

Client Education Series: Tooth Resorption



Animal Dental Clinic of
Pittsburgh

Specialty Dental Care for
Cats & Dogs

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What is tooth resorption?

The cause is currently unknown, but something triggers the cells that line the root of the tooth to become active. These cells are called odontoclasts (odonto = tooth and clast = to break up into pieces or disintegrate), and they eat away tooth tissue. They do not directly hurt the gum or the bone. The gum tissue that is next to the tooth comes up onto the tooth to protect it and cover the hole that is formed. The classic findings for tooth resorption when examining a pet's mouth is seeing red tissue on the tooth for active resorption, possibly seeing a tooth that is missing some of its structure, or a completely absent tooth with overlying gum tissue. It is important to realize that resorption is progressive and once this process starts the tooth will eventually be lost after going thru the stages of disintegration.

This process of resorbing the dental hard tissues is NOT the same as a cavity lesion in a tooth. Cavities are caused by sugar/starch and bacteria that lead to decay.

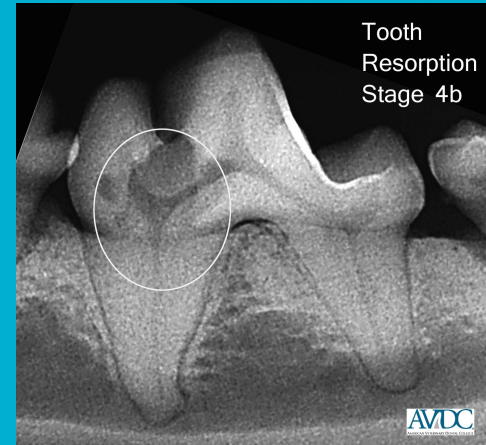
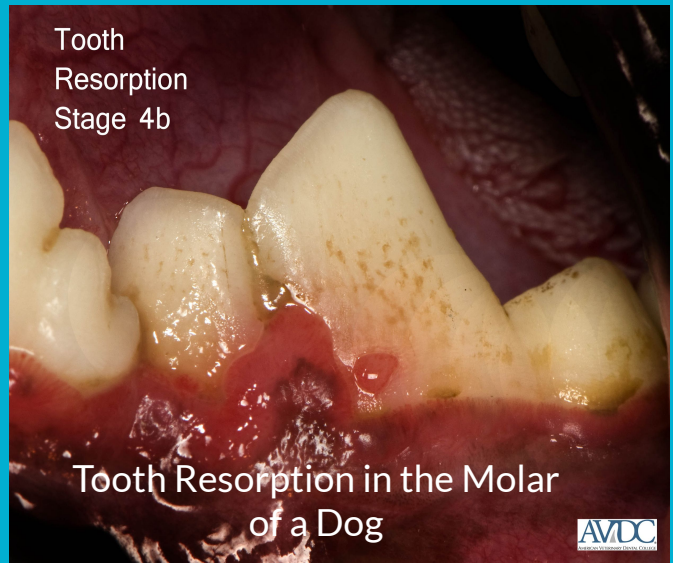
How common is ___ Tooth Resorption?

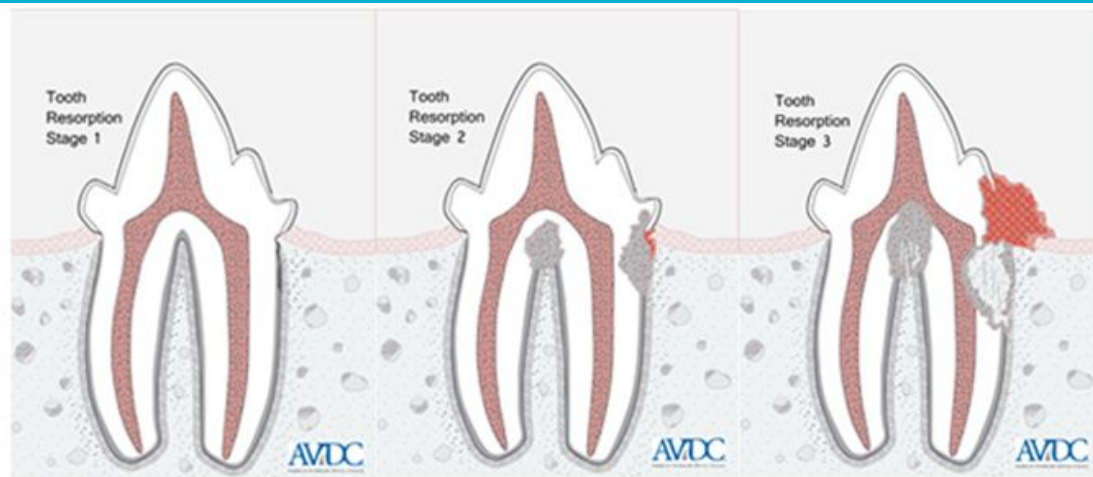
Tooth resorption is the most common dental disease in cats

