
- sensitivity around the mouth
- pawing at the mouth
- missing or loose teeth
- reluctance or difficulty eating
- poor appetite
- depression
- pus leaking from around affected teeth
- drooling
- stomach problems
- resorptive lesions on the teeth

If you notice any of the above signs, seek veterinary advice right away.

11

How does your vet diagnose feline periodontal disease?

Along with the symptoms noted above, **a veterinarian will use several criteria** to assess your cat's oral health before assigning a Grade to your pet's condition. Your cat will be examined to determine gum health, along with the amount and distribution of plaque and tartar. If necessary, a more extensive exam under anesthesia may be required.

The depth and extent of "pockets" between the tooth and the gum will be measured using a calibrated probe. Pocket depth more than .5-1 mm may indicate problems below the gumline.

X-rays may also be taken. **Dental x-rays are more detailed but require the cat to be under general anesthesia. This will allow your veterinarian to see the extent of any damage that has occurred below the gumline and if resorptive lesions on the teeth are present.**

Once your vet has completed a visual assessment of your pet's condition, a Grade will be assigned. Then, a suitable course of treatment will be pre-





TREATMENTS FOR FELINE PERIODONTAL DISEASE

The treatment given to your cat will depend on the periodontitis Grade that has been assigned by your vet. Your **vet may elect to prescribe antibiotics and other products for your cat** a few days prior to the dental procedure. Throughout the professional prophylaxis procedure, **your pet will be under anesthesia.**

Grade I and early Grade II treatment

In the early stages of periodontal disease, the goal is to prevent plaque buildup and attachment loss. Home care is crucial at these stages, with pet owners encouraged to perform daily brushing with an animal-safe toothpaste. Professional cleaning by your veterinarian is also recommended for early Grade II treatment to ensure that no areas go overlooked.

Advanced Grade II treatment

Cats with Grade I or Grade II gingivitis will be treated via a routine “prophy,” or professional prophylaxis. This procedure is similar to a scale and polish that you may have regularly performed by your veterinarian.



Any buildup of plaque and tartar is removed from your cat's teeth using ultrasonic or handheld scaling devices.

Photo courtesy of Midmark Animal Health

Polishing is then performed to remove any tiny scratches from the tooth surface. Even minor abnormalities can leave the tooth predisposed to the formation of plaque and tartar, whereas a shiny, smooth surface makes it much more difficult for plaque to accumulate. An in-depth examination of every tooth and the whole oral cavity of your cat's mouth are carried out to check for signs of disease.

A gentle lavage is performed to remove any lingering plaque and debris that may be left in the "pockets" or below the gumline.

Plaque prevention gel, fluoride, and/or veterinary dental sealant may then be applied to provide protection for the gingival sulcus.

Grade III and Grade IV treatment

Your cat's teeth will be **scaled to remove plaque and tartar**. Then, depending on the severity of your pet's condition, your vet will opt for one or a combination of the following treatment options:

Root planing

Root planing involves the **removal of residual tartar**, along with diseased dentin and cementum, and smoothing of the tooth root surface.

Subgingival curettage

This advanced procedure involves the removal of any diseased connective tissue and epithelium, allowing for a faster healing and return to health.

All of these procedures are highly specialized and are typically carried out by a qualified veterinary surgeon.



Gingivectomy

A gingivectomy is performed **if the cat has excess gum tissue** that creates an extra-large, bacteria-friendly pseudo pocket between the gum and the tooth. **Removing this excess tissue can help in preventing future periodontal disease.**

Periodontal surgery and therapeutics

Where bone and root damage have occurred, **a flap of the gum over the tooth root is opened**, allowing access to these deep structures. Removal of diseased structures and other procedures may be needed and should be performed by a veterinary dentist.

Tooth extraction

When **a tooth cannot be saved, or reparative procedures are impractical**, tooth extraction may be carried out.

Brachycephalic cats

Brachycephalic (flat-faced) cats, such as Persians or Himalayans, have a higher risk of developing gingivitis and periodontal disease.

In brachycephalic breeds, the teeth are often crowded together. This can allow large amounts of plaque to accumulate, due to the hindrance of the normal cleansing mechanisms within the mouth.

Further, flat-faced cats are inclined to open-mouth breathe, leaving them prone to dehydration of the oral cavity and thus more tenacious plaque.

How to prevent feline periodontal disease

To avoid the suffering and health problems that can be caused by feline periodontal disease, **be sure to have your cat's teeth and oral health checked by your vet** as part of your pet's annual health check and vaccination regimen. If your cat has been diagnosed with and received treatment for severe periodontal disease, you may need to have him checked every couple of months.

