Intro to Oral Surgery

Lecture 8: Wisdom Teeth

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OHSU

Objectives:

-Identify indications for removal of wisdom teeth

-Demonstrate management of pericoronitis

-Determine classifications of wisdom teeth

-Evaluate signs of difficulty/increased risk lower wisdom teeth

-Describe flap designs for wisdom teeth

Wisdom Teeth

Ideal extraction ~ 16-18yo

Can erupt up to 25 (or even later)

Increased age, increased difficulty and complications

0-4 wisdom teeth (or more)

Some wisdom teeth never need to be addressed, only monitored

Most begin horizontal, become mesioangular and then vertical with jaw development

Without enough space do not become vertical or do not erupt = bolten discrepancy

Indications for removal

wisdom teeth

Reported Symptoms

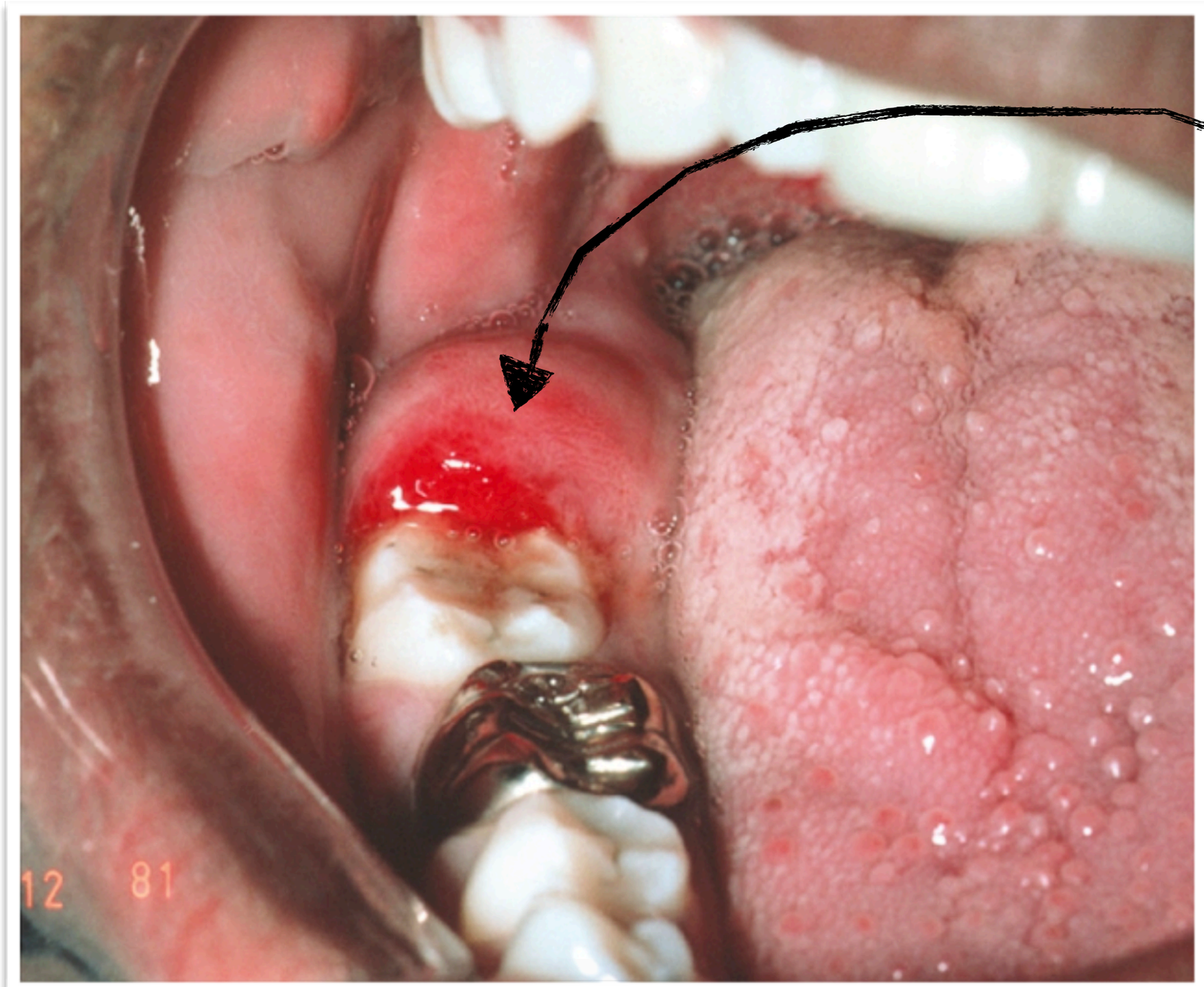
- pain
- pressure
- swelling
- limited opening
- foul odor or taste
- shifting or crowding of teeth

