

Diagnosis and Management of Dental Emergencies for the Non-Dentist

Global Missions Health Conference

Louisville, KY

November 7, 2025

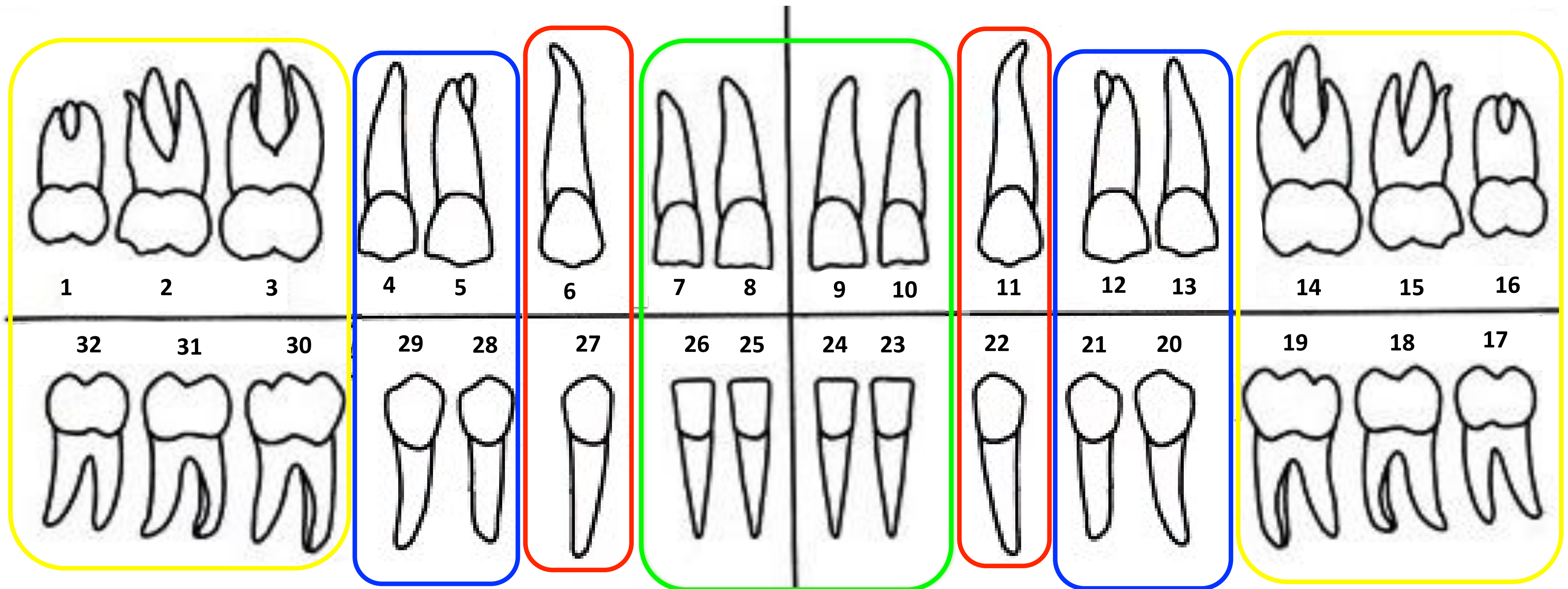
Outline for Today's Presentation

- Tooth Anatomy/Numbering
- Dental Disease Etiology/Progression
- Diagnosis
- Countering Common Dental Myths
- Administration of Local Anesthesia
- Infection Management (I & D)
- Antibiotics

TYPES OF TEETH

Upper Right

Upper Left



Lower Right

Lower Left

Molars

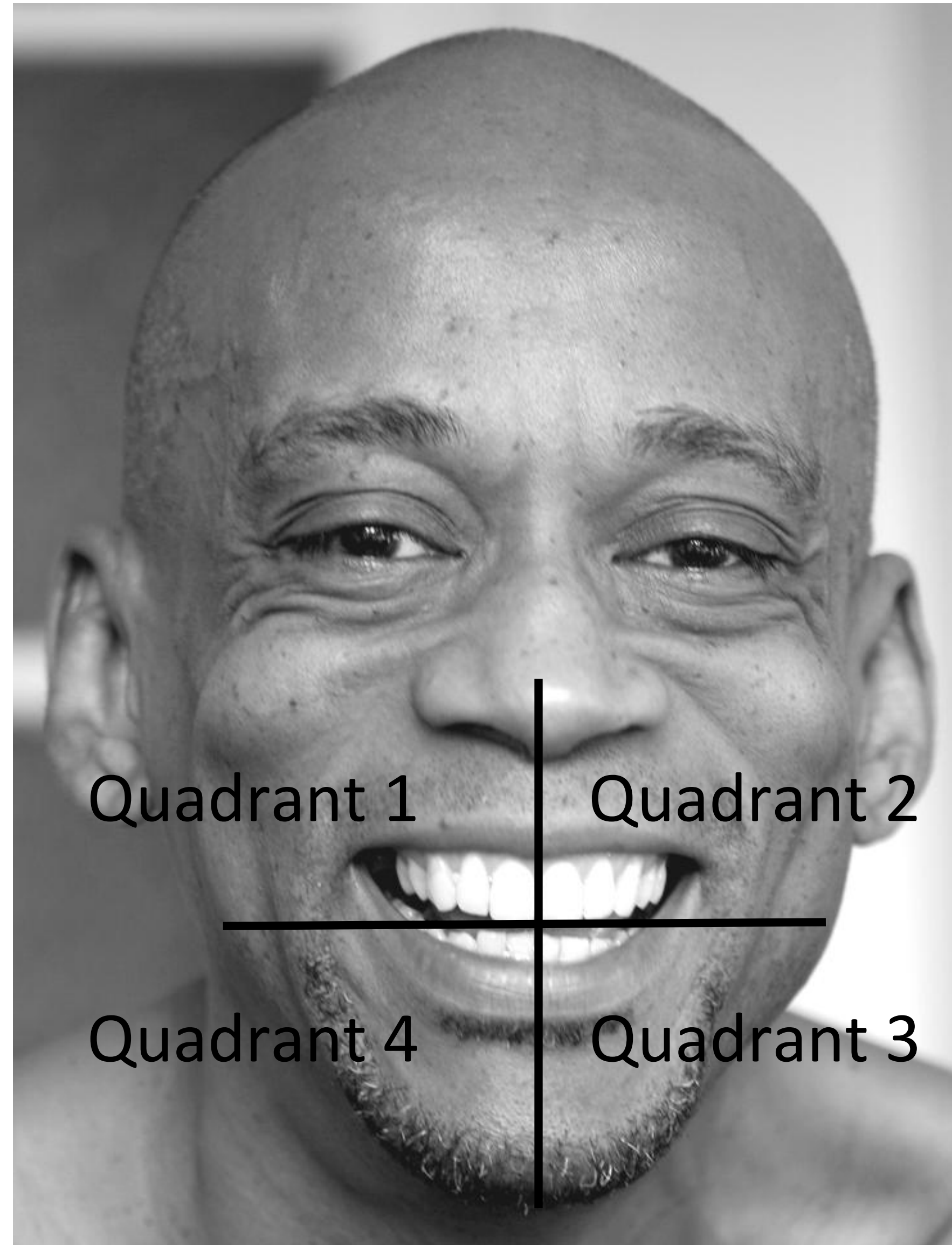
Premolars

Canines

Incisors

QUADRANTS

Patient's Right

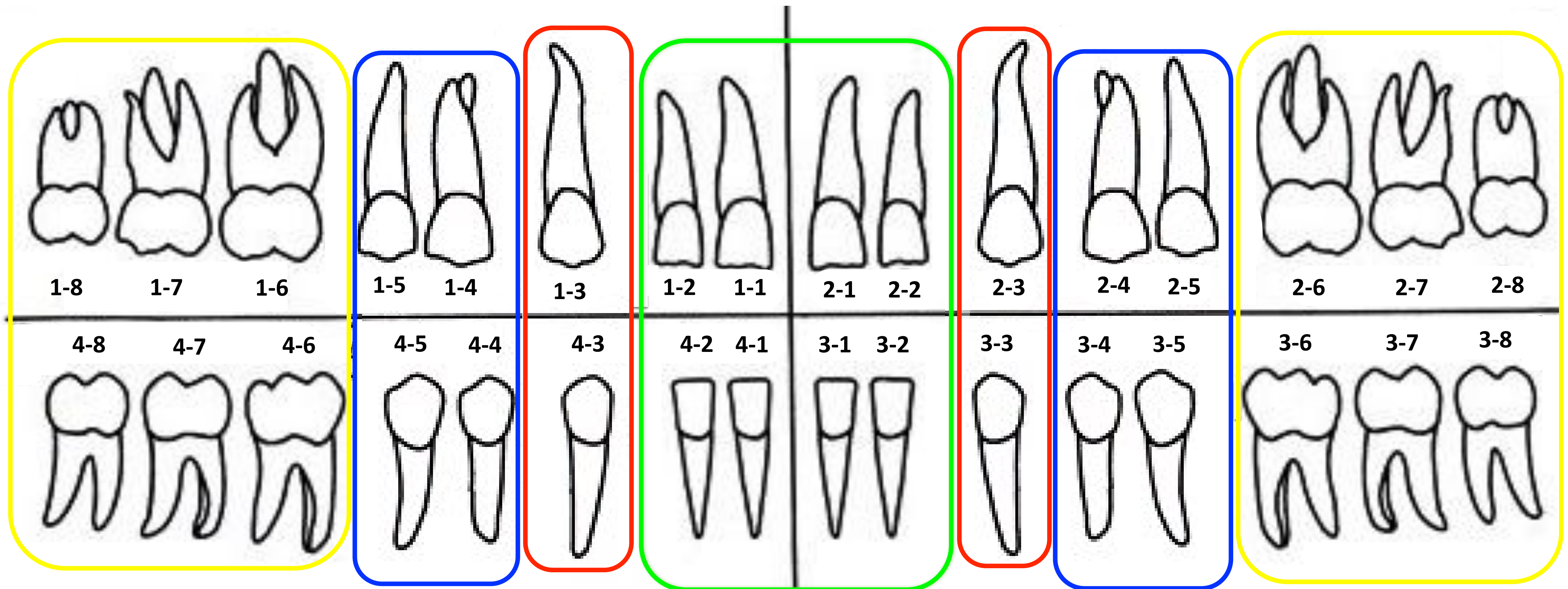


Patient's Left

TYPES OF TEETH

Quadrant 1 (Upper Right)

Quadrant 2 (Upper Left)



Quadrant 4 (Lower Right)

Quadrant 3 (Lower Left)

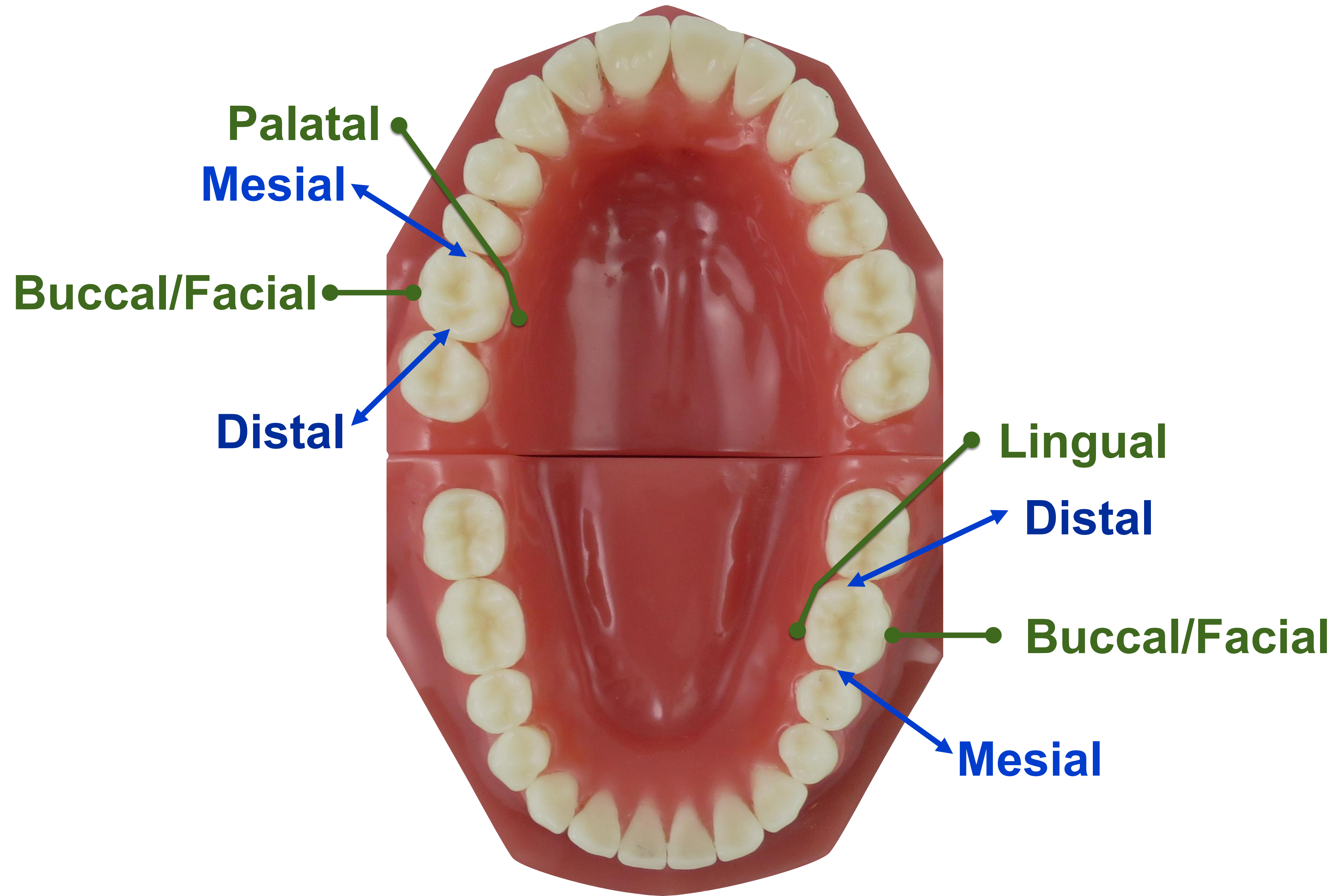
Molars
(6s, 7s, 8s)

Premolars
(4s & 5s)

Canines (3s)

Incisors
(1s & 2s)

