

Intro to Oral Surgery

Lecture 6: Complex Exodontia

Dr. Caroline Zeller



Objectives:

- Determine when to reflect mucoperiosteal flap
- Determine when to section teeth for extraction
- Demonstrate general flap principles
- Demonstrate soft tissue management
- Describe sectioning teeth designs
- Demonstrate surgical site management



Complex/Surgical/Closed



Complex/Surgical/Closed

What does “going surgical” mean?

Complex/Surgical/Closed

1. Billing/coding
2. Skill level
3. Documentation

Complex/Surgical/Closed

1. Billing/coding:

1. D7210: Surgical Extraction - Surgical removal of **erupted** tooth requiring elevation of mucoperiosteal flap and removal of bone and/or sectioning of tooth
2. Different codes for soft and hard tissue impacted teeth - but still referred to as surgical extractions.

7210: The ethical dilemma

“Going Surgical”

Don't need to do each one

1. Cutting a tooth with a surgical drill
2. Reflecting a flap
3. Reflecting a flap and cutting the tooth
4. Reflecting a flap and removing bone

1. Section tooth
2. Reflect flap
3. Remove bone

Different procedures

Reflect flap

Section tooth

Remove bone

Different reasons

Complex/Surgical/Closed

1. Billing/coding
2. Skill level
3. Documentation

full thickness - remove soft tissue so you can access bone

Raising Mucoperiosteal Flaps



Raising Mucoperiosteal Flaps

When/Why:

1. visualization
2. avoid soft tissue trauma
3. to access hard tissue

How:

Some general rules have produced specific flap designs.
Case by case at times.

NOT:

"because I need to use the drill"

Soft Tissue Management

generally

avoid tension and tearing



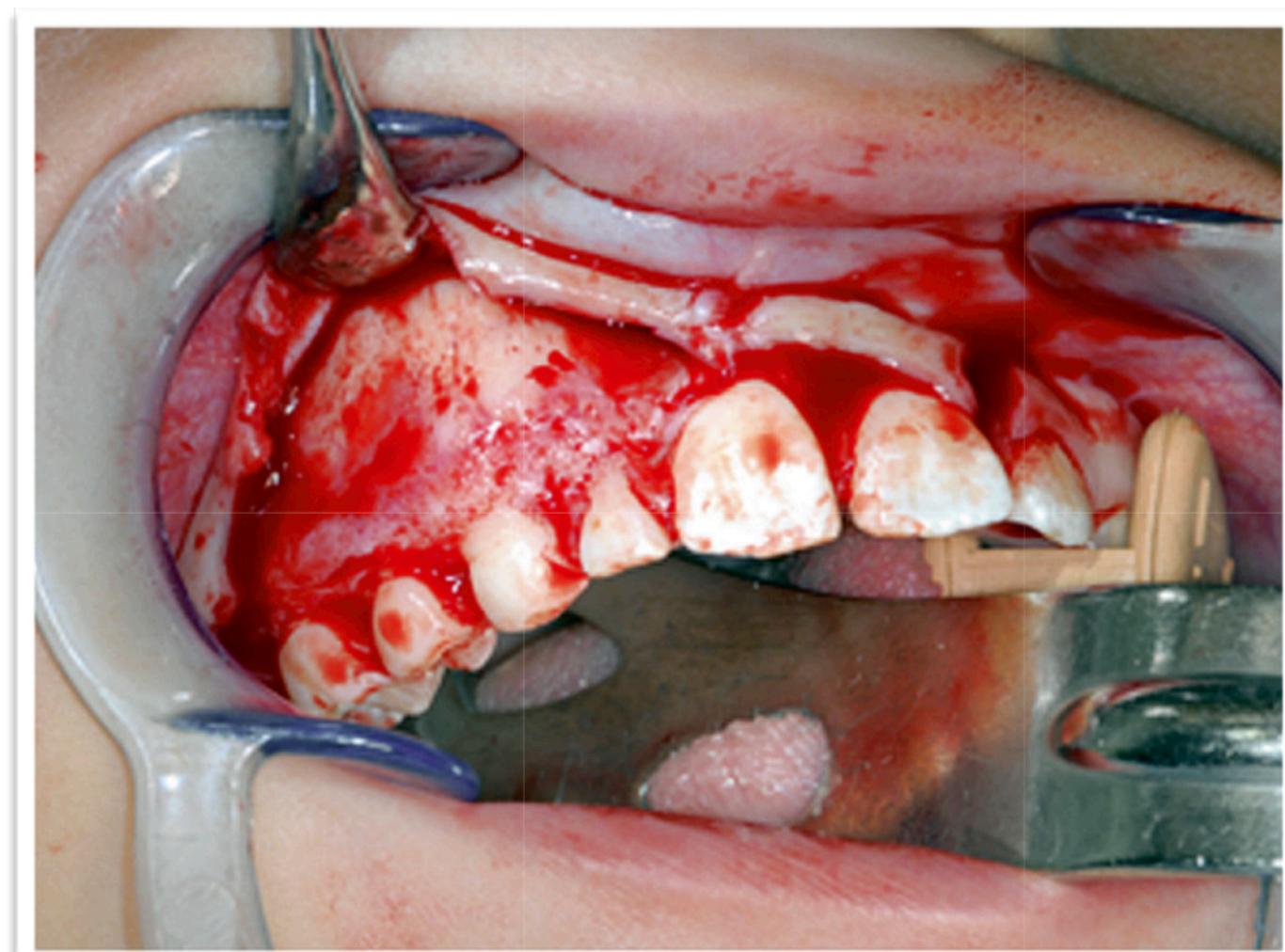
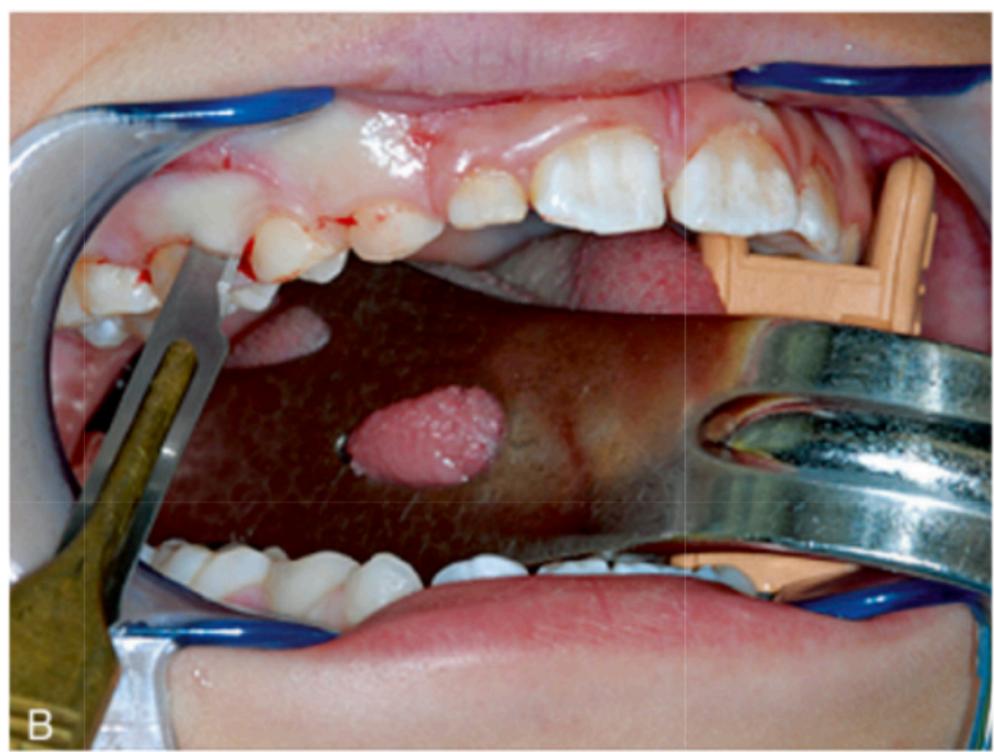
ischemia

- 1. too much pulling
- 2. closed over sharp surface
- 3. incision over traumatized bone

General Flap Principles

General Flap Principles

1. Incise to bone
2. Reflect without tearing
3. Protect with retractors

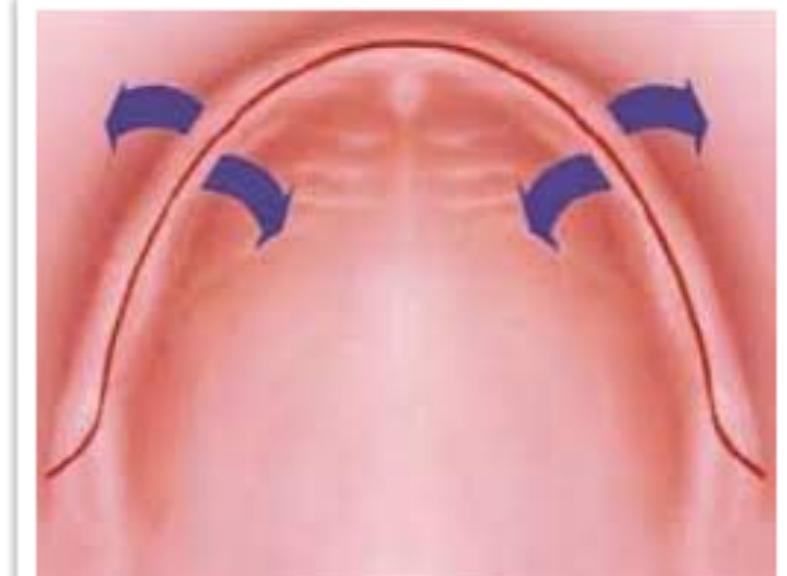


Where do we cut?

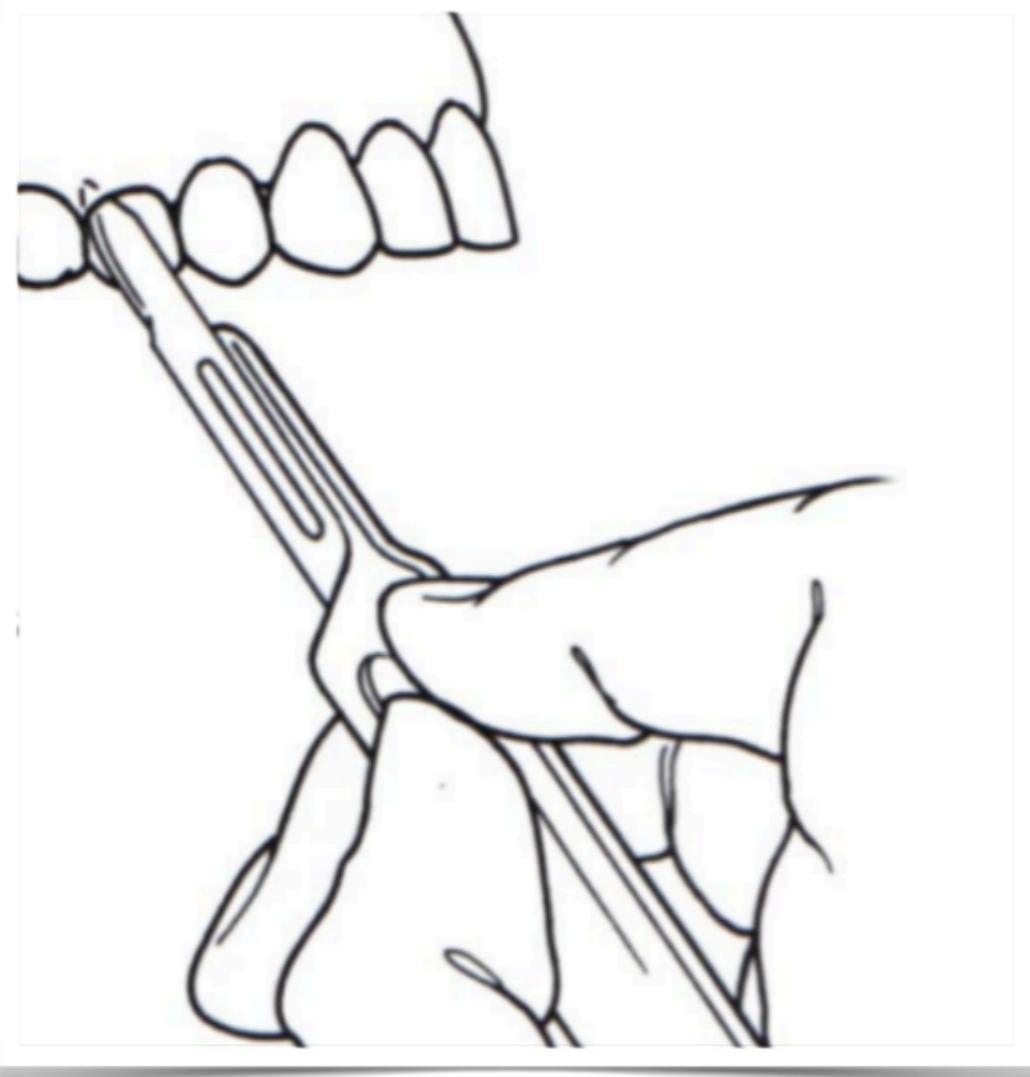


Where do we cut?

Most dentoalveolar, posterior implant, and pre-prosthetic surgery includes **midcrestal**, sulcular incision



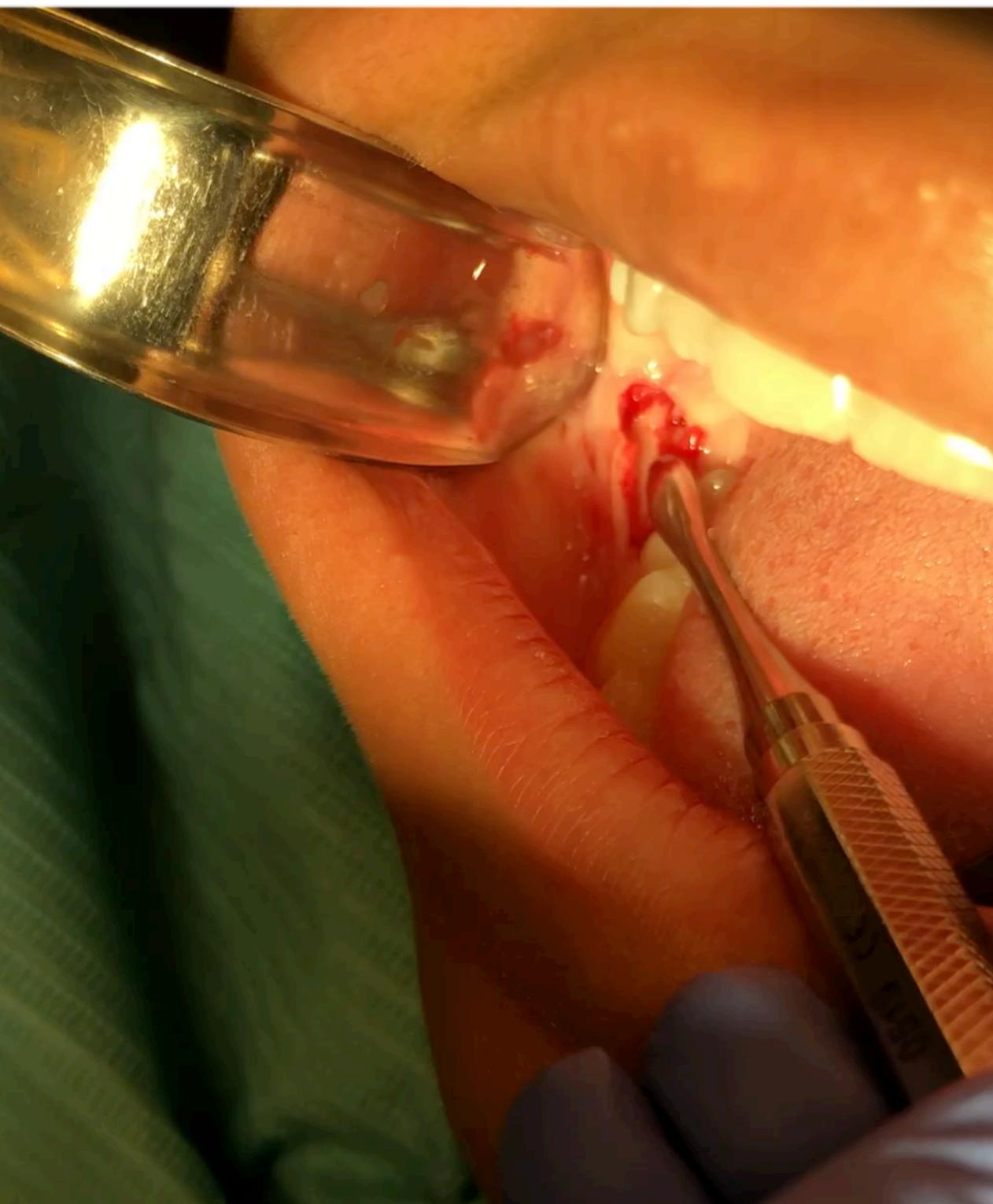
Where do we cut?



Sulcular: scalloping through PDL to bone for full thickness flap



How do we reflect/raise?