Disease and pathology associated with third molars

- inflammation (pericoronitis)+

Pericoronitis

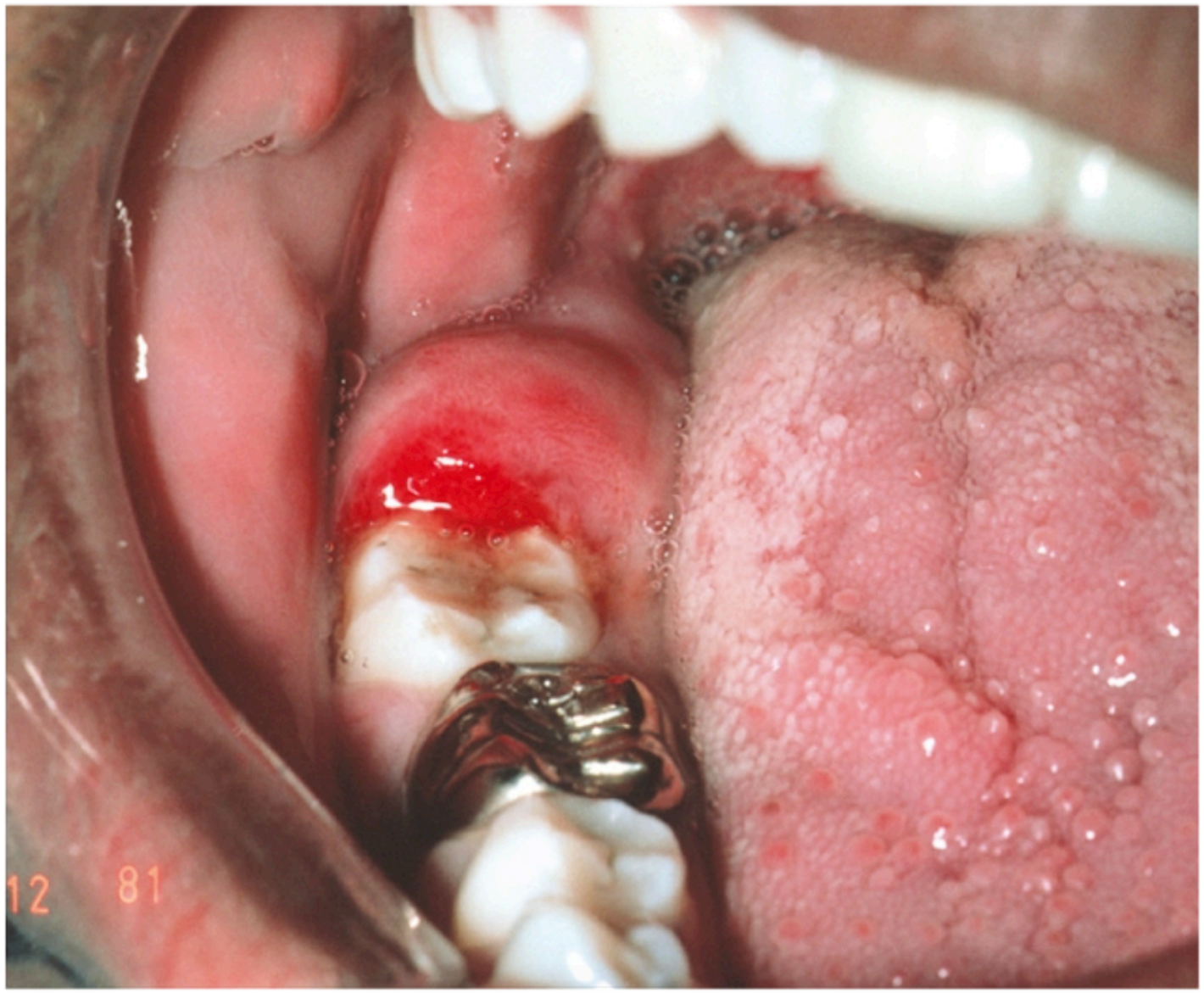
wisdom teeth

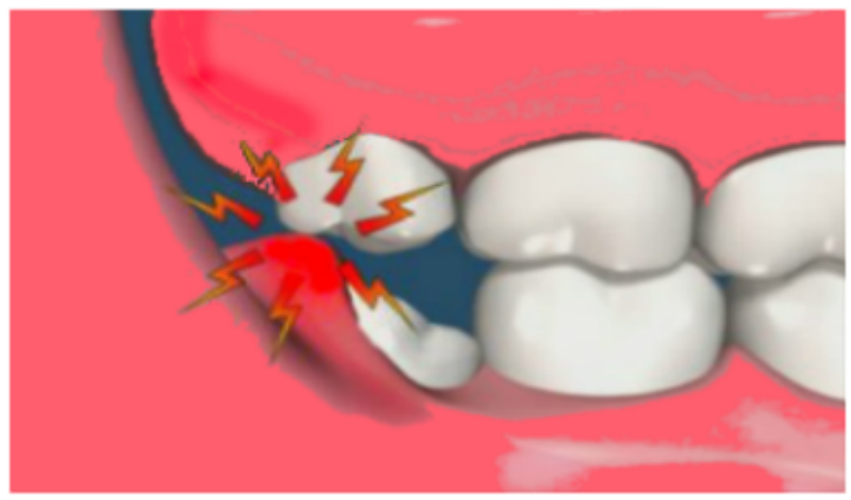


1. Inflammation around crown
2. Cannot keep clean - food or bacteria
3. Maxillary teeth can occlude on soft tissue

Pericoronitis

wisdom teeth





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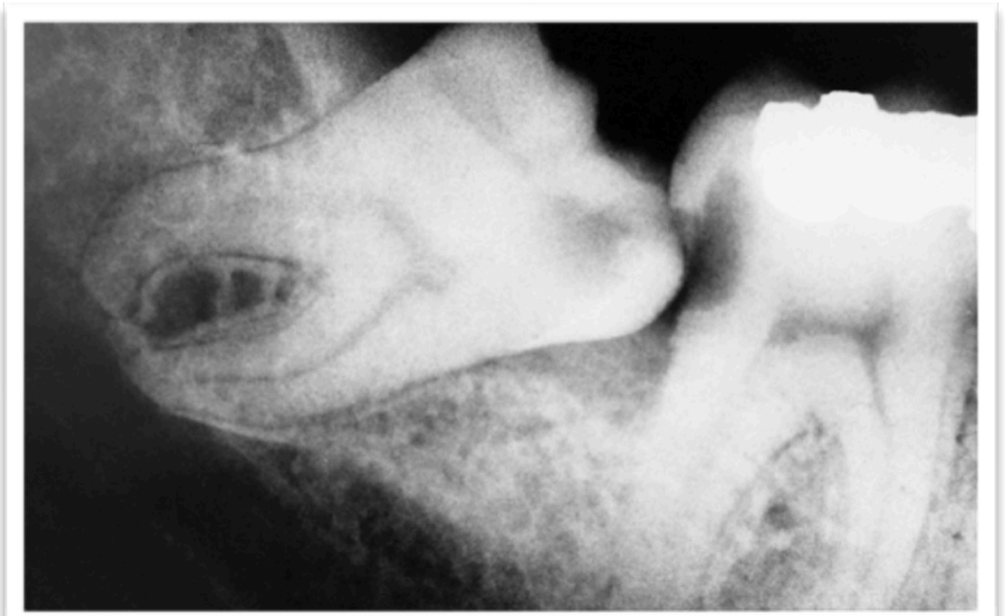
- inflammation (pericoronitis)+
- caries/resorption 3rd molar
- caries/resorption 2nd molar
- marginal bone loss/, perio dx 2nd/ 3rd molar+

Pathology of wisdom tooth or second molar

Angulation of wisdom tooth can compromise second molars

1. Caries
2. Perio dx
3. Resorption



Pathology of wisdom tooth or second molar

Angulation of wisdom tooth can compromise second molars

1. Caries
2. Perio dx
3. Resorption

The crown or follicle of an impacted tooth can cause resorption of the bone around the second molar without pain, pressure, or other symptoms.

Often discovered too late, creating periodonal pocket after removal of third molar.