20-80% of all cats have tooth resorption

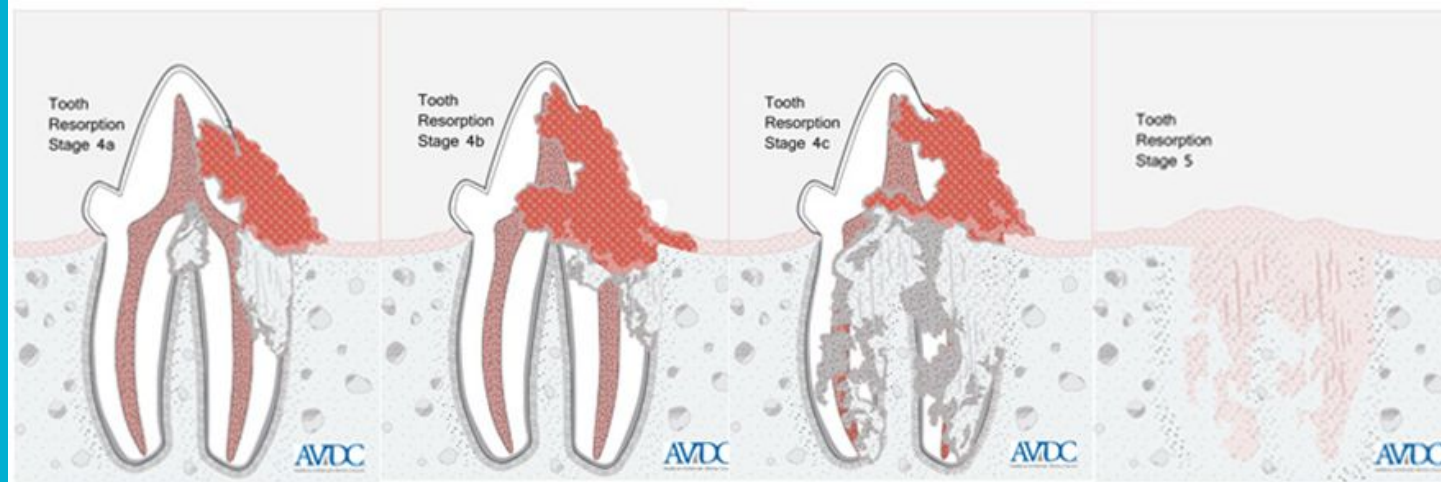
Tooth resorption is much less common in dogs