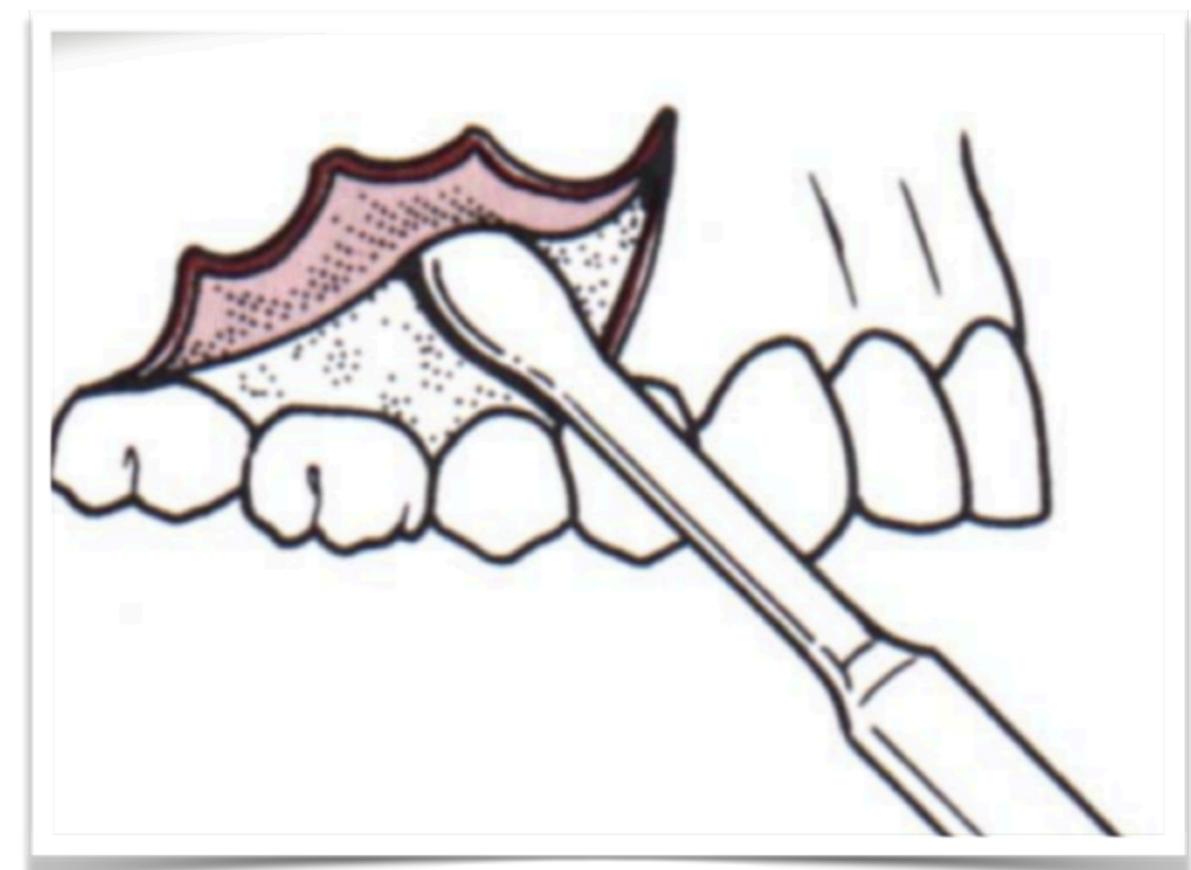


Periosteal



Elevator

Always on bone. Fan it out



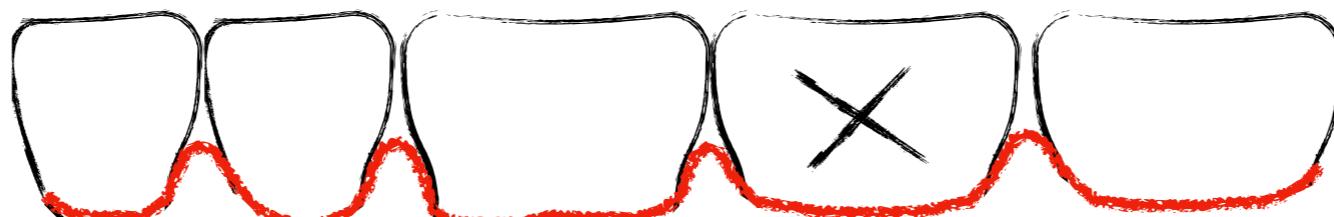
General Flap Principles

1. Adequate size

1. Typically two teeth anterior and posterior
 2. If goal is visualization only, produce minimal flap
 3. If goal is to remove underlying bone, produce sufficient size
2. **Broad base:** apical portion of flap should be wider than the occlusal portion
 1. FLAP IS LIFE
 3. Releasing incision only as needed - used rarely except with wisdom teeth
- releasing incision aren't used as much. only as needed. making envelopes longer now.**

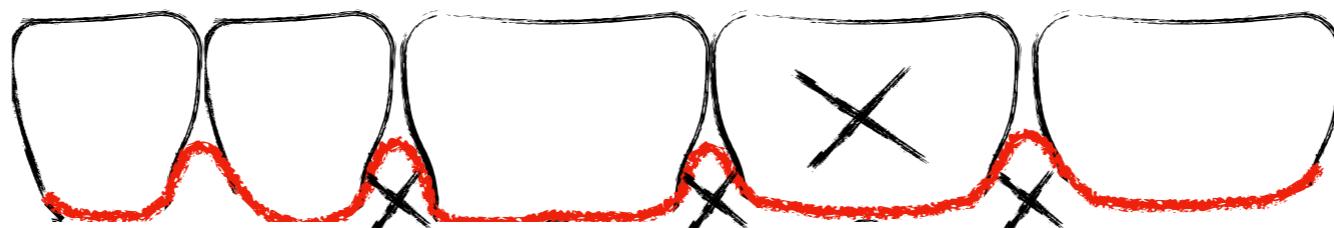
The Envelope Flap

two anterior, one posterior



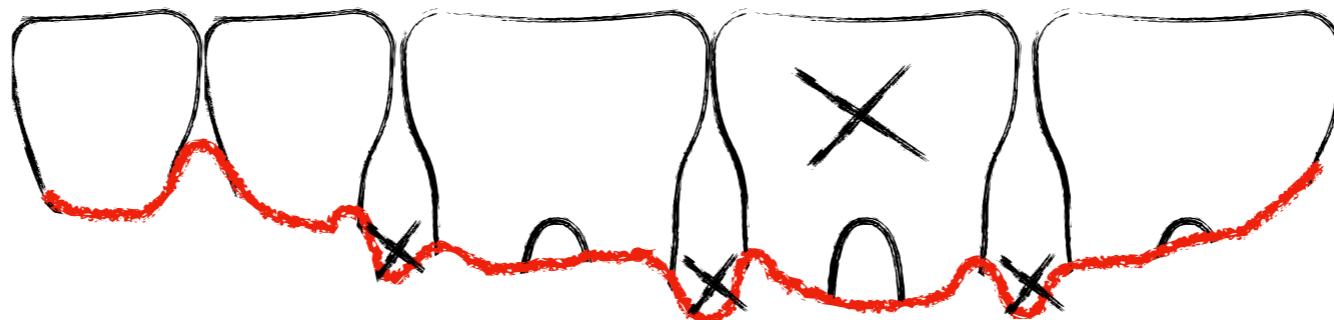
The Envelope Flap

two anterior, one posterior

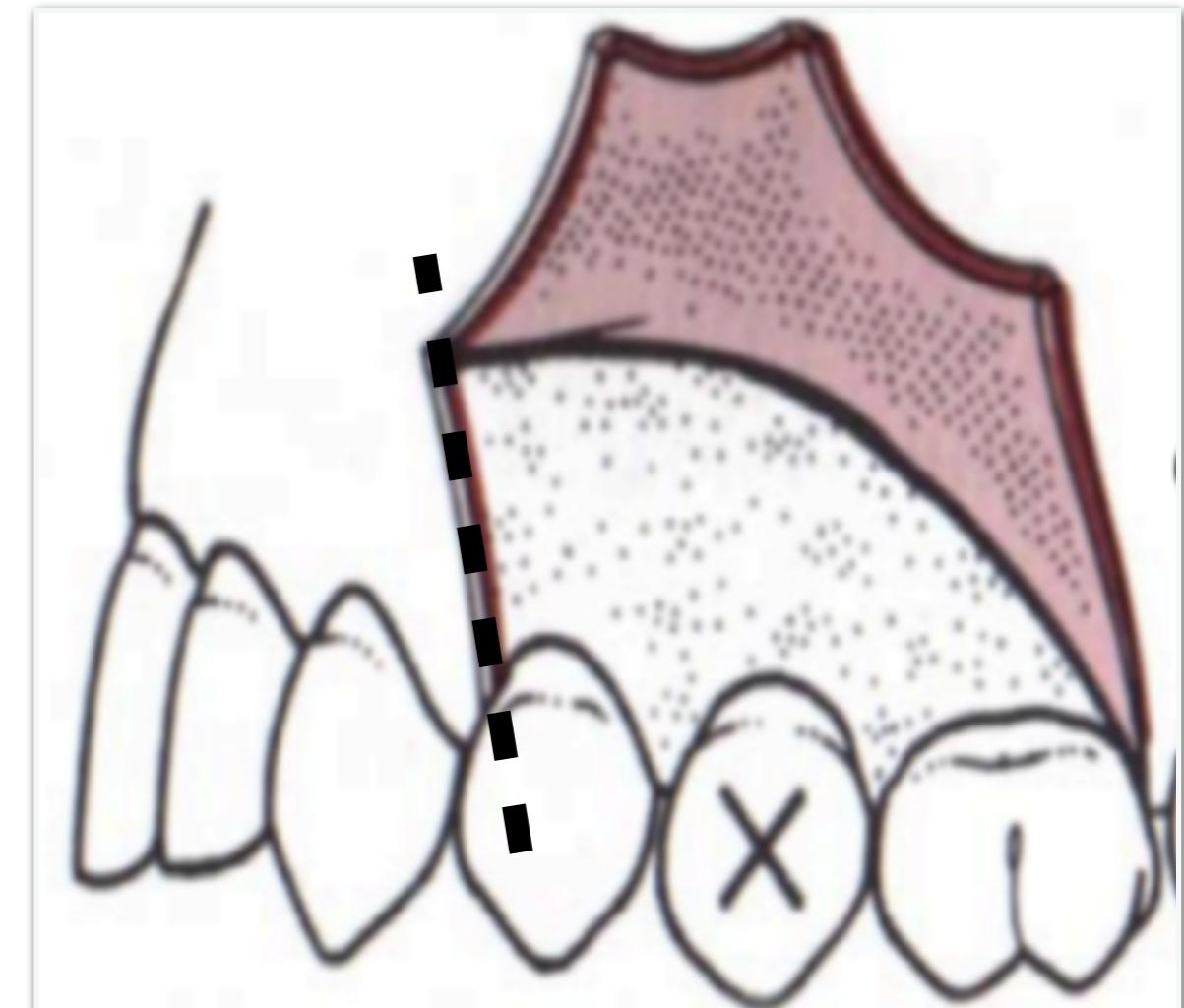
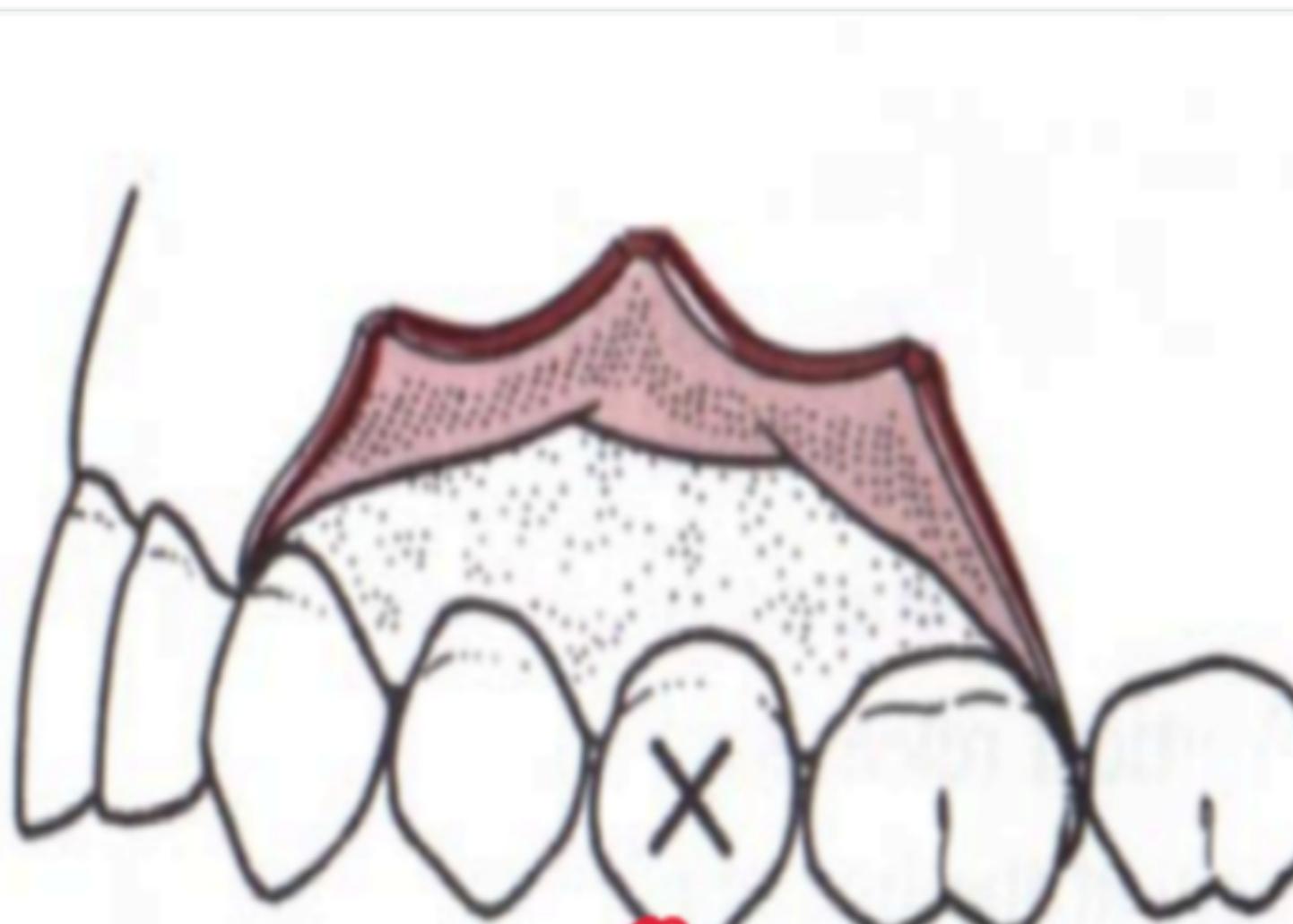


The Envelope Flap

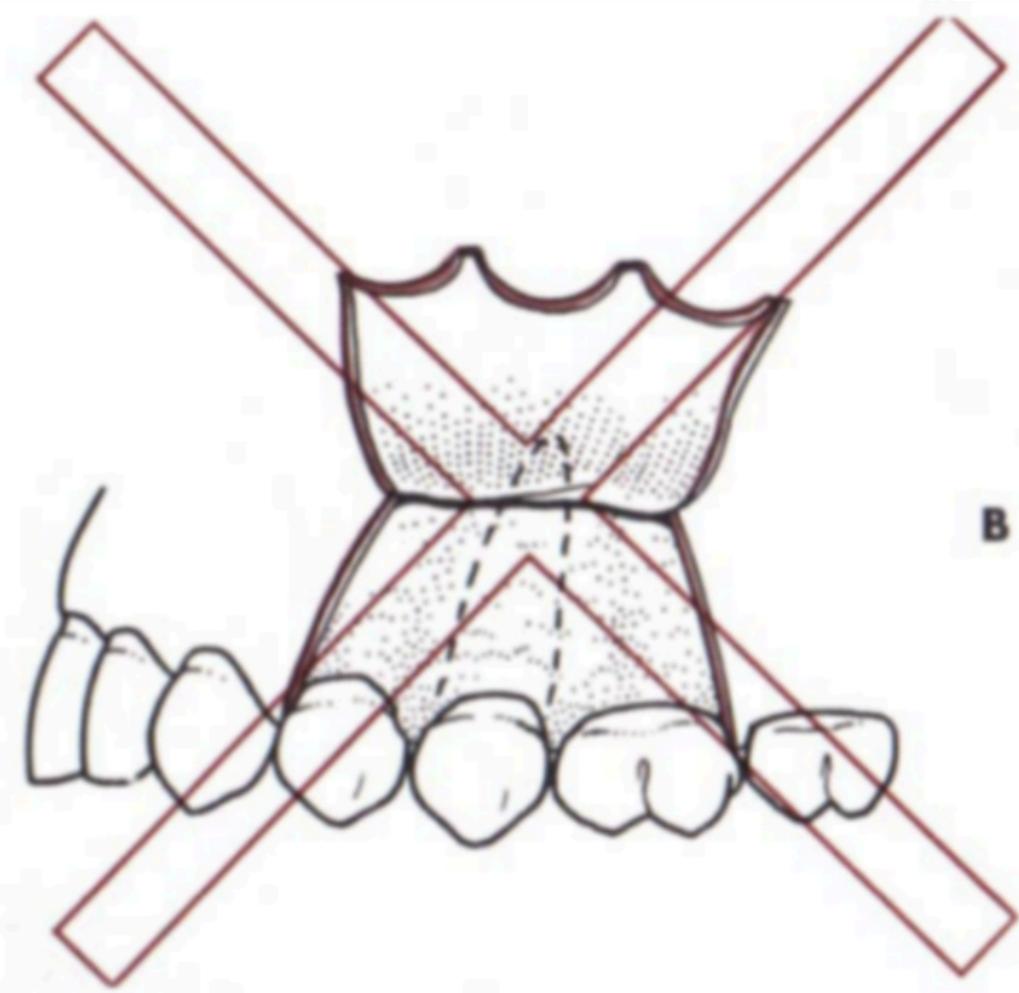
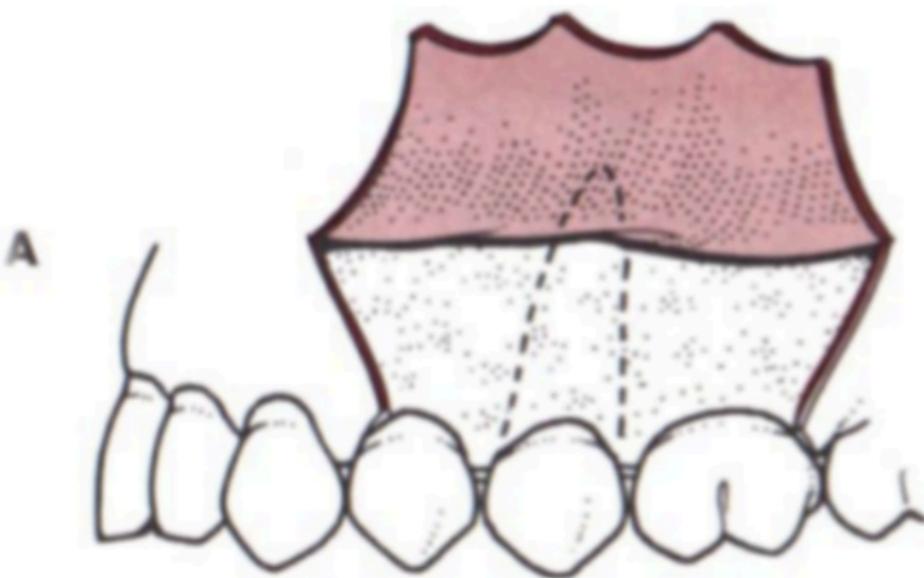
two anterior, one posterior