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wisdom teeth

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- infection (cellulitis/abscess)

- extra/intraoral swelling
- PARL on radiograph

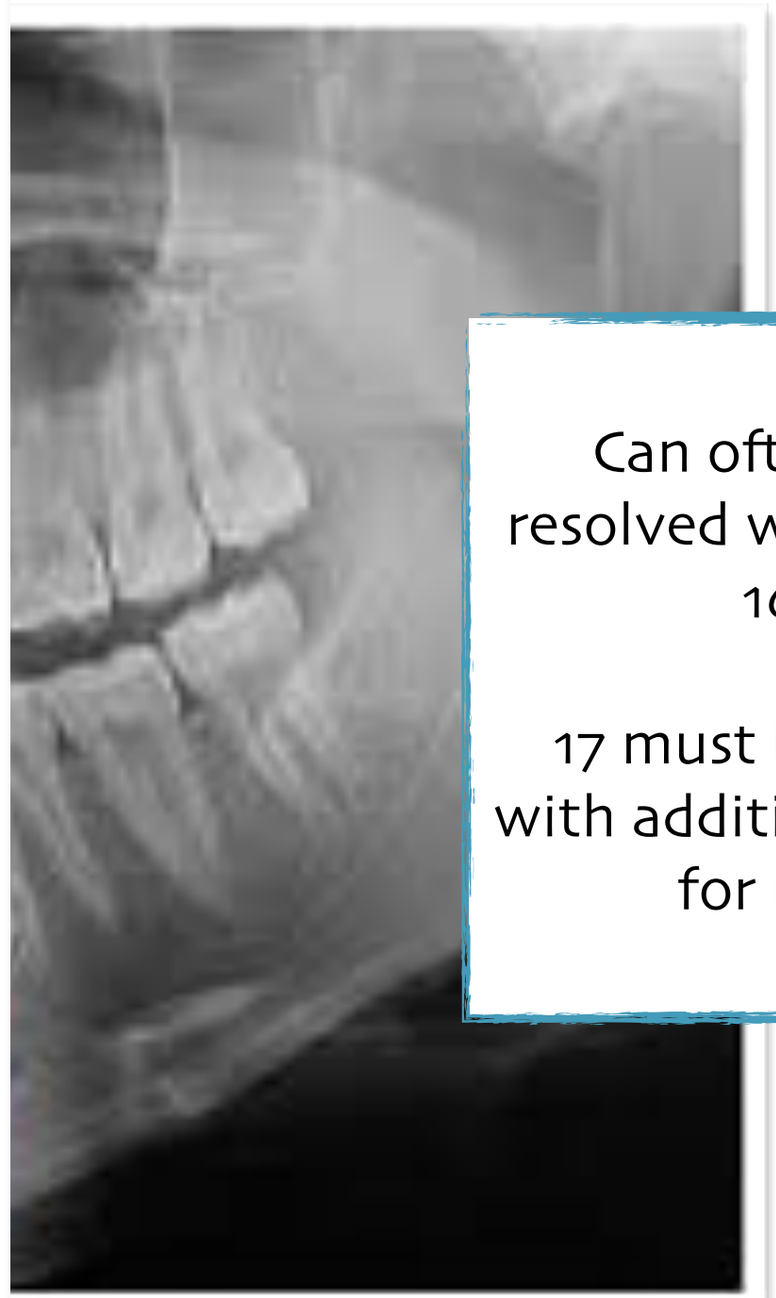
Cyst formation from impacted teeth

wisdom teeth

Cyst from follice can occur.
Cyst formation indicates removal.
Prevention of cyst does not.

Fibroma/ulceration from wisdom teeth occlusion

wisdom teeth



Can often times be resolved with removal of 16 only.

17 must be associated with additional pathology for removal.

Indications for removal

wisdom teeth

Prophylactic removal:

not indicated for extraction

- asymptomatic
- impacted, cannot be probed
- erupting third molar with adequate space to accommodate a functional tooth
- erupted third molar has reached occlusal plane, is functional and hygienic, PDs less than 4mm, all surfaces can be restored
- to avoid cysts/tumors
- to avoid crowding of lower anteriors (at max can cause lingual tilting of 2nd molars)

Indications for removal

wisdom teeth

Findings that may support prophylactic removal of asymptomatic 3rds*

- prevalence of perio disorders and caries of distal of 2nd mandibular molar much higher with presence of 3rd molars
- removal of 3rd molar can significantly improve perio health of 2nd molars
- presence of partially impacted or mesioangular mandibular 3rd molars is significant factor for caries on distal 2nd molar

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*** prophylactic removal of thirds prior to bisphosphonate use or radiation to head and neck is indicated**

Mixed Reviews for Prophylactic Removal

1. All procedures have risks and complications.
2. Be sure to have a good reason for removal.
3. Lower risk in younger patients.
4. ALWAYS CONSIDER HIGH RISK complications.

Contraindications for removal of impacted teeth

1. Teeth crowding
2. Advanced Age
3. Medical Status - immunocompromised or hx radiation
4. Excessive damage to adjacent structures

Unless an **indication** overrules contraindication.

Infection
Clear signs of compromise

Confirm Etiology

wisdom teeth vs **TMD**

may present with similar symptoms
must also exist in combination with pathology

<u>Disease and pathology associated with third molars</u>

- inflammation (pericoronitis)*
- caries/resorption 3rd molar
- caries/resorption 2nd molar
- marginal bone loss/, perio dx 2nd/ 3rd molar*
- infection (cellulitis/abscess)
- development cyst/tumor
- adjacent soft tissue trauma (fibroma, ulceration)

Confirm Etiology

wisdom teeth vs **TMD**

may present with similar symptoms
must also exist in combination with pathology

if pathology is not present, perform TMJ eval

1. interview
2. physical exam
3. psychological eval

most often myofascial pain
anxiety/stress + bruxism + tender muscles of mastication

1. myofascial pain
2. internal derangement
3. degenerative joint dx
4. systemic arthritis
5. neoplasia
6. infection

Classifications of mandibular third molars

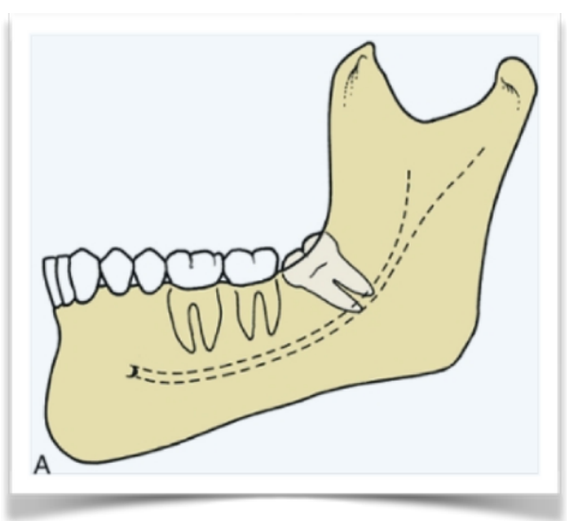
Can indicate level of difficulty

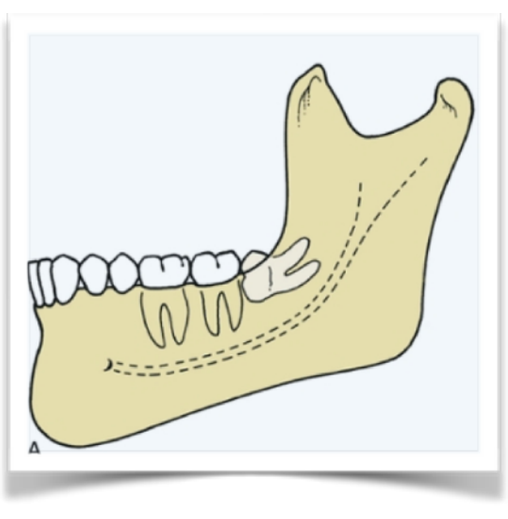
1. Angulation
2. Vertical relationship to anterior ramus
3. Horizontal relationship to occlusal plane