TOOTH SURFACES

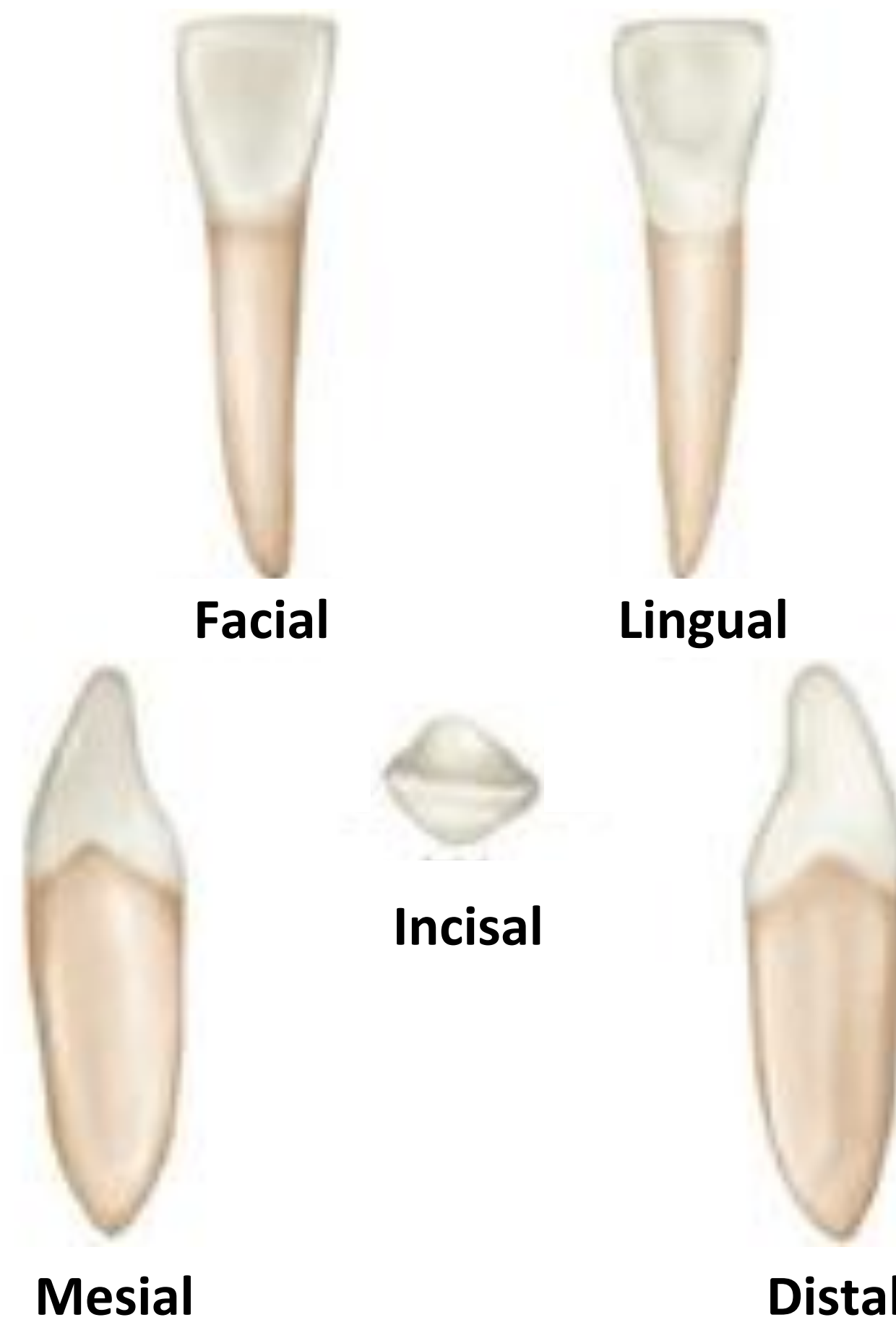


TYPES OF TEETH

Incisors (1s & 2s)

Front teeth, used for cutting. All incisors have 1 root.

Incisors have 1 flat edge, and no cusps.



TYPES OF TEETH

Canines (3s)

Corner (“eye”) teeth, used for tearing. All have 1 root and 1 cusp.



Facial



Incisal



Lingual



Mesial



Distal

TYPES OF TEETH

Premolars (4s & 5s)

Side teeth, used for tearing/grinding. Have 2 cusps. Normally have 1 root, except for upper 1st premolars, which have 2 roots (14 and 24).



Buccal



Lingual



Buccal



Occlusal



Palatal



Mesial



Occlusal



Distal



Mesial



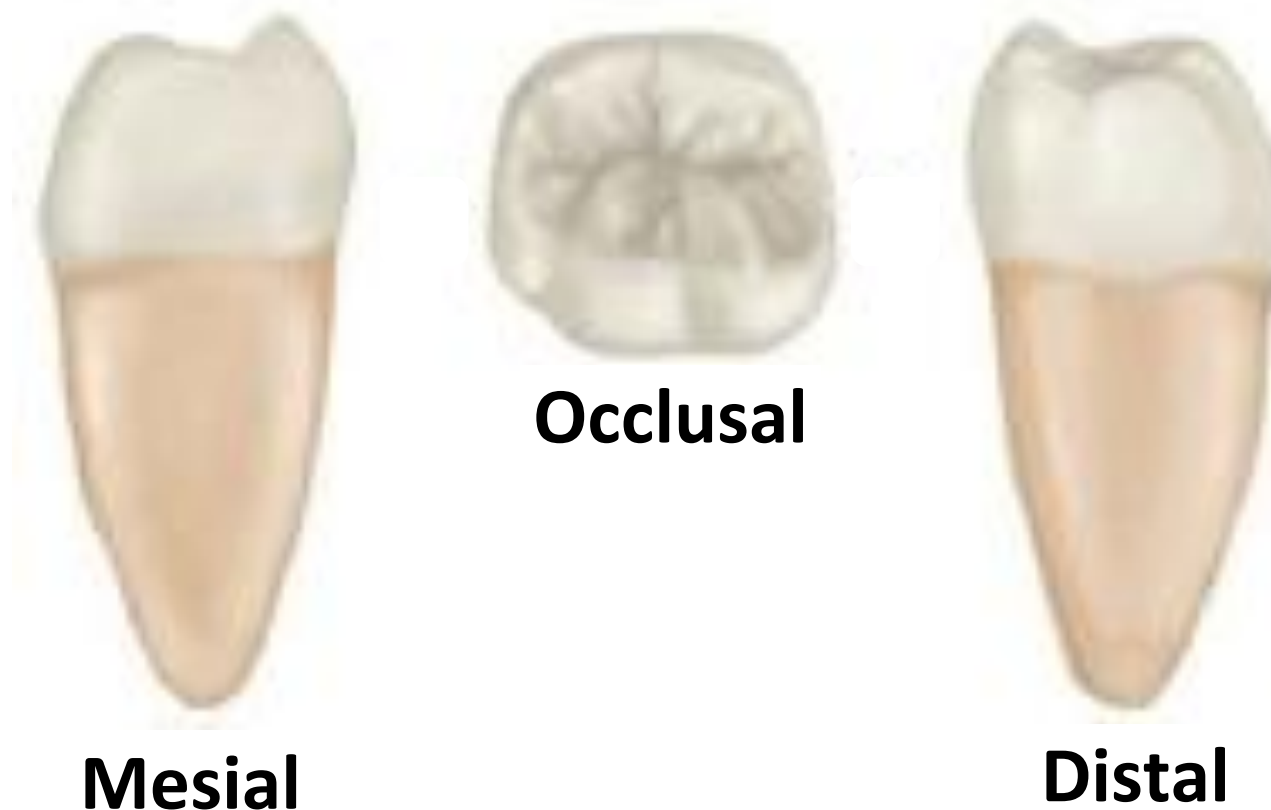
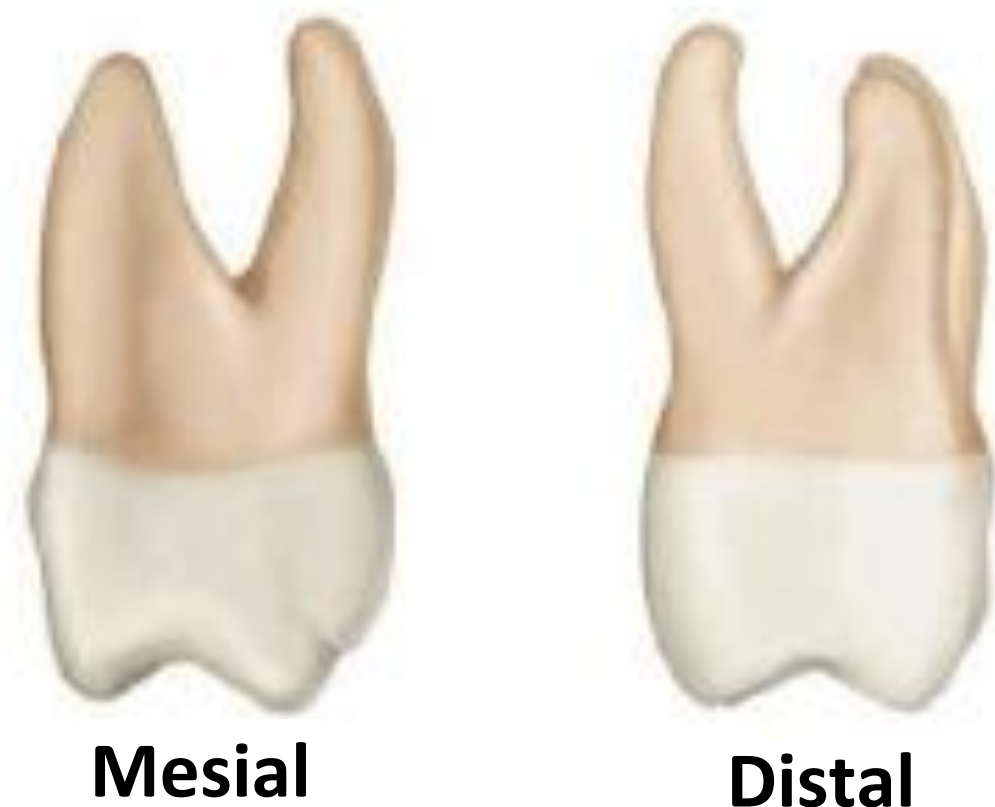
Distal

TYPES OF TEETH

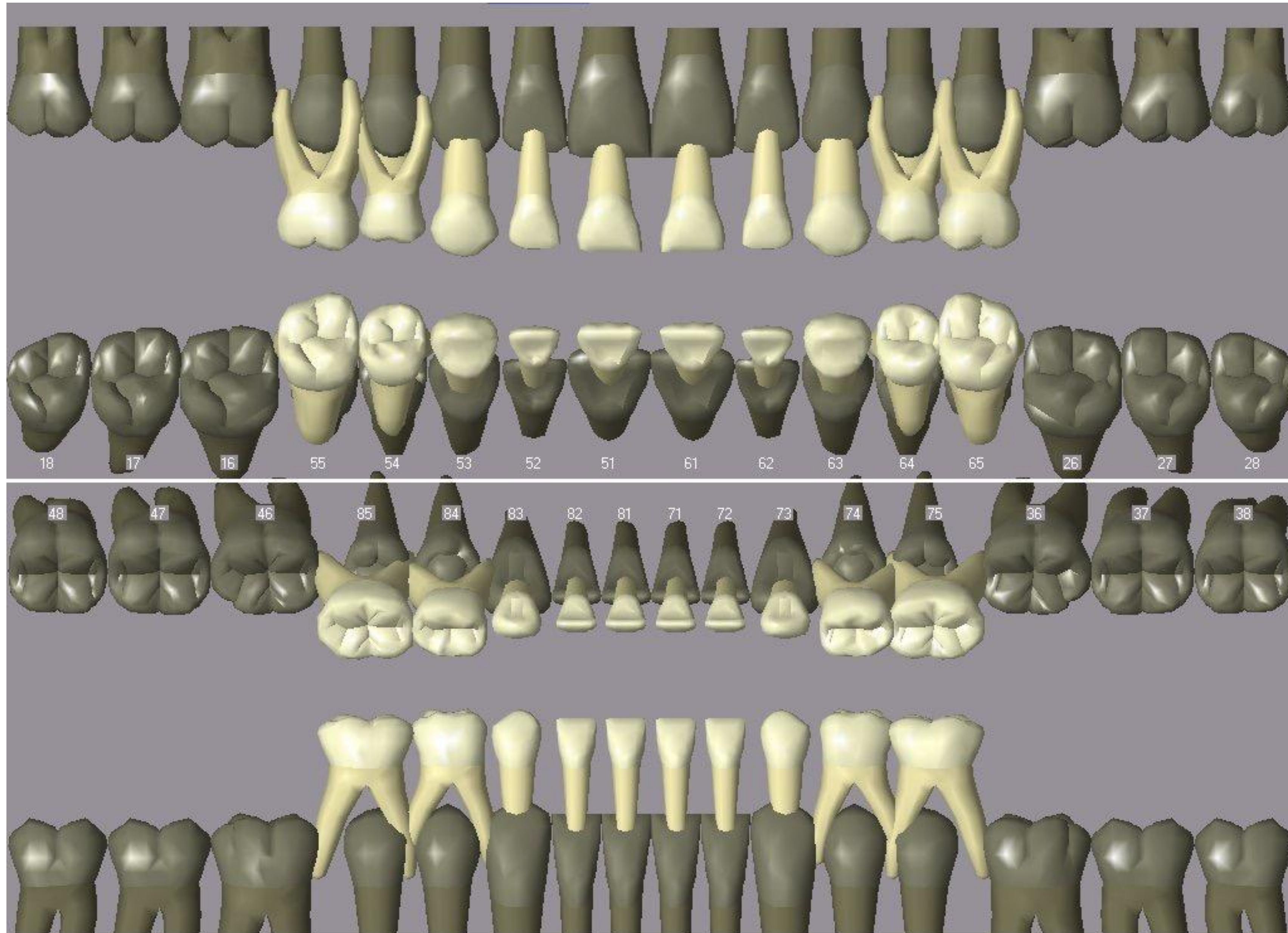
Molars (6s, 7s, 8s)

Back teeth, flatter and square, used for grinding. Have 4 or more cusps.

Upper molars have 3 roots (1 palatal and 2 buccal),
lower molars have 2 roots (1 mesial and 1 distal).



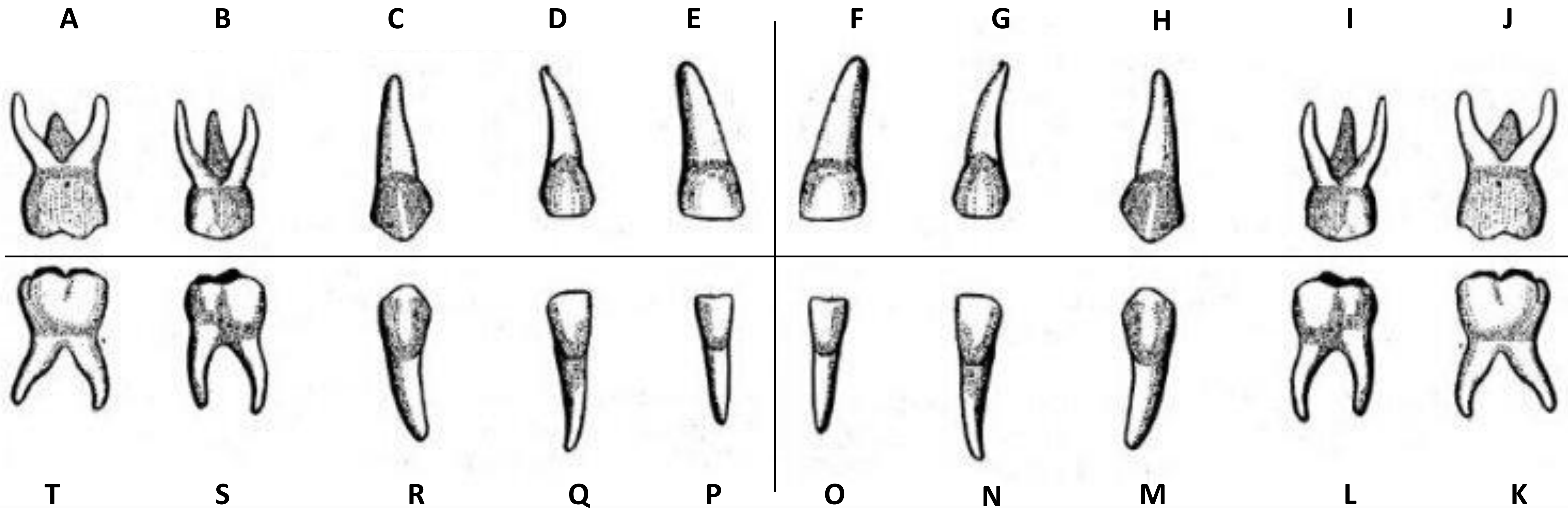
SHAPE AND REPLACEMENT



DECIDUOUS TEETH “BABY TEETH”