Releasing incision

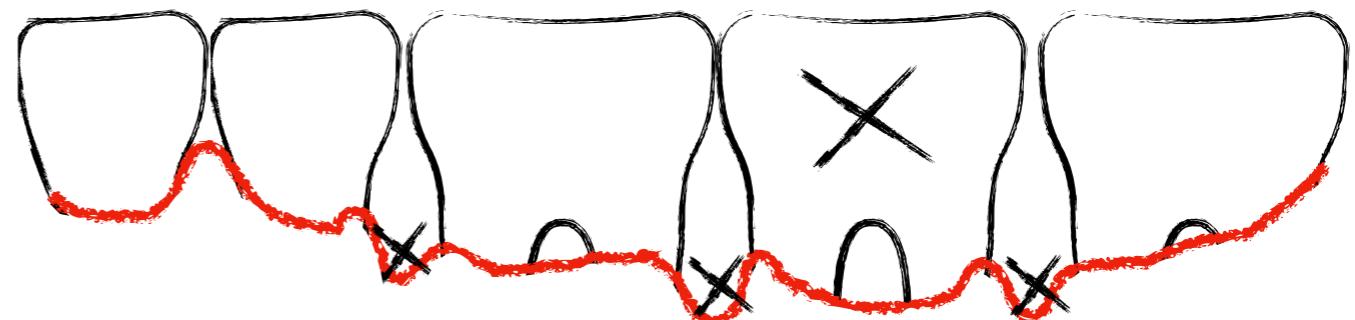


Broad Base



General Flap Principles

How do you know you've reflected enough?

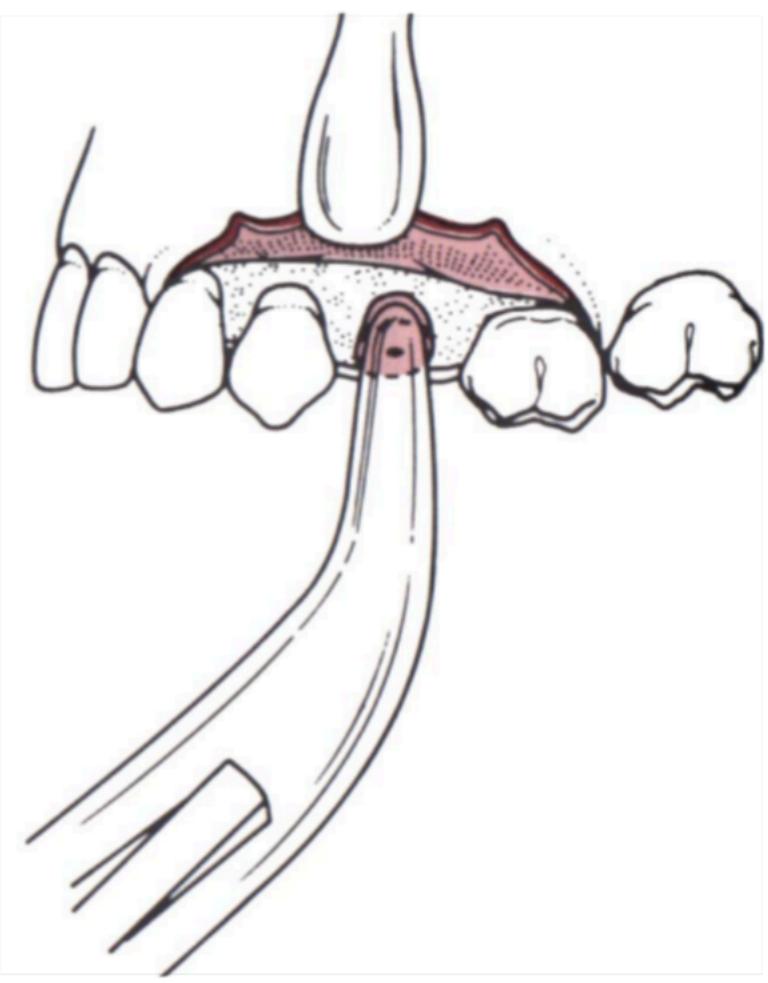
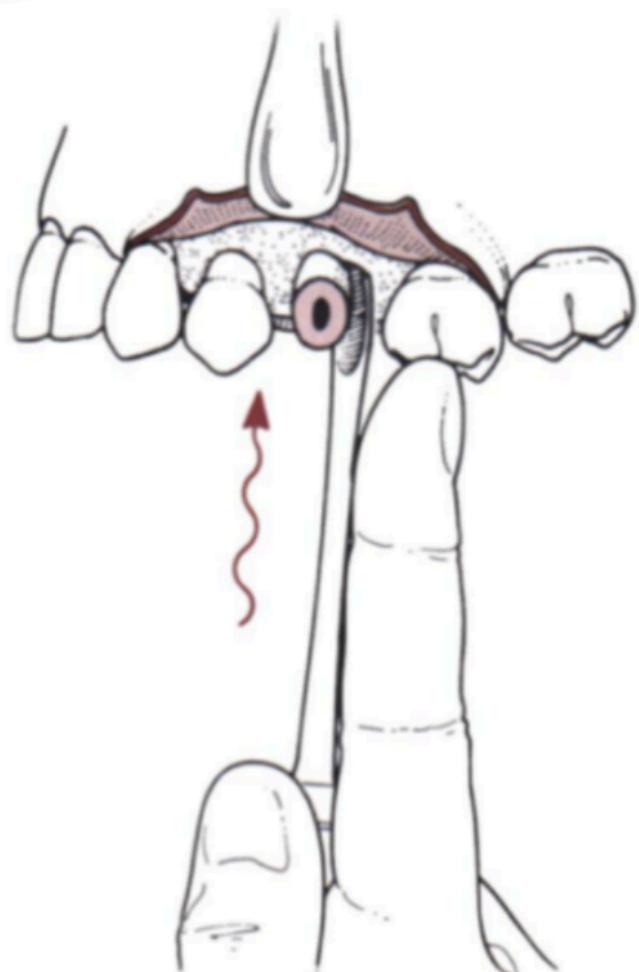


Can you remove the tooth?

Was better visualization enough?

IF not two options:

1. Cut tooth
2. Cut bone



Different procedures



Different reasons

When/Why to use a surgical drill



Problem:
“square peg, round hole”

Solution:

1. Smaller peg - cut tooth
2. Larger hole - cut bone



When/Why to use a surgical drill

Problem:

“square peg, round hole”

Solution:

1. Smaller peg - cut tooth - does NOT require a flap
2. Larger hole - cut bone - does require a flap

When to use a surgical drill

1. When you are trying to use “excessive force” with your forceps and it’s not budging
2. Multiple roots
3. Excessive force would result in damage to buccal bone, adjacent teeth, anatomic structures (sinus/nerve)
4. When there is no space for forceps

sectioning teeth designs

in general

1. creates space for elevators
2. creates space for teeth to move into
3. removes undercuts

sectioning teeth designs

in general

- 1. space to place instrument
- 2. space for tooth to move into

- 1. buccal - trough or buccal bone removal
- 2. interseptal bone
- 3. M or D line angle
- 4. section root

sectioning teeth designs

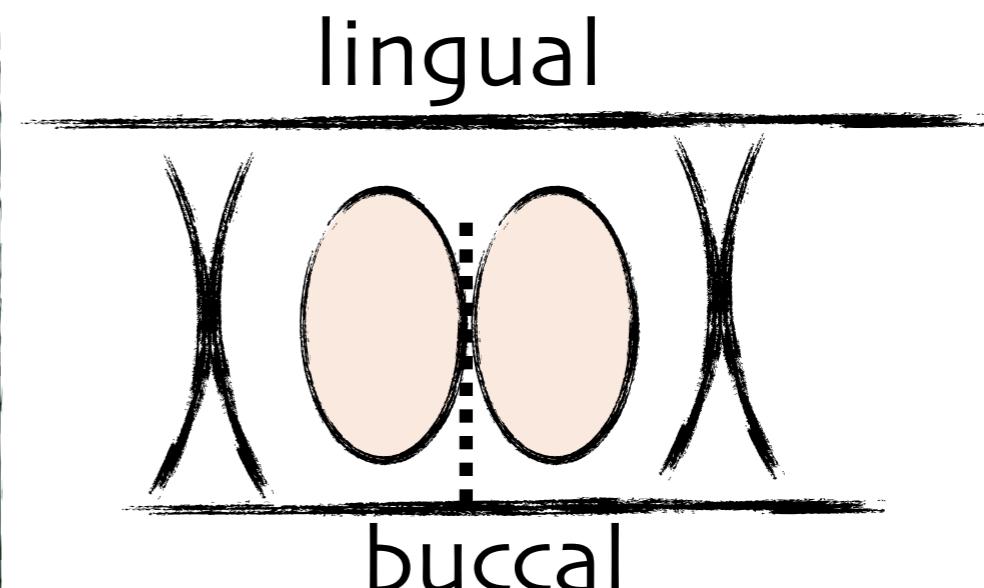
mandibular molar

1. Does the crown bother you?

sectioning teeth designs

mandibular molar

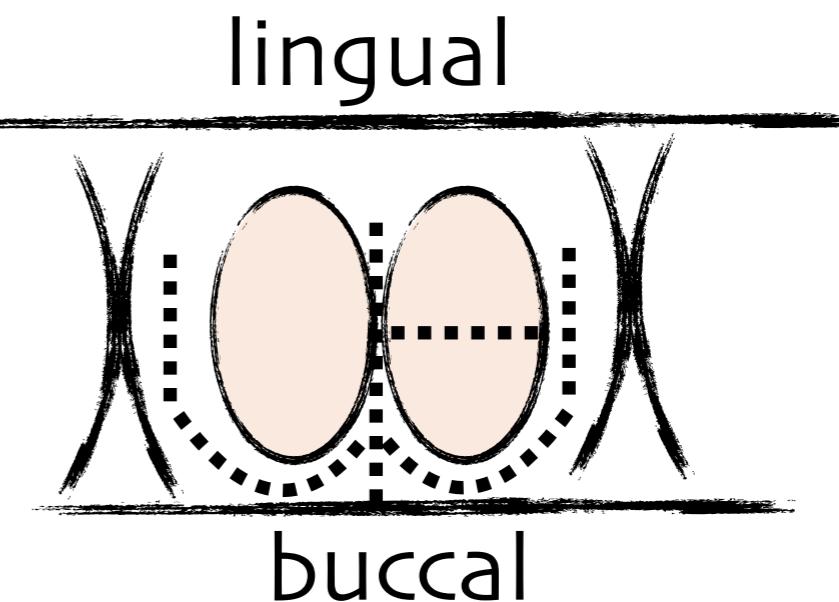
Do not section through to lingual plate. Only need to section PAST halfway through interseptal bone.



