Endodontic Spotlight

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Introduction
I hope everyone has been enjoying our beautiful summer! As a native Seattleite, I believe there is no nicer place to live than Seattle in the summer. In this issue we are going to highlight a classic article that provides a classification and review of resorption. Resorption can be a very confusing topic due to the fact that there are so many types of resorption and each have different etiologies, treatment plans, and prognoses. Hopefully this article can provide some clarification.

Tronstad L. Root resorption – etiology, terminology and clinical manifestations. Endod Dent Traumatol 1988;4:241-52.
This classic review article summarizes root resorption and provides the basis for the classification system that is probably the most popular one used today.
Transient Inflammatory Resorption, also known as "surface" resorption, is caused by any type of trauma from severe dentofacial trauma to simple wear and tear. It is only noted histologically and not visible on radiographs or clinically significant. Thus no treatment is indicated.
Pressure Resorption results from pressure on a tooth. This can be caused by a number of things including erupting teeth, tumors or pathology, and orthodontics. It is most commonly due to erupting maxillary canines and mandibular molars. The resorption stops when the stimulus is removed.
Progressive Internal Inflammatory Resorption, or simply "internal" resorption, is caused by the chronic inflammation of the pulp. It requires a vital pulp to progress and will stop if the pulp becomes necrotic or is removed. Thus root canal therapy is indicated any time internal resorption is identified as either the pulp is irreversible inflamed and actively resorbing the tooth or has already become necrotic. By taking multiple angled radiographs, internal resorption can be identified as the lesion will stay centered in the canal and the canal cannot be seen through the lesion.
Progressive External Inflammatory Resorption, or simply "external" resorption, occurs via inflammation of the PDL. It is most commonly idiopathic but can also often be seen following trauma or due to apical periodontitis. In contrast to internal resorption, angled radiographs will show that the lesion moves off of the center of the canal and that the sides of the canal can be seen through the lesion. Treatment depends on the etiology and extent of the lesion and may involve both endodontic and periodontic procedures.
Extracanal Invasive Resorption, also known as "cervical" or "external-internal" resorption is the most unusual looking and most complicated type of resorption. I like to call it the "What's going on? Resorption?!?" as that is what we often see on our referral slips! Like most other types of resorption, the most common etiologies are idiopathic, orthodontics, trauma, and bleaching. It is best described as an irregular "spider-leg" radiolucency that runs cervically-apically. Sometimes a "pink spot" can be seen in the crown. Although the resorbing cells come from the PDL and the pulp is never involved, endodontic therapy is almost always indicated as

treatment will expose the pulp. The prognosis is uncertain as this type of resorption is likely to reoccur.

Replacement Resorption is a physiological mistake in healing by the body following trauma, when bone replaces tooth structure and eventually leads to ankylosis. These teeth clinically lack mobility and have a metallic percussion sound, and radiographically show a loss of PDL space and have a moth eaten appearance. Because replacement resorption is abnormal healing and not a disease, treatment is unable to stop the process. If the patient is young, decoronation may be considered to preserve an implant site. In adult patients, the tooth will usually be used until fracture.

SUMMARY: Resorption can be classified as transient inflammatory resorption, pressure resorption, progressive internal inflammatory resorption, progressive external inflammatory resorption, extracanal invasive resorption, and replacement resorption.

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