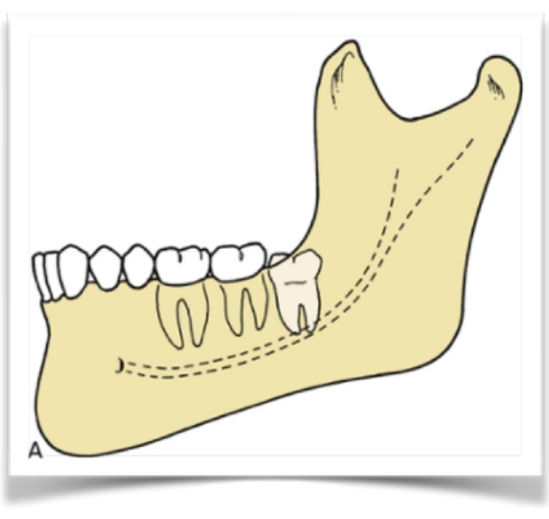
Classifications of mandibular third molars

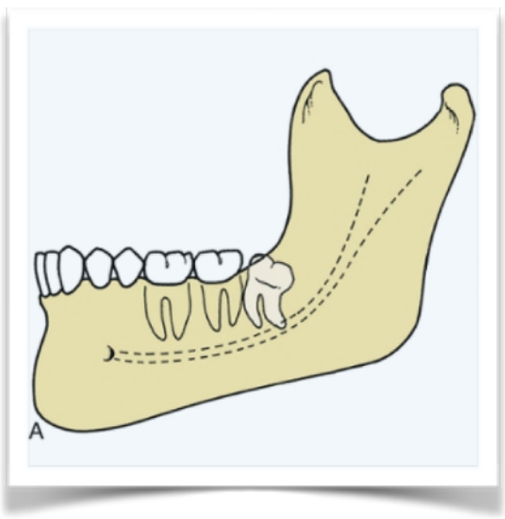
Angulation

1. Mesioangular - 43% - easiest to remove
2. Horizontal - 3% - more challenging
3. Vertical - 38% - more challenging still
4. Distoangular - 6% - hardest to remove





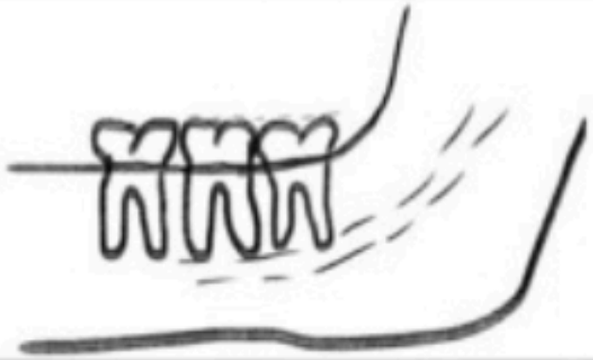




Classifications of mandibular third molars

Pell and Gregory Classification

Relationship to ramus and occlusal plane

Level A	Level B	Level C
		

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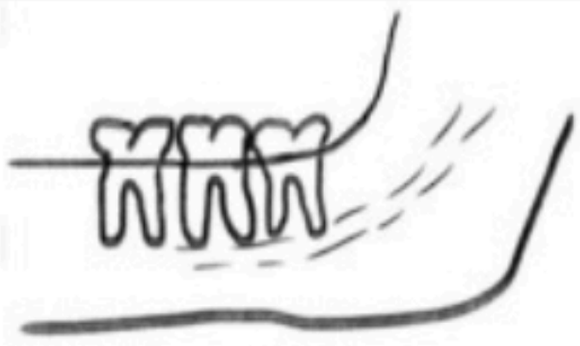
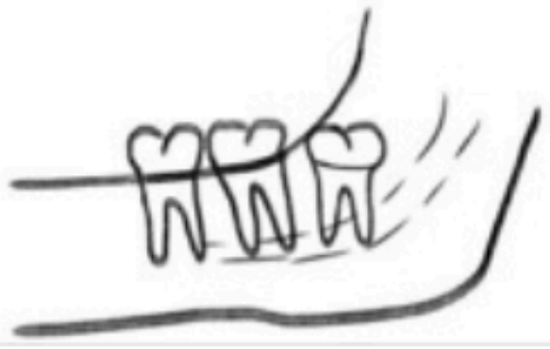
Class I	Class II	Class III
		

Management by observation

Fully impacted, asymptomatic wisdom teeth

Risks outweigh benefits

Biannual eval up through 20-25yo

Periodic panos for cystic formation (every 2-5 years)

Determine if risks outweigh benefits

Factors to consider:

1. Diagnosis
2. Difficulty of removal
3. Risks of procedure
4. Patient age
5. Systemic disease

Risks of procedure should be patient-centered.