the lingual n. is there. go beyond halfway thru, ~2/3

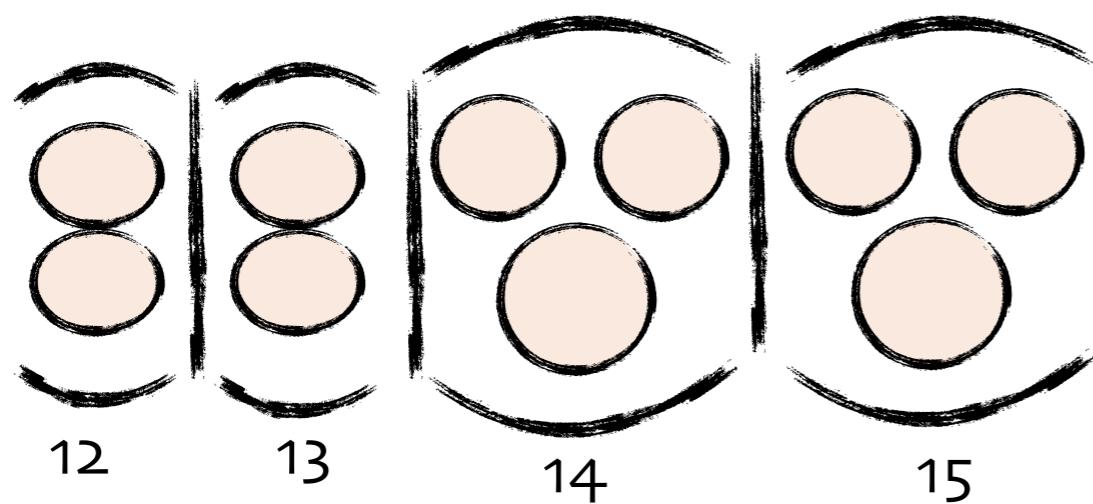
sectioning teeth designs

mandibular molar



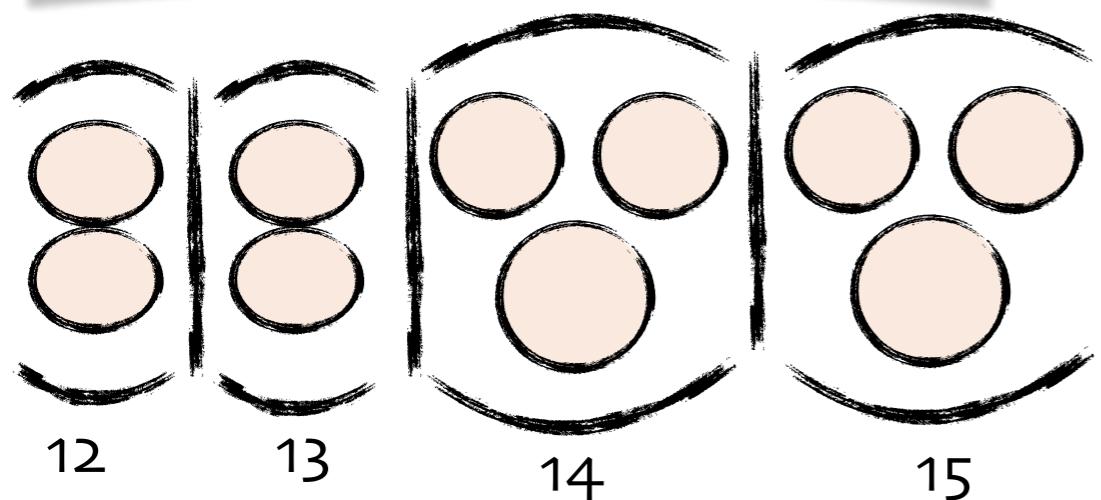
sectioning teeth designs

maxillary molars



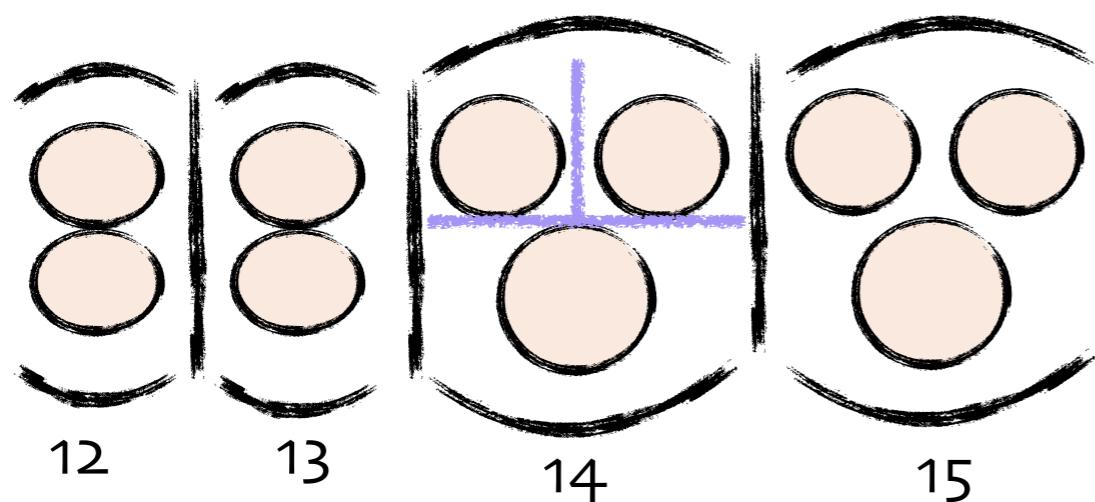
maxillary molars

sectioning teeth designs



sectioning teeth designs

T or Y

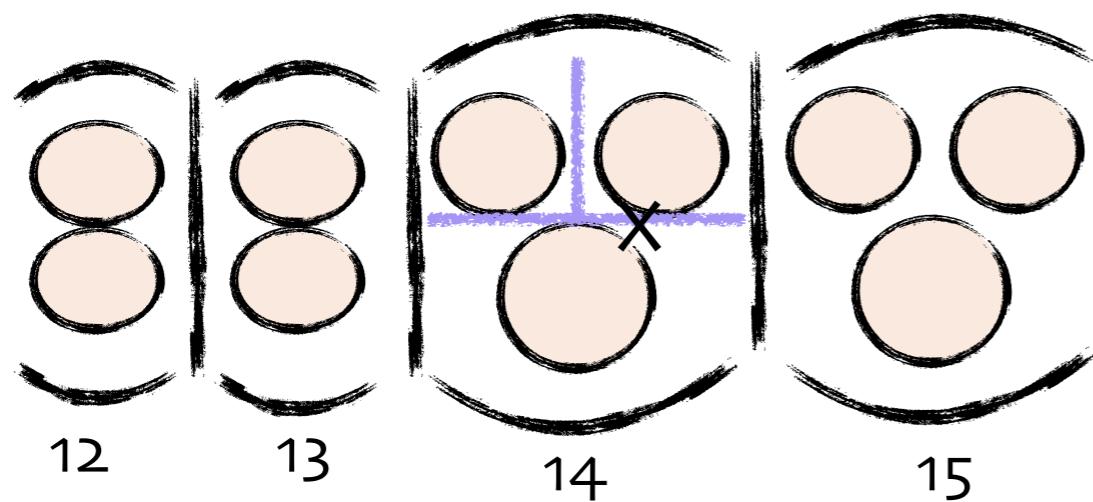


maxillary molars



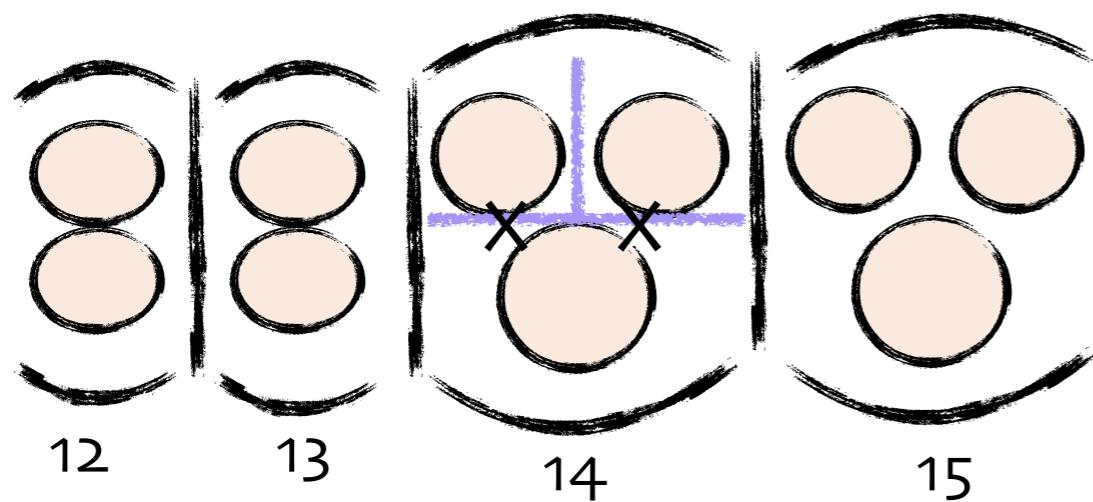
sectioning teeth designs

maxillary molars



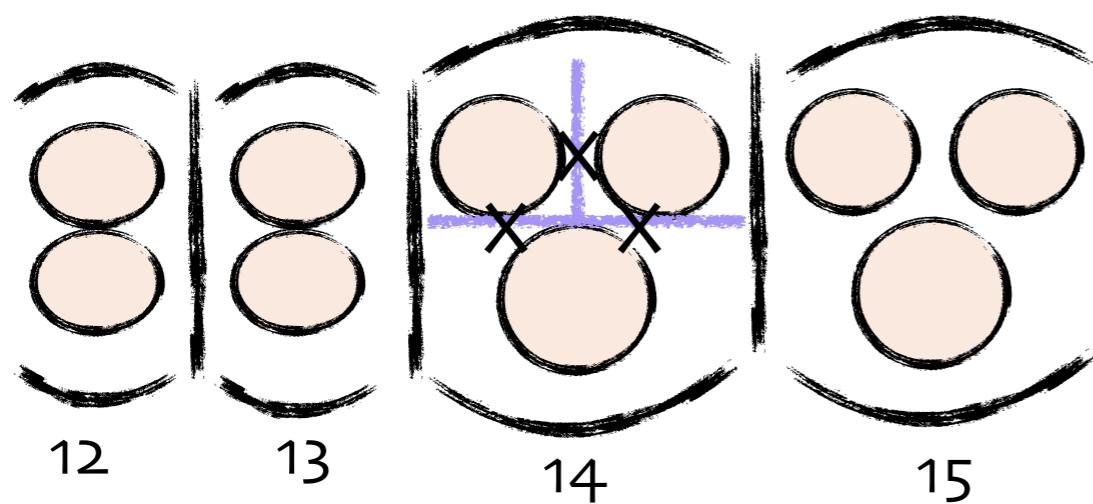
sectioning teeth designs

maxillary molars



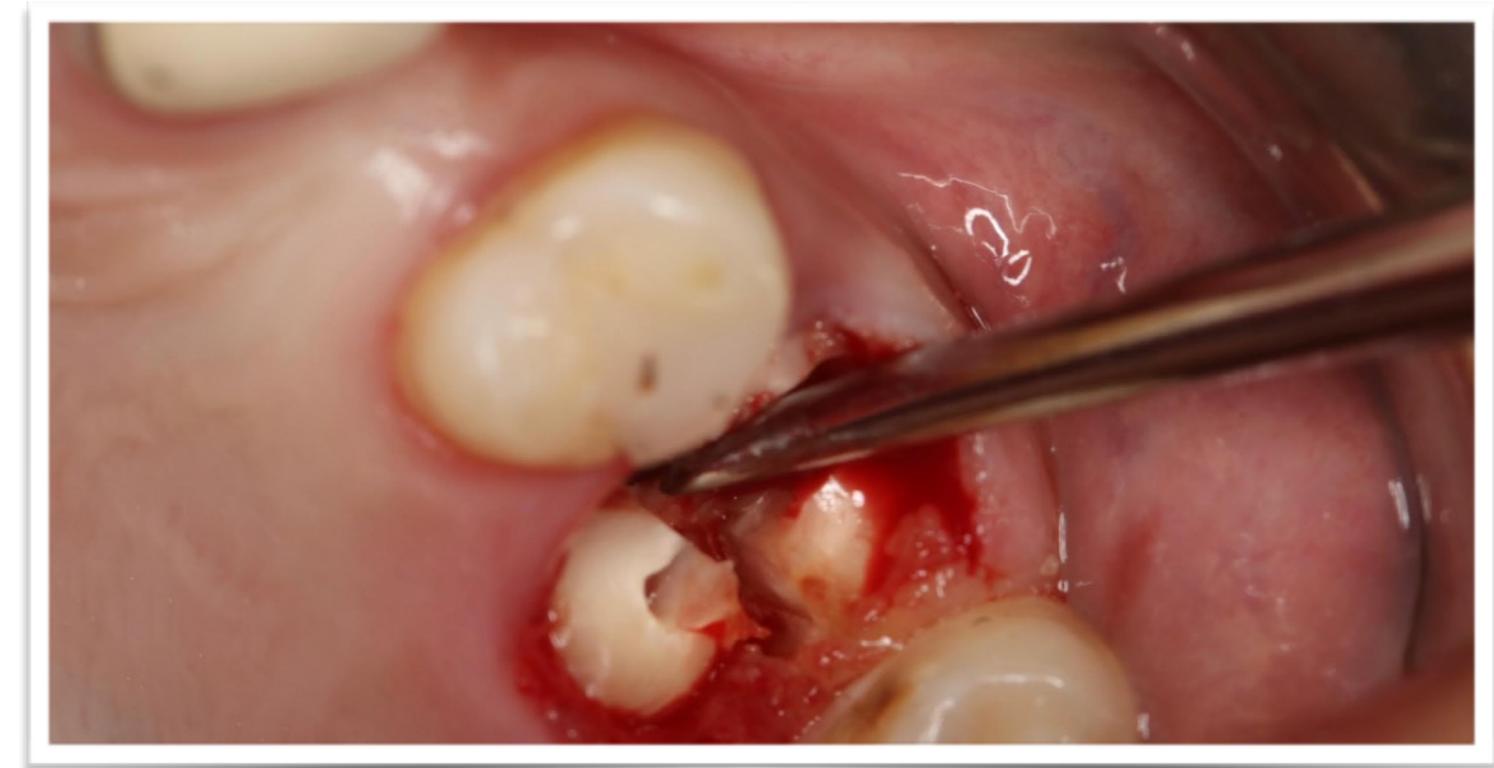
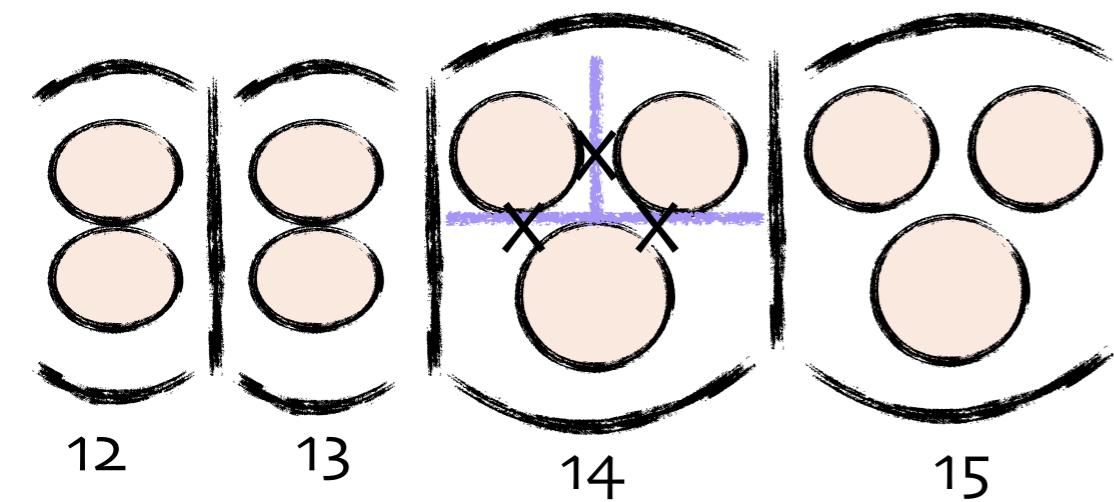
sectioning teeth designs

maxillary molars



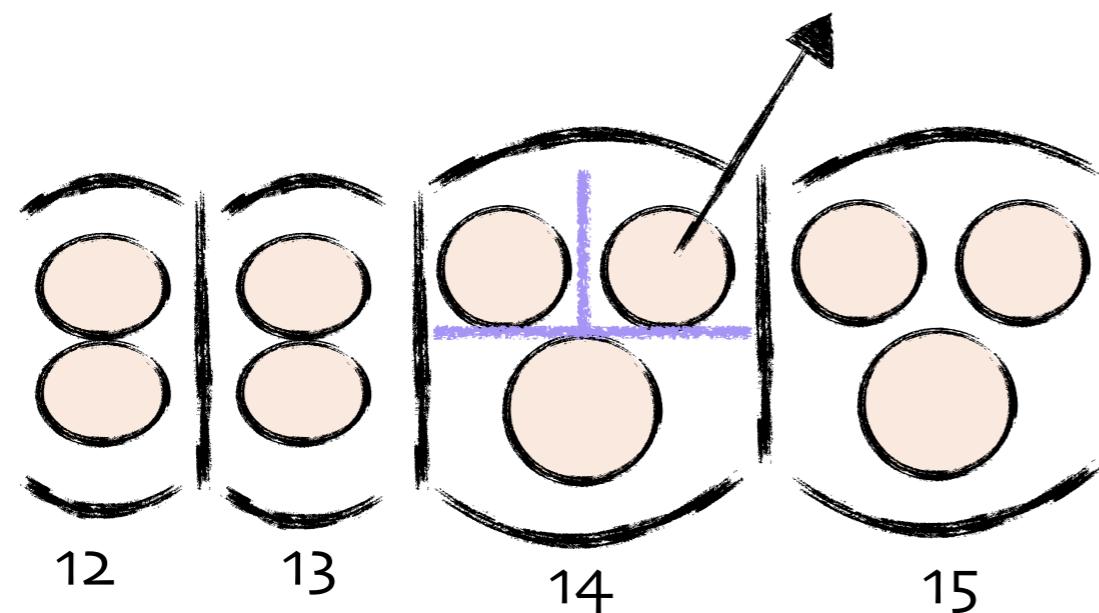
sectioning teeth designs

maxillary molars



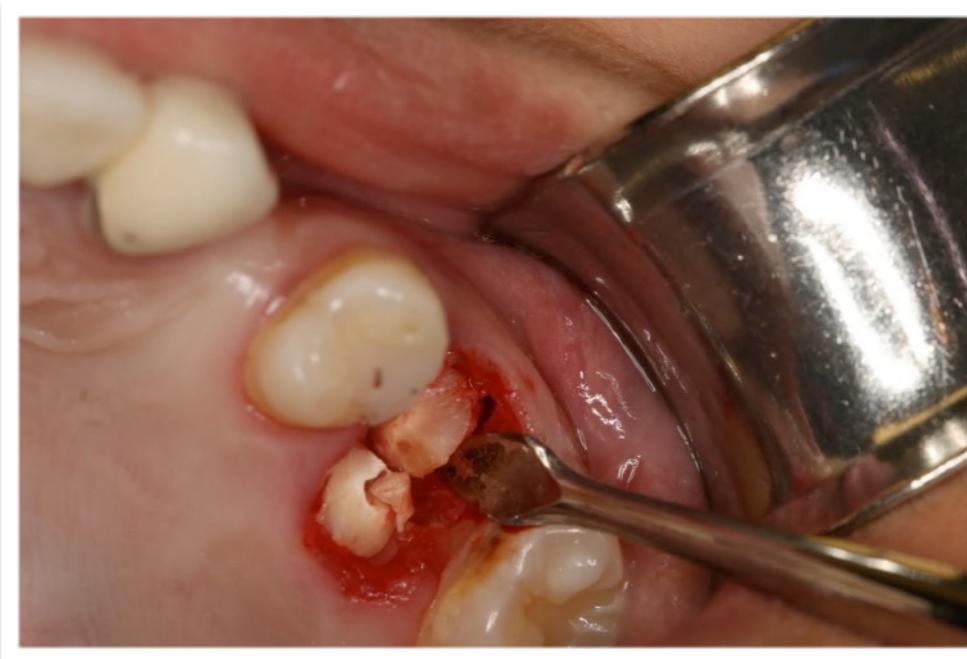
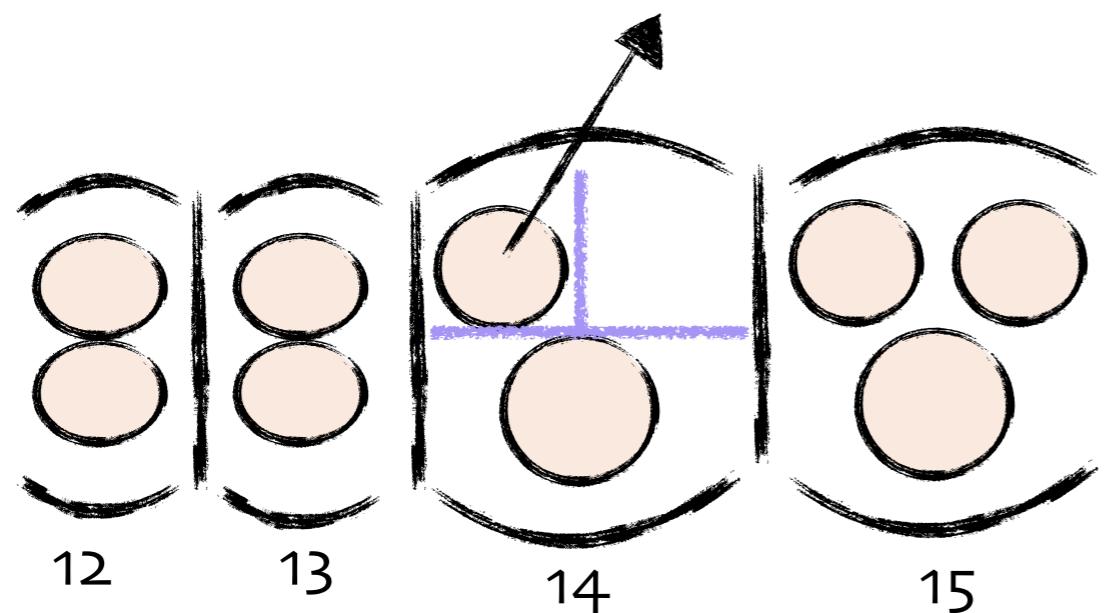
sectioning teeth designs

