Comprehensive Oral Health Assessment & Treatment

DENTAL EXTRACTIONS SURGERY

A GUIDE FOR PET OWNERS
ABOUT WHY, WHAT AND HOW.

FUR LIFE Vet

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What you need to know about your pet's dental care.

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INTRODUCTION:

Dental disease is the most common disease occurring in our companion animals. It has been estimated that some form of dental disease exists in 80% of dogs and cats over 6 years old.

Dental disease in our pets is similar to that in humans.

It largely occurs from the attachment of bacteria to the teeth and gums. These bacteria form a film known as plaque.

The gums become inflamed because of the presence of plaque bacteria, which is called gingivitis.

It is bacteria lodged between the tooth and gum in the sulcus or PERIODONTAL POCKET that cause the problem.

Gingivitis causes gums to become red, swollen and sore, the same signs as infection elsewhere in the body. The infection results in the progressive destruction of the bone, gum and ligament, leading to attachment loss. This can be seen as gum recession, periodontal pocket formation, mobile or lost teeth, or all of the above.

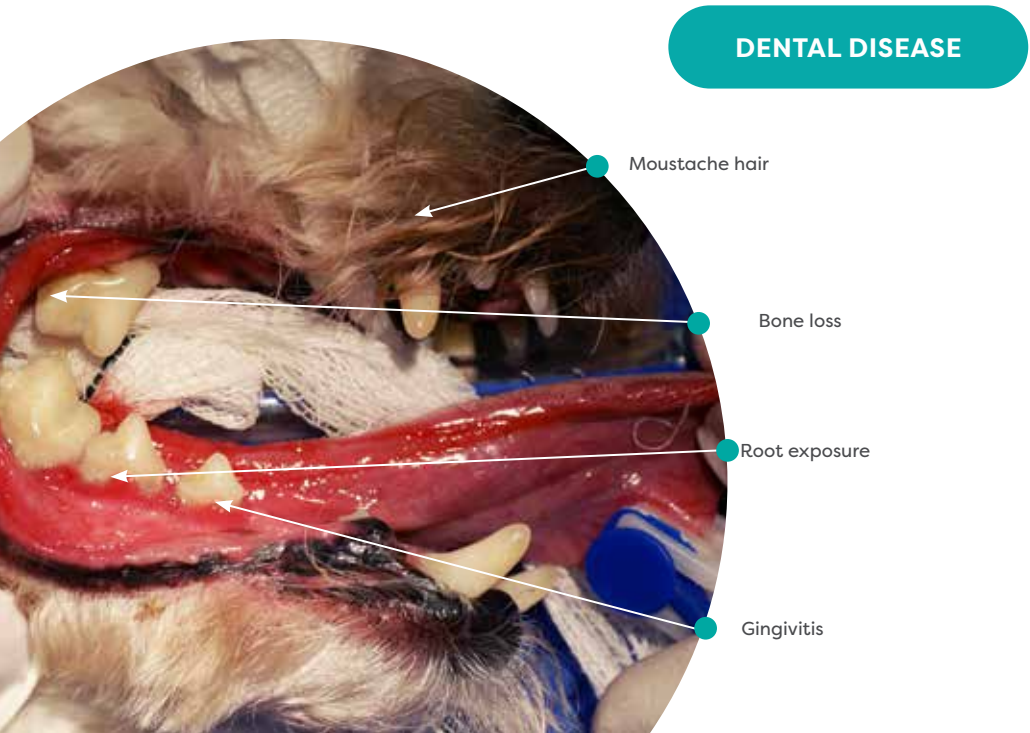
If plaque remains on teeth long enough it hardens into a shield of brown or yellow material made up of bacteria, protein and minerals. This is called tartar or calculus.

The presence of bacteria in the mouth is the cause of bad breath or halitosis.

Why my pet?

Dental disease occurs in domestic animals for a number of reasons.