Upper Right

Upper Left



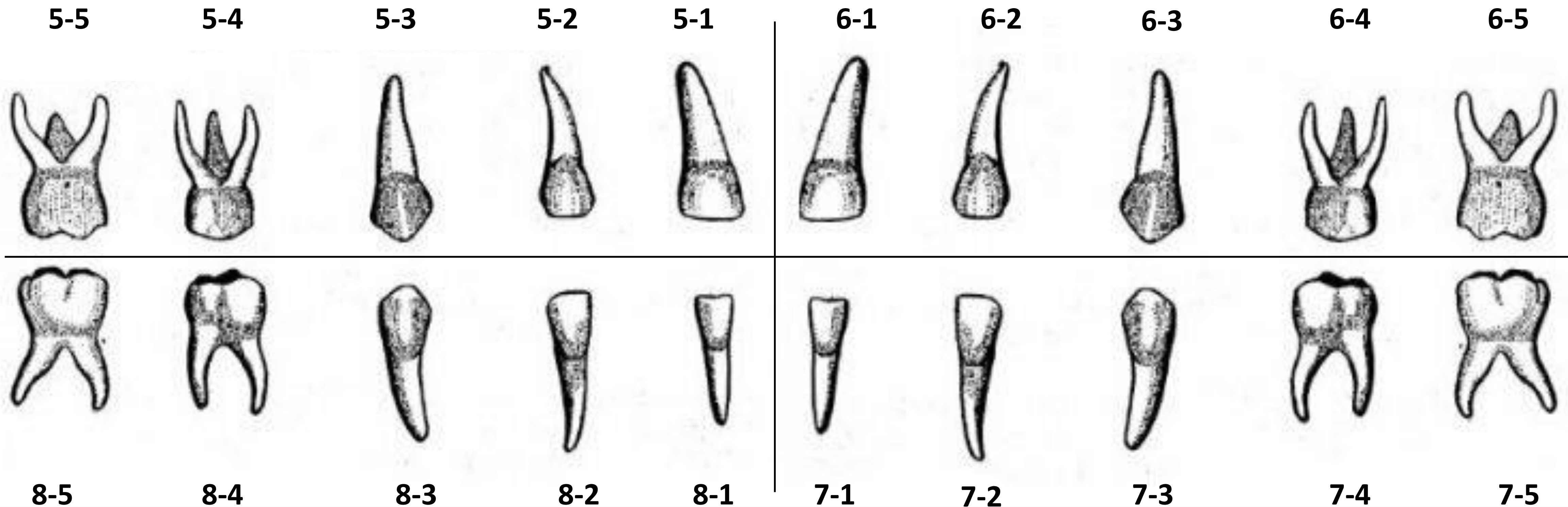
Lower Right

Lower Left

DECIDUOUS TEETH “BABY TEETH”

Quadrant 5

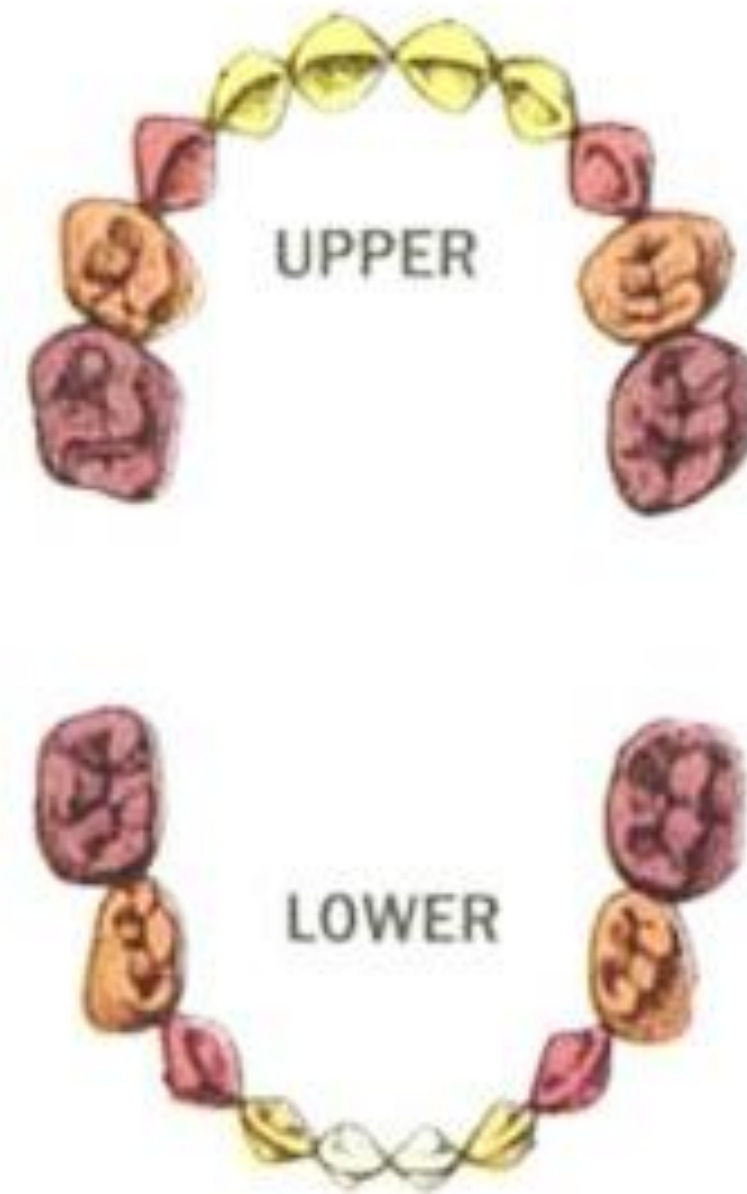
Quadrant 6



Quadrant 8

Quadrant 7

ERUPTION TIMES

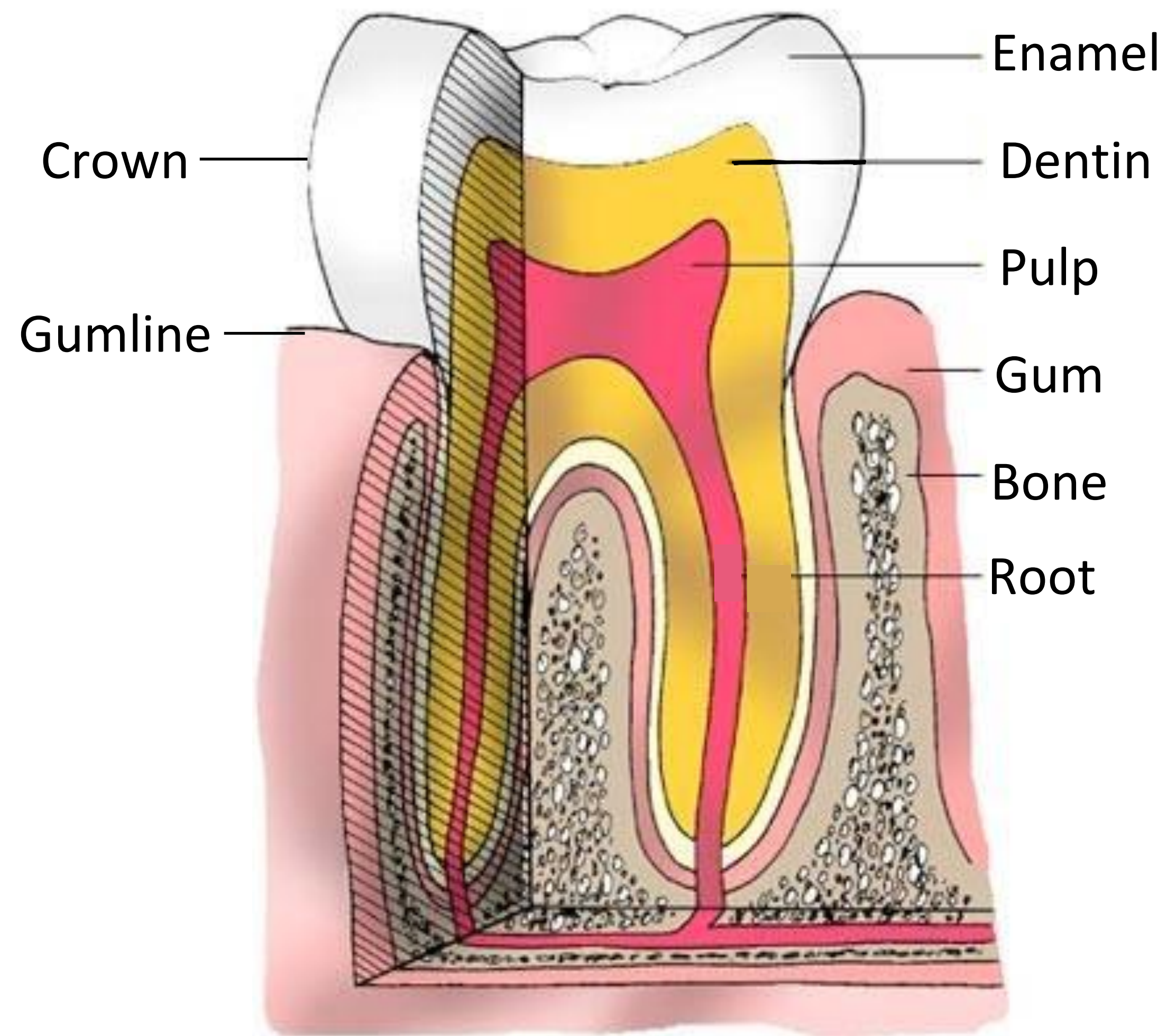


6-10 months	13-19 months
8-13 months	16-23 months
10-16 months	23-33 months



6-8 years	11-13 years
7-9 years	17-21 years
9-12 years	

TOOTH ANATOMY



Enamel- outside layer, white, very hard (unless decayed), not connected to nerve tissue

Dentin- under the enamel, more yellow, a bit softer, connected to nerve tissue within tooth

Pulp- center of the tooth, soft, contains blood vessels and nerves

Crown- the top, visible part of the tooth

Gumline- where the tooth and gums meet

Root- the 2/3 of the tooth which is attached to the bone, usually not visible in a healthy tooth

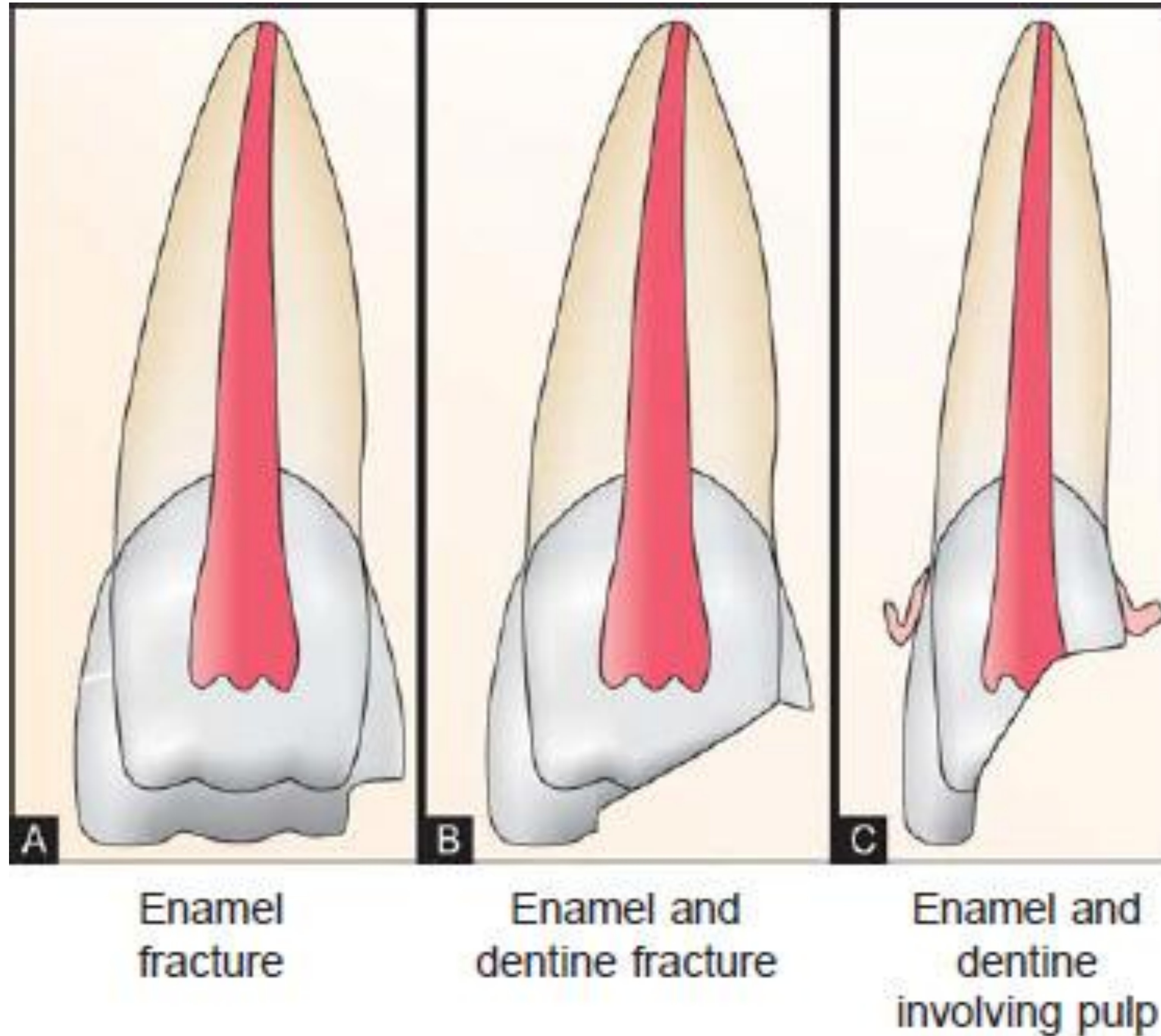
Trauma Guidelines

- Trauma is relatively rare
- Trauma guidelines are complicated and need not be memorized
- Current AAE “Yellow Papers” should be used as reference
- Ellis Class I & II fractures are not an emergency
- Ellis Class III fractures (exposed pulp) require referral for pulpal treatment
- Avulsed teeth should be reimplanted as soon as possible (no root debridement)
- Antibiotics only indicated for avulsed and replanted teeth