Tooth resorption is rare in people, so there is little human research





Tooth Resorption - AVDC Classification of Clinical Stages

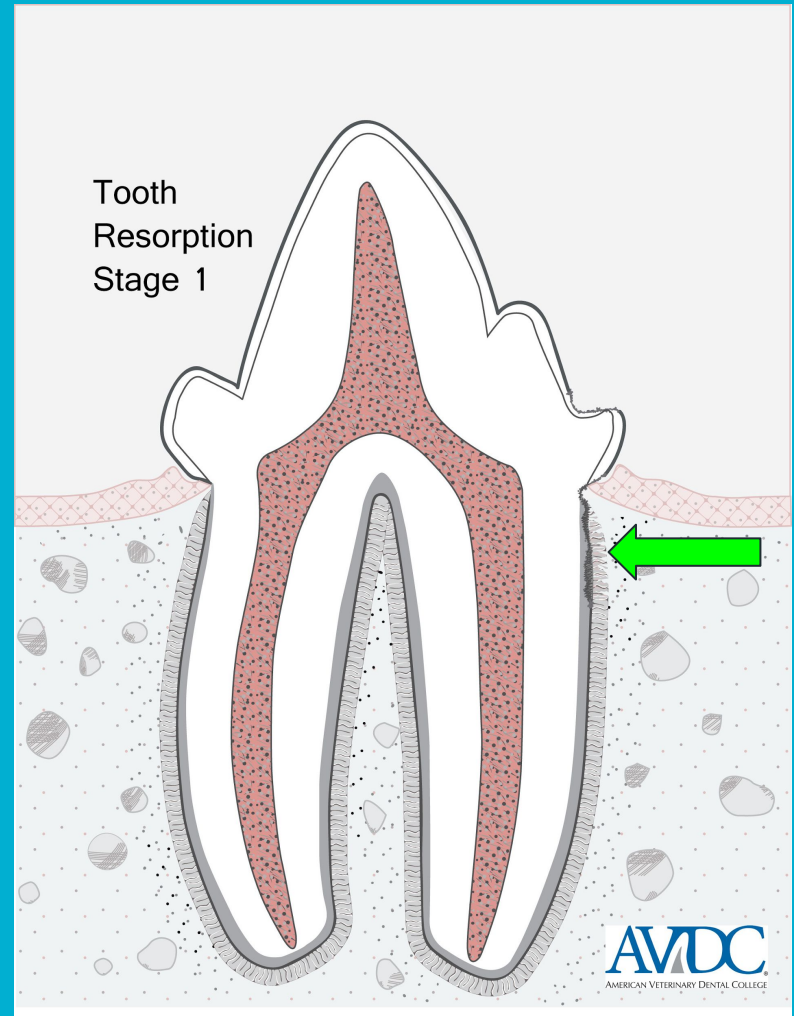


Stage 1 Tooth Resorption

Very mild dental hard tissue loss (only the outermost layer of the tooth affected)