1. Complications impact patients differently
2. cost, coverage, anxiety

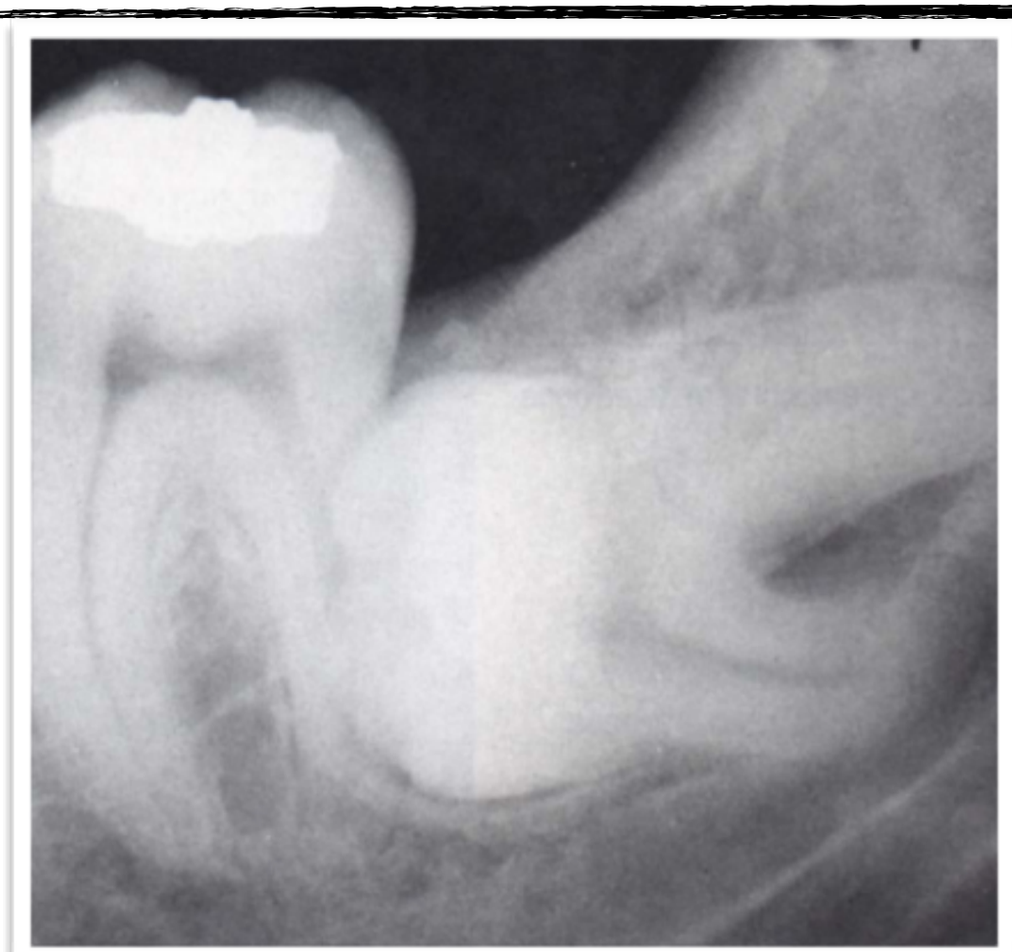
Extraction difficulty

Prior lectures:

1. Long, thin roots
2. dilacerated, divergent roots
3. Reduced pdl

Wisdom tooth specific:

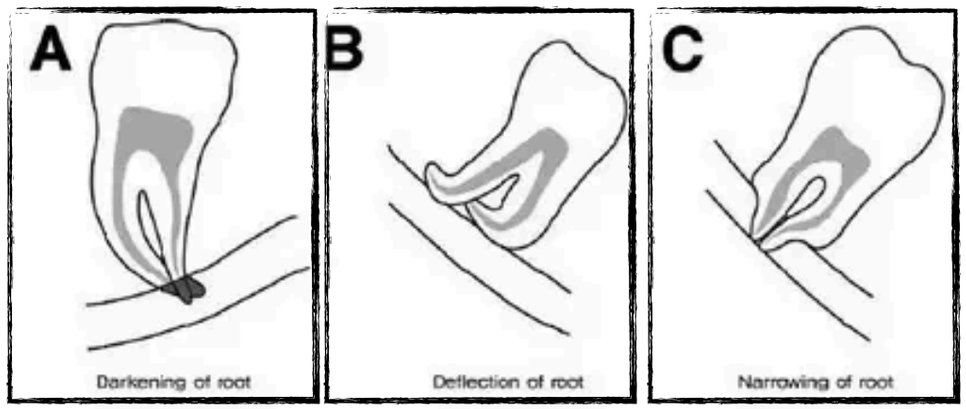
1. Roots close to IAN/sinus/ 2nd molar
2. No root development
3. Distoangular and vertical impactions (hard to visualize)

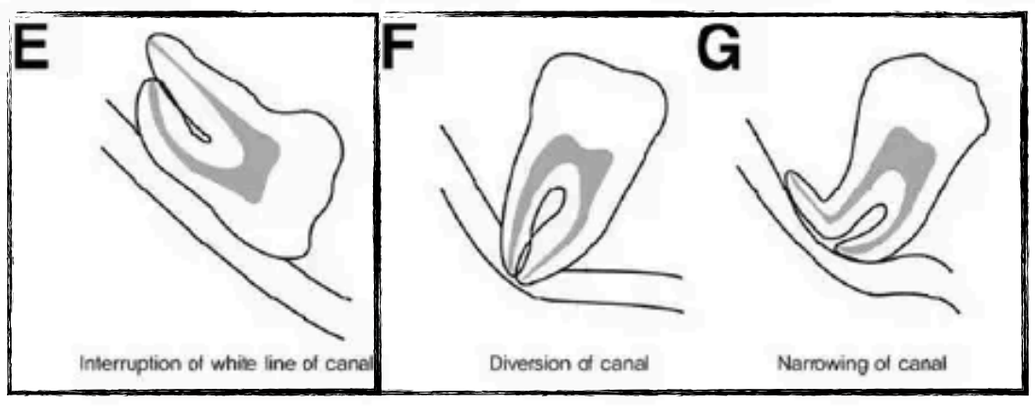


Signs of Increased Proximity to IAN

radiographic considerations

A. darkening of roots as they approach IA (impingement of canal)
B. deflection of roots
C. narrowing of root
D. interruption of white lines of canal (especially in conjunction with narrowing)
E. diversion of canal
F. narrowing of canal