maxillary molars



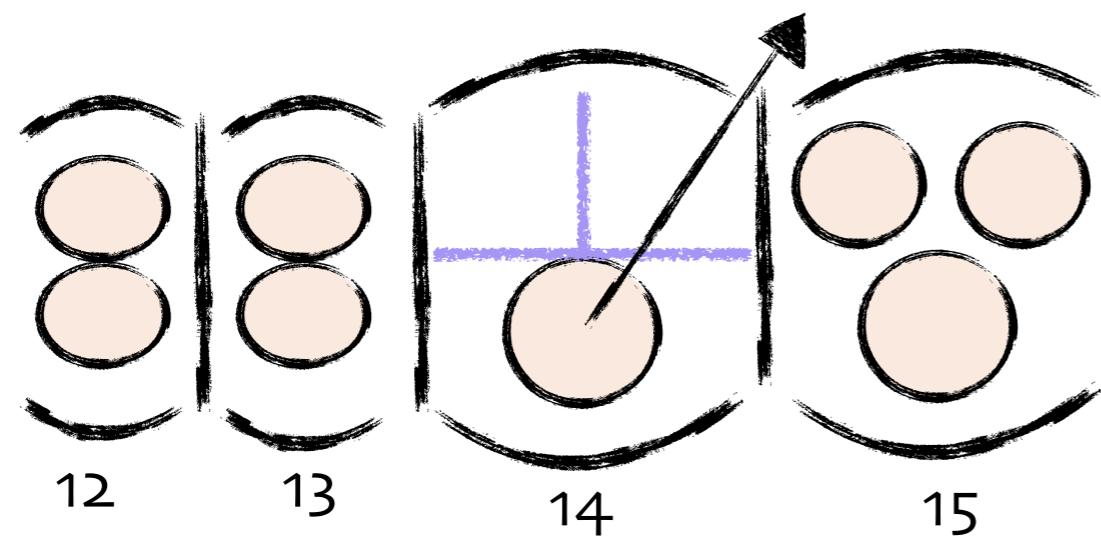
sectioning teeth designs

maxillary molars



sectioning teeth designs

maxillary molars

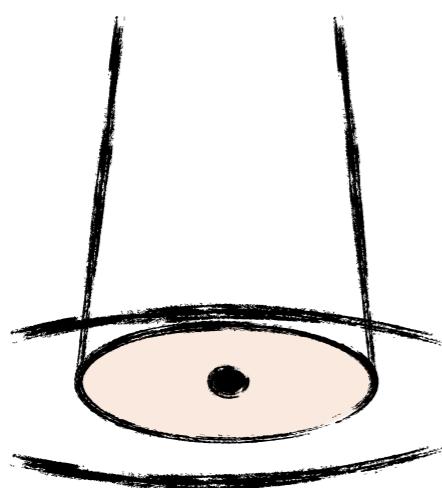


sectioning teeth designs

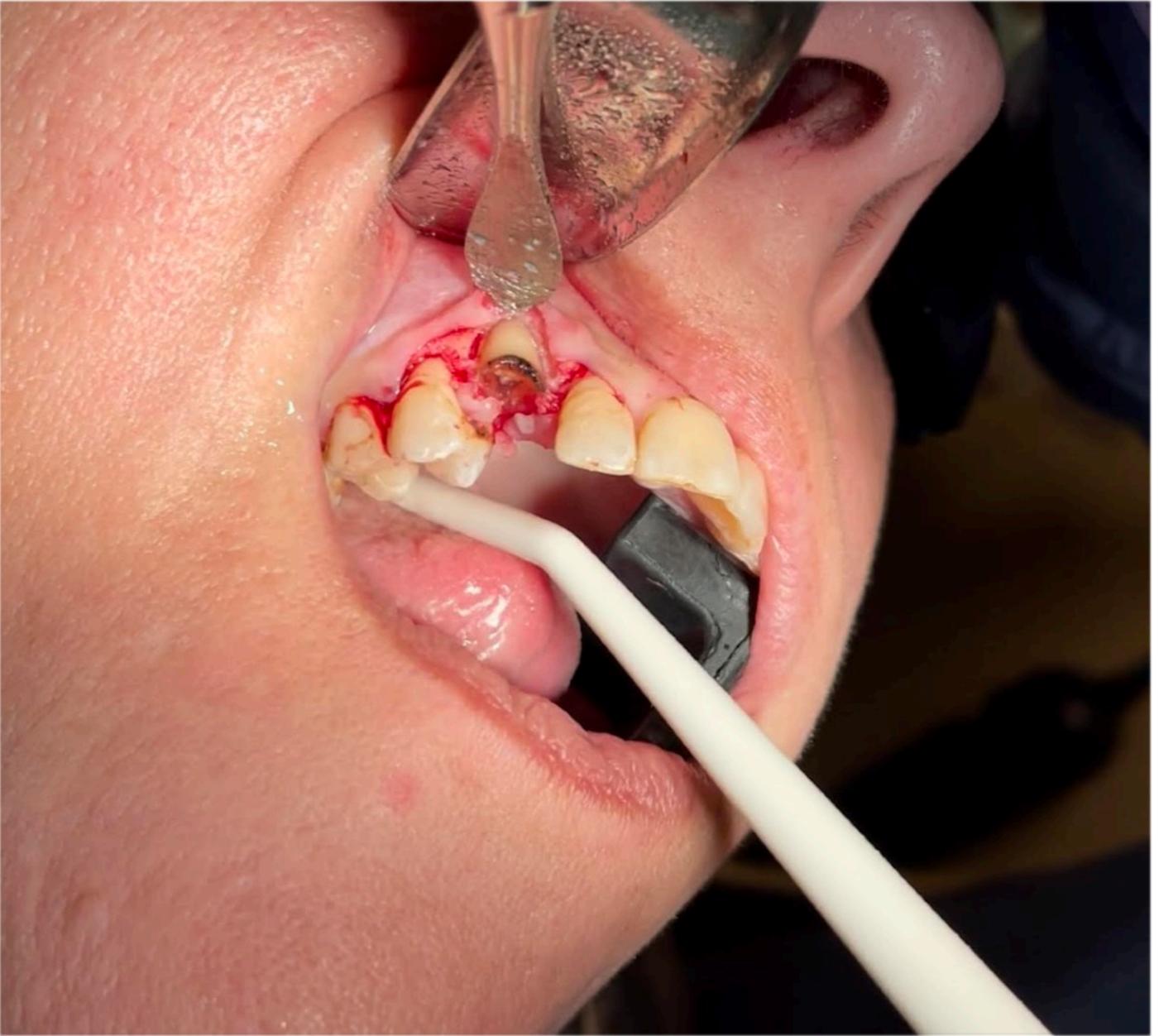
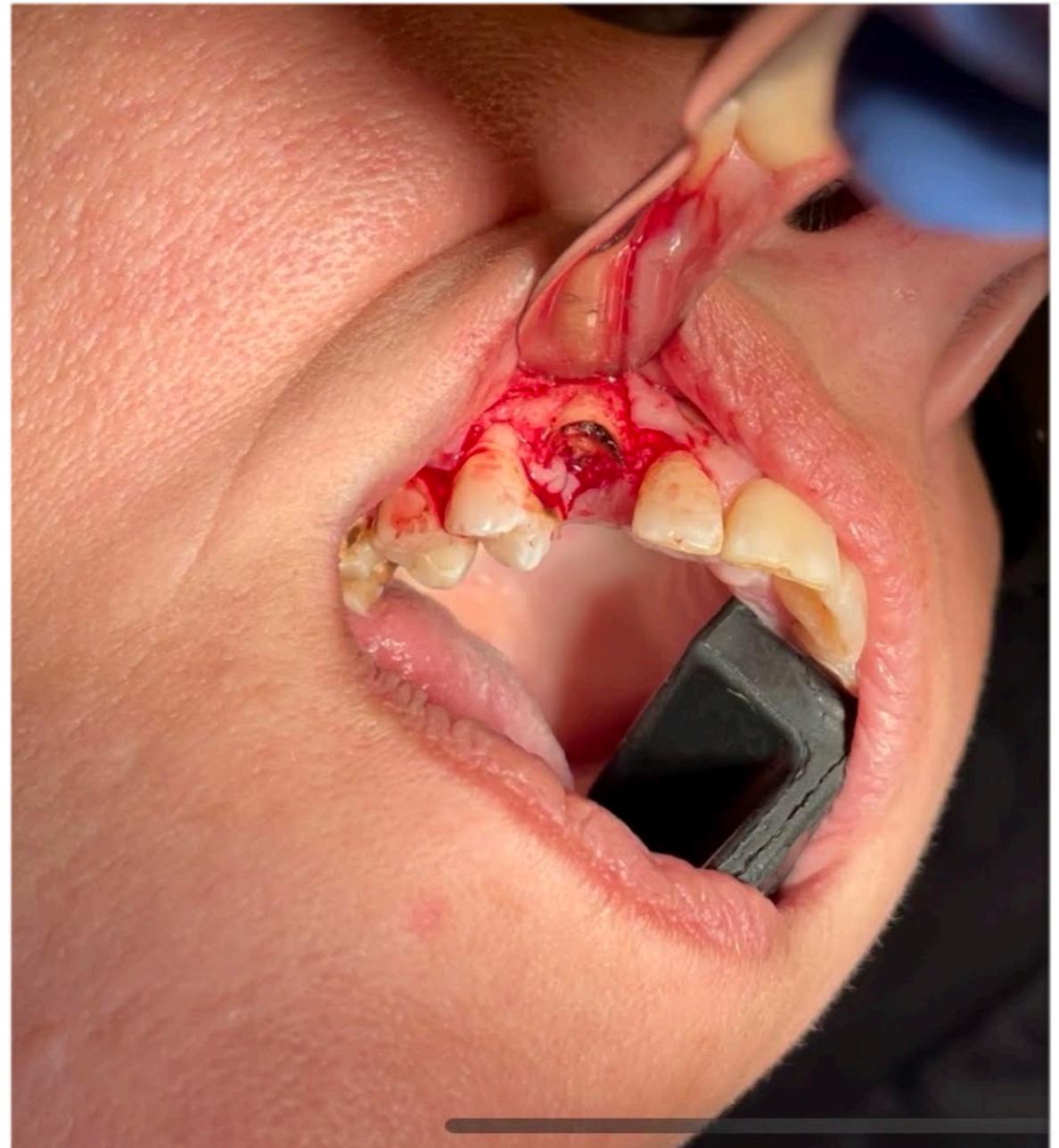
solo roots

sectioning teeth designs

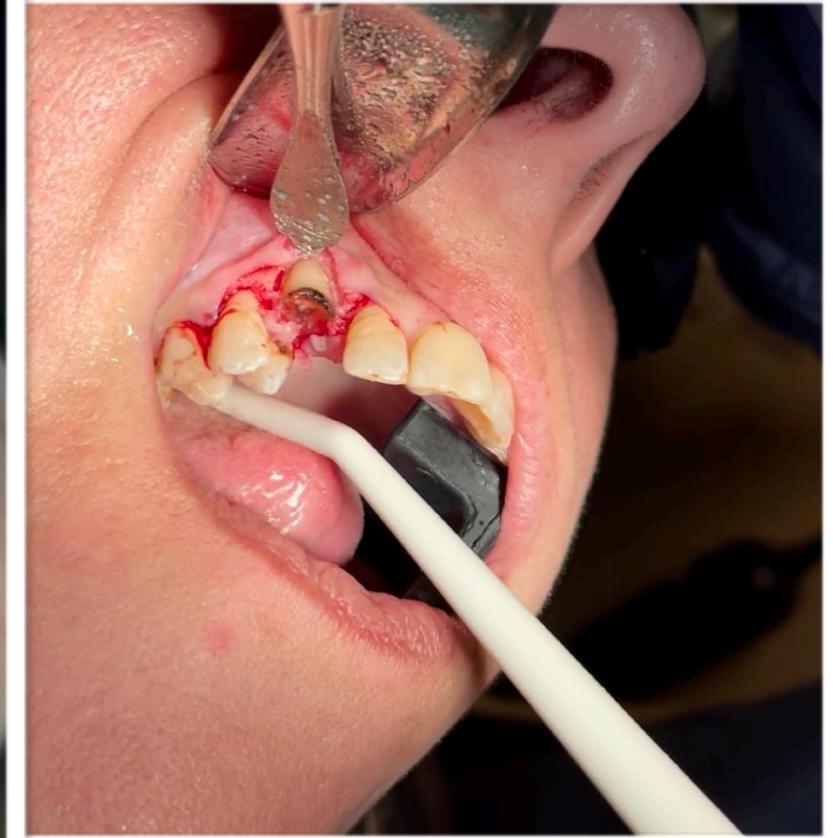
solo roots



solo roots



solo roots





case 1



case 1 - the mandibular first molar

steps

1. intraoral exam
2. radiograph
3. prepping the patient
4. try simply
5. "going surgical"

concepts

1. evaluating a tooth for extraction
2. determining how to remove simply
3. when/how to reflect a flap
4. when/how to use a surgical drill



case 1 - the mandibular first molar

steps

1. intraoral exam
2. radiograph
3. prepping the patient
- 4. try simply**
5. "going surgical"



case 1 - the mandibular first molar



case 1 - the mandibular first molar



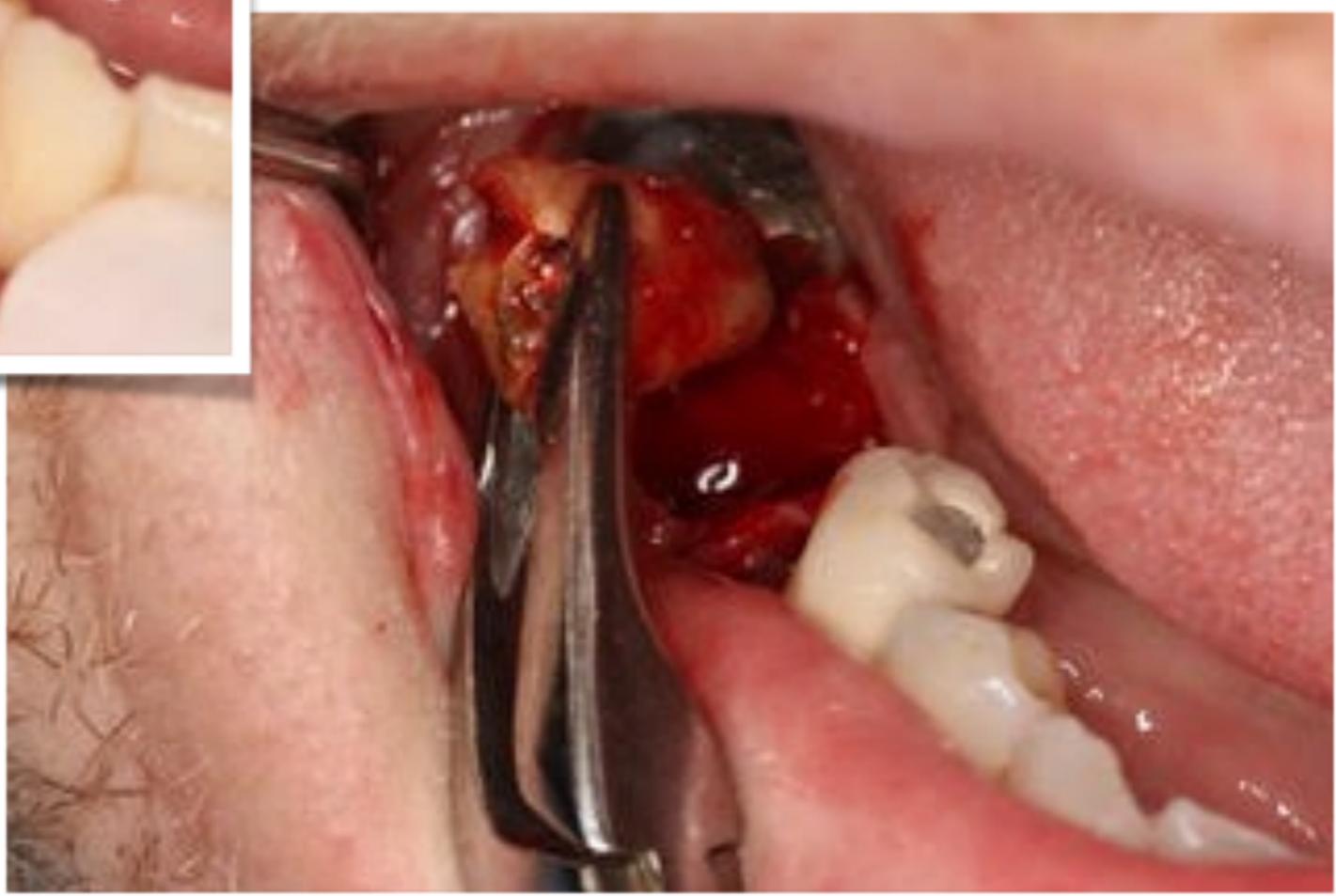
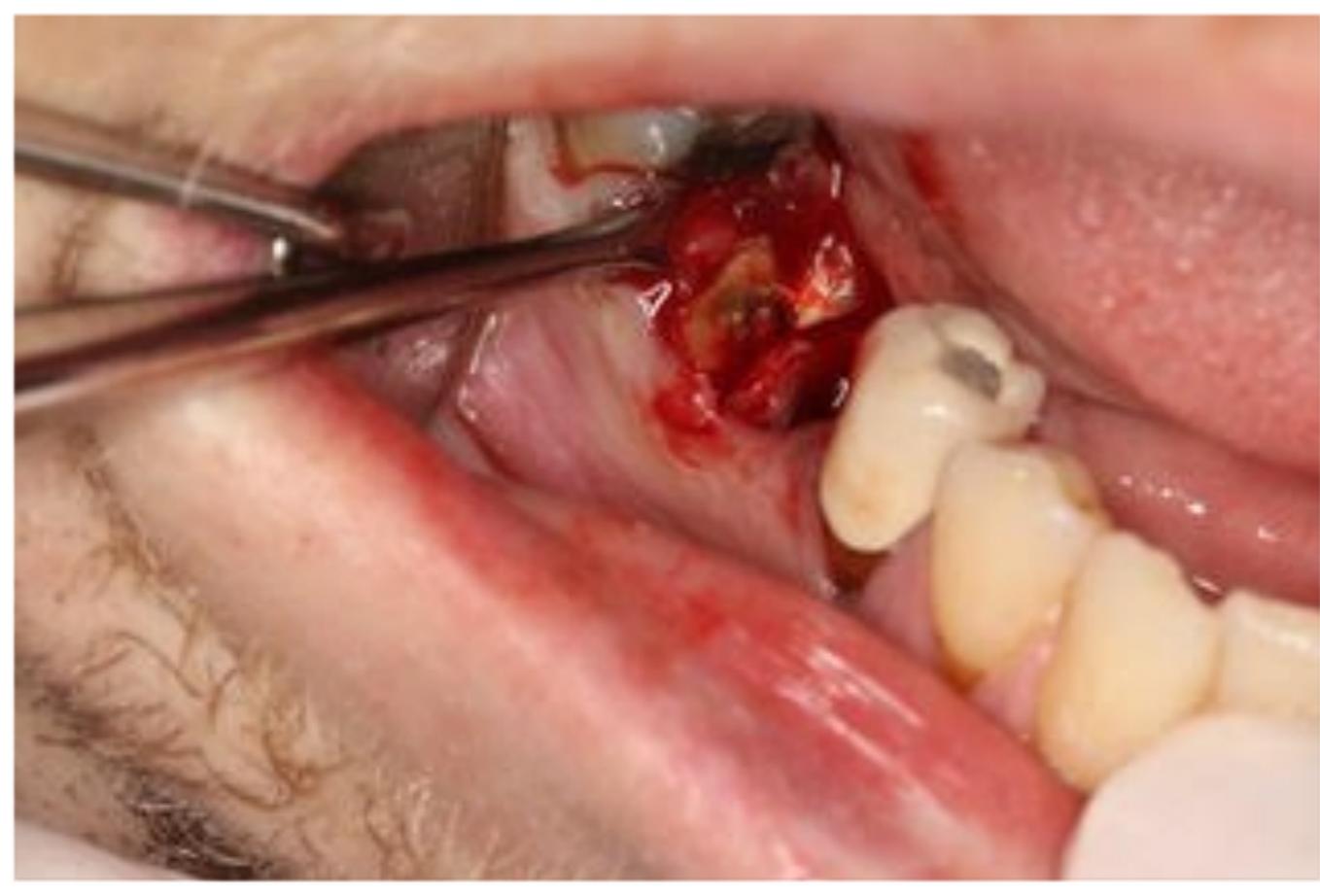
concepts