1. **Food types.** Our pet's teeth are designed to be self-cleaning. This cleaning only works when they chew and tear through food. A solid 20 minutes of biting and chewing would give teeth a good clean. Our usual pet foods don't offer this. Wet foods just coat teeth, biscuit/kibbles crumble and swallow and we cut cooked meat into chunks we would be happy to eat.
2. **Genetics.** Some people need a dentist clean every 6 months, some people get away with every 10 years. This is usually just differences in people's individual immunity or reactivity to oral bacteria. Our pets are the same.
3. **Jaw Shape.** Dogs have 42 teeth and cats 30 teeth. This doesn't change with head shape. Squash a face up and the teeth get crowded. When they are crowded normal chewing will never clean them. This creates dental disease.
4. **Hair.** The moustache on breeds like poodles and schnauzers will roll under and rub on the gums causing inflammation and infection.
5. **Age.** Our pet's live incredibly longer than their wild cousins. A 10-year-old dog having his first COHAT is like a 70-year-old man who has never seen a dentist. It will most likely not be a pretty sight.



Why is gingivitis and tartar a problem?

PAIN:

Gingivitis is inflammation. If gingivitis is present, we know the gums are sore. Our pets will not often show oral pain. This is a defence mechanism. If a wild dog shows oral pain their pack members will take their food and often force them down the pecking order. A wild cat who doesn't polish off their meal quickly can become a bigger animal's dinner.

Oral pain is usually hidden in animals until it becomes unbearable.

TOOTH LOSS:

When plaque and gingivitis are present there is bacteria growing and spreading in the gum sulcus. This is the groove between tooth and gum. The gum tissue reacts by swelling, but this can cause the groove to deepen more and shelter more bacteria.

The inflammation here can cause the bone around the tooth root to dissolve back away from the diseased tissue. If enough bone is lost the tooth becomes loose.

Anyone who has had a loose tooth knows you can't chew with it, which in our pets means it never gets any cleaning and more plaque bacteria attaches.

Bone loss from severe Periodontal disease is a major cause of teeth requiring extraction.

DISEASE:

Pyorrhoea is the term for pus around teeth and gums. It often occurs in areas with severe gingivitis and tartar. Long term exposure to these bacteria and their toxins can cause disease throughout the mouth, bones of the jaw, respiratory system and has even been implicated in heart and kidney disease.

HALITOSIS:

Quite simply, bacteria create foul smells and being around a dog or cat with 'death breath' is never good.

What do the dental grades mean?

We can't judge the complete state of a cat or dog's teeth without charting using a probe and performing dental x-rays. We can never be sure there are no hidden pockets of bone loss or pus.

Dental grades are a way of scoring a pets' mouth overall and helping to plan for what is most likely happening in the animal's mouth. We do this by comparing the amount of visible gingivitis, tartar and pyorrhoea.

We grade teeth from 0 – 4, with 0 being perfect and 4 being severely diseased.

Below are examples of each grade.

GRADE 0

These teeth are perfect and do not need any current attention.

GRADE 1

A: Plaque/tartar on caudal teeth only

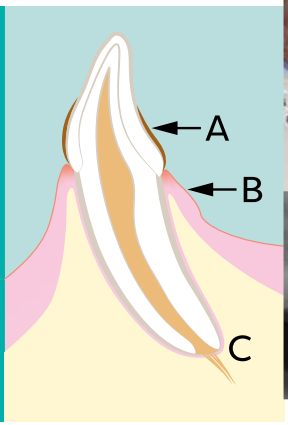
B: No Pockets, mild gingivitis (may not be grossly visible)

C: Zero bone loss

There is a mild build-up of plaque, gums are slightly swollen and red. Zero bone loss.

Periodontal pocket depth is <2mm in dogs, <1mm in cats.

These teeth can be restored to health with scaling and polishing.



Images courtesy of Dr Caiafa

GRADE 2

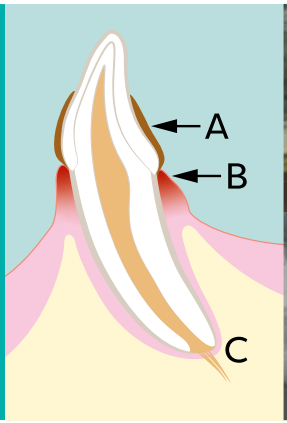
A: Plaque/tartar extending over most of the teeth.