Surgical Procedure

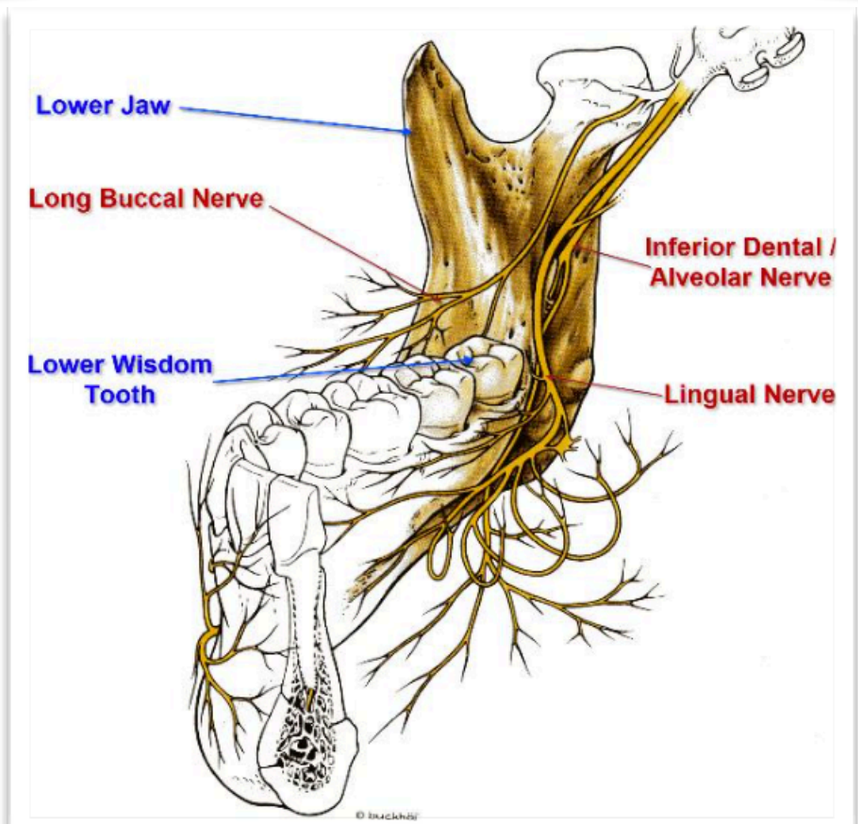
Impacted wisdom tooth

1. Reflect flap
2. Removal overlying bone
3. Section tooth
4. Deliver sectioned tooth with elevator
5. Debride/irrigate/close

Flap design

Impacted wisdom tooth

1. Sulcular incision with disto-buccal release (the time to release)