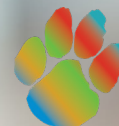
3 HOW TO PREVENT FELINE PERIODONTAL DISEASE



"Pets are no different than us when it comes to oral hygiene. We all brush our teeth at least once a day and that is one of the first things we teach our kids to do. But, when it comes to our pets, it is safe to say that 99% of us do not see to it that their teeth get brushed. As a result, oral health issues are the #1 problem facing pets."

-Dr. James Anthony, BScAgr, DVM, MRCVS, FAVD, DAVDC, DEVDC, P.Ag

Though feline periodontal disease is a serious problem, **the good news for cats and their owners is that the condition, if detected early enough, can be prevented.**



Schedule regular vet checkups for your cat

Your cat should be taken to the vet for a **health check at least once a year**. Your pet's checkup can be scheduled to coincide with his annual booster vaccinations, saving him the stress of an extra trip to the clinic.

A dental and oral health check will be part of this annual review. The dental check will allow your vet to identify any potential problems that may be forming and treat them accordingly.

Between checkups, it is up to you to look after your cat's oral hygiene at home.

Brush your cat's teeth daily

Ideally, you should **brush your cat's teeth every day** to get rid of plaque and thus prevent the formation of tartar (dental calculus).

Daily brushing is very important, as it only takes a few days exposure to the cat's saliva for the **plaque biofilm to turn into hard tartar**. Once your pet's teeth have a coating of tartar, a veterinary dental cleaning is required to remove it. **If tartar is allowed to form unchecked, your pet will develop gingivitis, and ultimately, periodontal disease.**

Use the right tools

Before attempting to brush your cat's teeth, you must equip yourself with the right tools for the job.

Pet toothbrushes look similar to human ones, but with a smaller head and a longer handle. Pet toothbrushes are often double-ended, allowing you to choose a small brush, depending on what your cat finds most acceptable. Use a soft-bristle brush of a size suitable for the cat's oral cavity. Your vet will recommend the appropriate size brush for your cat.

Don't use human toothpaste to clean your cat's teeth!

Unlike their human owners, cats don't spit and rinse when their teeth are brushed! Human toothpaste contains substances that can lead to **digestive disturbances in cats**.

Human toothpaste can also contain xylitol, a sugar substitute. Cats that swallow xylitol and absorb it are at risk of an initial insulin surge followed by a catastrophic drop in blood sugar. **Xylitol can also cause severe liver disease** in cats. Some brands of human toothpaste also contain baking soda and other abrasive substances **that are irritants to a cat's digestive tract**.



For these reasons, **you must use only pet-specific toothpaste or gels** to clean your cat's teeth. These products come in pet-friendly flavors that are more palatable to cats. Additionally, they contain special enzymes that kill bacteria to discourage the formation of plaque.

You can get pet-specific toothbrushes, pastes, and gels from your vet or from a reputable pet supply store.



How to brush your cat's teeth

This is a process that should be introduced gradually, and you need to be patient. Use plenty of praise throughout your cat's toothbrushing lessons, and provide rewards such as petting, treats, or play so that the sessions are always fun. Your pet's mouth must be pain free, meaning no periodontal disease; otherwise, brushing will be extremely difficult.

Never use force to try to restrain your cat. If your cat becomes aggressive or distressed, stop immediately and consult your vet for advice.

1. Start by gently stroking the outside of your cat's face with your finger. Carefully lift your cat's lip to expose the outside surfaces of the teeth and gums.
2. Repeat the process as above, but this time **put a small dab of toothpaste on your finger and allow your pet to taste it.**
3. Dampen your pet's toothbrush, add a small amount of toothpaste, and very gently clean the gums and teeth, **especially the back upper molars and canines** where plaque tends to accumulate.
4. Concentrate on brushing the outer cheek-facing tooth surfaces; the cat's tongue will naturally spread the enzyme-rich toothpaste to the inner surfaces and other hard space to reach.

Give your cat quality toys and chews

Fibrous veterinary treats can provide effective self-cleaning devices for your cat's teeth. As cats chew, their **teeth penetrate the material, wiping away plaque and massaging the gums, but this can also lacerate the gingiva.**

Although it is **not advisable to feed natural bone (e.g., chicken necks) that may splinter and harbor bacteria**, feline dental chews can be helpful in rubbing away plaque from the teeth while your cat enjoys munching on the treat.

