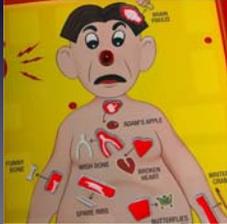




# Apicoectomy

- How is it done?

Very carefully!



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## Apico technique



- Local anesthetic as usual (2% lidocaine 1:100k epi and 1:50k epi)
- Buccal infiltration; local block

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## Apico technique



- Flap is made either in the sulcus (full sulcular) or in the attached gingiva (submarginal)

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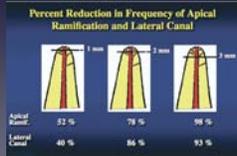
## Apico technique

- Flap is reflected and typically a bony fenestration is visible, depending on the case



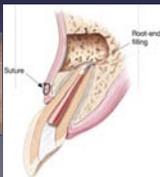
## Apico technique

- Root end is identified and resected, approximately 3mm is removed
- 93% of lateral canals and 98% of apical ramifications are located in the apical 3mm (Kim, Kratchman 2006)
- bacterial biofilm that causes persistent apical pathology



## Apico technique

- A root end filling is placed for an apical seal
- Seals any remaining bacteria within the canal space and promotes proper healing of the PDL and surrounding bone



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## Apico technique

- Flap is reapproximated and sutured with 5-0 or finer sutures
- PO pain is generally mild (sore, mild pain is typical. Occasionally swelling and bruising can occur for about 5 days)
- Bony areas heal in about 6-12 months if successful



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## Apicoectomy

- Success Rate: Depends- Case selection is crucial
- Old style apico = 62%
- Modern techniques = up to 98%
- Anteriors tend to be more successful than posteriors

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## Anybody Squeamish?

- If so, now is your chance to look away....

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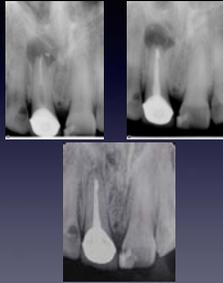
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# Apicoectomy



5 mo follow-up; PA Cyst

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# Apicoectomy



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# Apicoectomy



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# Retreatment

- Why?
  - Bacteria are the #1 reason for retreatments
  - Leaky restorations (coronal leakage)
  - left inside from original treatment (short treatment lengths)
  - introduced during original treatment (leaky rubber dam, contaminated instruments, leaky temp filling)

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## Apico Vs. Retreatment?

- Multifactorial Decision
  - How "good" is the endo?
  - What do I need to drill through or remove to get to the canals?
  - Are there any missed canals? Missed Roots?
  - Can I make this RCT better?
  - Is there a large lesion? Possible Cyst?
  - Is there any anatomy I am concerned about surgically?
  - Can this patient tolerate a surgical procedure?

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## Retx? Apico? Exo?



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Retx, Apico, or Exo?



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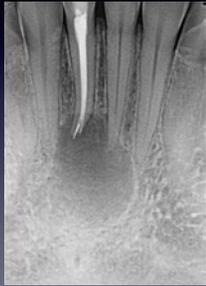
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Retx, Apico, or Exo?



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Retx, Apico, or Exo?



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Retx, Apico, or Exo?



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Retx, Apico, or Exo?



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Retx, Apico, or Exo?



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## Retx, Apico, or Exo?



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## Root Fractures



- My NEMESIS
- Difficult to see, difficult to detect, can cause major problems and infections
- cannot be fixed and almost always end with an extraction

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## Cracked Teeth/Fractures



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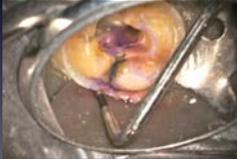
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# Root Fractures

- Generally... a narrow, deep periodontal probing can be detected adjacent to the crack
- Signs and symptoms
  - Parulis
  - biting pain
  - PARL or lateral lucency
  - Localized periodontal defect/probing



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# Root Fractures



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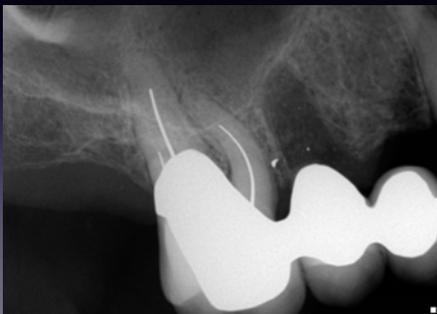
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# Root Fractures



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## Fracture Case



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## Fracture Case



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## Fracture Case



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## Fracture Case



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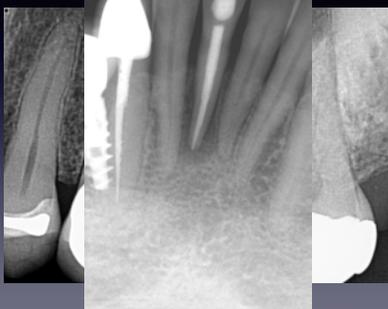
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## Fractured?