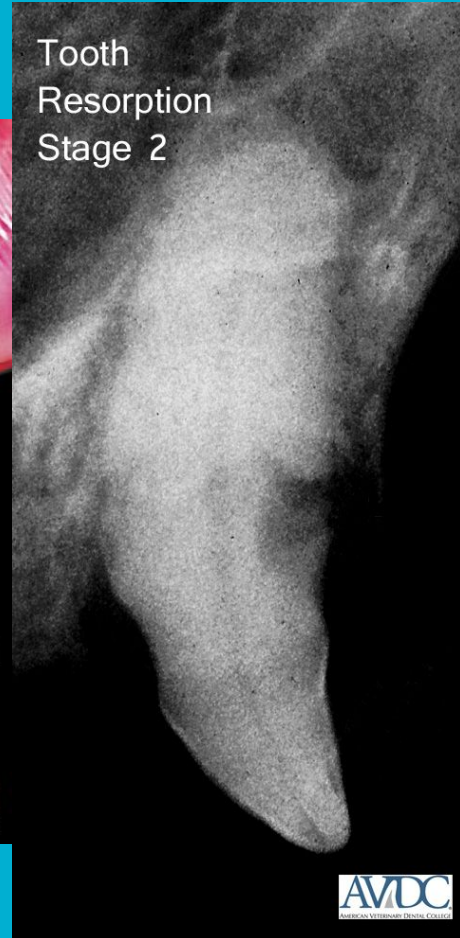
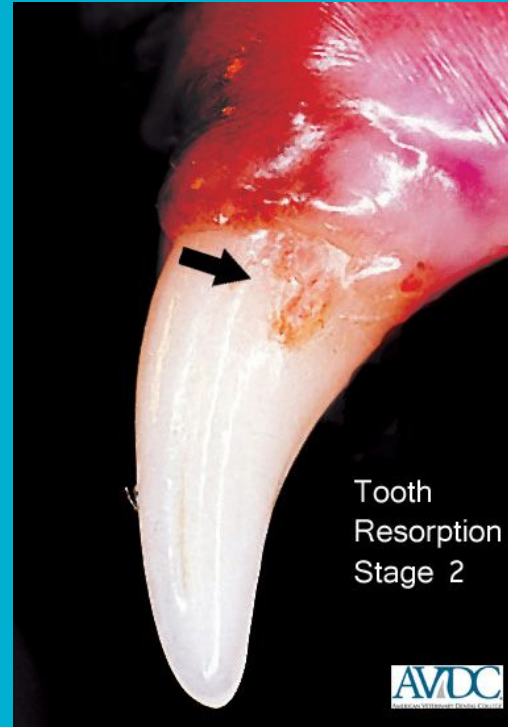
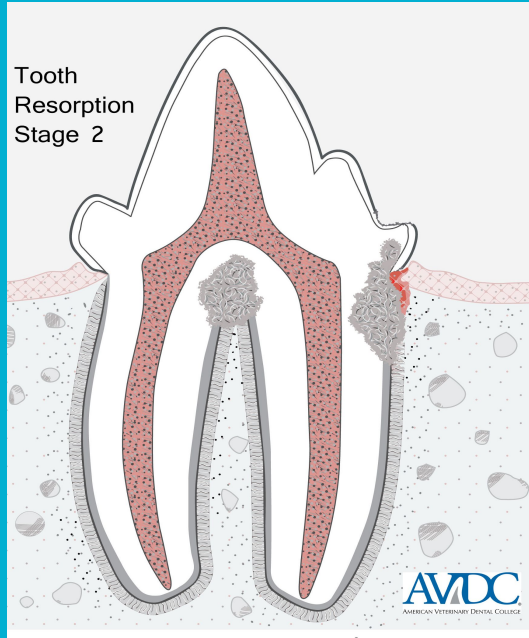
Hard to detect lesions in this stage

Odontoclasts are activated (green arrow)



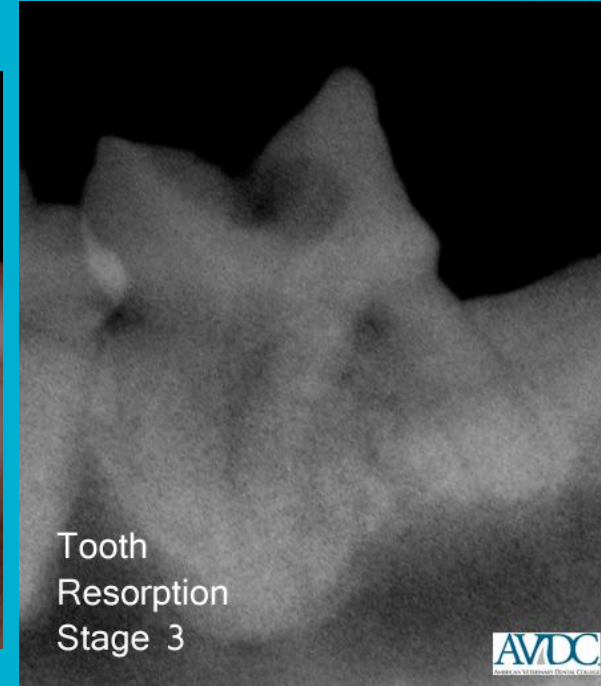
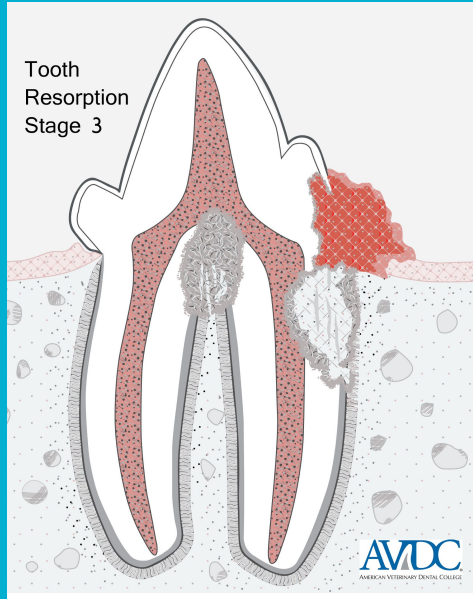
Stage 2 Tooth Resorption