Ensure your cat follows a healthy diet

A diet that **comprises primarily soft food** can leave a cat vulnerable to greater accumulations of plaque than an animal fed mainly hard kibble.

If your cat is prone to oral health problems, your vet may recommend a diet that is formulated to include ingredients that will **slow plaque mineralization and decrease oral bacteria**. The Veterinary Oral Health Council provides helpful information about vet-approved plaque and calculus-control products for cats.

4 THE ROLE DIET PLAYS IN FELINE ORAL AND DENTAL HEALTH

Your cat's diet plays an important role in feline oral and dental health. Like humans, cats require a certain level of care to keep their teeth in tip-top shape. If you consume sugary, processed foods and forgo brushing, you can expect your teeth to suffer for it. The same goes for your four-legged friend. That's why it's recommended for cat owners to do a little research on the various dietary products that are available.



Wet cat food vs. dry cat food

There's some debate over whether dry food or wet food is better for cats. On one hand, dry food can supplement your cat's dental hygiene routine, as it can help strengthen teeth and scrape away plaque. On the other hand, wet cat food is often recommended for cats with kidney problems, as it has a higher moisture content. Additionally, cats usually find wet food to be more palatable.

Many pet owners avoid choosing one or the other, instead switching between the two.

Many pet-food producers manufacture **veterinary-approved feline dental diets.**

Most hard-kibble dental diet products are larger in size and have a texture that fragments easily. The broken edges of the kibble pieces **scrub away plaque as the cat chews and augment regular toothbrushing.**

The [Veterinary Oral Health Council's website](#) provides details about chews, foods, and other products whose efficacy and safety have been tested, so you can be confident that they really can help **reduce your cat's buildup of plaque and calculus.**



Be careful when choosing a dental chew for your cat and avoid items such as raw animal bone products. These items can easily pick up potentially harmful bacteria and parasites. Also, bones can splinter and become wedged in your cat's intestinal tract and also cause broken or cracked teeth.

Though dental diets do not suit every cat's digestive system, it's reassuring to know that feeding "regular" **large kibble and a daily dental chew will help keep your pet's mouth healthier** than it might be otherwise.

Water and food additives

Along with specialized diet products and dental chews, there are several water-soluble oral care supplements on the market. These products generally contain dextranase and mutanase enzymes **that are designed to break down plaque biofilm**, together with enzymes, which can help prevent tartar formation.

These products are designed to be added to your pet's water bowl, allowing a small amount to be consumed each time your cat takes a drink. Additives also help kill any microorganisms that may be lurking on the surface of the water bowl itself.

Similar **dental health supplements** are also available **in powder form** that can be sprinkled on your cat's regular food once a day.

Can providing your cat with a "raw" diet help prevent periodontal disease?

Some studies have suggested that obesity and dental issues may be associated with feline diets consisting of highly processed pet foods. Such problems can largely be attributed to the high levels of sugars and simple carbohydrates that many processed pet foods contain, both of which provide a readily available source of nutrition for oral bacteria.

To combat these issues, some recommend introducing a “raw” diet of muscle meats, bones, organs, eggs, vegetables, fruit, and dairy.

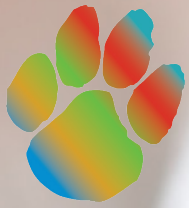
Raw diets have been fed by many professional cattery establishments for years. But, **very few pet owners feed their cats an exclusively “raw” diet.**

There are also risks involved in feeding “raw.” Meat, poultry, and eggs are frequently contaminated with microorganisms that **could be harmful to cats** when ingested. These bacteria, including salmonella, can also pose a risk to cat owners during the food-preparation process and when cleaning up cat waste. In addition, **cats can be at risk of choking on splintered bones.**

Further, feeding “raw” **can lead to vitamin and mineral deficiencies** if the cat’s food is not correctly formulated and supplemented, potentially creating more health problems than you set out to prevent!

In the absence of any definitive scientific evidence that feeding “raw” is beneficial to your cat’s periodontal health, caution should be taken if you do decide to take this route. Regardless, you should always discuss any drastic dietary changes that you are planning on making for your pet with your vet before you go ahead and implement them.





5 WHAT IS GINGIVITIS VS. STOMATITIS IN CATS?

Gingivitis and stomatitis are both inflammatory conditions that can affect your cat's oral health. These conditions are often confused or assumed to be the same disease by cat owners, as they can present in similar ways.