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## When to Save, When to Extract



- When to save:
  - Structurally the tooth can be restored within reason
  - At least fair perio
  - Patient expectations

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### When to Save, When to Extract



- When to Extract:
  - Poor/unrestorable tooth structure
  - Poor perio prognosis
  - When treatment seems too extensive and the outcome seems questionable

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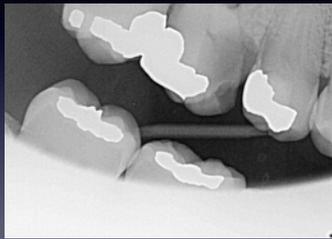
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### When to Save, When to Extract



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### When to Save, When to Extract



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### When to Save, When to Extract



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### When to Save, When to Extract



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### “My tooth is sensitive, do I need a root canal?”



- Maybe
- Things to ask:
  - How severe is the sensitivity? Scale of 1-10
  - Does the pain linger once the stimulus is removed?
  - What is making it sensitive? Hot/cold? Biting?
  - Does your tooth ever hurt all by itself?

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“My tooth is sensitive, do I need a root canal?”

- Red Flags for Pulpitis:
  - Spontaneous Pain (“it woke me up the other night”)
  - Severe pain to hot/cold
  - Lingering pain to hot/cold
- If any of these apply, further testing is needed for pulpal assessment by the dentist



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## CBCT in Endodontics

- Cone Beam Computed Tomography
  - “A 3-D image of your teeth and jaw”
  - Useful for complex anatomy to help see canals, shapes of canals, apical lesions, cracks (sometimes), missed canals, nearby anatomy, location of resorptive lesions

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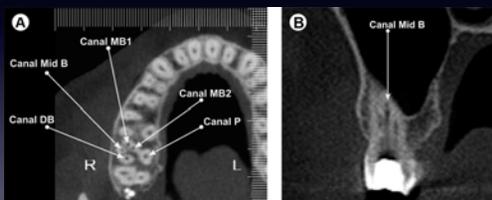
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## CBCT



- Canal location prior to tx

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# CBCT

- Missed Canals
- Lesions
- IAN



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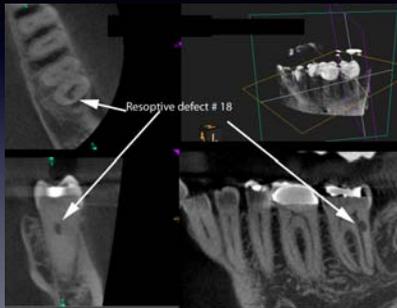
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# CBCT



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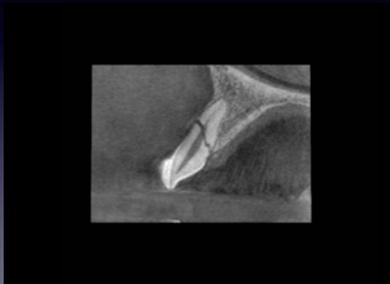
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# CBCT



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## Should Abscessed Teeth be Extracted?

- Much of “Holistic” Dentistry is rooted in the activities of Weston A Price, DDS (1870-1948)
- Believed that sugar caused physical, mental, moral and social decay; as well as tooth decay

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## Should Abscessed Teeth be Extracted?

- “Focal Infection Theory”- based on poorly designed studies; root canal therapy leaked bacteria and toxins into the body, causing arthritis and many diseases
- Led to millions of extractions until the 1930’s when the theory was dispelled

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## Should Abscessed Teeth be Extracted?

- Sometimes
- It is true that we cannot “sterilize” the insides of our teeth
- There is no research linking endodontic therapy to systemic disease
- Decision rests on whether or not the tooth is treatable and restorable

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