Moderate dental hard tissue loss that does not extend to the pulp (center of the tooth with blood vessels and nerves)



Stage 3 Tooth Resorption

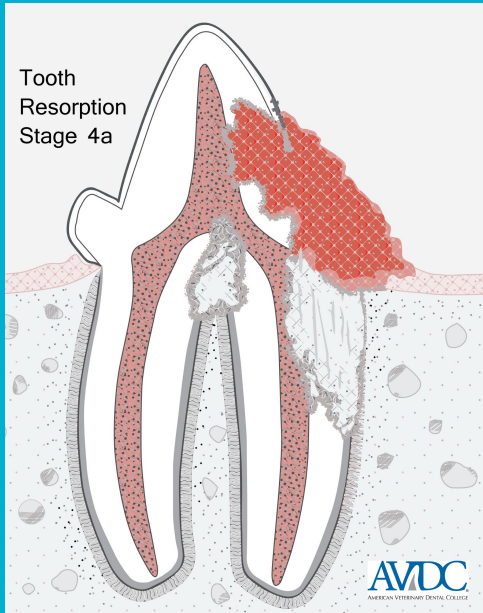
Deep dental hard tissue
loss extending into the
pulp



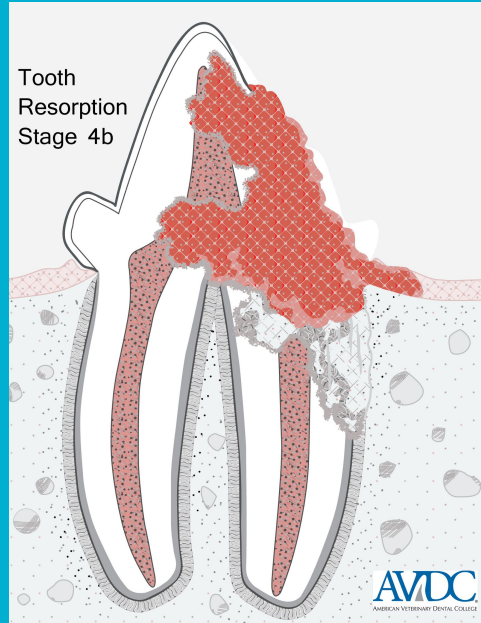
Stage 4 Tooth Resorption

Extensive dental hard tissue destruction with loss of tooth integrity, 3 substages depending on ratio of parts of tooth involved

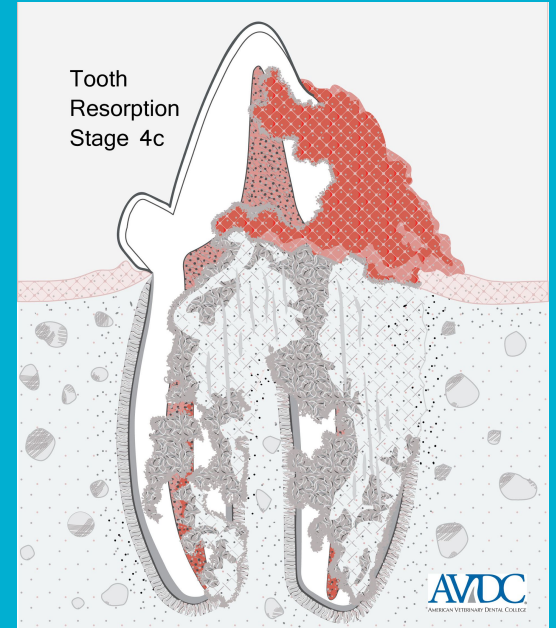
Substage 4a: Crown (above the gumline) and Root (below the gumline) equally affected