Although both gingivitis and stomatitis can be present in cats, their nature is quite different. It's important that cat owners know this.

Gingivitis in cats

Gingivitis is the **first warning sign** of impending feline periodontal disease. In medical terms, gingivitis simply means **“inflammation of the gums.”**

Your cat’s mouth is **full of bacteria** that feed on fragments of food and other material that your cat picks up or licks. As the bacteria grow, they form a slimy biofilm called plaque, which coats the surfaces of the cat’s teeth. If preventative measures are not taken, **the bacteria enter the gingival sulcus**, the small pocket between the tooth and the gum, causing irritation and infection.

Within a few days, minerals in the cat’s saliva **cause the plaque to harden into dental calculus (tartar)**. Plaque and tartar gradually extend beneath the gumline, **resulting in irritation and inflammation**. The **gums then become red and swollen around the tooth margins**. The cat may have difficulty eating due to the discomfort in their mouth. **Their gums may bleed**, and they will almost always develop **“bad breath.”**

If gingivitis is not treated quickly, **the condition will progress to full-blown feline periodontal disease**. Feline periodontal disease can cause extreme discomfort for your cat, and **tooth loss will almost inevitably occur**. In addition, bleeding gums can give bacteria easy access to the bloodstream, where they can be transported throughout the cat’s body. Inflammatory by-products are more harmful, especially if chronic as in periodontal disease, and can cause **serious health problems**.

Though gingivitis is preventable and curable, periodontitis is not.

In fact, **brushing your cat’s teeth daily with a pet-specific toothpaste** and attending regular veterinary dental checks will **effectively prevent gingivitis**.



Stomatitis in cats

Stomatitis **differs from feline periodontal disease** in that it is primarily a paradental disease. This means that it **doesn't just affect the supportive tissues** that attach the tooth to the socket in the cat's jaw (alveolar bone, cementum, periodontal ligament, and gingiva).

Stomatitis typically impacts the soft, fleshy structures inside your cat's mouth such as the **pharynx, oral mucosa, inside of the cheeks, and tongue, as well as the gums**, and is typically characterized by the formation of **painful, persistent ulcers**. There are a few different types of stomatitis situations that a veterinary dentist can differentiate and treat appropriately.

As in cases of gingivitis, the **bacteria and possible viruses inside your cat's mouth can trigger stomatitis**, although for different reasons. Some cats have a **hypersensitive immune response** to the bacteria that form a coating of plaque on the tooth surfaces. In these animals, **an overactive immune system is produced by the body** to tackle the invading bacteria, and it is that overactive immune system that initiates stomatitis.

Certain breeds of cats are at a higher risk of developing stomatitis. **In particular, Persians, Siamese, Himalayans, Burmese, Abyssinians, and other pure breeds are known to be predisposed to stomatitis (referred to also as Feline Chronic Gingivitis Stomatitis Syndrome).**

Stomatitis **can also be caused by external triggers**, including trauma, ingestion of caustic substances, certain autoimmune diseases, and foreign bodies such as bone and wood splinters becoming embedded in the soft tissue of the mouth.

What are signs of cat stomatitis?

A few stomatitis symptoms are **very similar to those presented by gingivitis**, which is why the two conditions are often misdiagnosed by concerned cat owners. Typically, the only way to achieve a definitive and **correct diagnosis is through veterinary examination**.

If your cat shows any of the following symptoms, **seek veterinary advice** right away:

- foul breath
- bleeding gums
- excessive drooling, sometimes containing blood
- reddened, swollen gums
- reluctance or difficulty eating
- poor appetite
- weight loss
- pawing at the mouth
- obvious lesions or ulcers on the gums (“kissing ulcers”)
- reluctance to groom
- depression
- reluctance to allow oral manipulation

You may also notice small areas of inflammation, sometimes exuding pus, in the folds around your cat’s mouth.

How is cat stomatitis diagnosed?

A vet will first **carry out an oral examination of your cat** to determine whether the symptoms presented are the result of gingivitis or stomatitis. In severe cases, where the cat is in extreme pain, this **examination will be performed under anesthesia**.

Other diagnostic procedures may include biopsies of the lesions to **eliminate cancer or autoimmune diseases** as a cause. In addition, **standard blood and viral tests, urinalysis, and an electrolyte panel** will be

performed to ensure that your cat is not suffering from any underlying conditions such as kidney disease or bacterial infections. In many cases, tooth extraction will be required, and **X-rays will be necessary** so that the extent of bone involvement can be determined.

How is cat stomatitis treated?