1. evaluating a tooth for extraction
2. determining how to remove simply
- 3. when/how to reflect a flap**
- 4. when/how to use a surgical drill**

case 1 - the mandibular first molar



case 1 - the mandibular first molar



case 2

the mandibular first molar



case 1 - part II

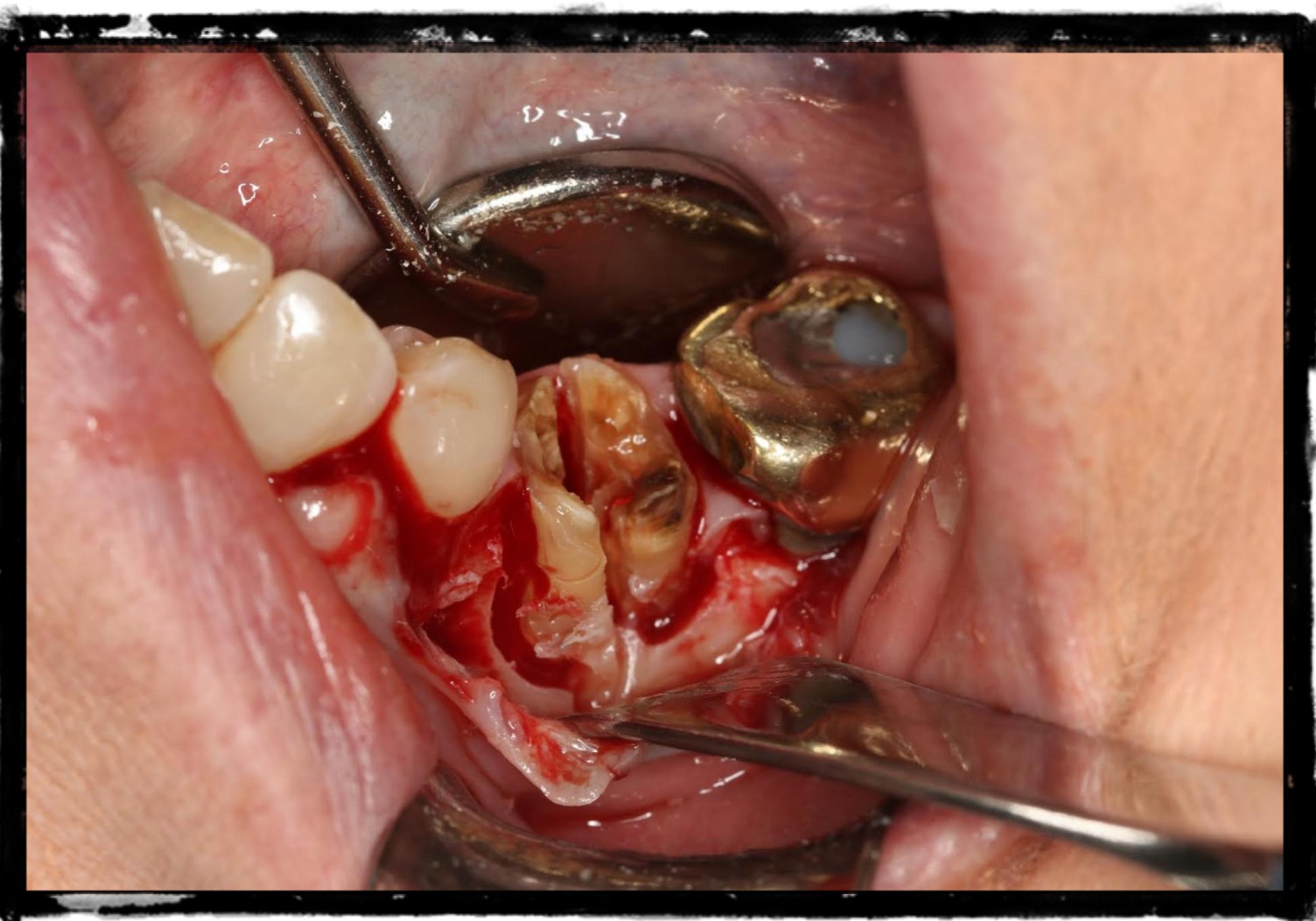
reflect flap bc roots have curvature



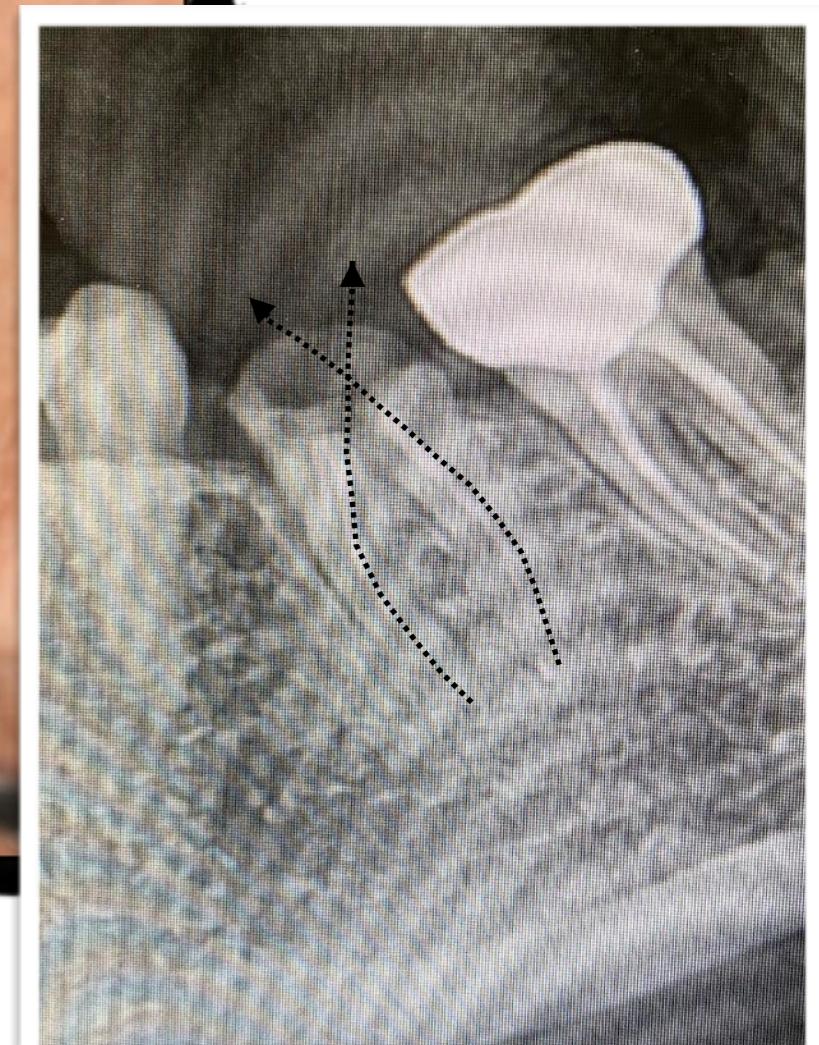
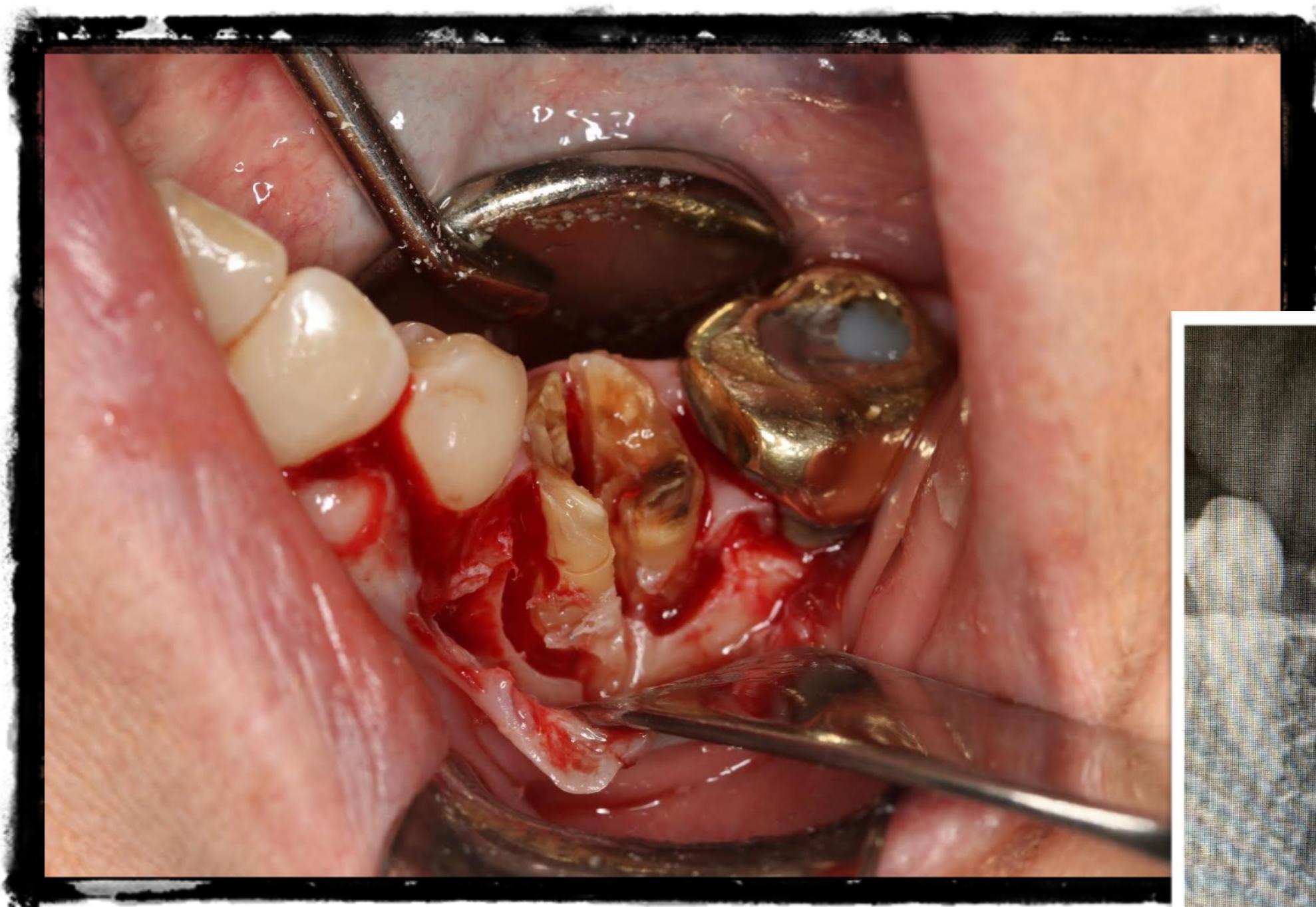
case 1 - part II