Substage 4b: Crown more severely affected than the root



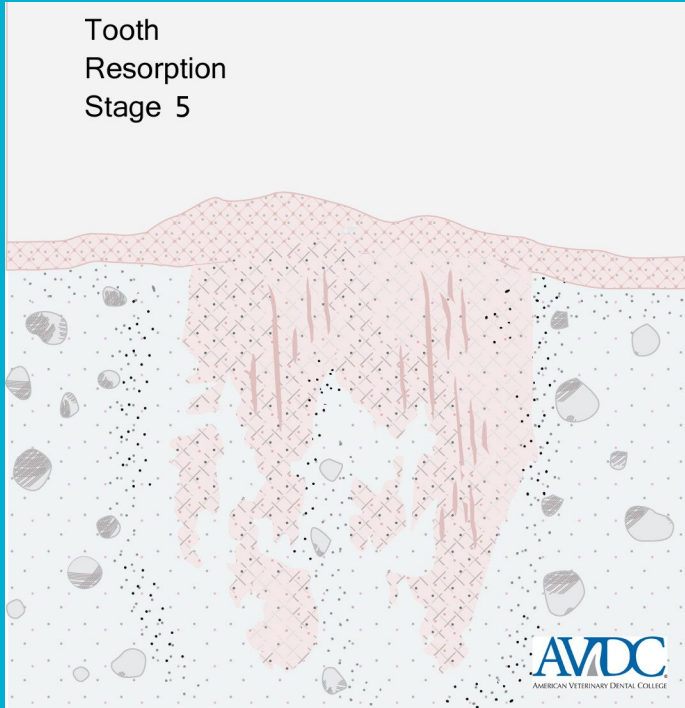
Substage 4c: Root more severely affected than crown



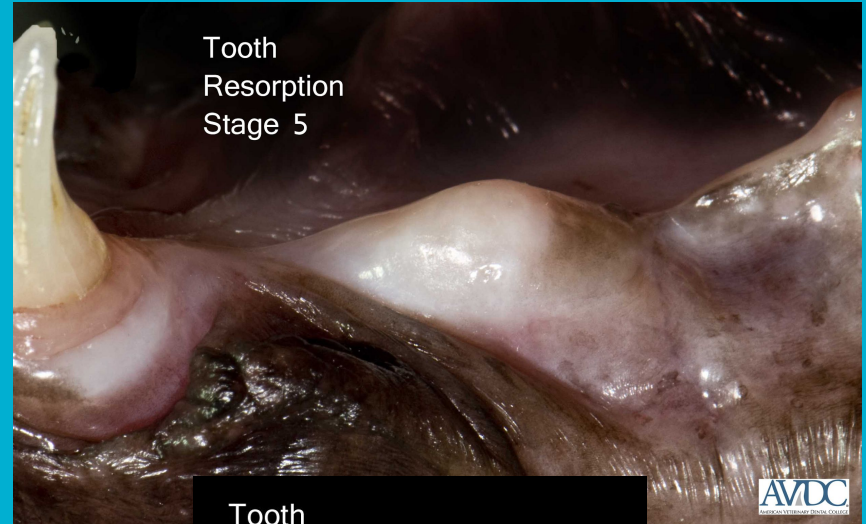
Stage 5 Tooth Resorption

Remnants of dental hard tissue visible only with radiographs, gingival covering is complete

Tooth
Resorption
Stage 5



Tooth
Resorption
Stage 5



Tooth
Resorption
Stage 5



How is tooth resorption treated?

For early stage lesions where the roots are still intact, full extraction is advised.

For later stage lesions where the roots have become one with the bone and are disintegrating, a modified procedure called crown reduction with intentional root retention is performed where as much of the remaining tooth and roots are removed without being overly aggressive and taking out surrounding bone.



Because we do not know the cause of tooth resorption, we also do not know how to prevent it. For now, there just needs to be an awareness that if your pet has had tooth resorption in the past, it is possible that other teeth may become affected but there are currently no predictors on when or if that will happen.