There are **many treatments that can be used to ease the symptoms caused by stomatitis.**

Antibiotic, anti-inflammatory, and analgesic therapies can be used to provide immediate relief, especially where the condition is widespread. However, in chronic cases, this treatment regimen often just brings temporary relief. Long-term antibiotic use such as a low dose of doxycycline administered daily can help control the condition. **Immunosuppressant drugs can be very effective in some cats**, as they help to control outbreaks of stomatitis by damping down the animal's immune response. However, not all cats can tolerate these drugs. Steroids can also be effective, but long-term use can be problematic in that it can cause liver damage and other issues.

Controlling stress is extremely important. By controlling stress, it allows your pet to have a stronger immune system to fight off this disease.

Once the condition is controlled, it's vital that owners **clean their respective cat's teeth every day** and that **frequent professional veterinary cleanings** are performed.

However, when other treatments have failed to bring lasting relief, the only option may be to **remove all the cat's teeth**, thus preventing the formation of plaque and therefore removing the trigger for the disease. Although this may sound drastic, it is usually successful and will allow your cat to enjoy a pain-free and happy life afterward.

6 WHAT DENTAL CONDITIONS SHOULD I WATCH FOR IN MY CAT?

Along with gingivitis, stomatitis, and feline periodontal disease, there are some less commonly seen dental conditions that owners should be aware of, such as tooth fractures, tooth root abscesses, and resorptive lesions.

By recognizing the telltale signs of dental or oral problems, **you can get your cat the necessary treatment quickly**, before complications arise.

Retained deciduous teeth in cats

Like humans, cats have deciduous “baby” teeth. Ordinarily, the **baby teeth are shed when the cat is between four and six months old**, allowing the permanent adult teeth to erupt. However, in some cats, the **deciduous teeth are retained** and do not fall out normally.

Unfortunately, **retained baby teeth are quite common in cats**, especially in Persians and Himalayans. If the baby teeth are left in situ, they can cause overcrowding. **Overcrowded teeth can predispose your cat to developing feline periodontal disease and other “bite” issues.**

Cats with overcrowded teeth **often develop “bad breath”** and localized gingivitis caused by **bacteria that readily gather and grow between the teeth**. In addition, it’s important for cat owners to look out for **permanent teeth that have come through as crooked, “double” rows of teeth, and bleeding, reddened gums** around some of the baby teeth.

Fractured teeth in cats

Along with feline periodontal disease, **broken or cracked teeth are a common dental problem** in pet cats. The crown of the tooth comprises three separate parts: **enamel, dentin, and pulp.**



Photo courtesy of Midmark Animal Health

The tooth enamel forms a hard outer layer, **protecting the other structures within the tooth**. Dentin lies directly beneath the enamel tooth shell and consists of tubules with nerve endings that radiate outward from the tooth pulp. The pulp itself is a **highly sensitive area of living tissue**, which contains nerves and blood vessels.

Various types of trauma can damage the tooth: clashing teeth with another cat during play, gnawing on very hard bones or rocks, continually chewing on toys, and chewing at the bars of a kennel are all common causes of tooth damage. If the **outer enamel is cracked and the sensitive pulp exposed**, your cat will suffer **extreme pain, and urgent veterinary treatment will be required**.

It may be difficult for owners to recognize that their cat has broken a tooth. Sometimes **purple, gray, or pink staining on the tooth surface** will indicate that the tooth pulp has bled, causing the dentin to become stained. **Black spots on the surface of the affected tooth** may indicate that the pulp is dead or is dead (necrotic). In some instances, the body repairs itself and produces secondary dentin; in which case your veterinarian will be able to differentiate and manage accordingly. **Your cat may appear miserable and sensitive around the mouth; your cat may also show reluctance to eat or have difficulty chewing** food.

Your vet will make a definitive diagnosis of a tooth fracture by taking **dental radiographs and probing the tooth (under general anaesthetic)** to establish whether the pulp cavity has been exposed.

There are **two primary treatment options** for tooth fractures: **extraction and (endodontic) root canal treatment**.

Tooth root abscesses in cats

A tooth root abscess is a **severe infection around the base of a tooth root**, usually after damage or trauma to the tooth has occurred. Bacteria enter the injury site, attacking the tissue and causing inflammation and pain. Tooth root abscesses can also occur as a **complication of feline periodontal disease**.

Cats may struggle to eat and may begin tipping their head to one side to avoid the pain caused by the abscess. As the abscess grows, **facial swelling may appear**, often around the eye, depending on the proximity of the tooth roots. If your cat will allow you to look inside their mouths, **swelling or a red, angry-looking area of the gums**, may be visible.