2. Slight buccal to avoid lingual nerve
3. Full thickness flap reflected to the buccal



Flap design

Impacted wisdom tooth

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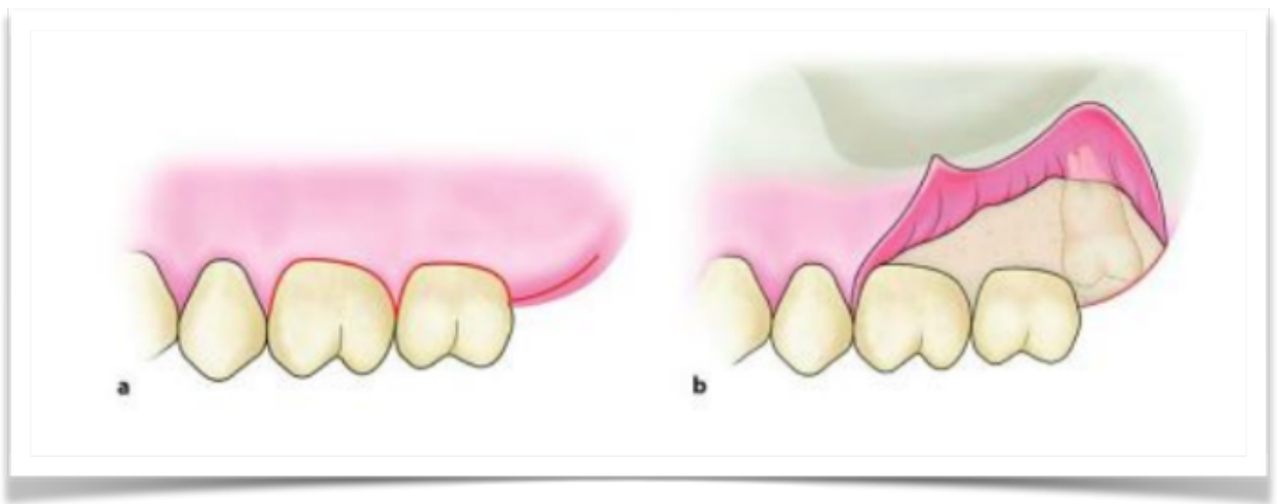
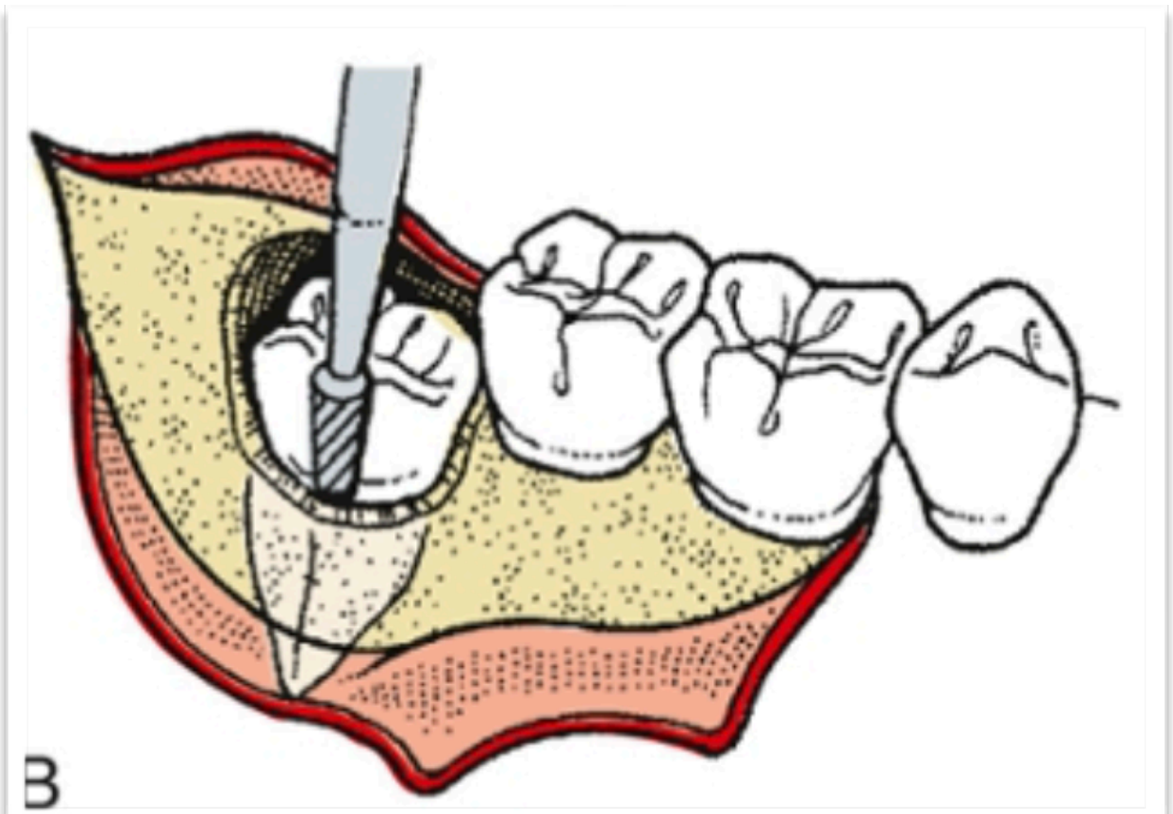
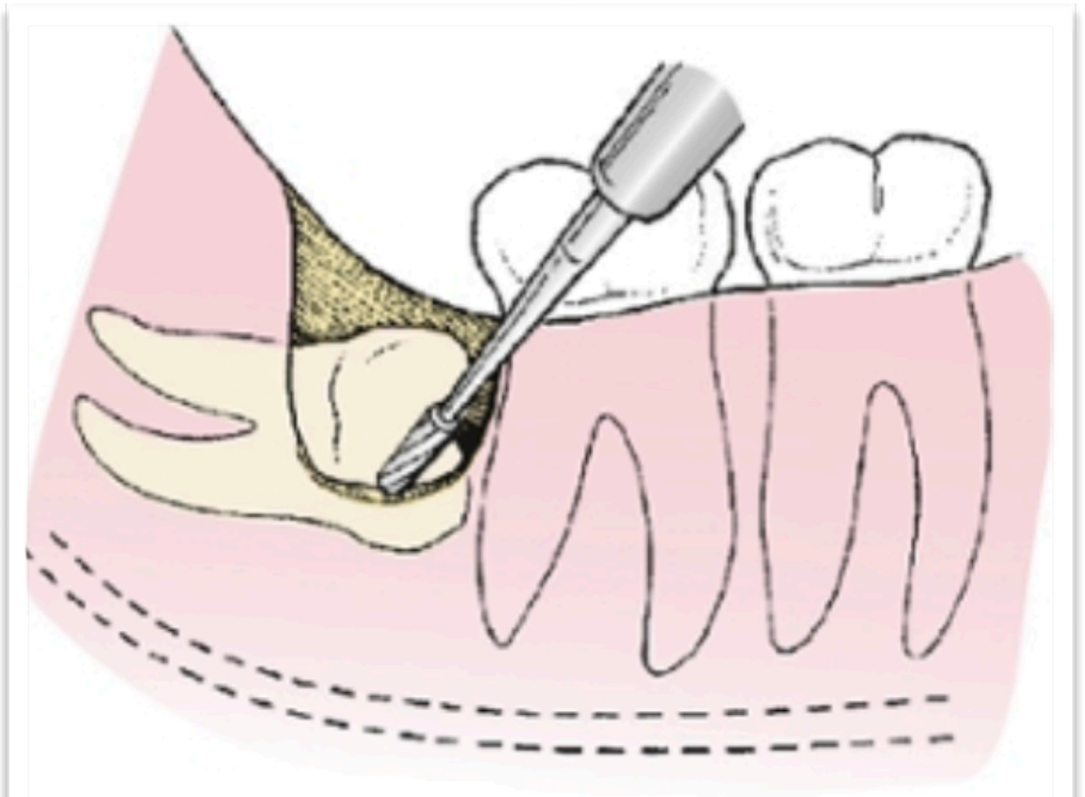
Maxillary Wisdom Tooth