Ellis I

Ellis II

Ellis III



PERIODONTAL DISEASE



1. Healthy gums and bone anchor teeth firmly in place. Gums are pink with little bleeding.



2. Gum Disease-
Gums are red, tender and bleed easily.
Reversible with good oral hygiene.

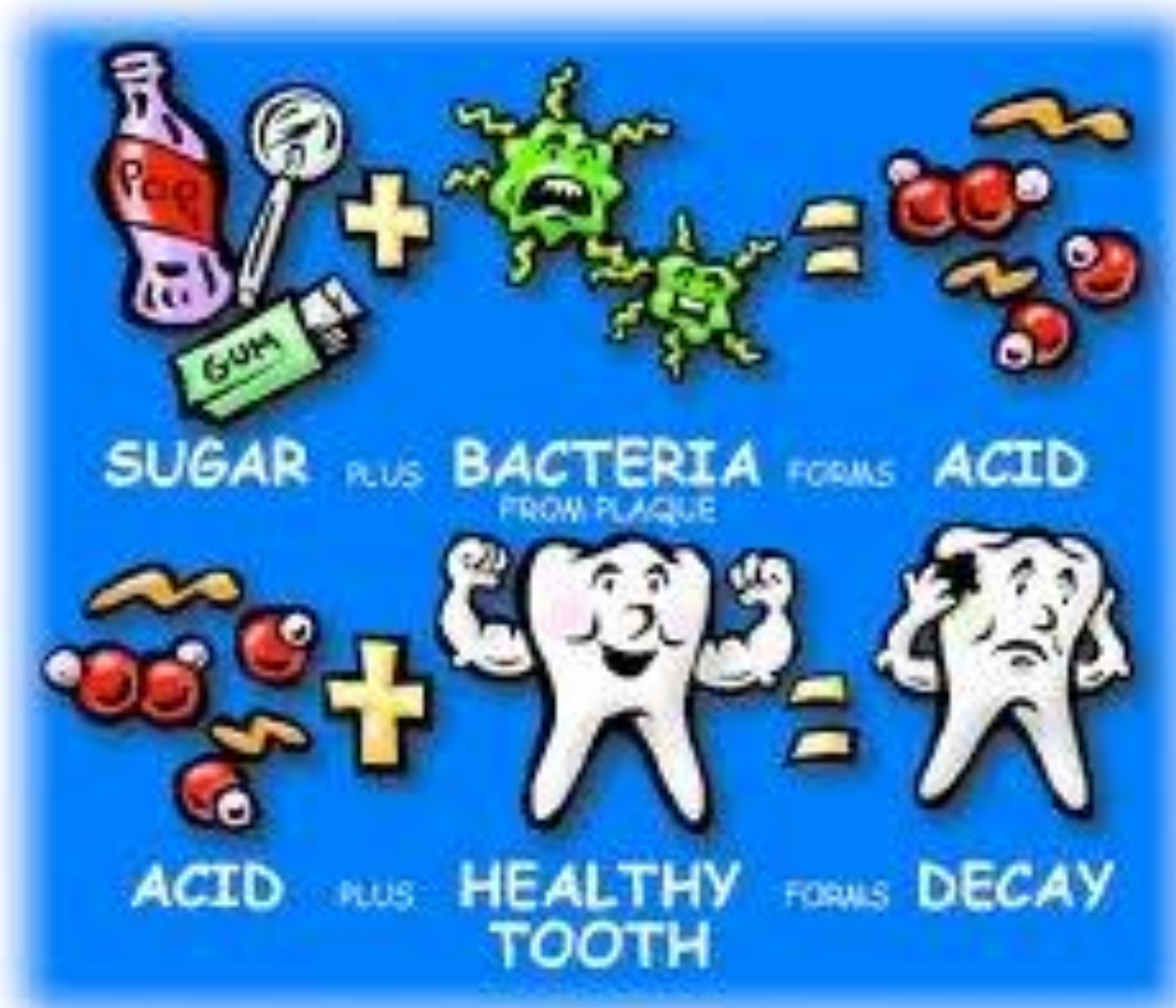
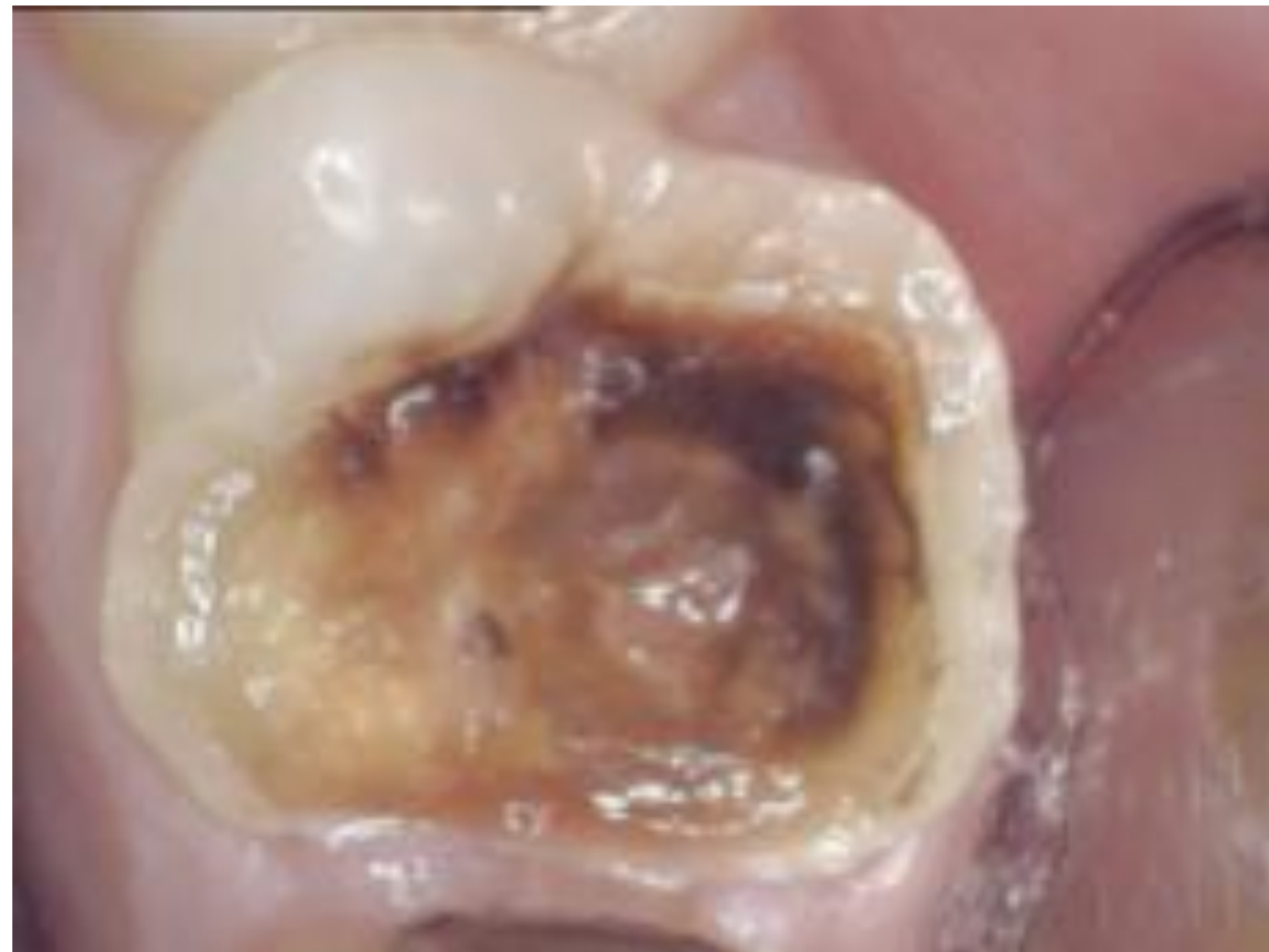


3. Periodontal Disease-
Some of the bone that supports the teeth has been lost. Roots can be exposed and the teeth are sometimes loose.

PLAQUE AND DECAY

Plaque is a soft, sticky, invisible layer of germs, accumulating on the teeth and gums. Plaque can be removed by brushing and flossing. Not keeping your teeth clean can result in tooth decay. The germs in plaque combine with the sugar you eat to produce acid. The acid can cause tooth decay.

Decay is a cavity, a hole on the tooth's outer layer, caused by acid.

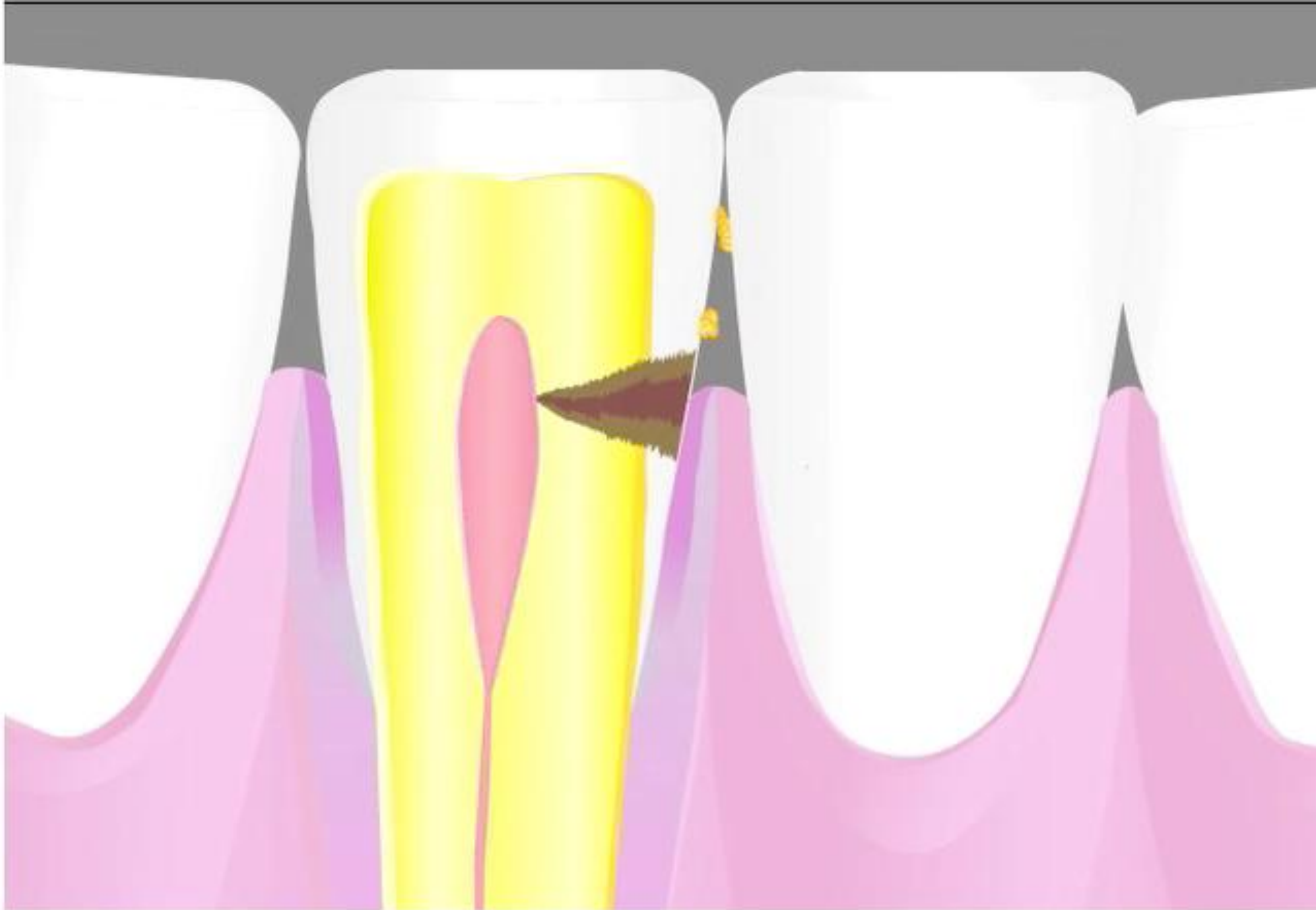


HYGIENE AND EVANGELISM PRESENTATION

Dental decay is caused by a combination of three things. We call this the “unholy trinity” of dentistry: Plaque, Sugar, and Time. When you do not keep your teeth clean, a film develops on your teeth called plaque. Plaque is full of bacteria. When you eat sugar, the bacteria in your mouth break down the sugar over time to produce acid. This acid causes decay.

- **Plaque**: When we fail to keep our teeth clean, we allow plaque to accumulate on our teeth. It is our neglect that contributes to dental decay. The Bible teaches that, “if anyone, then, knows the good they ought to do and doesn’t do it, it is sin for them” (James 4:17).
- **Sugar**: Frequently eating sugar and not cleaning your teeth creates an environment for decay. “Therefore, since we have these promises, dear friends, let us purify ourselves from everything that contaminates body and spirit, perfecting holiness out of reverence for God” (2 Corinthians 7:1).
- **Time**: The longer the plaque and sugar is in contact with your teeth, the more destruction they will cause. Similarly, when we sin, we need to confess it to God and repent of it right away (1 John 1:8-9). “See to it, brothers and sisters, that none of you has a sinful, unbelieving heart that turns away from the living God” (Hebrews 3:12).

BACTERIA AND DECAY VIDEO



FIRST STEP - DIAGNOSIS



Steps for diagnosis:

- 1 - Patient history and symptoms
- 2 - Observation with your mirror
- 3 - Explorer and Tooth Tapping

QUESTIONS FOR THE PATIENT

What are their symptoms?

- How long has the pain been present?
- Does the pain wake you up at night?
- Do cold or hot things make the pain worse?
- Have you had any dental work done recently?



OBSERVATION AND EXAMINATION

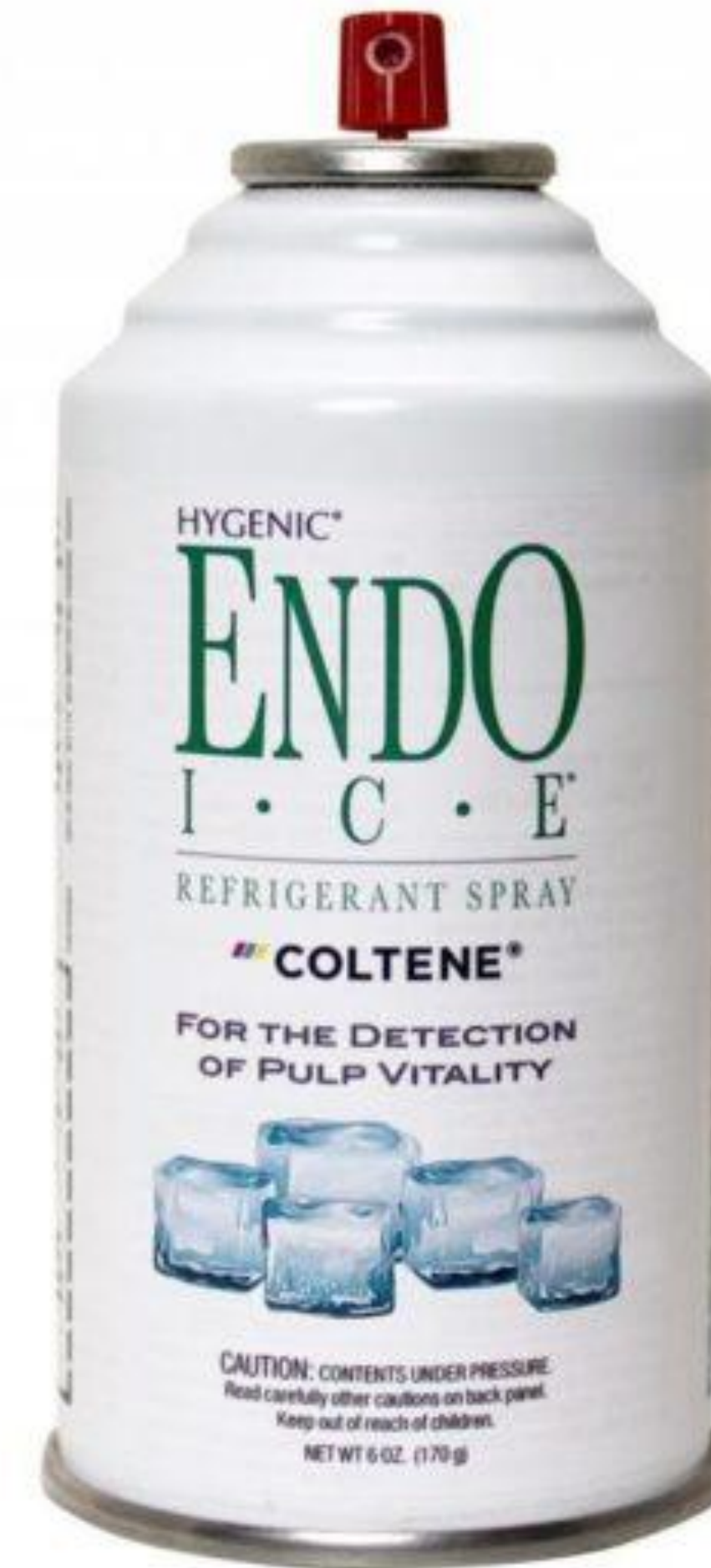
Questions to ask yourself:

- Does the tooth look badly decayed?
- Is the tooth loose?
- Is there swelling or redness around the tooth?