A vet will prescribe **antibiotics to control the infection**, together with **analgesics and/or anti-inflammatory drugs to make your cat more comfortable**. Treatment will involve either **root canal therapy or extraction of the affected tooth root** if the surrounding structures are too severely damaged to be saved.

Resorptive lesions in cats

There are two forms of resorptive lesions in cats. The first is where there is resorption of the tooth root and is very similar to resorption in humans teeth. We do not know the cause of this, but it is usually not painful until there is exposure of the dentin and pulp to the oral environment. The other type is where the resorption occurs at the gingival surface. This is due to the inflammation of feline periodontal disease and is very painful. Resorptive lesions most commonly occur **at the gingival area of the tooth**.

Resorptive lesions can occur as a **complication of long-standing periodontal disease**. All breeds can be affected. It is difficult for the owner to notice these lesions, as they can be masked with periodontal disease. **The early signs to look out for include the following:**

- foul breath
- tooth discoloration
- behavioral changes (e.g., reluctance to eat and sensitivity around the mouth)

If your cat shows any of these signs, **consult your vet**. Sometimes, the only way to diagnose resorptive lesions is via **veterinary radiographic examination under anesthetic**.

Where the condition has been detected, **extraction will be required**.

You can **prevent your cat from developing resorptive lesions** by brushing his teeth every day and having his oral health checked regularly by your vet. Controlling inflammation of the oral cavity is helpful in the prevention of this condition.

Orthodontic problems in cats

Cats should be able to **close their mouths without any tooth causing damage or trauma to the adjacent tissues or teeth**. Cats have a “scissor bite,” where the lower incisor teeth bite just behind the upper ones. In most breeds, the lower row of canine teeth (or fangs) occlude between the corner incisor and the upper canine, and the premolars interdigitate.

In severe cases, **tooth extraction may be the only option**; however, it is preferable not to do this, as it can complicate matters if the teeth are healthy. The ultimate aim of the specialist dental vet is to **move the cat’s teeth to a comfortable, functional position**. Orthodontic treatment can sometimes involve **fitting an orthodontic device to the teeth** to move them into a more correct and comfortable position.

In pedigree cats, your vet will probably recommend neutering so that the genetic dental occluded problems are not passed on to the animal’s offspring.



7 HOW IS ANESTHESIA USED IN FELINE SURGERY?

Just like humans, cats are often put under anesthesia when receiving surgery. However, since conditions such as gingivitis and feline periodontal disease require anesthesia to treat, cat owners are often concerned and want to learn more about the process.

So, what happens when your cat has a general anesthetic, and are you right to be worried?

Pre-procedure tests before feline surgery

Before your cat undergoes a dental procedure, **the vet will carry out several tests to check for any existing health problems** that could affect your cat's suitability for general anesthesia. First, the vet will conduct a general physical exam. Based upon the exam, other tests relevant to your cat's age, medical history, and breed may be performed, such as a complete blood count (CBC), a thyroid test, a chemistry profile, a urinalysis, an ECG and an ultrasound if your cat's heart has abnormal beats or sounds. The test results will enable the vet to choose the safest, most appropriate and correct dose of drugs to use during your cat's procedure.

In high risk cases a veterinary anesthesiologist may be called in to perform the anesthesia to minimize and danger.

You will be given the relevant **consent paperwork** to complete before the tests are undertaken. This is your opportunity to **pose any questions** that

Preparation for feline general anesthesia

Your veterinarian will inform you how long your cat should fast before coming in for the procedure.

Initially, your cat will be **given a sedative to relieve anxiety** and to alleviate any discomfort. An intravenous catheter is used to administer injectable anesthetics and fluids directly into the bloodstream and is also available in case emergency medication is required during the procedure.

Cats will often receive an **intravenous anesthetic**, followed by a **gas anesthetic**. Once your cat is anesthetized, an endotracheal tube will be placed in the trachea to **protect their airway and to administer the gas** that ensures the cat stays unconscious throughout the procedure.

Before, during, and after general anesthesia, **intravenous fluids** will be given to your cat to help keep vital organs and kidneys hydrated and to help with blood pressure maintenance.

