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## R E S O R P T I V E   L E S I O N S   ( F O R L S )

### Introduction:

One of the most common and most painful afflictions in cats is a condition referred to as Neck Lesions (the proper name is Feline Odontoclastic Resorptive Lesions or FORLs). They appear as holes in the enamel and underlying dentin of the teeth, arising at or below the gum-line.

Unlike cavities in humans, which are the result of bacterial enzymes and acids digesting the teeth, FORLs are the result of the cat's own body resorbing the teeth. Specifically, cells known as *odontoclasts* are found in these defects where they cause the tooth structure to dissolve. The cause of FORLs has not been determined. Many theories have been proposed but none so far seem to fit the facts.

**FORLs Are Extremely Painful!**

As FORLs are a progressive destruction of the tooth, they are graded as to severity to allow for appropriate treatment selection.

Stage I are early defects extending less than 0.5 mm into the tooth and involving enamel only.

Stage II have significant erosion involving dentin but not yet into the pulp.

Stage III have caused considerable loss of crown structure and involve the pulp.

Stage IV have caused extensive loss of the crown of the tooth.

Stage V have caused complete loss of the crown with portions of the root system still visible on radiographs.

Once the defect reaches through the enamel and into the dentin, the tooth experiences increased sensitivity to heat, cold and touch. These teeth are often so sensitive that even a fully anesthetized patient will react when the lesion is probed.

Once the lesion extends into the pulp chamber of the tooth, it is not only very painful, but bacteria in the mouth now have easy access to the tip of the tooth root where an abscess can develop. Tooth root abscesses have been well documented as chronic sources of infection that can lead to infections on the heart valves, in the liver, kidneys, spleen, joints, bones and central nervous system. The net result is that the cat ages more rapidly as organs start to fail due to long term exposure to infection.

### Treatment:

What can be done? Early detection is the key, as well as the challenge. As this problem often starts below the gum line, the only way to find stage I and most stage II lesions is by probing under the gum in an

anesthetized patient. Dental X-rays are also useful for finding lesions on the roots. This should be done each time your cat is presented to have its routine dental treatment.

For carefully selected stage I and stage II defects, the tooth might be saved by filling the lesion with a special restorative that binds chemically to the tooth as well as releasing fluoride into the tooth. However, most lesions, by the time they are detected are not restorable. Also, since we do not know the cause, we can not say for certain that placing a filling will stop the progression of the lesion.

In all stage III, IV and V lesions, too much of the tooth has been lost to allow restoration. In these cases, the only humane treatment for the patient is extraction of the affected tooth to remove the source of pain and infection.

### **Prevention:**

As we do not yet fully understand the causes of this feline peculiarity, we can not make iron-clad recommendations for its prevention. Until we can offer definitive suggestions, however, there are a number of actions which seem to help.

The first step is to get the teeth clean and keep them that way. The former is accomplished by your veterinarian. Once the teeth have been thoroughly cleaned, there are a variety of home-care products formulated specifically for cats that will reduce plaque build-up. The use of fluoride, either in the daily home-care product or as a weekly gel treatment may also make your cat's teeth less

susceptible to this very painful disease. However, fluoride is toxic and should not be swallowed so great care must be exercised when using fluoride as a home-care product.

### **Limitations:**

Restoring lesions today does nothing to prevent other ones from developing in the future. As well, long term studies have shown a very poor success rate with restorations as the resorptive process continues under or at the margins of the restoration.

Finally, the restoratives used are quite technique sensitive (they need to be handled just right or they will not stick to the tooth).

Current thinking is that teeth with very early lesions can be restored, as long as the operator is confident in his/her technical ability and the owners can commit to long-term home-care. The teeth should then be rechecked every six to twelve months.

### **Dental Pain:**

Many owners of cats with neck lesions report that their cats do not *appear* to be in pain. From an evolutionary stand point, this is not surprising. Cats in the wild that display to the world that they are ill or distressed are likely to become the prey of a larger animal quickly. Also, if they allowed dental pain to put them off food, they would soon become too weak to hunt and would starve. Therefore, they adopt a stoic attitude and carry on. On the other hand, the improvement in attitude and demeanor after restoration or extraction of painful teeth can be dramatic.

**Improvement in attitude  
after treatment of painful  
teeth can be dramatic**

### **Conclusion:**

*Whether you opt for extraction or restoration, do not leave neck lesions untreated. They cause significant pain and suffering and must be dealt with.*