Basic Dental Instruments/Supplies

- Mirror/Handle
- Explorer
- Cotton Forceps/Cotton Rolls
- Endo Ice
- Local anesthesia supplies
- #15 Blade



USING THE EXPLORER



The Explorer is used to:

1. Detect tooth decay
2. Determine the extent of the decay

DECAY OR CALCULUS?



Decay

Soft

Subtraction from tooth

Compromised tooth underneath



Calculus

Hard

Addition to tooth

Solid tooth underneath

PLAQUE OR CALCULUS



Plaque

Soft

Easily Removed with an Explorer
White or Yellow



Calculus

Hard

Cannot Remove with an Explorer
Dark Yellow, Brown, Green, Black

SIN ANALOGY

- Plaque can easily be brushed away. However, if plaque is allowed to remain on the teeth it can harden and become tartar or calculus. Once this happens, it can no longer be removed by brushing. It has to be scaled off with a metal instrument.
- Our efforts to remove our own sin are futile. Similar to calculus, our sin is stuck on us and we cannot brush it off. Our efforts, good works, and religion cannot save us. Isaiah tells us that “all our righteous acts are like filthy rags” (Isaiah 64:6). “It does not, therefore, depend on human desire or effort, but on God’s mercy” (Romans 9:16).
- We need the mercy of God. Thankfully, “Through him everyone who believes is set free from every sin, a justification you were not able to obtain under the law of Moses” (Acts 13:39).

COLOR OF ENAMEL



Stain



Stain



Decay

TOOTH TAPPING

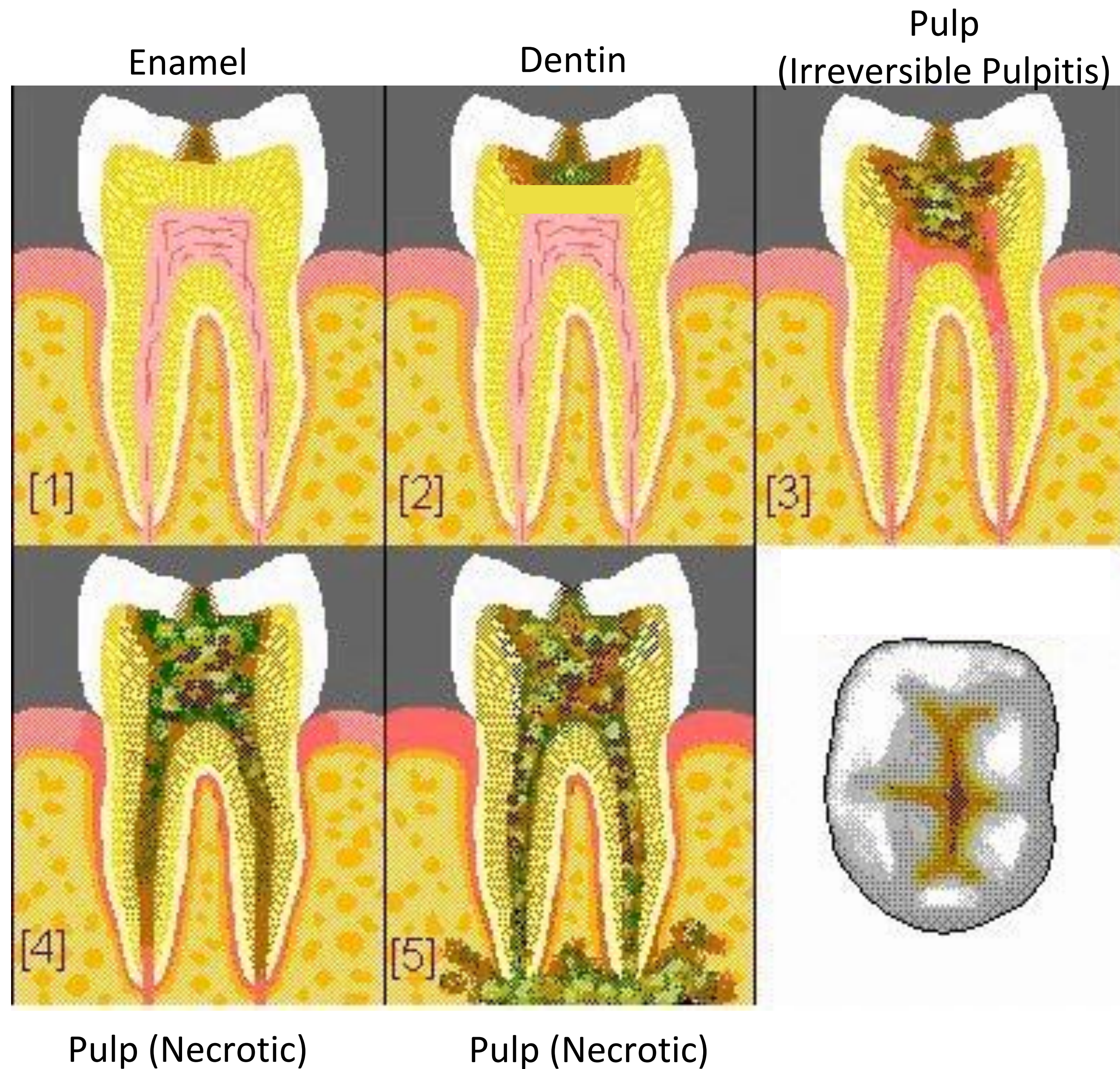
How to tap on teeth:

- Use mirror handle
- Tap the same tooth on the opposite side first. This lets the patient feel what is normal.
- Then tap on the neighboring teeth. The patient can sometimes feel pain when tapping on the neighboring teeth because they touch the problem tooth.
- Then tap on the suspected tooth.
- Compare how “normal” teeth respond compared to the “problem” tooth.

Cold Testing (If Available)

- “Fluff” cotton pellet/roll and saturate with endo ice (Make it sizzle!)
- Hold cotton on facial side of tooth and have patient raise hand once they feel the cold
- Have patient put their hand down once the tooth returns to normal
- We are not concerned so much with the sensitivity to cold but rather how long it takes the tooth to return to normal
- Test the same tooth on the opposite side (if present)
- Test neighboring teeth (if present)
- Finally, test tooth in question and compare relative response to “normal” teeth
- Teeth that have had root canal therapy or teeth with calcified canals will not respond to cold

TYPICAL STAGES OF DECAY



CONSEQUENCES OF DECAY AND SIN

James 1:14-15: “But each person is tempted when they are dragged away by their own evil desire and enticed. Then, after desire has conceived, it gives birth to sin; and sin, when it is full-grown, gives birth to death.”

- Similar to the progression of dental decay, sin starts small and then ends in destruction. Decay in the enamel does not cause pain. Decay into the dentin may be sensitive to cold or sweet. Decay into the pulp can cause severe pain. Once the pulp dies, the tooth will stop hurting to temperature but may become painful to bite upon as the inflammation has moved from the pulp to the ligament supporting the tooth.
- Once the tooth stops hurting, this is often when the patient stops seeking treatment. However, this is the most dangerous phase as the bacteria can erode through the bone and spread into the surrounding gum tissues or even beyond into a larger space. The parallel here is Romans 6:23: “the wages of sin is death.”
- If we don’t repent of sin, we can become jaded to it (1 Timothy 4:2). If we persist in unrepentant sin, God may give us over to the desires of our hearts (Romans 1:24-32). As the old saying goes, “Sin takes you places you never wanted to go, it keeps you longer than you wanted to stay, and it makes you pay more than you ever wanted to pay.”

Terms That Should Be Avoided:

- The Term “Abscess” or description “an abscessed tooth.”
- Infection

Pulpal Diagnosis

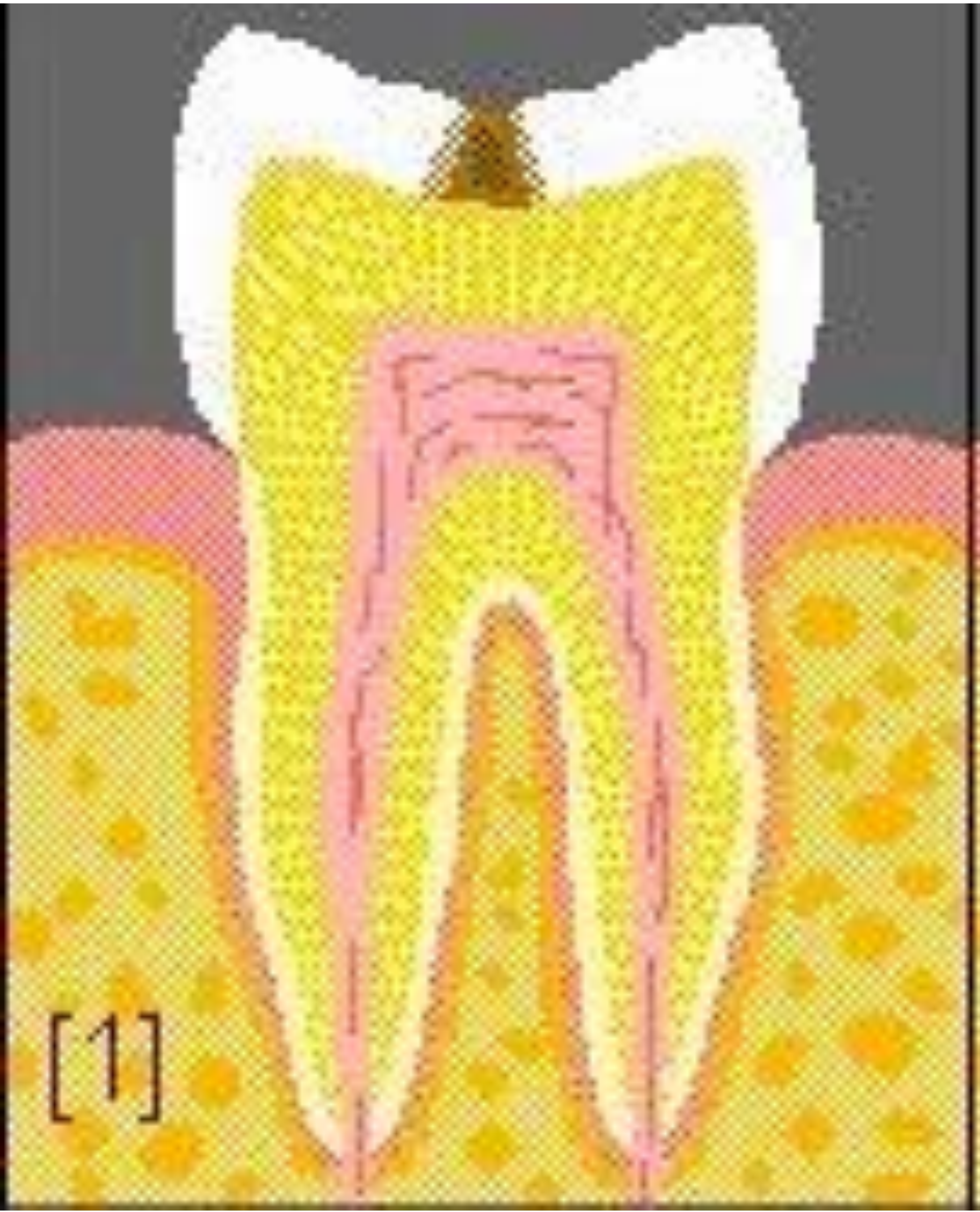
- Normal Pulp
- Reversible Pulpitis
- Irreversible Pulpitis
- Pulp Necrosis
- Previously
Treated/Initiated



Periapical Diagnosis

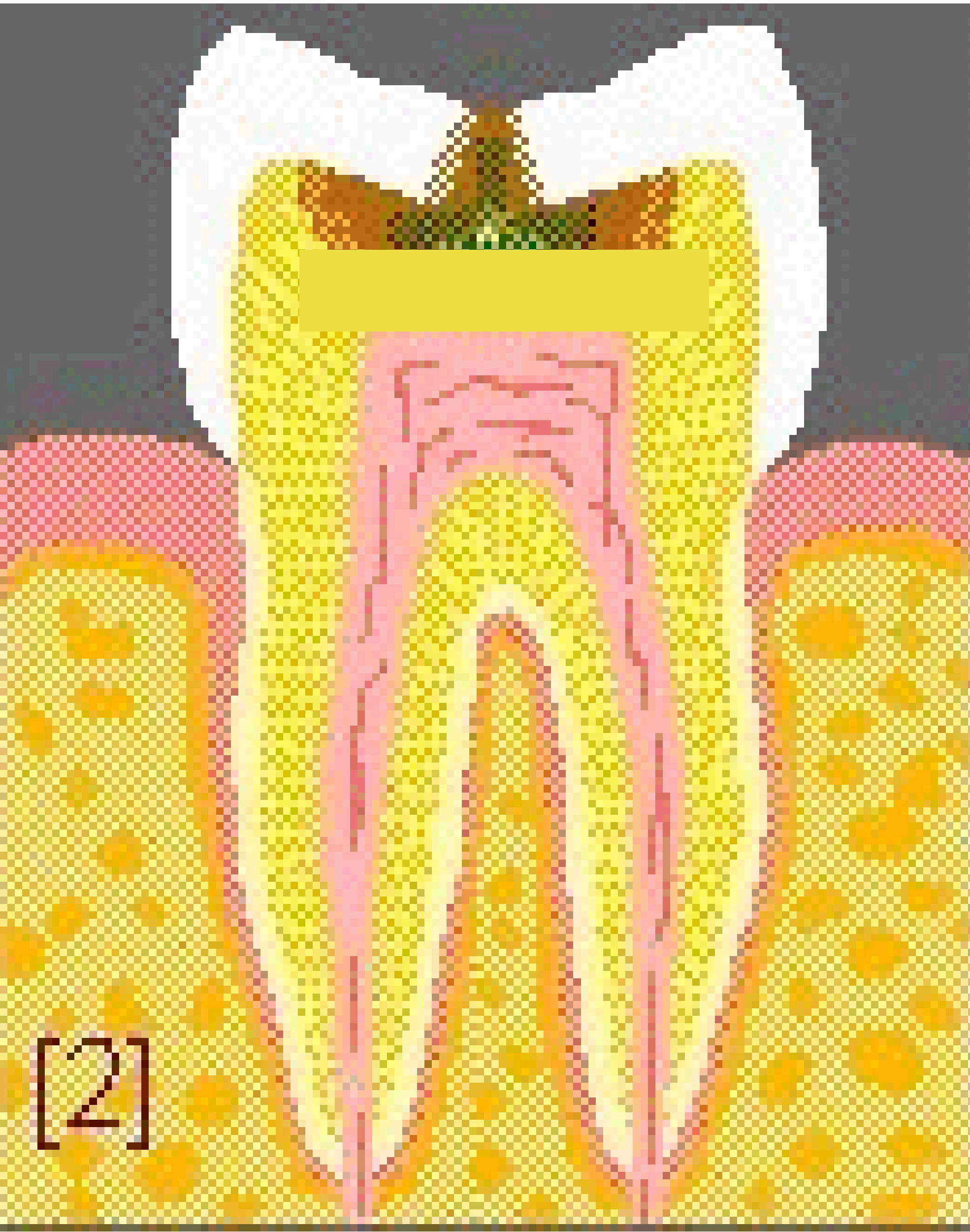
- Normal Apical Tissues
- Symptomatic Apical Periodontitis
- Asymptomatic Apical Periodontitis
- Chronic Apical Abscess
- Acute Apical Abscess