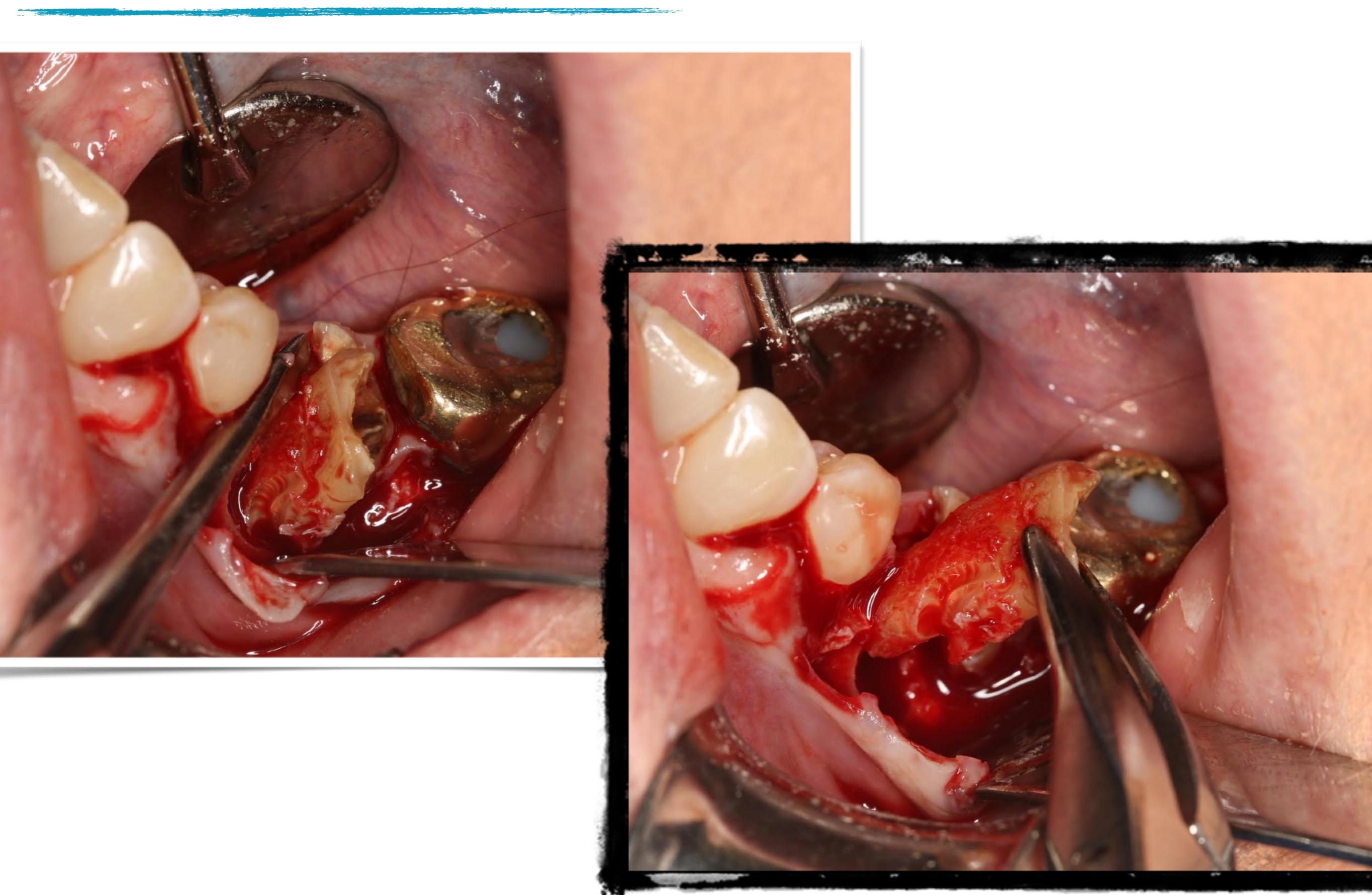
case 1 - part II



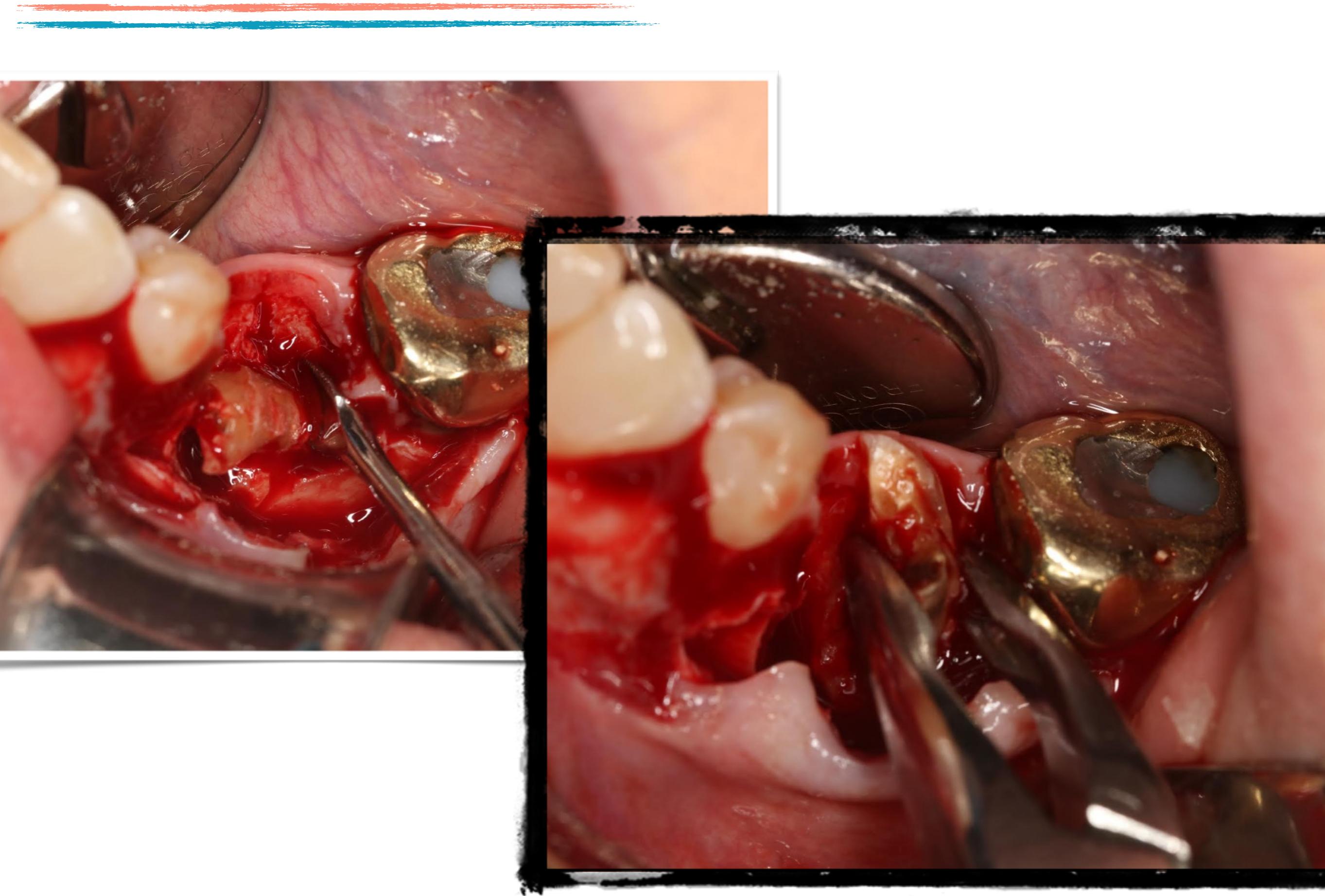
case 1 - part II



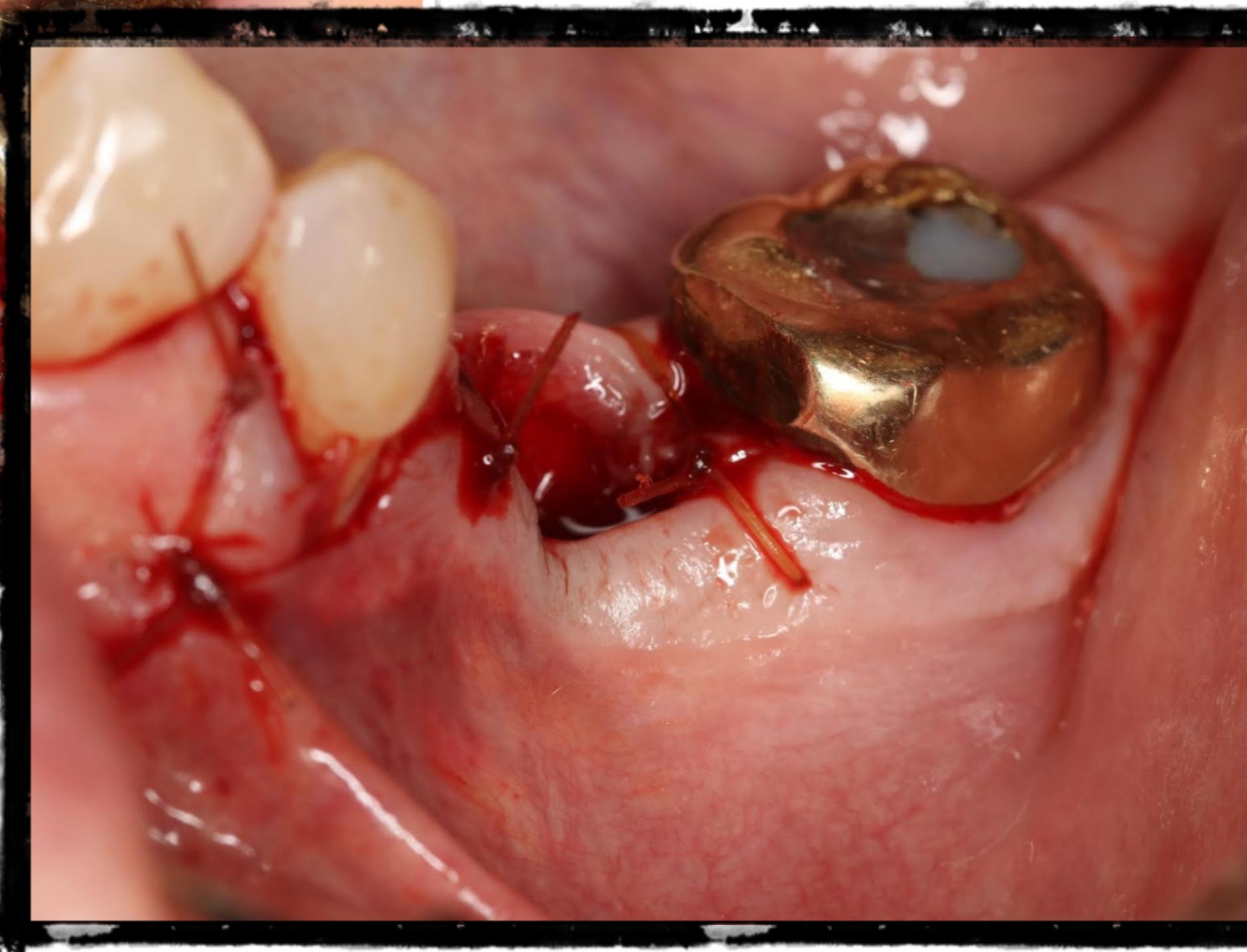
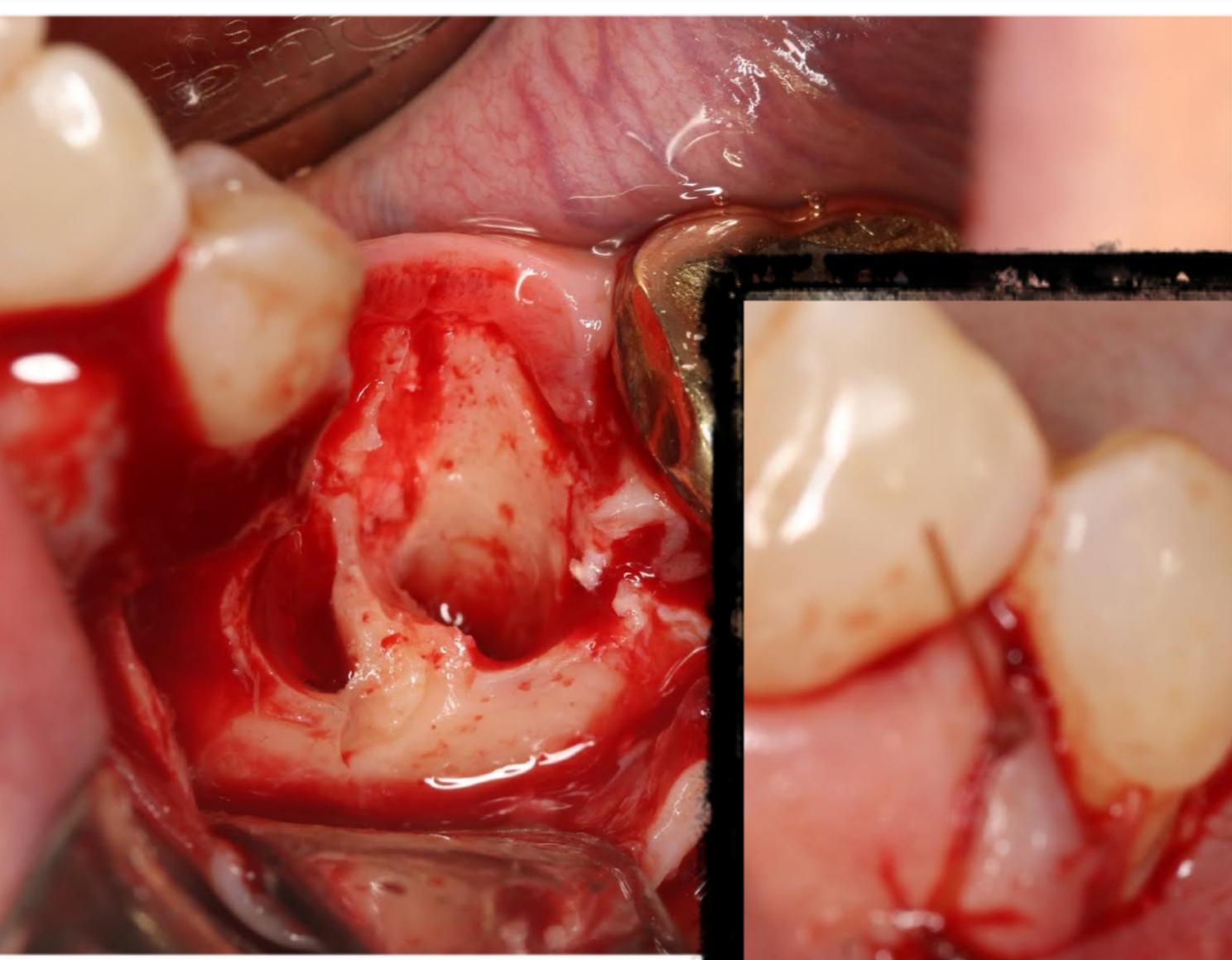
case 1 - part II



case 1 - part II



case 1 - part II



Flap Management

Impaired wound healing:

1. Foreign material
2. Necrotic tissue
3. Ischemia
4. Wound tension
5. Patient factors

1. Irrigation - why?
2. Smooth bone - why? *reduce blanching/*
3. Suture where you cut - why? *ischemia*

Flap Management

Impaired wound healing:

1. Foreign material
2. Necrotic tissue
3. Ischemia
4. Wound tension
5. Patient factors

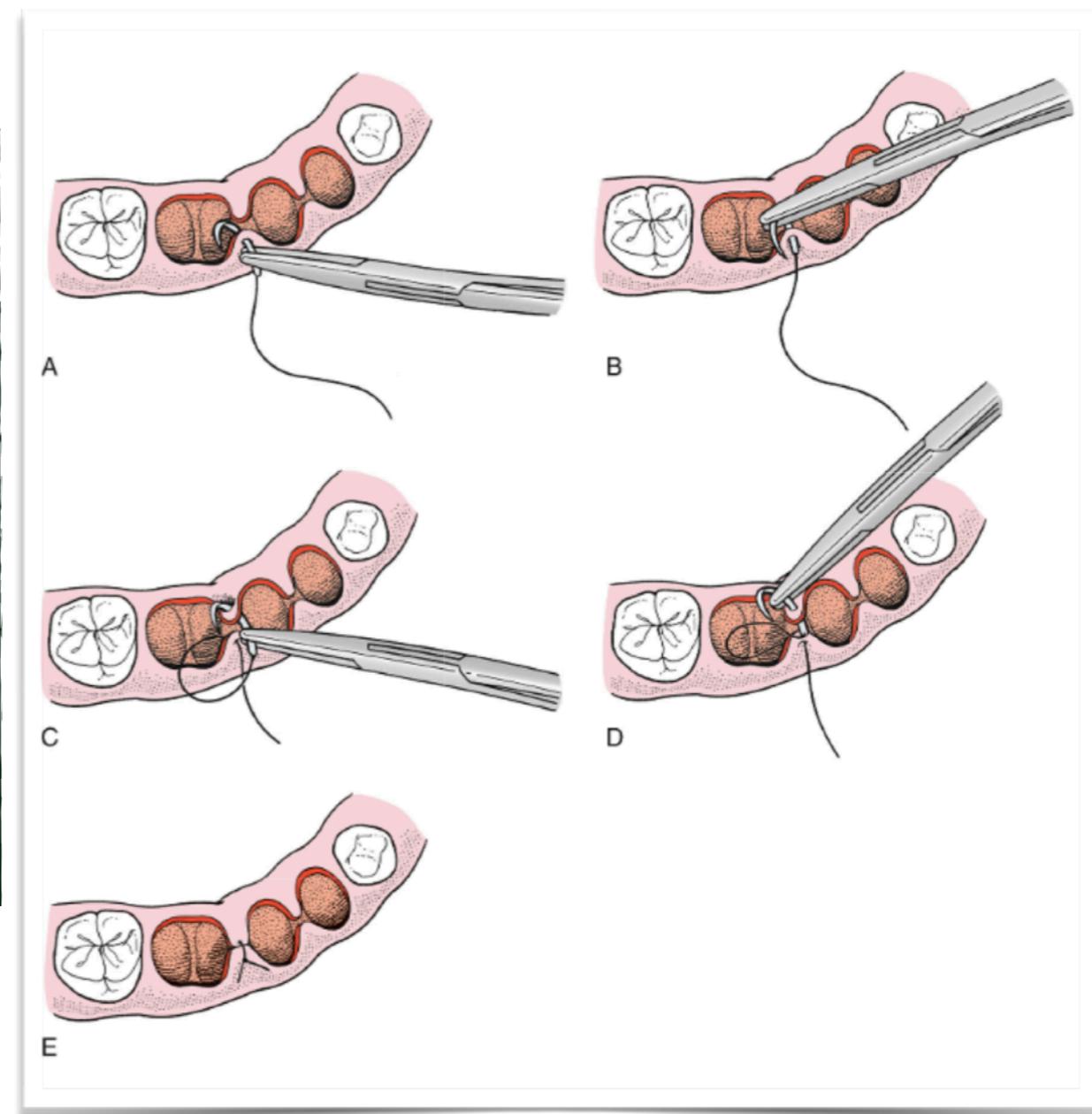
1. Irrigate under flap
2. Keep retractors on bone, under flap
3. Smooth bone to reduce tissue tension
4. Suture with strategy, so flap returns where it started.

Suturing Principles

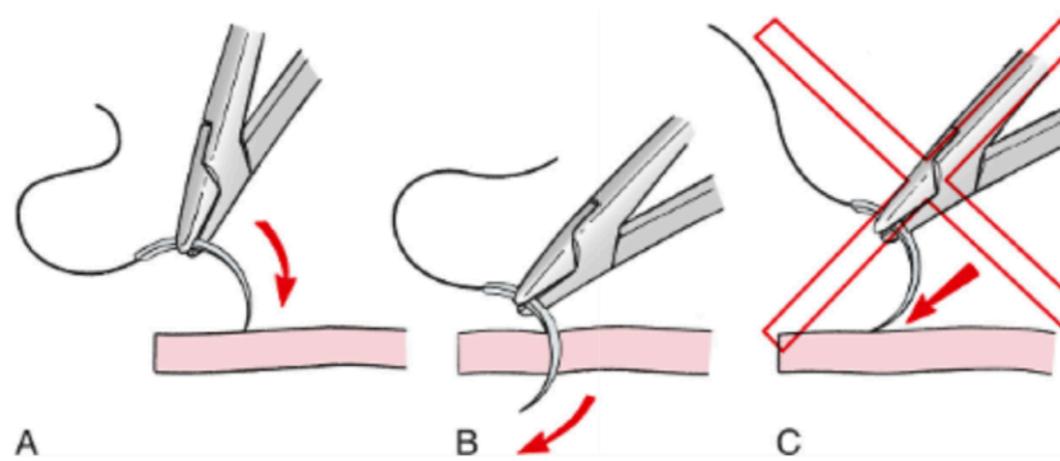
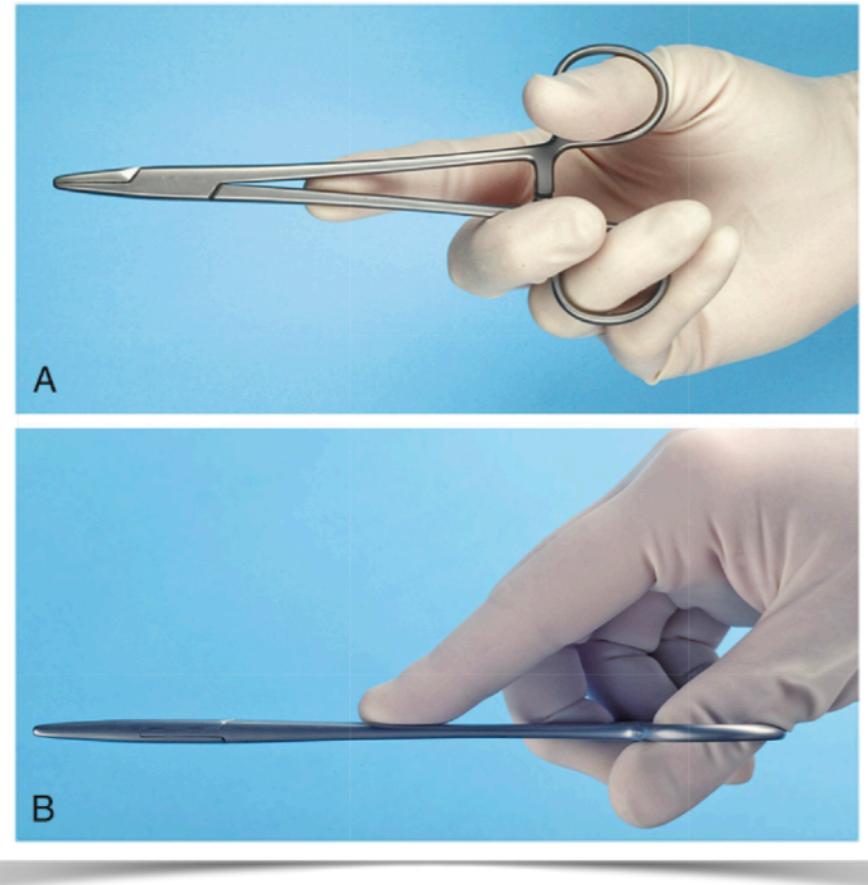
Suturing

There are different types of sutures.

