

TREAT OR EXTRACT?

A very common enquiry we get here at Hale Veterinary Clinic and on VIN is whether a particular tooth should be extracted or treated/retained. This seemingly simple question has a long and complex series of answers. So go get yourself a cup of tea, get comfortable and read on.

Prime Directive

Before going any further I want to make it very clear that your objective is NOT to preserve teeth. Pet dogs and cats do NOT need teeth. They do not need to hunt and kill their own food. They do not need to chew raw meat from a carcass. They (usually) do not need to defend territory or breeding rights. The things dogs and cats rely on their teeth for in the wild, they have owners to take care of for them. The food is dead, in the bowl and ready to swallow. They have a roof and fenced yards and owners to keep them safe and secure.

What pet dogs and cats do need and deserve is a mouth free of pain and infection. Therefore, any tooth that cannot be made healthy and kept healthy should be extracted.

My observation is that general practitioners have a tendency to not extract as many teeth as they should. They tend to leave questionable teeth in place when owner and animal would both be better served if these teeth were removed sooner than later.

Sometimes it is the owners who express a desire to preserve teeth and then step one is to help these owners accept that saving teeth may not be the best option. Spell out to them that a mouth free of pain and infection is vastly more important than a mouth full of teeth. Also make it clear that any tooth left in the head needs ongoing care for the rest of the pet's life. The only cure for periodontal disease is extraction.

The Chess Board Analogy

Like the pieces on a chess board, some teeth are much more valuable than others. Some are downright expendable. In many cases, these teeth can and should be sacrificed in order to improve the future for the teeth being left in place. An example would be extraction of a lower 3rd incisor to alleviate a crowding issue and improve the periodontal prognosis for the much more important lower canine tooth.

Initial Considerations

Many dental procedures require considerable commitment from the owner and co-operation from the patient if there is to be a reasonable chance of long-term success. Therefore, the first step in treatment planning is to gather information about the owner and the patient.

Questions to be answered should include, but are not limited to:

- What is the owner's relationship with the patient? Is the animal a well-loved family member or a stray that comes by occasionally for a handout? This will be key to determining the level of commitment to the animal you might be able to expect.
- What is the owner's attitude toward dental treatment in general? An owner who takes good care of their own teeth is more likely to take good care of their pet's teeth. This question may be best answered by direct observation rather than by asking the client.
- Does the owner have anxiety about the dental treatment or the anesthetic involved? Most clients make their decision more on an emotional than intellectual level. If they are fearful of any part of the plan you are trying to formulate, this fear will have to be dealt with. Many owners will be uncomfortable with a treatment plan that relies for its success on annual general anesthetics for re-evaluation and maintenance therapy. If that follow-up is not likely to happen, then a different plan is called for (a plan focusing on extraction rather than preservation of diseased teeth).
- What does the owner perceive as the problem? It may not be the most significant problem for the patient, but it is the one the owner is most aware of. It may be necessary to get the owner to see things in a different light in order to get long-term compliance.
- What are the owner's financial capabilities? Can they commit to all stages of a long-term plan or do they need a more economical plan? Is their financial situation stable enough that it is not going to preclude treatment next year and the year after that and so on?

- What are the owner's physical capabilities regarding home-care and follow-up? Daily brushing would be difficult for an owner with arthritic hands or other physical challenges. If the owner is away from home on business much of the time, who, if anyone, is available to maintain the daily home plaque control regimen?
- Is the patient likely to be co-operative with home-care? Some dogs and cats simply will not allow brushing. Developing a plan that is dependent on scrupulous oral hygiene in such an animal is doomed to disappoint all concerned. While there are now some credible products (see www.vohc.org) that can help with plaque control in the absence of brushing, we still see daily tooth brushing as essential to any periodontal treatment plan.
- Does the pet have a lifestyle that will make one form of treatment preferable to others? A fence chewing dog or police services dog is likely to need a gold alloy crown to protect an endodontically treated canine tooth from further damage.
- Does the patient have any medical or anatomical considerations that make one form of treatment preferable to others? For example, diabetic animals are more prone to periodontal disease and heal slower and so are poor candidates for extensive periodontal surgery. In fact, aggressive extraction in diabetics is often indicated because controlling periodontal infection can make it easier to regulate the diabetes (www.toothvet.ca/PDFfiles/diabetics.pdf). Anatomic issues such as crowding and malocclusion also call for extraction rather than trying to save teeth.

With those general considerations in mind you should be getting a sense of where to set the threshold for extraction.

To determine if a tooth is potentially salvageable there are a number of factors to consider.

- What is the nature and extent of disease? Some teeth are obviously beyond hope. Others are in great shape. Those are the easy ones to figure out. Then there are a number of teeth in the middle of the spectrum that require closer consideration.