STAGES OF DECAY



- Extent of Decay: Enamel
- Symptoms: None
- Pulpal Diagnosis (Cold Testing): Normal Pulp
- Periapical Diagnosis: Normal Apical Tissues (no percussion sensitivity)
- Treatment: Restorative treatment (“Filling”) to address caries

STAGES OF DECAY



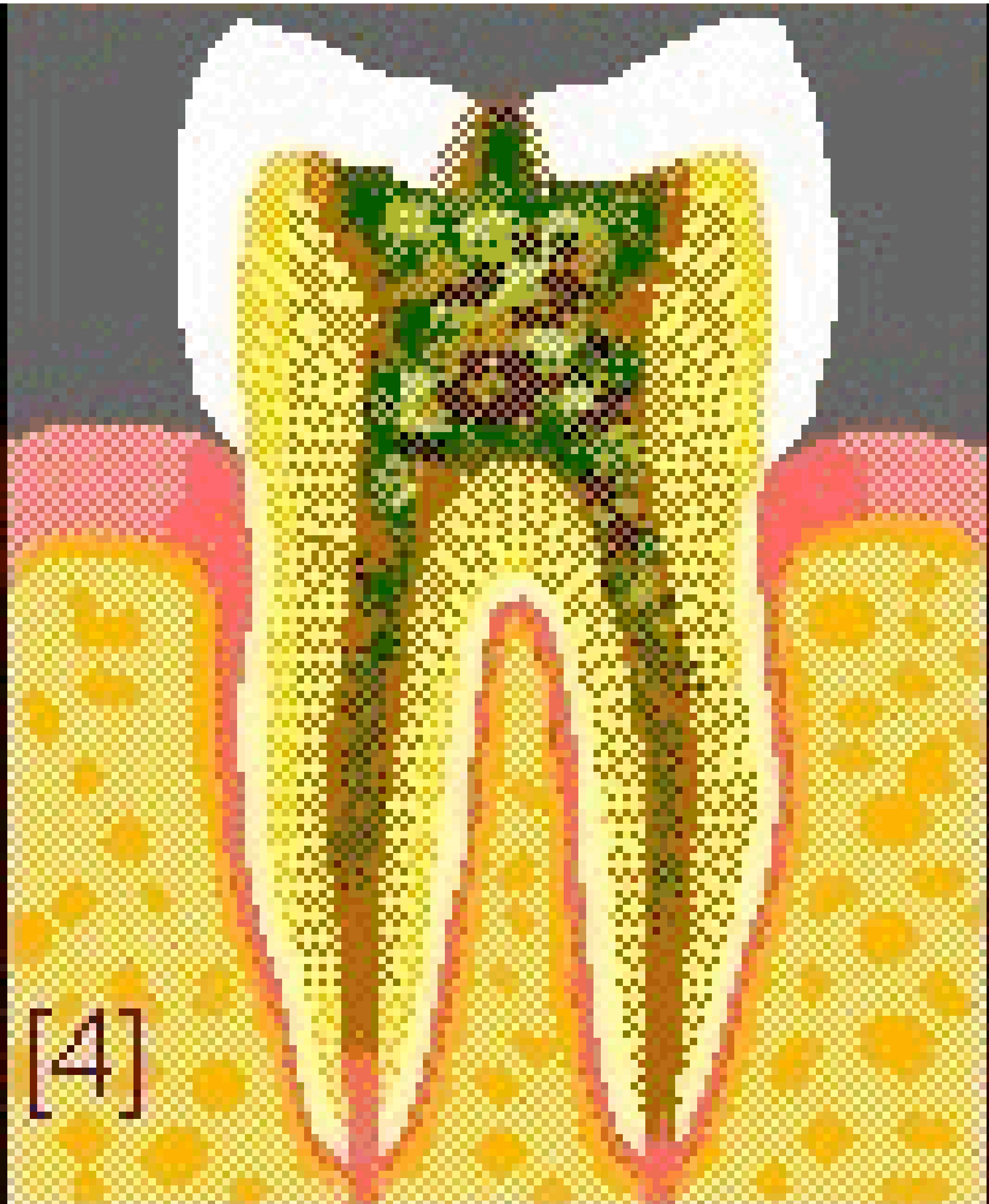
- Extent of Decay: Enamel & Dentin
- Symptoms: Possibly sensitive to cold and/or sweet
- Pulpal Diagnosis (Cold Testing): Reversible Pulpitis (exaggerated response to cold yet returns to normal quickly)
- Periapical Diagnosis: Normal Apical Tissues (no percussion sensitivity)
- Treatment: Restorative treatment (“Filling”) to address caries

STAGES OF DECAY



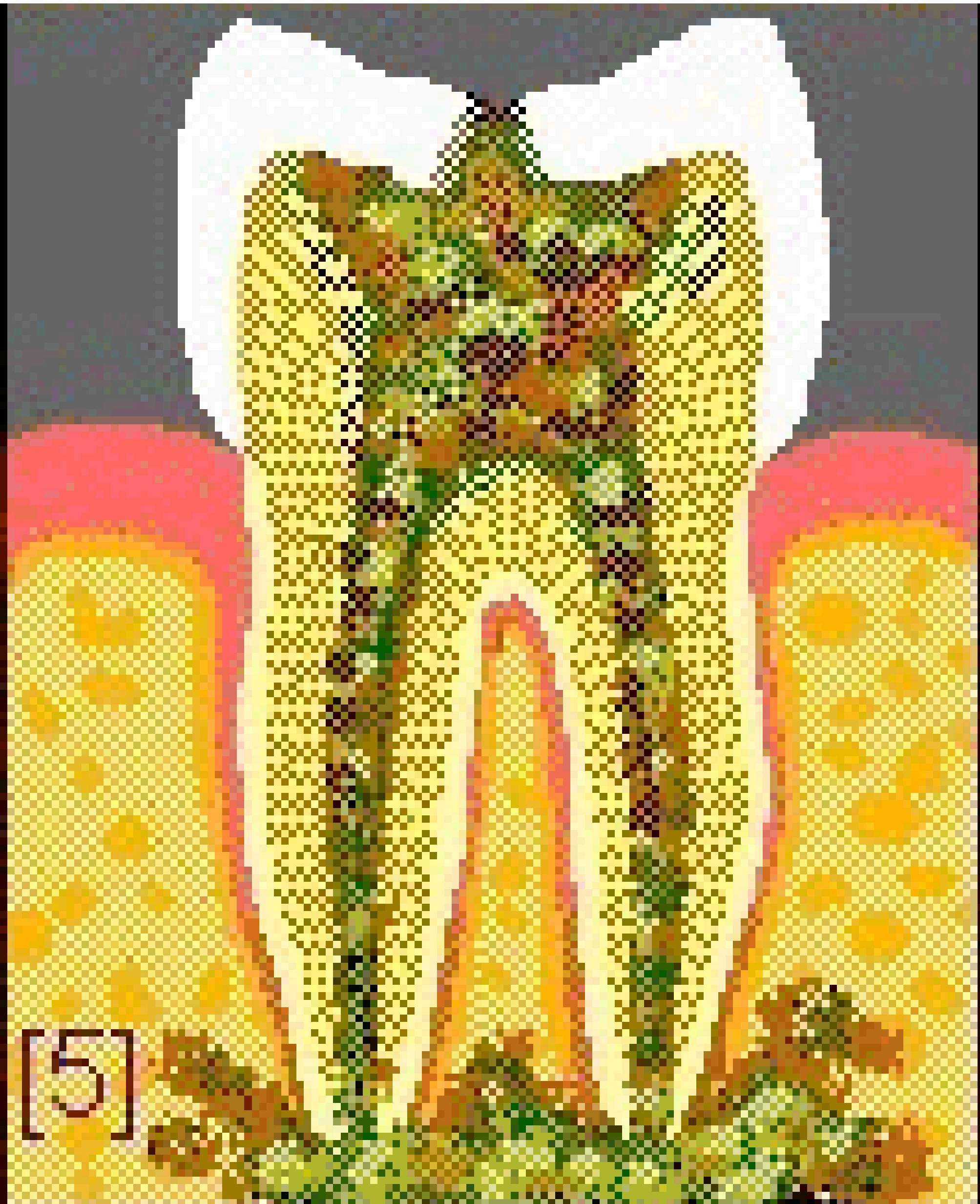
- Extent of Decay: Into Pulp
- Symptoms: Radiating, throbbing, and/or spontaneous pain
- Pulpal Diagnosis (Cold Testing): Irreversible Pulpitis (exaggerated and lingering response to cold)
- Periapical Diagnosis: Often Normal Apical Tissues (no percussion sensitivity); but if percussion sensitive, then Symptomatic Apical Periodontitis
- Treatment: Root Canal Therapy (if restorable) or Extraction

STAGES OF DECAY



- Extent of Decay: Into Pulp
- Symptoms: No temperature sensation; tooth is often sensitive to biting due to inflamed Periodontal Ligament (PDL)
- Pulpal Diagnosis (Cold Testing): Pulp Necrosis (no response to cold)
- Periapical Diagnosis:
 - If symptomatic to percussion:
Symptomatic Apical Periodontitis
 - If asymptomatic to percussion, yet with Periapical Radiolucency on radiograph:
Asymptomatic Apical Periodontitis
- Treatment: Root Canal Therapy (if restorable) or Extraction

STAGES OF DECAY (Necrosis Continued)



- Periapical Diagnosis:
 1. If Sinus tract present: Chronic Apical Abscess
 2. If bacteria have invaded soft tissue and swelling is present: Acute Apical Abscess
- Treatment: Root Canal Therapy (if restorable) or Extraction
For Acute Apical Abscess: I & D immediately followed by Root Canal Therapy or extraction
- Antibiotics? Only if Acute Apical Abscess (AAA) in a patient who is immunocompromised or showing systemic signs (i.e. fever, malaise, etc). Even with an AAA, antibiotics are only given as an adjunct to definitive care (Root canal Therapy or Extraction)

NECROSIS CONTINUED



AAA



Buccal Space Infection



Buccal & Submandibular
Space Infection

Acute Apical Abscess: The swelling is near the tooth and sometimes can only be seen by looking inside the mouth. Bacteria from a necrotic tooth have gone through the bone and spread into the gum tissue near the tooth.

Single & Multiple Space Infections: Bacteria have spread to a larger area and swelling is much more visible. After treatment, this patient should be monitored daily to ensure that they are improving.

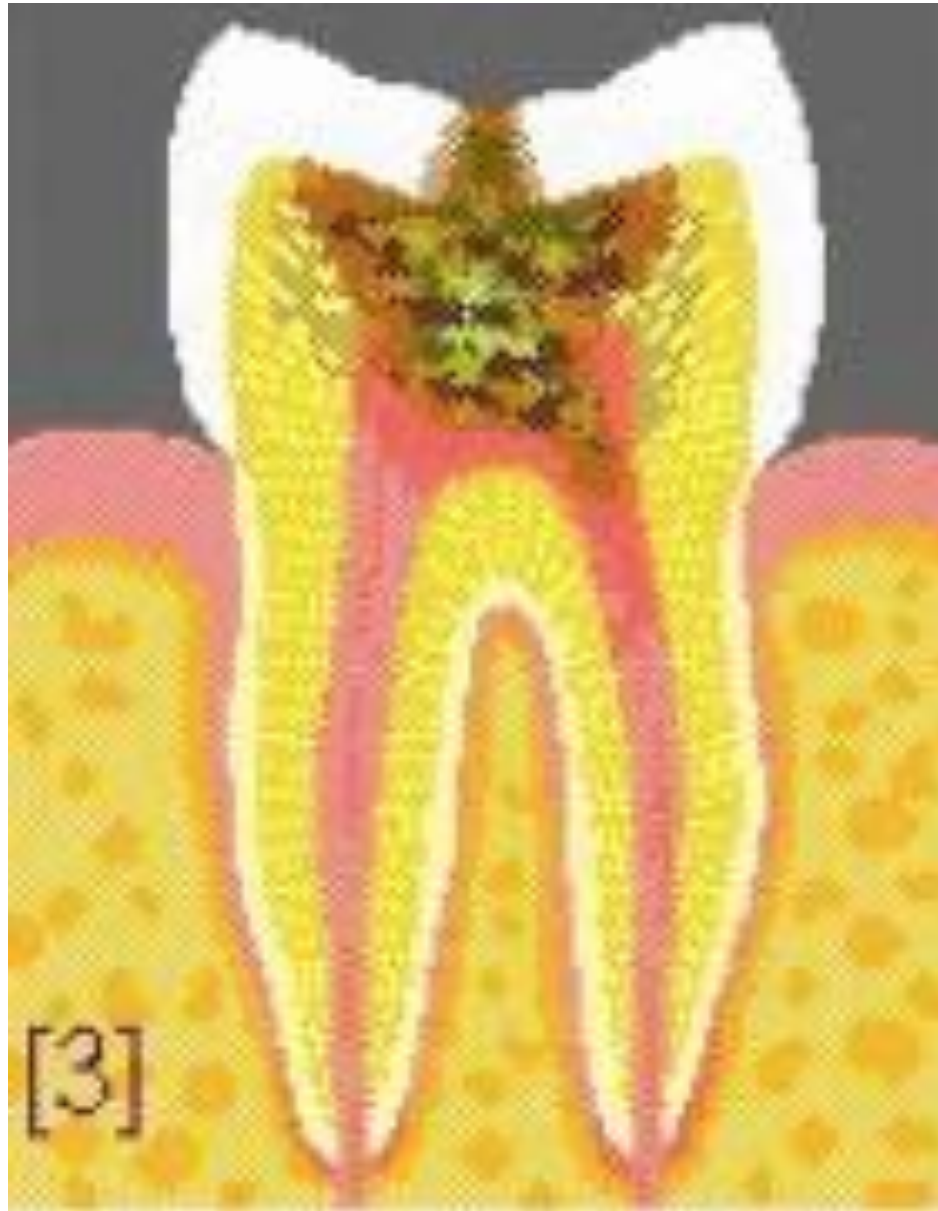
Common Dental Myths About Dental Pain

- Myth: Anyone experiencing dental pain must have an infection
- Truth: Most people presenting in an emergency dental situation with severe pain have irreversible pulpitis (inflamed pulpal tissue)

Common Dental Myths About Dental Pain (Continued)