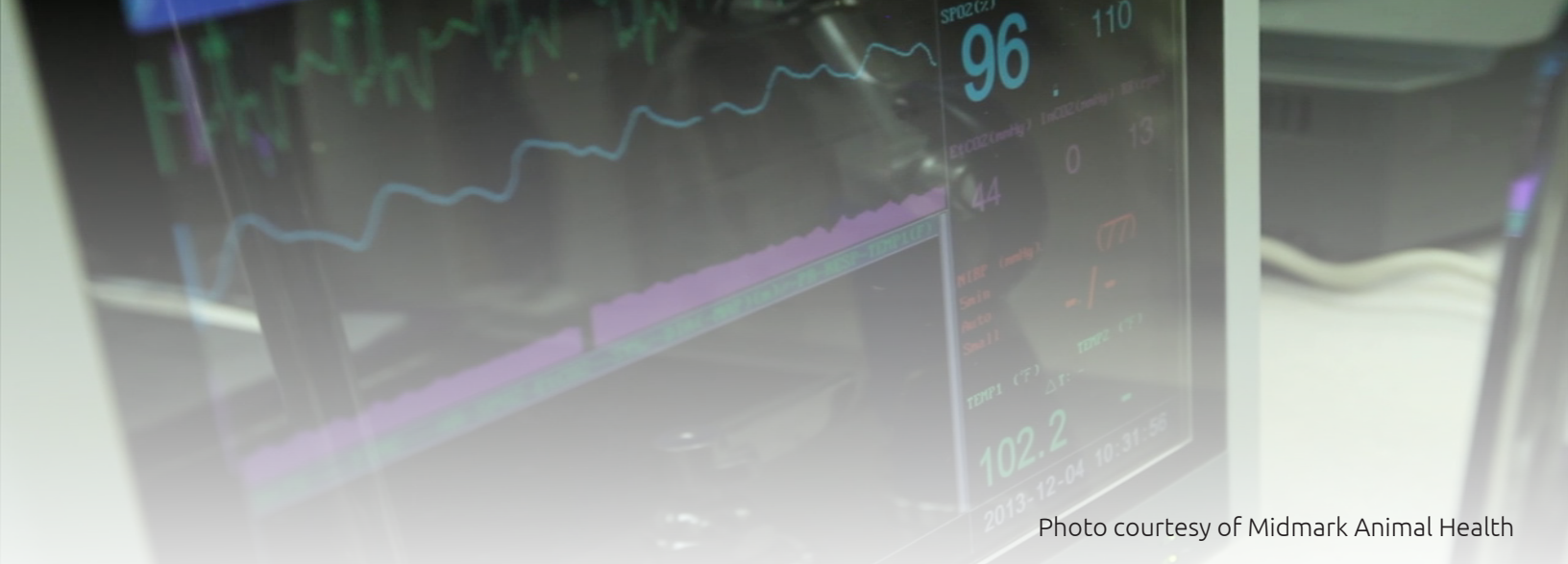


Photo courtesy of Midmark Animal Health

Monitoring of your cat

Throughout the procedure, your cat's vital signs will be **closely monitored by a veterinary technician** to ensure that your pet is doing well. Monitoring is essential to ensure **your cat's safety throughout the dental procedure.**

Feline heart rate and rhythm

Your cat's heart will be monitored to ensure that the **rate and rhythm remain within normal parameters.** An electrocardiogram (ECG, EKG) is often used for this purpose. An EKG measures the electrical impulses that the heart generates, allowing **early recognition of any changes** to the heart rhythm and rate.

Feline blood pressure and flow

Efficient tissue perfusion is essential for your cat's well-being during the procedure. **Tissue perfusion refers to the movement of blood through the vessels in your cat's organs.** Perfusion is monitored by the measurement of capillary refill time (CRT). CRT is assessed by applying gentle pressure to your cat's gums so that they turn pale, and then observing how long it takes for the gum color to return to normal. With good tissue perfusion, CRT should take about one second.

Most importantly, your cat's blood pressure is also closely monitored to help determine the **depth of anesthesia and tissue perfusion.**

Feline oxygen saturation

Pulse oximetry will be performed to ensure that your cat's blood contains sufficient oxygen.

A sensory probe is **clipped to any area of superficial vascularization such as the pink, unpigmented area of your cat's tongue, a paw, etc.**, and the color of the mucous membranes is measured. Pink membranes normally indicate good oxygen saturation.

Feline respiratory rate

Your cat's breathing and respiratory system function is monitored by **observing the chest wall and counting the number of breaths** that are taken per minute. Further, the movement of the reservoir bag on the gas anesthetic machine is monitored.

