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ENDODONTIC - ORTHODONTIC CONSIDERATIONS

Endodontic/Orthodontic Considerations

- No contraindication to ortho movement of previously endo treated teeth
- Endodontically treated teeth may withstand root resorption during orthodontic movement better than vital teeth – assuming good RCT and good coronal seal
- Teeth with immature apices also seem to better withstand resorption during ortho forces compared to mature teeth
- In teeth with irreversible pulpitis or necrotic pulps which are undergoing ortho tx, root canal therapy should be initiated immediately to prevent periodontal breakdown
 - Some authors suggest continuous Ca(OH)_2 placement with coronal seal until completion of ortho treatment to prevent apical root resorption
 - Others recommend immediate obturation
- Little is known about orthodontic movement of teeth that have undergone apicoectomy – exposed dentin may be a concern

Endo/Ortho

- During apexification procedures with $\text{Ca}(\text{OH})_2$ orthodontic tooth movement may be initiated prior to completion of the calcific bridge formation.
 - Separate study recommends waiting 6 months prior to ortho movement if periapical lesion is present



In MTA apexification it is assumed that ortho tx could begin immediately (assuming no periapical radiolucency) – no studies yet

Endo/Ortho in Trauma

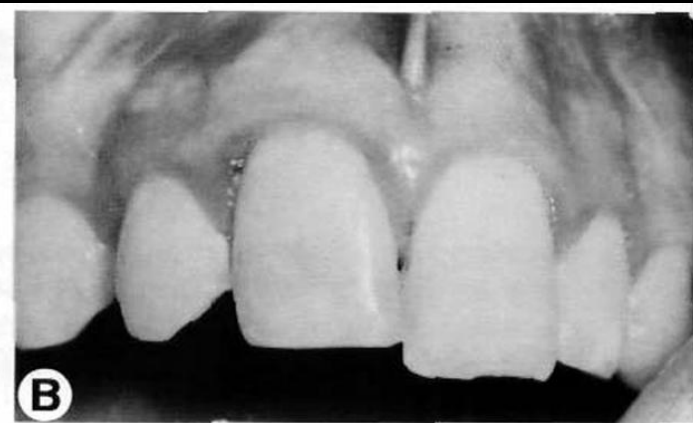
- 12-33% of children will traumatize a tooth by age 12. Male:Female = 2:1
- Factors affecting root resorption in the orthodontic movement of previously traumatized teeth
 - Severity of trauma
 - More severe = higher chance of resorption during ortho
 - Intrusive luxation/avulsion have the highest chance of resorption
 - Diameter of apical foramen
 - Larger diameter = better chance of healing = less chance of resorption
 - Presence or history of resorption
 - Teeth that have shown resorption or are showing resorption may have increased levels of resorption if ortho forces are initiated
- Orthodontic forces should not be placed on severely traumatized teeth for at least one year when possible.
- Teeth with healed fractures (ie horizontal fracture in the middle third) may be moved orthodontically if the tooth is clinically and radiographically asymptomatic for two years post trauma

Endo/Ortho Trauma

- Traumatized permanent teeth in preadolescents which undergo ankylosis have special considerations:
 - Maintain the tooth in the mouth until the beginning of the adolescent growth spurt if possible
 - Good space maintainer, maximized alveolar bone height, best option esthetically
 - Extract the tooth at the beginning of the adolescent growth spurt
 - Prevents severe alveolar bone defect since the majority of facial growth occurs during this period
- In patients with tooth ankylosis during late adolescent period may have very little alveolar defect and normal restorative procedures may be sufficient to align teeth esthetically.



Avulsed tooth with ankylosis
prior to puberty



Avulsed tooth with ankylosis
near end of puberty

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