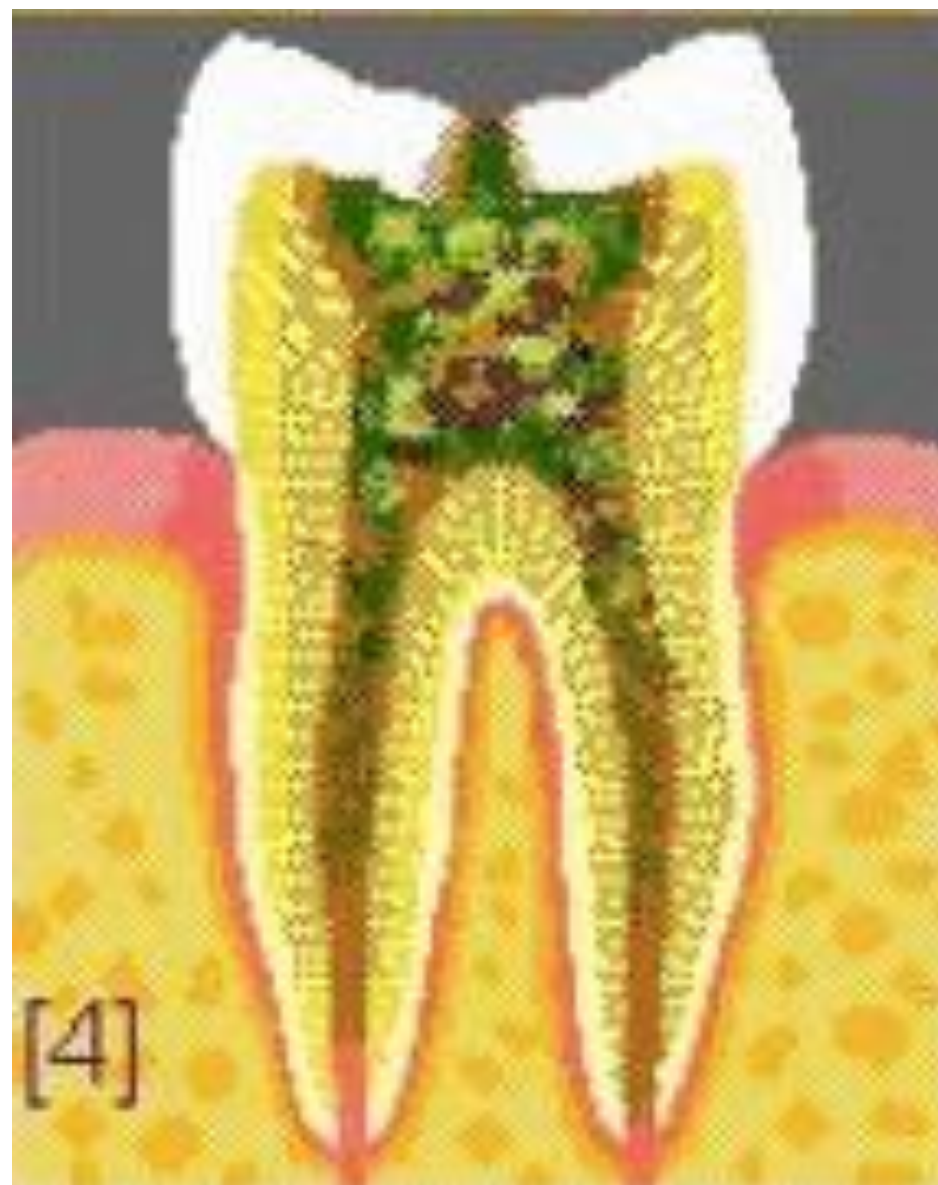
- Myth: “I had a lot of dental pain and then the physician gave me an antibiotic. After taking the antibiotic, the pain eventually went away. The antibiotic cured me of my dental infection.”
- Truth: The pain the patient was experiencing was irreversible pulpitis (an inflamed pulp). The patient never had an infection to begin with. The pain went away because the pulp eventually necrosed. This is simply the “after this, therefore because of this” phenomenon. The patient falsely attributes the relief of the pain to the antibiotic. Rather the inflamed pulpal tissue eventually died and therefore the pain went away.

REVIEW: PULPITIS VS. NECROSIS



Pulpitis: inflammation of the nerve inside the tooth

- Often very painful
- Sensitive to hot/cold
- Can wake a person up at night



Necrosis: nerve inside the tooth has died

- Tooth no longer sensitive to hot/cold
- Often sensitive to biting or tapping

Symptoms That Are Not Indicative Of True Infection (Yet Are Often Mis-Diagnosed As Infection)

- Severe Pain/“Toothache”
 - Irreversible Pulpitis
 - Alveolar Osteitis (after recent treatment)
- Normal Post-operative Edema (especially within first 3 days)
- Post-operative trismus (within 1st week)
- Patient Demand/Self-Diagnosis
- Anesthetic Failure!

Signs (Not Symptoms) Of True Infection

- Pus
- Trismus (unless post-operative trismus from recent treatment)
- Fever (especially in younger patients)
- Malaise

Four Myths About Infection That “Prevent” Immediate Treatment

1. Antibiotics alone will cause the infection to subside (without definitive treatment). Therefore, immediate treatment is not necessary.
2. Local anesthetic injections in the presence of infection can cause the spread of infection.
3. The presence of infection makes adequate anesthesia impossible.
4. Definitive treatment in the presence of infection will cause the infection to spread.

Myth #1: Antibiotics Alone Will Cause The Infection To Subside (Without Definitive Treatment)

“The primary method for treating endodontic infections is to perform surgery to remove the source of the infection and drain the anatomic spaces affected by indurated cellulitis or an abscess.

Whenever an abscess or cellulitis is diagnosed, the surgeon must drain it.

Failure to do so may result in worsening of the infection and failure of the infection to resolve, even if antibiotics are given” (305).

Myth #1: Antibiotics Alone Will Cause The Infection To Subside (Without Definitive Treatment)

“Moreover, when surgery cannot be done immediately, a course of antibiotics does not reliably prevent worsening of the infection” (306).

Myth #1: Antibiotics Alone Will Cause The Infection To Subside (Continued)

- Antibiotics do not penetrate biofilms well.
- Surgical drainage is the most important treatment we can offer.
- Essentially, the treatment of almost all dental infection is surgical, ranging from excavation of decay and gingival curettage to extraction and incision and drainage.

Myth #2: Local Anesthetic Injections In The Presence Of Infection Can Cause The Spread Of Infection

“The traditional belief is that injecting directly into a swelling is contraindicated. The reasons given were the possible spread of infection and that the anesthetic solutions would be affected by the lower pH and would be rendered less effective” (157).

Myth #2: Local Anesthetic Injections In The Presence Of Infection Can Cause The Spread Of Infection

“However, a basic science investigation found that local anesthetics may be successful in inflamed tissue, which is acidified. Regardless, the basic reasons we do not inject swellings is that it is very painful and relatively ineffective”
(157).

Myth #2: Local Anesthetic Injections In The Presence Of Infection Can Cause The Spread Of Infection

“If soft tissue swelling (ie, cellulitis or abscess) is present, infiltrate on either side of the swelling or administer a block” (157).

Myth #3:

The Presence Of Infection Makes Adequate Anesthesia Impossible

- Anesthetic failure is well-documented in the endodontic literature for lower molars with irreversible pulpitis.
 - This inflammatory phenomenon often gets misdiagnosed as infection.
 - The “acidosis hypothesis” from 1936 still widely believed

Reader et al question the “acidosis hypothesis”

“Another explanation relates to the theory that that the lowered pH of inflamed tissue reduces the amount of the base form of anesthetic to penetrate the nerve membrane.

Consequently, there is less of the ionized form within the nerve to achieve anesthesia” (135).

Reader et al question the “acidosis hypothesis”

If this mechanism of failure is correct, it may be true for an infiltration injection in the maxilla.

It does not explain the mandibular molar with pulpitis that is not readily anesthetized by an IANB injection.

The local anesthetic is administered at some distance from the area of inflammation.

Therefore, it is difficult to correlate local influences with failure of the Inferior Alveolar Nerve Block” (pg. 135).

Isik et al question the “Acidosis Hypothesis”

“Another reason for dentists not to intervene in infected teeth is the fear of anesthesia failure.

Some local changes may occur due to infection and inflammation.

According to the common belief, the acidity increases in the inflamed area preventing local anesthesia but this is actually an unproven theory.”

Isik et al. Acutely infected teeth: To extract or not to extract? Braz Oral Res. 2018; 32:e124.

Reader et al question the “acidosis hypothesis” in light of more current literature

Interestingly, a basic science investigation found that local anesthetics may be successful in inflamed tissue which is acidified” (135).

This was based on research published by Tsuschiya et al in 2007.

Ueno et al 2008

- Inflammatory acidosis is most frequently cited as the cause of dental anesthesia failure, but this has not been experimentally proven
- Tissue acidosis is not essentially responsible for the local anesthetic failure associated with inflammation
- Inflammatory cells producing peroxynitrite may affect local anesthesia

JOE 2007

- Warren et al: 6-fold increase in density of Nav1.8 channels in inflamed pulp as compared to control pulp

Quantification of Neural Protein in Extirpated Tooth Pulp. Journal of Endodontics, Volume 34, Issue 1, 7 – 10.

- Wells et al: Upregulation of Nav1.9 channels in symptomatic pulps might play a key role in anesthetic failure

Expression of Nav1.9 channels in human dental pulp and trigeminal ganglion. J Endod. 2007 Oct;33(10):1172-6.

- These two sodium channels (Nav1.8 & Nav1.9) are more resistant to local anesthetics



Myth #4: Treatment In The Presence Of Infection Will Cause The Infection To Spread

“Contrary to widely held opinion, extraction of a tooth in the presence of infection does not promote the spread of infection.”

Therefore, prompt removal of the offending tooth (or teeth) in the presence of infection is to be encouraged; a prior period of antibiotic therapy is not necessary” (306).

Today is the Day!

“Infected teeth should be extracted as soon as possible and the procedure should not be postponed by giving antibiotics for pain relief or infection controlling. Immediate extractions prevent the development of more serious infections and unnecessary use of antibiotics. Antibiotics should not be considered as an alternative for surgical or endodontic intervention.”

Isik et al. Acutely infected teeth: To extract or not to extract? Braz Oral Res. 2018; 32:e124.

An I&D Is The Minimum Treatment That Should Be
Performed When A True Infection Is Present

“Even if the tooth cannot be immediately opened or extracted,
an I & D should be done” (305).

An I&D Is The Minimum Treatment That Should Be Performed When A True Infection Is Present

An I & D may be required in addition to endodontic treatment or extraction.

Incision/evacuation of the abscess or cellulitis allows for:

- Removal of the accumulated pus and bacteria from the underlying tissue.
- Dramatically decreases the load of bacteria and necrotic debris.
- Reduces the hydrostatic pressure in the region by decompressing tissues
 - Improves the local blood supply
 - Increases the delivery of host defenses and antibiotics to the infected area.
- Serves to abort the spread of the infection into deeper anatomic spaces

An I&D Is Effective, Even If Pus Is Not Encountered During Procedure

“Incision and drainage of a cellulitis is to be encouraged rather than avoided. Experience has shown that when pus is not encountered during incision and drainage, the patient still gets better” (250).

False Contraindications To Same-Day Treatment

- Antithrombotic Therapy
- HIV
- Hypertension
- Pregnancy

TREATING PREGNANT WOMEN



- Delay treatment until after the pregnancy if there is no pain or no infection.
- Second trimester is the safest time for treatment.
- If pain medication is needed, only give Acetaminophen.
- If antibiotics are needed, only use Amoxicillin or Clindamycin.
- Lidocaine (with epinephrine) is safe during all trimesters of pregnancy.
- Dental radiographic imaging is safe and should not be avoided if treatment is indicated.

INSTRUMENTS FOR INJECTIONS

- Syringe (3mL if available)
- Long Needle (~35 mm)
- Vial of 2% Lidocaine with 1:100,000 Epinephrine

OR

- Syringe
- Long Needle (~35 mm)
- 1.8 mL Cartridge of 2% Lidocaine with 1:100,000 Epinephrine



ADDING EPINEPHRINE

Anesthetic without epinephrine will not keep the patient numb for very long.

What to buy:

- 2% Lidocaine usually comes in 20mL, 30mL, or 50mL vials.
- 1:1,000 (1mg/1mL) Epinephrine usually comes in 1mL glass ampules, either amber or clear glass



ADDING EPINEPHRINE

Use gloves and a CLEAN needle.

Use a small 1mL syringe that has markings for every 0.1mL.

Carefully break open ampule of 1:1,000 epinephrine.

Draw up epinephrine and add:

- 0.2mL to a 20mL vial of lidocaine.
- 0.3mL to a 30mL vial of lidocaine.
- 0.5mL to a 50mL vial of lidocaine.

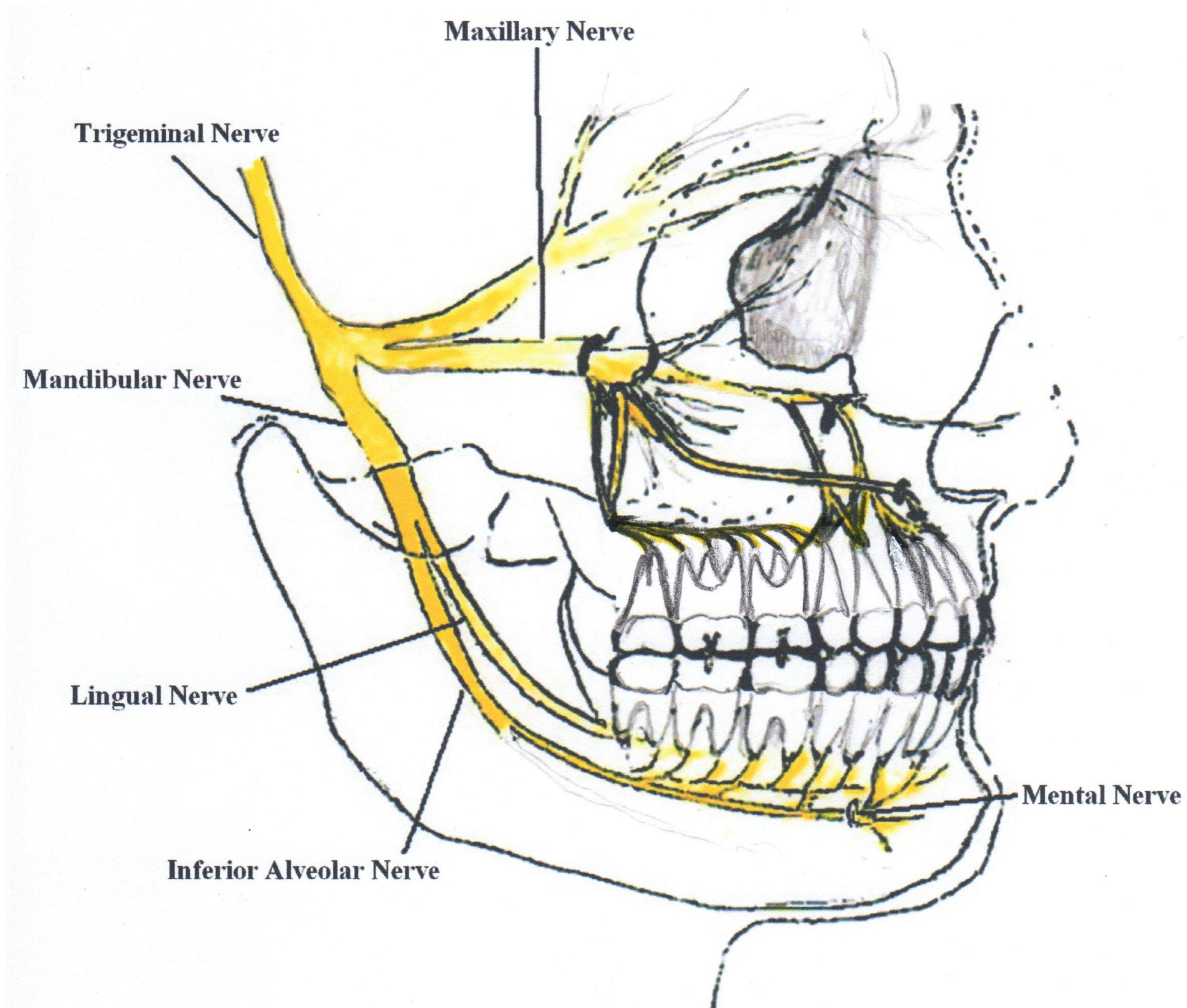
Shake vial after mixing. Immediately label vial to show that epinephrine has been added.