Feline temperature

Your cat's body temperature will drop slightly while under anesthetic. Your cat will be kept warm during the procedure with heat pads and blankets, and your pet's temperature will be monitored closely.

Depth of anesthesia

Throughout the procedure, the anesthetist will watch your cat closely for signs that might indicate that the anesthesia needs adjustment. These checks are made via visual observations, including pupil position, certain reflexes, and muscle relaxation

General anesthesia for cats

General anesthesia is used **to keep your cat from moving while the procedure is carried out, to prevent pain, and to encourage muscle relaxation.** General gas anesthetics that are commonly used include ethrane and isoflurane. Isoflurane is preferred when treating older cats, as it places less strain on the heart and other organs and is deemed to be safer.

There are **two main types of gas anesthesia systems** in use in small-animal practices: non-rebreathing and rebreathing. Both require close monitoring.

Rebreathing gas anesthesia systems for cats

Rebreathing systems or partial rebreathing systems are generally used for healthy cats. Each breath administered by the system contains exhaled gas for which the carbon dioxide content has been removed and replaced by oxygen and anesthetic.

Rebreathing systems **offer several advantages:** Less anesthetic gases and oxygen are used because of lower flow rates, less waste gases are produced, and your cat's moisture and heat from respirations are conserved.

Non-rebreathing gas anesthesia systems for cats

Non-rebreathing gas anesthesia systems are typically used on cats that weigh less than 10 pounds. Smaller animals require a higher gas flow to prevent them from rebreathing carbon dioxide. This system sees little to no exhaled gases returned to your cat, being removed instead by the system.

The gas anesthesia machine **mixes the anesthetic gas with oxygen and delivers it to your cat** via the endotracheal tube. The gas then moves across the lungs until it reaches the alveoli. The gas is **then transferred through the alveoli into the bloodstream and onward to the brain, where the state of anesthesia is achieved.** To decrease the depth of anesthesia during the procedure or to awaken your cat, the process is reversed.





Feline recovery from general anesthesia

After the procedure, **your cat will be placed somewhere warm and quiet, but under observation**, while recovering from the anesthesia. Ideally, your cat should awaken slowly and quietly. Urination and vomiting is not uncommon as your cat comes around from the anesthetic, and **shivering is quite normal** as the body's temperature regulation mechanism stabilizes. All vital signs will be closely monitored while your cat recovers.

Following routine dental procedures, most cats are ready to **go home after four to eight hours**.

If your cat is having teeth removed or will be in pain afterwards, **your vet will give pain-relieving medication immediately following the procedure** so that it is already working when your cat wakes up. Other medications will be given as required on a case-by-case basis.

If your cat is pawing at his mouth, an Elizabethan or soft collar may be fitted.

Your cat may feel nauseous and sleepy for 24 hours following the procedure. Allow your cat to sleep off the anesthetic and be sure that fresh water readily available.

Your cat may need to be monitored overnight at the veterinarian's office or emergency hospital if any complication arises or if an advanced procedure is performed.

Follow your veterinarians homecare instructions to have proper pain control and maximize the bodies healing potential.

DOES YOUR CAT SUFFER FROM RED GUMS OR BAD BREATH?



Veterinarians refer to unaddressed gum health issues as a silent killer.

When it comes to your cat's overall well-being, oral health should not be ignored!

Choose Lifelong Oral Health for Your Cat! Applied directly to the gums, 1TDC™ (1-TetraDecanol Complex) is a revolutionary natural solution that keeps gums healthy, which maintains the structural integrity of your cat's teeth.

1TDC™ 4-in-1 Wellness Solution requires virtually NO acclimating! 99% of cats find 1TDC™ very palatable, and most think it's a treat!

Simply twist off the heart-shaped tip, squeeze the soft gel, and let them lick it as the contents exit the capsule. There are **ADDITIONAL** skin & coat, performance & recovery, **AND** joint health benefits too!





4 - in - 1 Wellness Solution



Joint Health



Oral Health



Performance & Recovery



Skin & Coat Health



“Based on a study I performed at The University of Saskatchewan, I was amazed at the positive results from the use of the 1TDC™ technology (unique fatty acid oils). All periodontal measurements in the test animals improved significantly. The more I use the 1TDC™ technology, the more impressed I am.” - Dr. James Anthony, BScAgr, DVM, MRCVS, FAVD, DAVDC, DEVDC, P.Ag

ARE YOU TAKING YOUR CAT'S BAD BREATH SERIOUSLY?

Order your 1-TDC today at www.worksSOwell4pets/shop