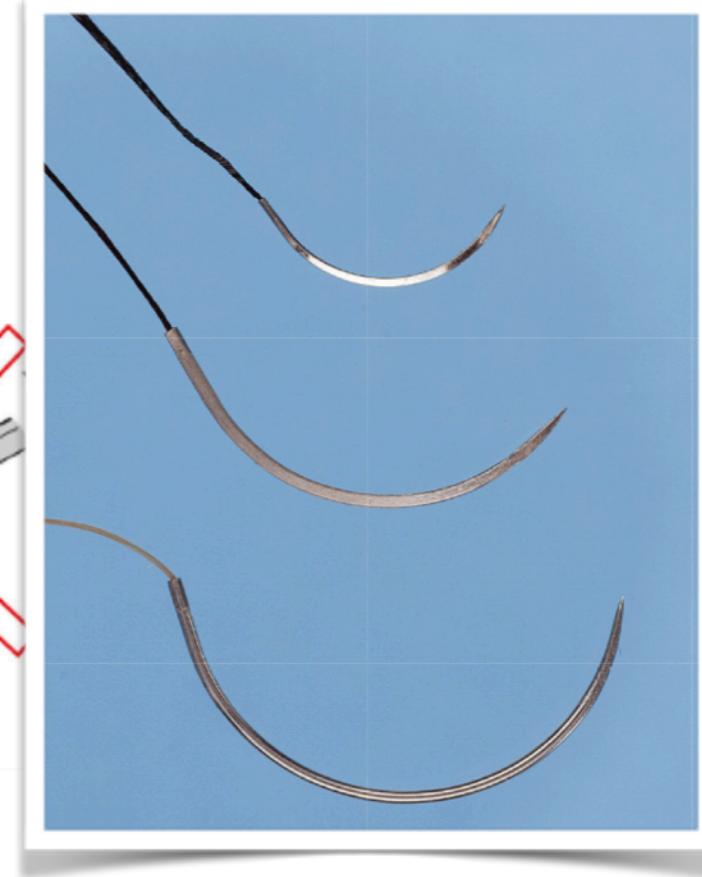
Some resorb on their own.
Others need to be removed.
Unlikely to use any NON-resorbable suture in clinic.



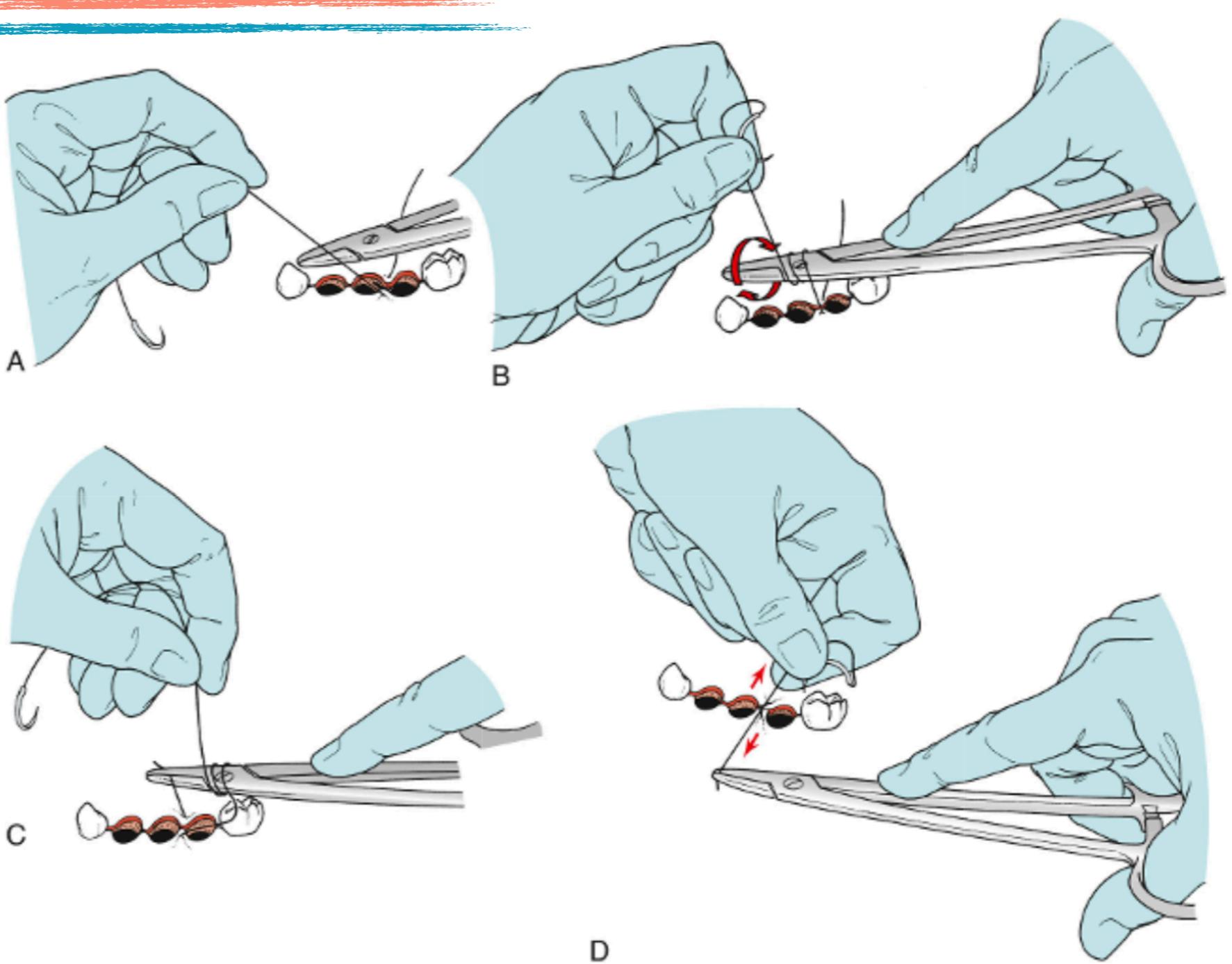
Suturing



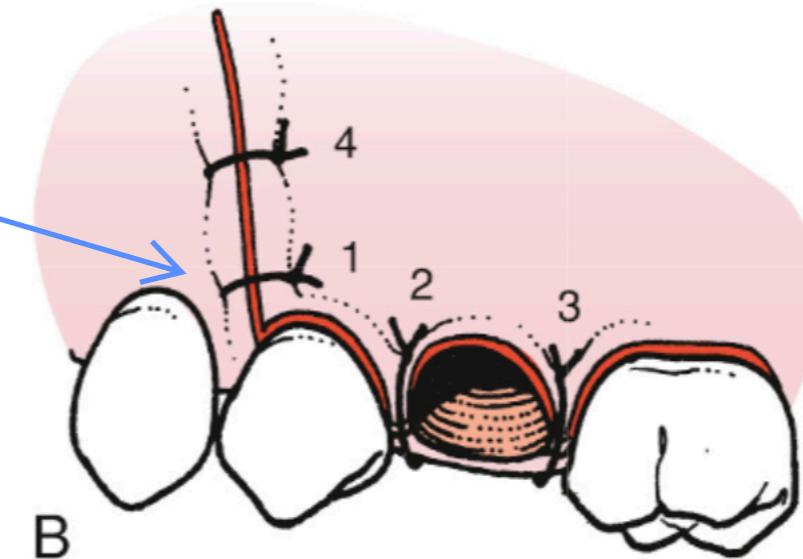
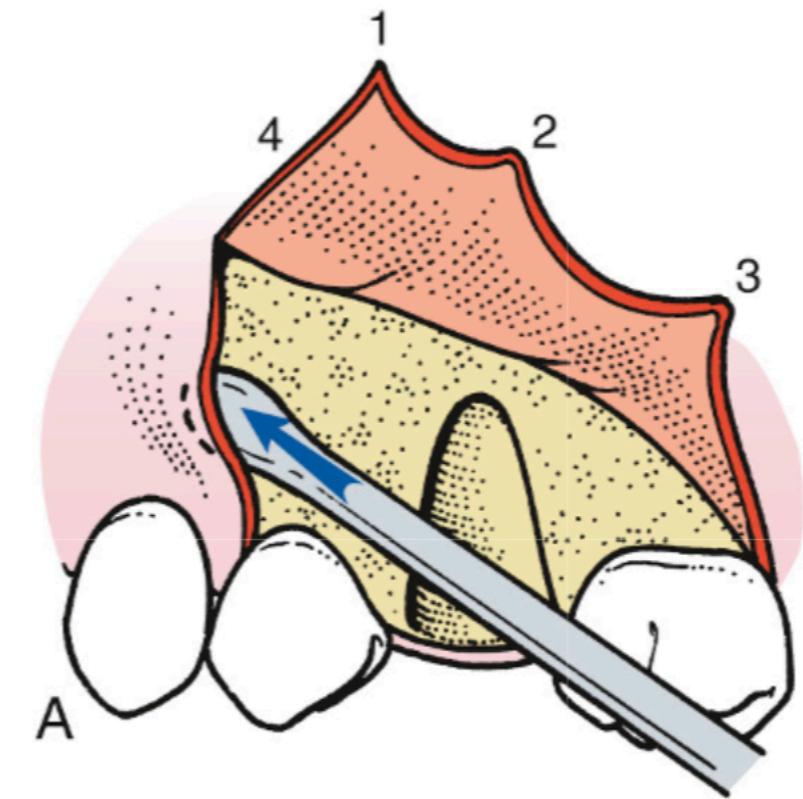
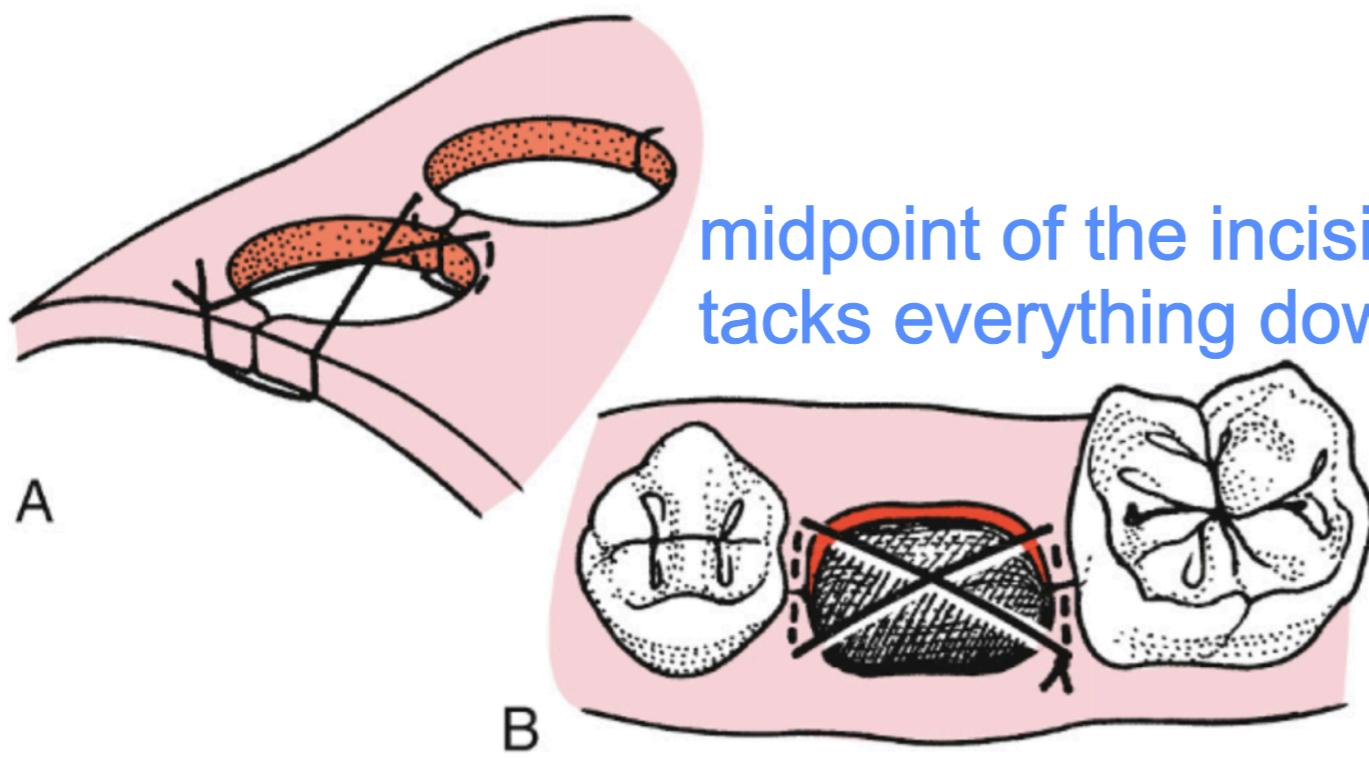
place needle @
90 degrees



Suturing

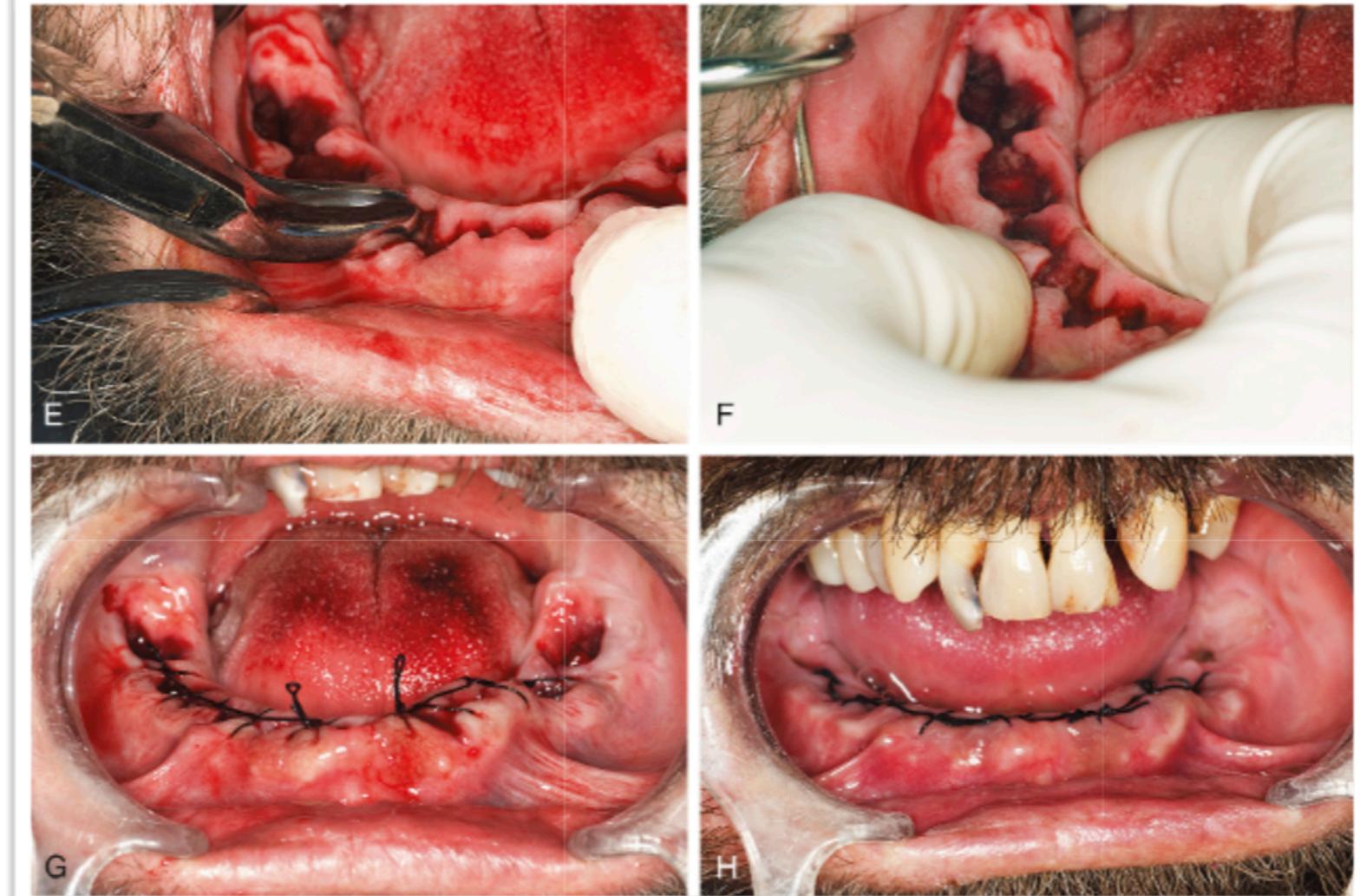


Suturing



Multiple Extractions

- Use each instrument once.
- Digital compression/
alveoplasty
- Continuous sutures AND
single, interrupted
- Posterior to anterior,
consider leaving a canine
for bite block.



Conclusions

1. Have GOOD reason to reflect a flap or use a surgical drill.
2. Reflecting a flap does not inherently mean a drill must be used or vice versa
3. Soft tissue management improves patient healing and comfort
4. Only use releasing incision if necessary
5. Only suture if necessary