- What is the duration of disease? In periodontal disease, rapid onset carries a poorer prognosis, whereas in endodontics, an acute tooth fracture carries a more favorable prognosis than a long-standing one.
- What are the causative factors? Are they purely local or are there systemic factors that may be uncontrollable such as FIV infection in a cat?
- How old is the patient? If the dog is thirteen, you only need to manage the tooth for a few more years, but if the dog is only two, then you may need to manage the problem for fifteen years.
- To what degree are the roots and furcations involved?
- Are there occlusal factors to consider? Overcrowding and rotation of teeth make management of periodontal disease more difficult.

When deciding whether to treat or extract a 'border-line' tooth there are several other factors to consider:

- Generally, treatment takes longer than extraction and so it costs more and increases anesthetic time.
- Often, appropriate treatment is more technically challenging than extraction.
- Often treatment to save a tooth includes follow-up assessment and maintenance therapy but if the tooth is extracted, the case is closed.

You must therefore answer the following questions:

- Is the patient an appropriate anesthetic risk for prolonged or staged treatment and annual re-evaluations/maintenance therapy.
- Is the tooth strategically important enough to justify the investment in time, effort and money? Visualize what the mouth would be like without the tooth, remembering that loss of a tooth leads to some resorption of the supporting alveolar bone.
- Is the owner aware of and willing to accept the increased cost of treatment?
- Will the owners and patient co-operate with aftercare and rechecks?

- Do you have the equipment and training to treat the tooth appropriately?

If the answer to any of these questions is 'no', then extraction or referral would likely be the most prudent option.

Now let's look at some solid indications for extracting teeth.

- Every tooth with pulp exposure (by fracture or abrasive wear) needs root canal treatment or extraction. There are no exceptions to this rule. (www.toothvet.ca/PDFfiles/endo.pdf)
- Many teeth with near pulp exposure from fracture or abrasive wear will need root canal treatment or extraction. (www.toothvet.ca/PDFfiles/endo.pdf).
- Teeth with fractures that extend more than a few millimetres below the gum line require extraction (or advanced periodontal crown-lengthening surgery). (www.toothvet.ca/PDFfiles/PerioAnat&Physio.pdf)
- Teeth involved in abnormal tooth-to-soft tissue contacts need to be moved, reshaped or extracted. Since moving and reshaping teeth are advanced procedures in most instances extraction is the proper choice. (www.toothvet.ca/PDFfiles/microdogs.pdf)
- Teeth that have gingival recession so that there is no longer a complete collar of attached gingiva around the entire circumference of the tooth should be extracted. In very select cases, advanced periodontal surgical procedures such as lateral sliding grafts may salvage these teeth, but this is not something to be attempted without a lot of training and experience (www.toothvet.ca/PDFfiles/PerioAnat&Physio.pdf)
- Teeth with more than 50% attachment loss (any combination of gingival recession, bone loss, pocket formation) affecting any part of the tooth need to be extracted.
- Teeth with grade 3 furcation exposure almost always call for extraction.
- Teeth undergoing resorption that have lesions extending beyond the level of gingival

attachment such that the lesions are in communication with the oral cavity need to be extracted.

(www.toothvet.ca/PDFfiles/RLs_in_Dogs.pdf and www.toothvet.ca/PDFfiles/NewsOnRLs.pdf)

- When teeth are crowded together so that there is no gingival tissue between them, one or the other should be extracted (selective extraction to alleviate crowding and reduce the risk for periodontal disease. (www.toothvet.ca/PDFfiles/microdogs.pdf)
- Any un-erupted tooth should be extracted to prevent dentigerous cyst formation. (www.toothvet.ca/PDFfiles/dentigerouscysts.pdf)
- Teeth that are significantly under-erupted should be extracted or have advanced periodontal crown lengthening surgery (www.toothvet.ca/PDFfiles/pericoronitis.pdf).

There are many other indications for extraction such as whole-mouth extraction to manage Feline Chronic Gingivostomatitis and Chronic Ulcerative Parodontal Stomatitis (www.toothvet.ca/PDFfiles/fcgs.pdf and www.toothvet.ca/PDFfiles/cups.pdf). Then there are cases where there are so few that do not need to be removed that it does not make sense to leave any (even the healthy ones) behind (www.toothvet.ca/PDFfiles/CleaningHouse.pdf).

So rather than approaching your dental patients with the plan to preserve as many teeth as you can, plan on providing your patient with a mouth free of pain and infection and a mouth that has a reasonable chance of being maintained (with reasonable ongoing effort) free of pain and infection for as long as the animal lives.