B: Less than 25% attachment loss, no tooth mobility.

C: Gingivitis

There is a moderate amount of plaque build-up and tartar is forming. Gums are swollen and red. Beneath the gum line bone loss may be occurring. Some teeth may already have irreversible changes.

Periodontal pocket depth 2 – 4 mm in dogs, 1 – 2mm in cats



Images courtesy of Dr Kuroda

GRADE 3

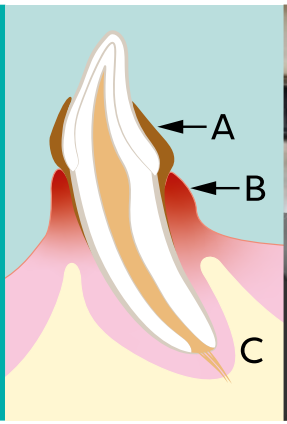
A: Tartar and calculus extend down into the gum line.

B: 25 – 50% attachment loss.

C: Extensive bone reduction.

D: Possible gum recession or mild tooth mobility.

Tartar heavily accumulated on the teeth. The gum line has receded, and deep periodontal pockets are occurring. 25 – 50% of bone loss is likely. Generally multiple teeth will need to be extracted.



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GRADE 4

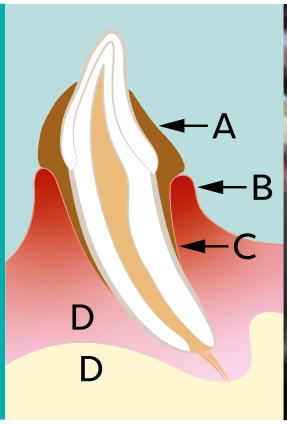
A: Extensive tartar and calculus.

B: Severe inflammation.

C: > 50% attachment loss.

D: Severe bone and gum loss, probable tooth mobility.

Severe and chronic periodontal disease. Severe tartar builds up and inflammation. There may be visible bleeding, pus and loose teeth. More than 50% of bone has been lost. Most teeth are unable to be saved and will need to be extracted.



Images courtesy of Dr Caiafa

WHAT IS A COHAT?

A COHAT is a comprehensive oral health assessment and treatment.

A COHAT is far more thorough than a simple clean.

The aim is to identify and treat the underlying problem as well as remove the visible tartar. This helps keep the mouth and teeth in better shape for longer.

THE ASSESSMENT

Before the procedure your pet will have a full physical examination.

It is impossible to fully probe and chart an animal's mouth while conscious. It is also impossible to curette the plaque and tartar from below the gum line, or take dental xrays. For these reasons we need to use an anaesthetic.

Often, we will recommend blood tests to check organ function prior to proceeding.

We will always assess the patient for the best and safest drugs to use.

After admission to the clinic your pet is given an anaesthetic premedication. This calms them and prepares them for the anaesthetic.

A catheter is placed, and intravenous fluids started.

An intravenous drug called an induction agent is used to start the anaesthetic. Once the animal is asleep a tube is placed in their trachea(windpipe). This is used to administer 100% oxygen and an anaesthetic gas. This gas keeps them asleep.

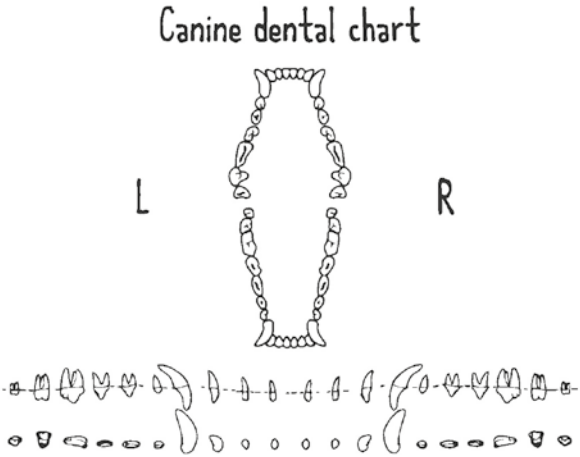
We monitor the anaesthetic using an array of machines which measure heart rate, breathing rate, temperature, blood oxygen level, ecg and blood pressure.

