

Endodontics

Treatment of fractured teeth without pulp exposure

An uncomplicated crown fracture involves fracture of the enamel of the tooth and exposure of the underlying dentin. Intraoral radiographs are necessary to evaluate the root structure of the tooth. Treatment is dependent upon the radiographic findings. If infection is present then root canal treatment or extraction is indicated. If no infection is present then smoothing of the enamel margins and sealing of the exposed dentinal tubules is indicated.

Treatment of fractured teeth with pulp exposure

A complicated crown fracture is the fracture of the tooth crown with resulting exposure of the pulp cavity. This results in the tooth being susceptible to infection. Only two treatment options exist for a complicated crown fracture – extraction or root canal therapy. Doing nothing is not a treatment option. Root canal therapy involves removing the infected or damaged pulp from the inside of the tooth, cleaning out the root canal space and filling the space so that it is sealed off from saliva and bacteria. This allows infection, if it existed to heal and prevents invasion of bacteria in the future. Root canal treatment allows the tooth to remain in your pet's mouth as a functional tooth, but non vital tooth. The success of root canal treatment is dependent upon a seal at the tooth root and at the crown of the tooth. As such, it is necessary to radiograph the treated tooth annually to evaluate the procedure. Extraction of the affected tooth is also a treatment option. It may be the only treatment option if the tooth crown structure is too compromised or if periodontal disease exists around the tooth. Often extraction of teeth requires oral surgery which includes removal of bone over the tooth roots, sectioning multirooted teeth, elevation and extraction of each tooth root segment, and then closure of the resulting defect utilizing a flap created from the mucogingival (gum) tissue.



Complicated crown fracture of the right upper fourth premolar tooth in a dog.



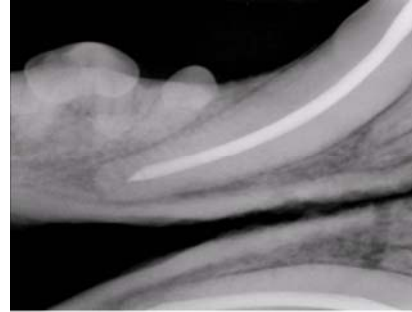
Intraoral radiograph of a root canal treatment of right upper fourth premolar tooth in a dog.

Treatment of discolored teeth (pulpitis)

Discoloration of teeth (pulpitis) is most commonly caused by trauma, developmental issues, infection or some other event that disrupts the blood supply within the pulp cavity. Discolored teeth may appear as pink, purple or gray teeth. Studies have shown that 92% of discolored teeth have dead or necrotic pulp tissue. Treatment for discolored teeth is root canal treatment or extraction.



Discolored right lower canine tooth



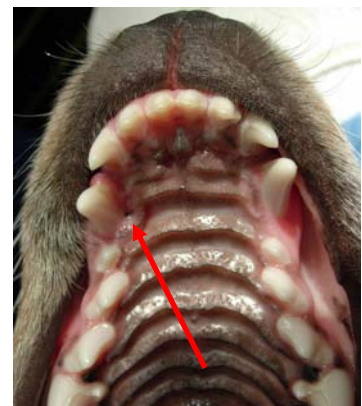
Radiograph of root canal treatment right lower canine tooth

Crown reduction and vital pulp therapy

Crown reduction and vital pulp therapy is indicated when a tooth (usually the lower canine tooth) is located in an incorrect position within the mouth and is causing trauma to the tissues of the palate (roof of the mouth). The affected tooth is shortened and vital pulp therapy procedure is completed.



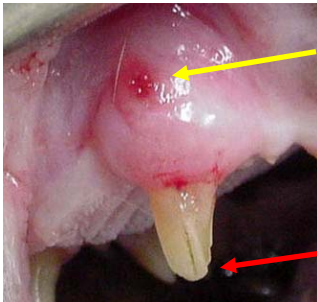
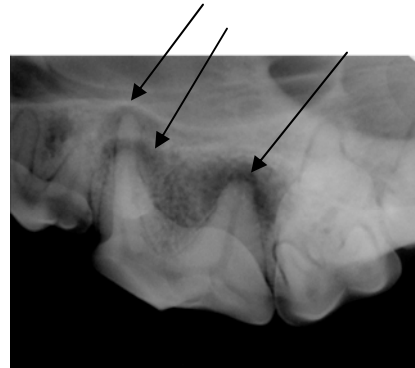
This canine patient has a class II malocclusion (the lower jaw is too short). The right lower canine tooth is impacting the tissue of the roof of the mouth (palate) on the inside of the right upper canine tooth (red arrow). The affected tooth was shortened and vital pulp therapy completed to alleviate the abnormal contact with the palatal tissues.



Treatment of tooth root abscesses

Depending upon the degree of infection, appropriate treatment for tooth abscesses may be root canal therapy or extraction.

Abscesses are indicated by the dark area around all three roots of the upper left fourth premolar in this dog. This tooth was extracted.



Complicated crown fracture (pulp is exposed) of the left upper canine tooth in a cat (red arrow) with resulting abscess through the gingival tissues (yellow arrow)