Remove overlying bone

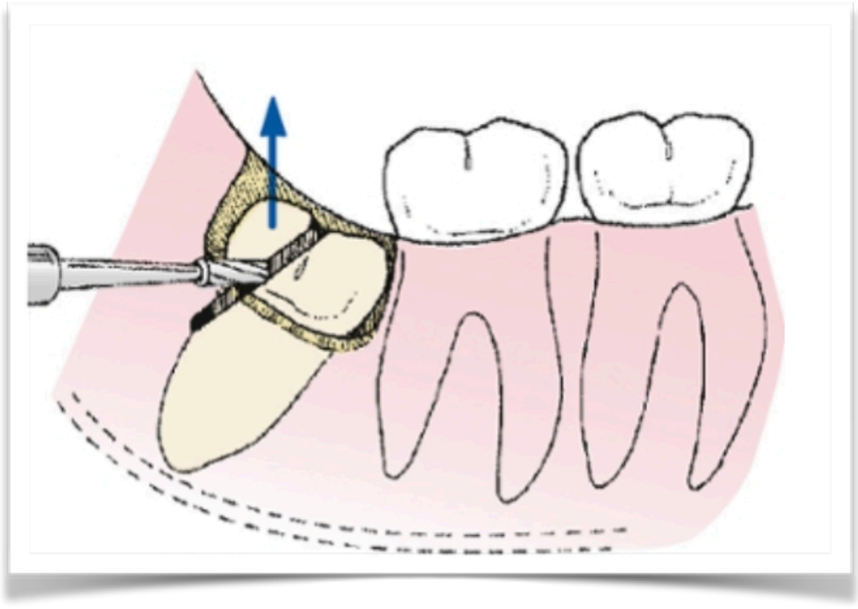
Impacted wisdom tooth

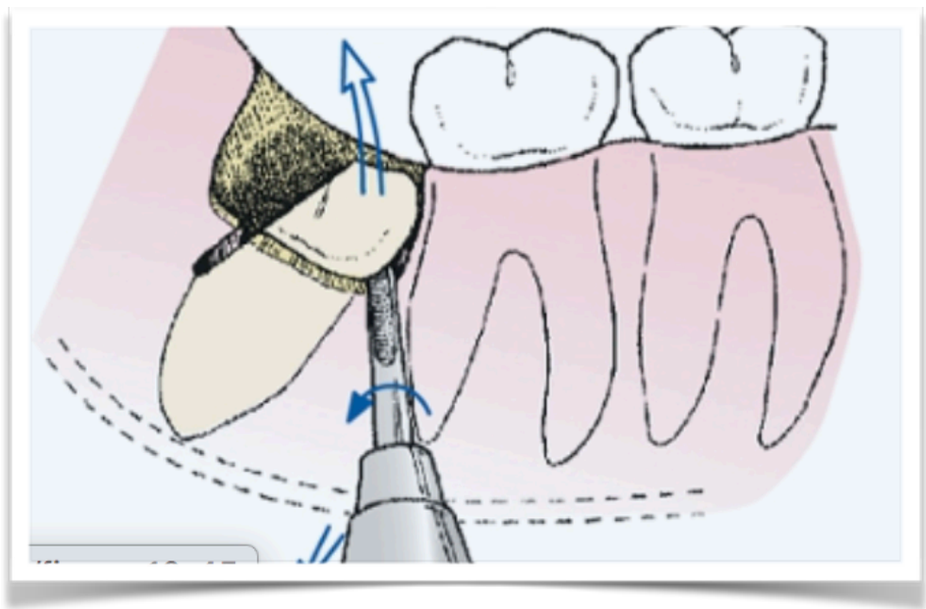




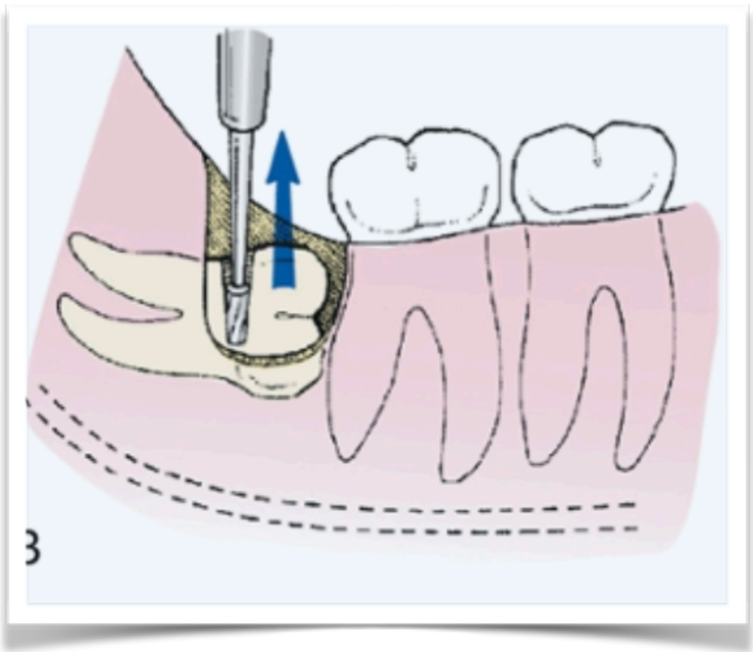
Bone removed strategically to visualize and access full crown.
Bone never removed on the lingual.

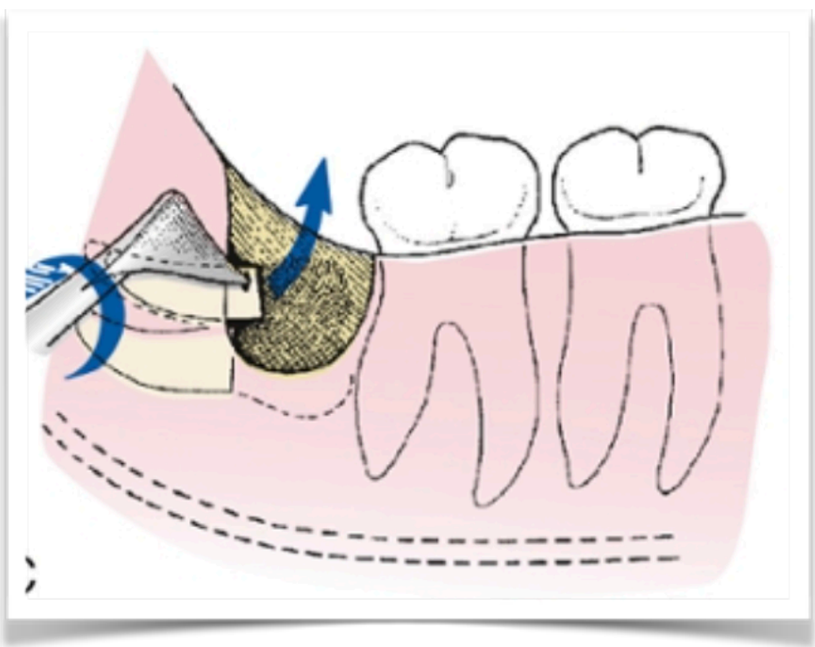
Tooth sectioned and delivered

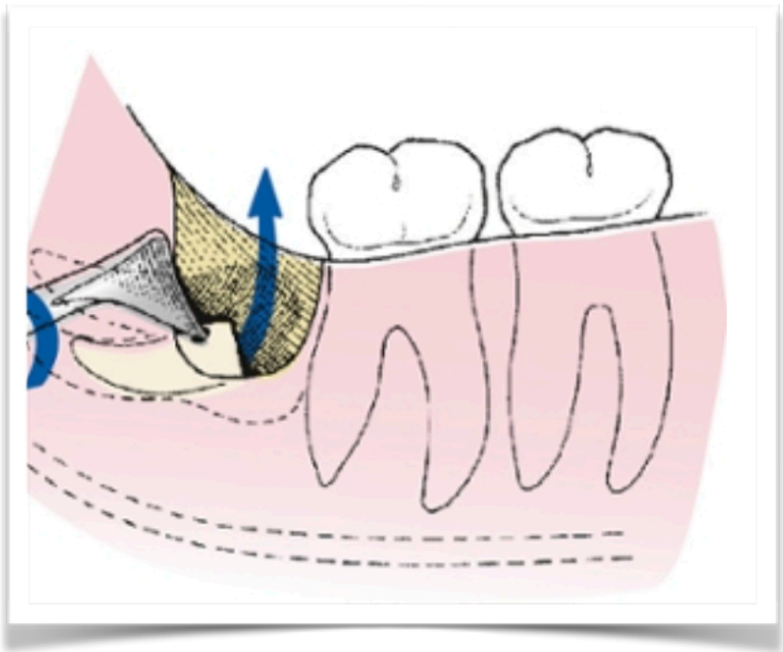




Multiple sectioning techniques based on angulation and access to tooth







Case Practice…

Patient #1:

Patient presents with headaches.
Exam reveals four fully erupted wisdom teeth.
Small occlusal caries present on 17 and 32.
Perio probing 2-3mm on all four wisdom teeth.
Radiograph reveals conical roots of 17 and 32, not in close proximity to inferior alveolar canal.

Dx:
Treatment plan:

Patient #2:

20 year old patient presents asymptomatic.
1, 16, 17, 32 cannot be visualized in the mouth.
Distal probing of 18 at 4mm. Distal probing of 31 at 3mm.
Radiograph reveals mesioangled 17 and 32.
Roots of 17 and 32 dilacerated and causing deflection of the IAN

Dx:
Treatment plan:

Patient #3:

18 year old patient presents with on and off pain radiating to ears
Intraoral exam reveals some soft tissue on the distal of 18 and 31 that appears to occlude with fully erupted 1 and 16.
1 and 16 have distal decay leading to pathologic fracture of distal crown.

Dx:
Treatment plan:

Conclusions

1. "Wisdom teeth" symptoms must be associated with pathology to indicate removal.
2. Not all wisdom teeth need to be removed - specifically fully impacted and fully erupted that can be kept clean.
3. "to avoid cyst formation" or "to avoid crowding on anteriors" are not indications for removal
4. Difficulty of removal and increased risks should be considered when determining if wisdom teeth should be removed.