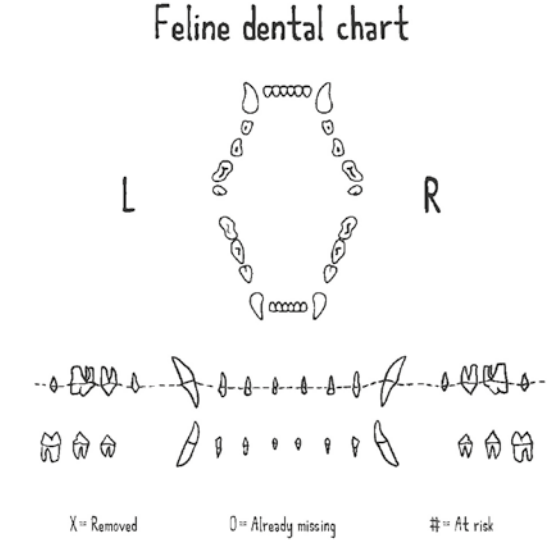
Once the patient is comfortable the COHAT begins.

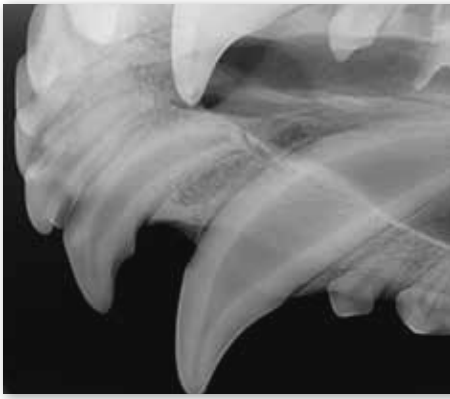
The veterinarian examines the mouth, pharynx and larynx. This gives us an opportunity to check for growths, cancers, tonsillitis, wounds or other conditions we can't see in a conscious patient.

The next step is a complete dental chart. Each tooth is individually assessed, and the periodontal pockets probed. These findings are recorded and can be used to track changes over time.

Not only gingivitis and tartar are detected but also unusual wear patterns, fractures and cavities are common findings.







Following this we perform a full mouth series of radiographs or x-rays.

We use these to assess the amount of bone loss, tooth root infection and abscess, retained roots below the gum line and loss of tooth enamel and structure.

The veterinarian uses the visual inspection of the oral cavity, the findings on the dental chart and the radiographs to make a plan for treatment.

TREATMENT:

The first step in treatment is to scale off all plaque and tartar. This is performed using a combination of hand instruments and an ultrasonic scaling machine.

Hand instruments include scalers and subgingival curettes. Scalers are sharp instruments designed to scrape tartar and plaque from above the gum line. Subgingival curettes have a rounded edge and are designed to slide into the sulcus or periodontal pocket and remove plaque and tartar without causing damage to the sensitive gum.

Ultrasonic scalers are an electronic device that uses high frequency vibrations to dislodge plaque and tartar, while being cooled by a water mist.

The time taken for this portion of the procedure depends on how much tartar is adhered to the teeth and how many teeth are present.

Cats start with 30 teeth and dogs 42. Humans have 32 by comparison.

The next step is a polish.

Even with beautifully scaled teeth there is microscopic roughness that plaque bacteria can adhere to. A polisher uses a fine pumice and low speed rubber head to smooth the tooth surfaces and to remove more plaque bacteria.

This keeps them cleaner for longer.

The last step is a flush with an antibacterial wash to clear and debris left out from the gum line and the mouth.

RECOVERY:

After the COHAT is complete the anaesthetic gas which has maintained the anaesthesia is turned off. This allows the patient to slowly wake up while still receiving oxygen and being monitored.

We will usually want to monitor them for several hours after waking to ensure they recover well.

Your dog or cat should eat within 12 hours of going home.

