

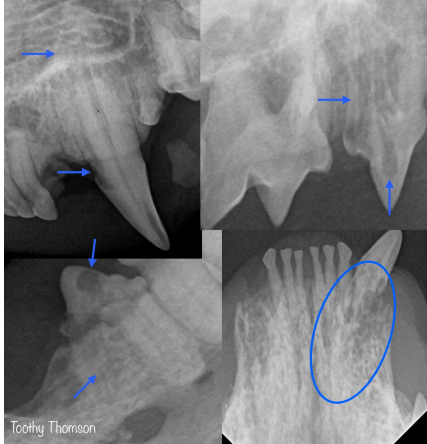


Toothy Thomson Handout

Feline Tooth Resorption

Tooth resorption is a condition that affects a large proportion of cats, ranging from 26-72% depending on the study. The cause is unknown, and once a tooth is affected, there is no stopping, reversing, or healing of the tooth.

Tooth resorption (TR) is when the osteoclasts resorb the dental hard tissues. Osteoclasts are a type of bone cell; they should not normally be degrading teeth but if your cat has tooth resorption that is what is happening.



Above are four examples of tooth resorptive lesions in cats, the arrows and circle highlight the areas of concern.

We know that tooth resorption is the activation of the osteoclasts without any downregulation, but the etiology of this activation is not fully understood. What is known is that these lesions are progressive and once they are found they need to be treated.

It is possible to suspect there is tooth resorption on an awake oral exam, however, many TR lesions hide below the gumline requiring dental radiographs to be found.

Additionally, dental radiography is the only way to classify the **type** of tooth resorption. The type of tooth resorption is needed to know how it should be treated, more on this below.

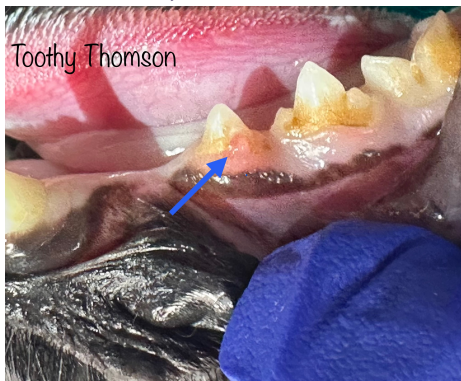
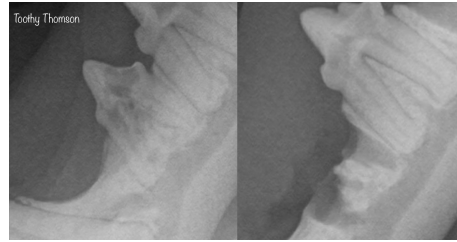


Image of a tooth resorptive lesion on a mandibular third premolar in a 5-year-old cat.

In cats, there are three **types** of tooth resorption. Type 1 is when there are areas of both normal and decreased radiodensity and a normal periodontal ligament space.

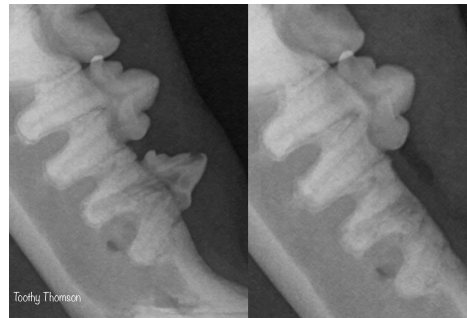
The treatment for type 1 tooth resorption in cats is the extraction of the tooth, including the entirety of the roots.



A dental radiograph of a cat with type 1 tooth resorption affecting the left mandibular third premolar on the left. On the right, the radiograph shows complete extraction of the tooth including the roots.

Type 2 resorption, also known as replacement resorption, is the loss of normal tooth density with no discernible periodontal ligament.

The treatment for type 2 resorption in cats can be "crown amputation". The reason for the quotation marks is that the crown **and** any remaining portion of the root that still has a periodontal ligament needs to be removed. However, there are exceptions to this 'rule' in which complete extraction **must** be performed. This includes cats with Feline Chronic Gingivostomatitis (FCGS)*see handout, as well as if there is any periodontal or endodontic disease of the affected tooth/teeth.



The image on the left shows that the right mandibular third premolar of a cat has type 2 tooth resorption. The right image shows the same tooth after a crown amputation

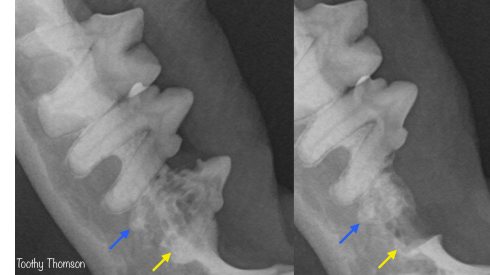
The reason for complete extraction of a tooth/teeth with Type 2 TR is that while the tooth is being replaced by bone, this could take a considerable amount of time, if it is ever fully complete. Therefore, leaving any dental material with concurrent disease and/or in a cat with FCGS would lead to ongoing inflammation/pain.



This image shows a cat with Feline Chronic Gingivostomatitis; if their dental radiographs show tooth resorption type 2 or 3; crown amputation would NOT be an option for this patient

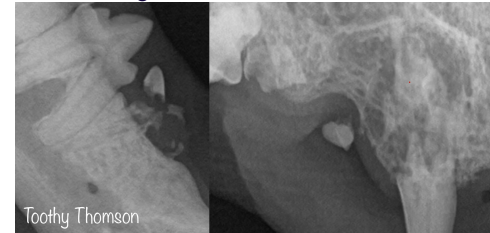
Type 3 resorption is only found in multi-rooted teeth and is characterized by each root having a different type of resorption. This means that a tooth has 2 roots where the mesial (front) root has type 1 resorption and the distal (back) root has type 2 resorption or vice versa.

Treatment for type 3 is for each root to be treated based on its type. So the root affected with type 1 resorption will be extracted and the one with type 2 will be crown-amputated.



The left and right images both show a premolar affected by type 3 tooth resorption before and after treatment. The distal root (blue) had type 2 resorption and was crown-amputated, and the mesial root (yellow) had type 1 and was extracted.

Tooth resorption is also classified into stages. In cats, there are 5 stages. Stages 1 to 3 are used to classify how many layers of the dental tissues have been resorbed. Stage 1 for enamel/cementum only, stage 2 for enamel/cementum and dentin and stage 3 once it reaches the pulp. Stage 4 is when a significant portion of the tooth structure is lost. Stage 5 teeth are familiarly called "ghost teeth" because the tooth is almost all gone.



The image on the left shows stage 5 tooth resorption and the image on the right shows both stage 4 and 5 tooth resorption

The number of teeth affected or the severity of TR is not a predictor of whether more lesions will ever occur again. Yearly COHATs must be performed so that any new lesions can be found and treated should they occur.

Additionally, if your cat has any teeth treated with crown amputation, radiographic monitoring is recommended.

Overall, although the reason for tooth resorption in cats is unknown, it is known that it cannot be left untreated. Once it affects the crown (visible part) of the tooth it causes discomfort as the dentin and pulp are exposed and the only way to stop it is to perform an extraction or crown amputation.

It is important to remember that the decision for crown amputation vs. extraction is determined by the type of resorption and this **can only** be determined with dental radiographs, making dental radiographs necessary for your cat's oral assessment and care.