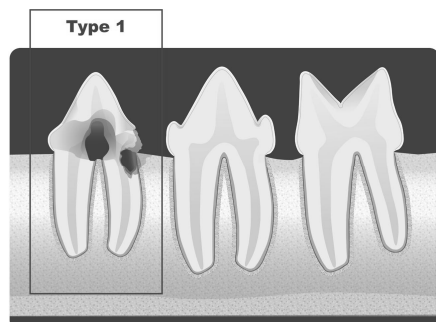
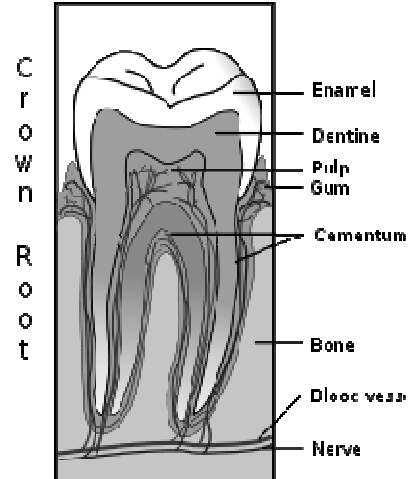


Feline Odontoclastic Resorptive Lesions

Feline odontoclastic resorptive lesions (FORLs) are a disease in cats characterized by resorption of the tooth by odontoclasts, or tooth-eating cells. A FORL is also known as a **neck lesion**, **cervical neck lesion**, **cervical line erosion**, **feline caries**, or **feline cavity**. It is one of the most common diseases of domestic cats, affecting up to two-thirds. While 800-year-old cat skeletons have shown evidence of this disease, the frequency of FORLs appears to be on the rise and is now being seen more frequently in feline medicine. This may be due to the advancing ages of cats as well as increased owner awareness of the importance of feline dental care. Purebred cats, especially Siamese and Persians, may be more susceptible.

Dental anatomy: FORLs appear as erosions of the surface of the tooth at the gingival border. They are often covered with calculus or gingival tissue. It is a progressive disease, usually starting with loss of cementum and dentin and leading to penetration of the pulp cavity, which contains nerves and blood vessels. Resorption continues up the dentinal tubules into the tooth crown. The enamel is also resorbed or undermined to the point of tooth fracture. Resorbed cementum and dentin is replaced with bone-like tissue.

Symptoms: Symptoms of FORLs include mouth pain, especially while chewing. This pain is a result of dentin exposure, and in some cases, pulp (nerve) exposure. Other signs may include anorexia (lack of eating), dehydration, weight loss, and tooth fracture. However, it is very common for owners not to notice any of these signs in cats that have FORLs. Whether this is due to some cats not showing these signs, or our lack of perceiving them, is not known. Many times the severity of pain is not identified until an anesthetic oral exam is performed. It is not uncommon to note jaw chattering (a sign of pain or discomfort) under general anesthesia when these teeth are touched with a dental probe! If that type of pain can be sensed under general anesthesia, one can only imagine what these cats are feeling when awake. The lower third premolar is the most commonly affected tooth.



Cause: The definitive cause of FORLs is unknown, but on a microscopic level, destruction of the cementum and other mineralized tissue of the tooth root by odontoclasts are seen. It occurs secondary to the loss of the protective covering of the root (the periodontal ligaments) and possibly to a stimulus such as periodontal disease, viral disease or other underlying cause. However, FORLs are also known to develop in the absence of inflammation. More research needs to be done in order to determine the underlying cause of FORL formation. Without identifying this cause, we are unable to prevent FORL formation and are instead left only with treatment of the disease after it presents.

Treatment: Treatment for FORLs is limited to tooth extraction to create a mouth free of pain. In order to determine the type of extraction performed, dental x-rays are required to evaluate for the type and severity of disease present. Dental x-rays can only be taken under general anesthesia. Type I lesions are often associated with periodontitis and endodontic (inside the tooth) disease and require extraction of the entire tooth, often times through surgical extraction. More common are Type II FORLs, in which the diseased tooth has ankylized, or fused, with the jaw bone. Attempts to extract teeth with Type II disease via traditional elevation methods can result in tooth fracture, increased time under anesthesia, or even a fractured jaw! Often, the safest and most effective way to extract these teeth is via amputation (removal) of the tooth crown without root removal. In these cases, after the crown has been removed, the gingiva is closed over the extraction site, thus preventing risk of long term pain or infection. In the case of Type II FORLs, the body often completely resorbs these remaining roots.

Tooth restoration is not an option because resorption of the tooth will continue underneath the restoration.

Aftercare: After the affected teeth have been treated under anesthesia, antibiotics and analgesics (pain medication) will be needed post-operatively to prevent infection and manage pain. Your cat's mouth will also be re-examined in the weeks following treatment (no anesthesia required) to assure proper healing of extraction sites. Ideally, your cat's mouth should be re-examined under anesthesia on a yearly basis to evaluate for development of additional FORLs.