For their first meal we recommend small (5 or 10 cent sized) pieces of food such as chicken or other meat. Gravy type foods may pack into the sulcus while it is still a little swollen.

If your pet has had no extractions, they should be able to eat their normal diet 24 hrs after they go home.

Home care:

How do stop the problem recurring?

1. **The gold standard** for taking care of your pet's teeth is the same as for people – regular brushing. Most dogs and cats will tolerate brushing if introduced before severe dental disease is present. To brush a pet's teeth, you need a pet finger brush or very soft babies toothbrush and pet toothpaste. Dogs and cats hate minty human toothpaste. To use it you rub the outside of the teeth only. This is easiest to do without lifting their lip, just slip the brush along between tooth and lip. Don't try to do the inside of the teeth, unless instructed specifically by your vet.
2. **Dental diets.** Hills T/D and RC dental are dry food diets designed to be 'chewy' or reduce the minerals available for tartar formation. They have been shown to have very good effects but work best when fed daily.
3. **Chewy foods.** Bones can fracture teeth. If you feed bones, you need to be aware of the risk of tooth fractures requiring extractions. Long bones are the worst for this. Safe chewy foods are stringy meats such as beef cheeks, ox hearts etc.

   Commercial dental sticks work very well in some animals. The key to these is that they must be fed very often.
4. **Hexarinse** is a product designed as a 'pet mouth wash'. A small squirt twice weekly can reduce the number of bacteria in the mouth. It won't shift plaque or tartar, however. Oxyfresh or Aquadent are products designed to be added to water bowls which can also help.
5. **Trim the hair** around the mouth in breeds with long moustaches.
6. **Some dogs and cats** just need regular COHAT visits, just like some people need regular dentist visits. Generally, the worse the teeth are at the first visit, the more likely future visits are.

Tooth extractions and Dental Surgery.

There are a number of reasons we may need to extract a tooth.

The most common are:

1. **Fractured teeth.** If a fracture allows bacteria to penetrate the pulp canal where the nerve runs an infection can develop at the tip of the root.
2. **Bone loss due to periodontal disease.** If too much bone is lost a tooth becomes loose, or a constant source of bacterial attachment and chronic infection.
3. **Occlusion.** These are teeth that prevent the normal function of other teeth and the jaw, making it diffucult to close the mouth or chew properly. They may crowd, shift or hit neighbouring teeth, or even push into the gums or puncture the palate.

The tooth is held into the alveolus (socket) by a tough ligament called the periodontal ligament. This covers the whole root and anchors it to the bone.

Any attempt to wrench or pull a tooth usually causes the more brittle roots to break off and be left behind.

Extractions in our domestic animals require the ligament to be broken down so the tooth can be lifted out.

Whilst some dog and cat teeth have a single root (about half), the teeth further back in the mouth have 2 or 3 roots.

These teeth, along with the large canine teeth, usually require surgical extraction.

Surgical extraction involves folding the gum back and cutting the tooth into individual roots.

Often a section of the jawbone is burred away to allow the root to be removed without breaking.

The exposed bone is cleaned, and the gum sutured back into place.

These procedures are accompanied by pain relief in the form of nerve blocks, injections or both.

Common surgical complications are gum flaps reopening and mild infection. These are easily treated.

Less common and more serious complications include excessive bleeding and jaw fracture. In animals with severe lower jaw dental disease the bone is often very unhealthy and brittle. It may require support when the teeth are removed.

The best thing about dental surgery is the rapid healing rate.

Gingival tissue (gums) heals very fast, as anyone who has bitten their lip knows.

Often patients are happier the very next day, as their painful teeth are gone.

After Surgery:

Dental surgery should not stop your pet eating. They may be drowsy and not have their full appetite the night after surgery, but by the next day we expect them to be eating their normal amount.

If they are not, we may need to recheck their pain relief.

Antibiotics may be prescribed if there is severe infection in the mouth.

The gum should heal in about a week. There should be no foul smell to the breath and no bleeding.

They will need soft food until then.

We recommend a recheck in 7 days to ensure the healing is complete.

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