VOLUME OF 2% LIDOCAINE

	Weight	Maximum Dosage
Adult	Over 45 kg (100 lbs)	15 mL
Child	23 - 45 kg (50 - 100 lbs)	7.5 mL
Small Child	Under 23 kg (50 lbs)	3.25 mL

NERVE LOCATION



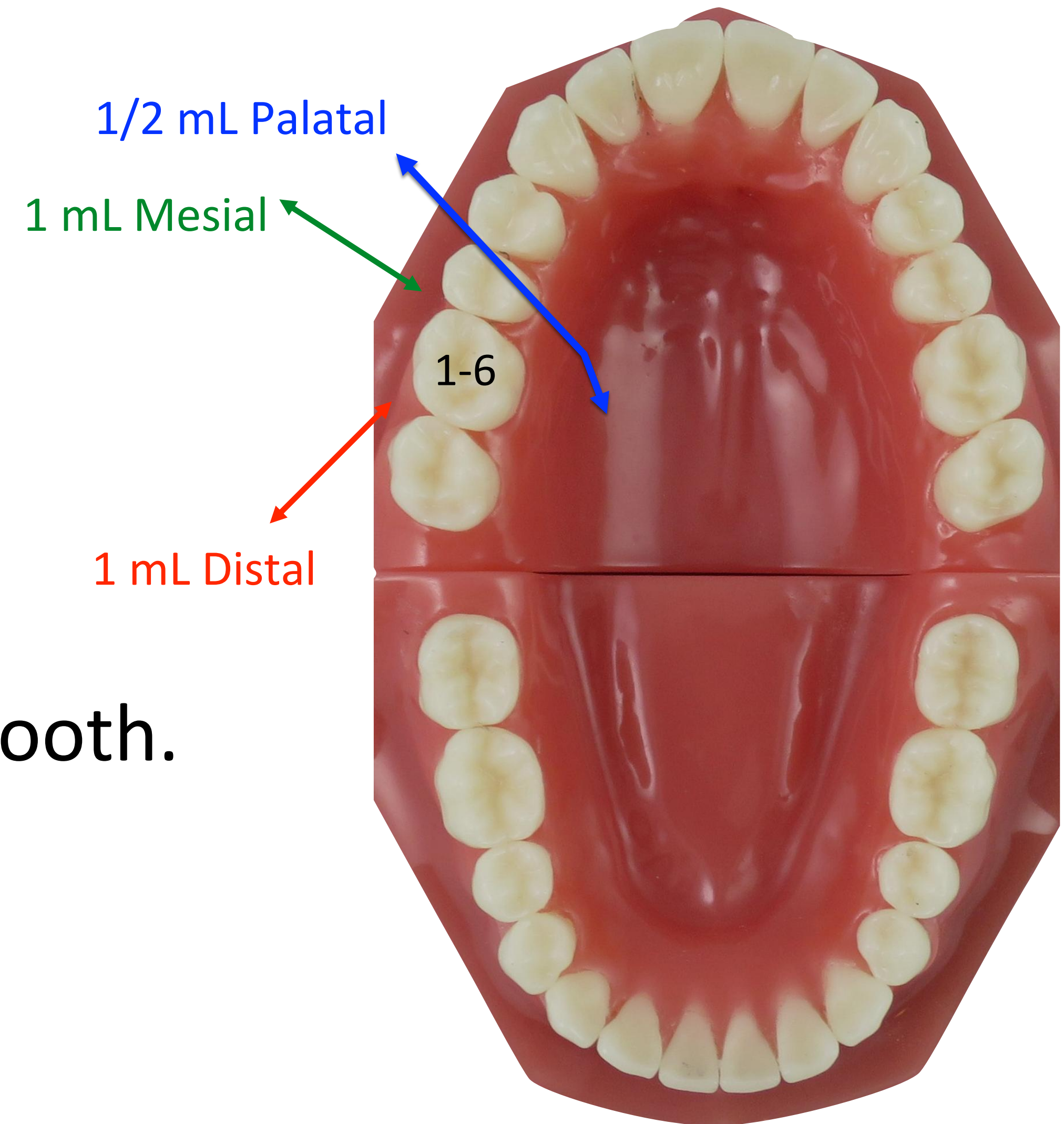
UPPER ANESTHESIA

There are three sites to anesthetize:

1st Site- Inject 1 mL in **Distal** to the tooth.

2nd Site- Inject 1 mL in **Mesial** to the tooth

3rd Site- Inject 1/2 mL on the **Palatal** of the tooth.

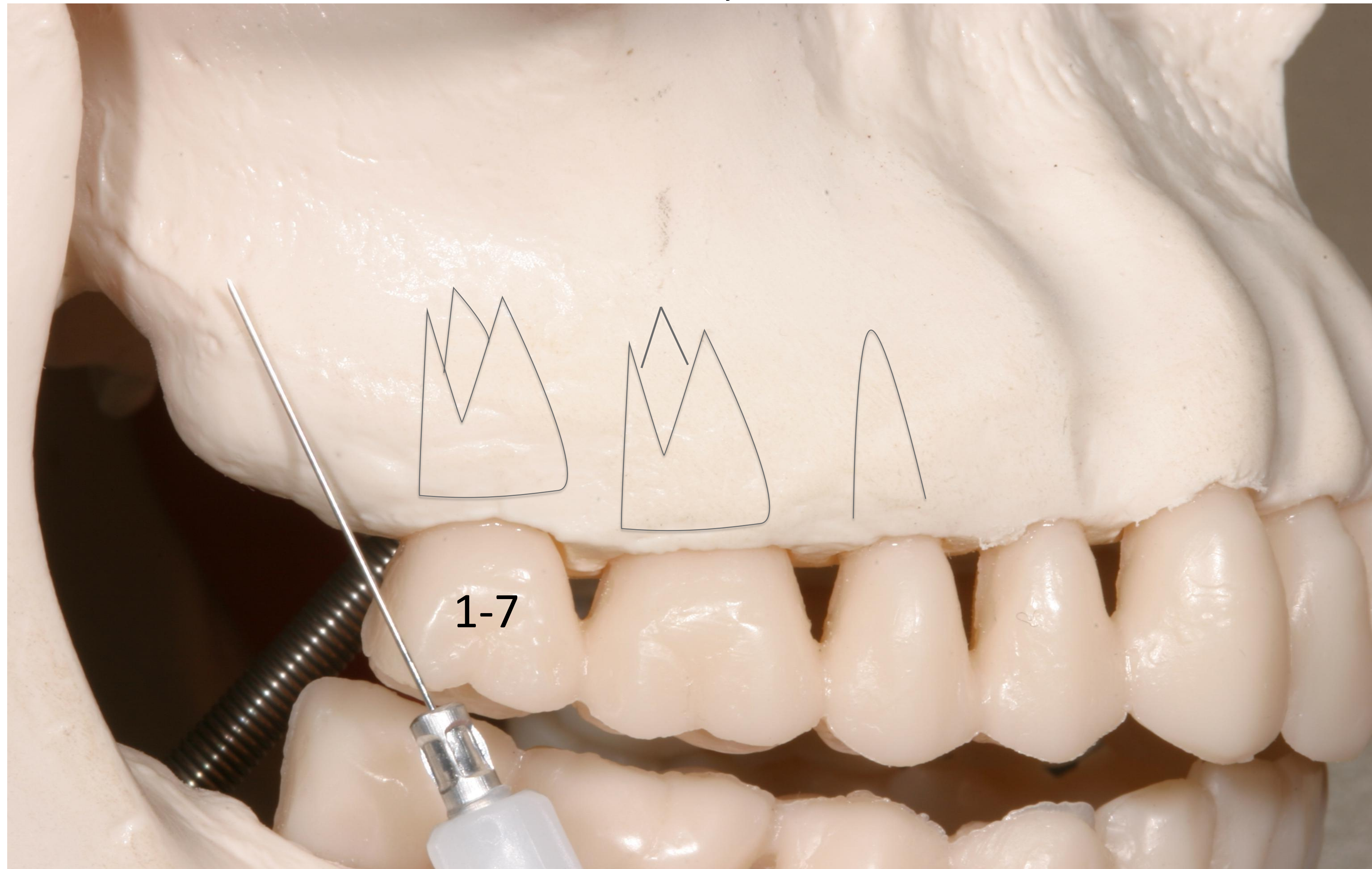


UPPER ANESTHESIA VIDEO



FIRST UPPER SITE

1 mL distal to the tooth, on the buccal



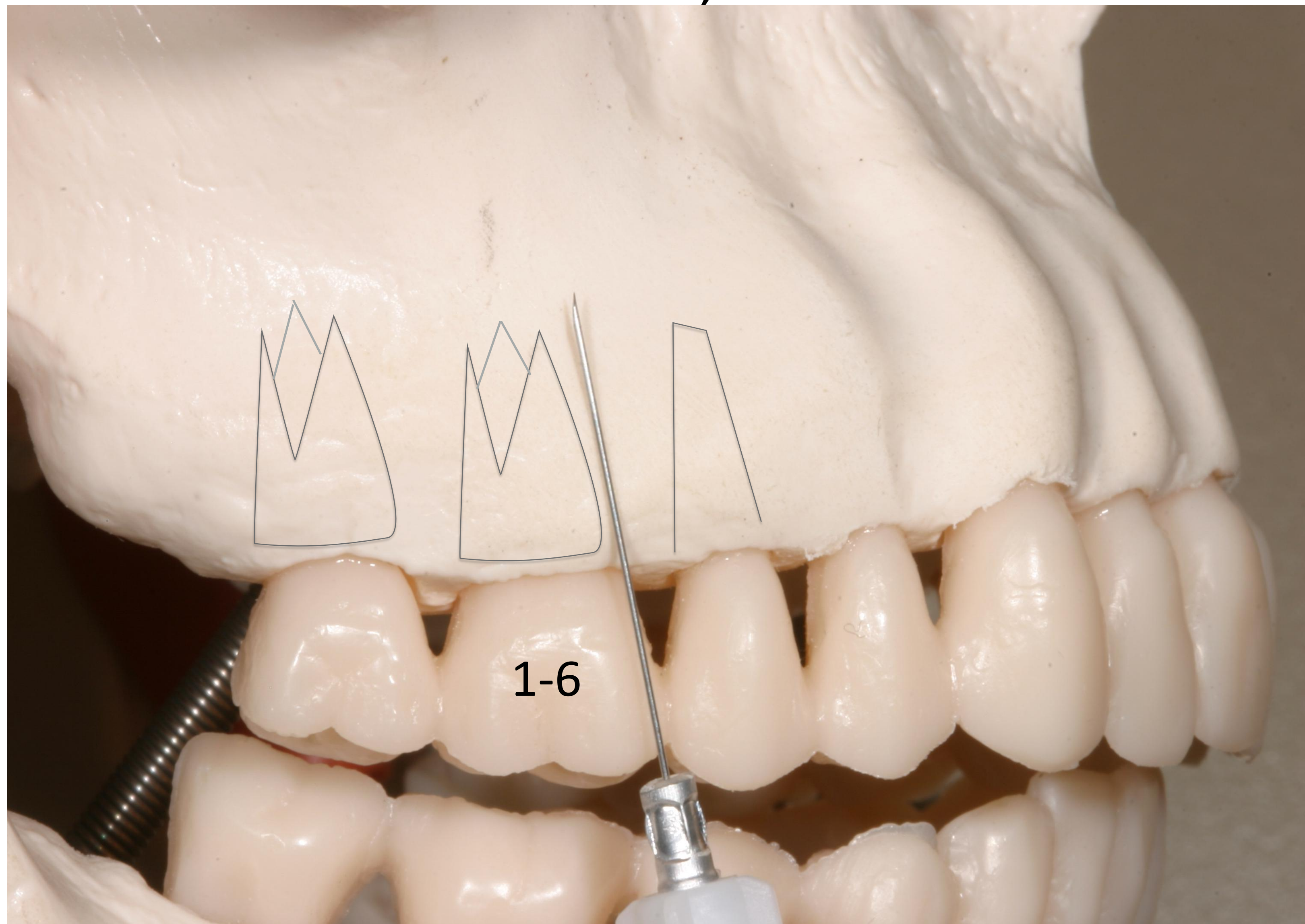
FIRST UPPER SITE

1 mL in distal to the tooth, on the buccal



SECOND UPPER SITE

1 mL mesial to the tooth, on the buccal



SECOND UPPER SITE

1 mL mesial to the tooth, on the buccal



THIRD UPPER SITE

1/2 mL on the palate



THIRD UPPER SITE

1/2 mL on the inside

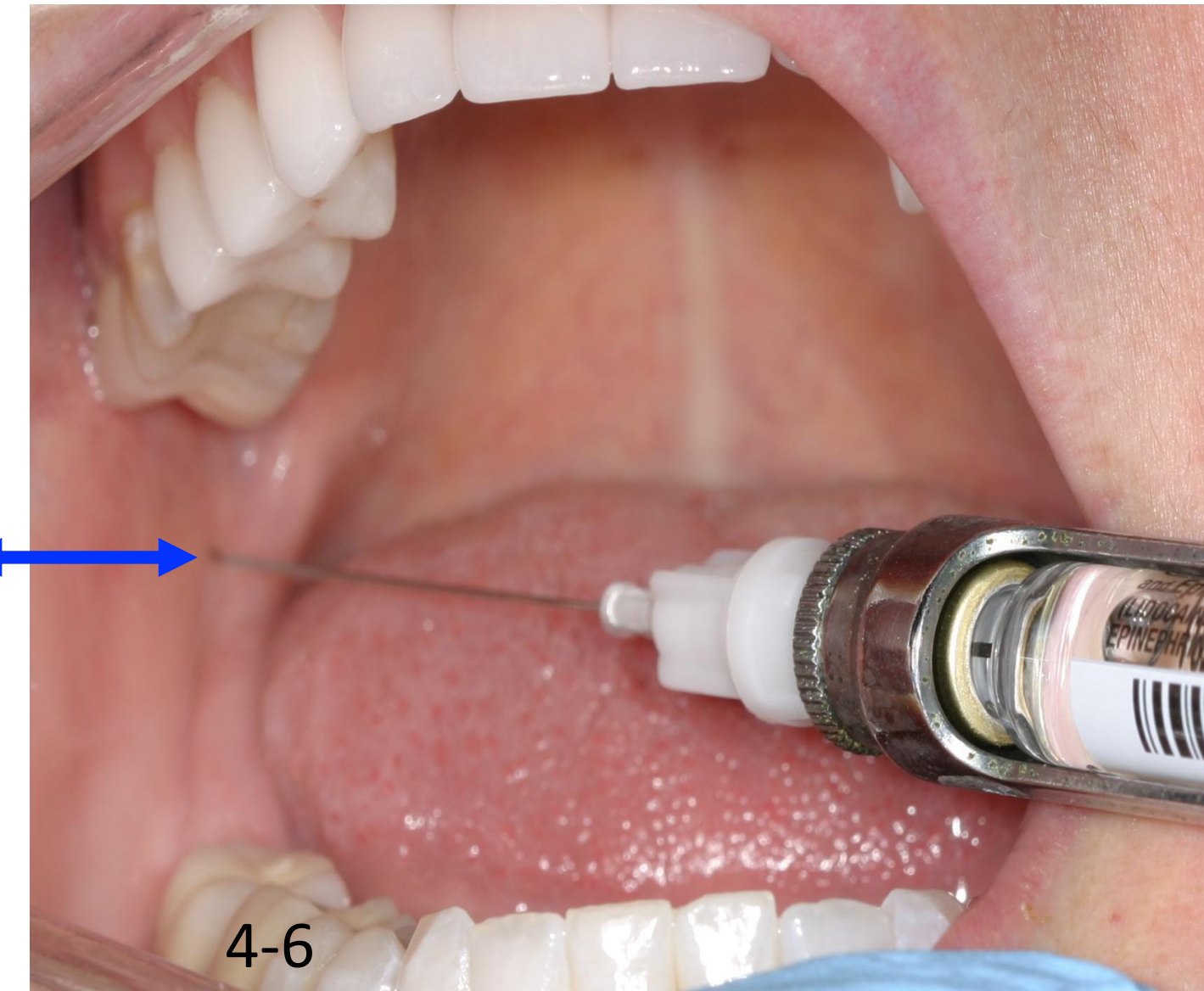


LOWER ANESTHESIA

There are two sites to anesthetize:

1st Site- Inject 2 mL on the **Inside**, using the mandibular block.

2 mL Inside



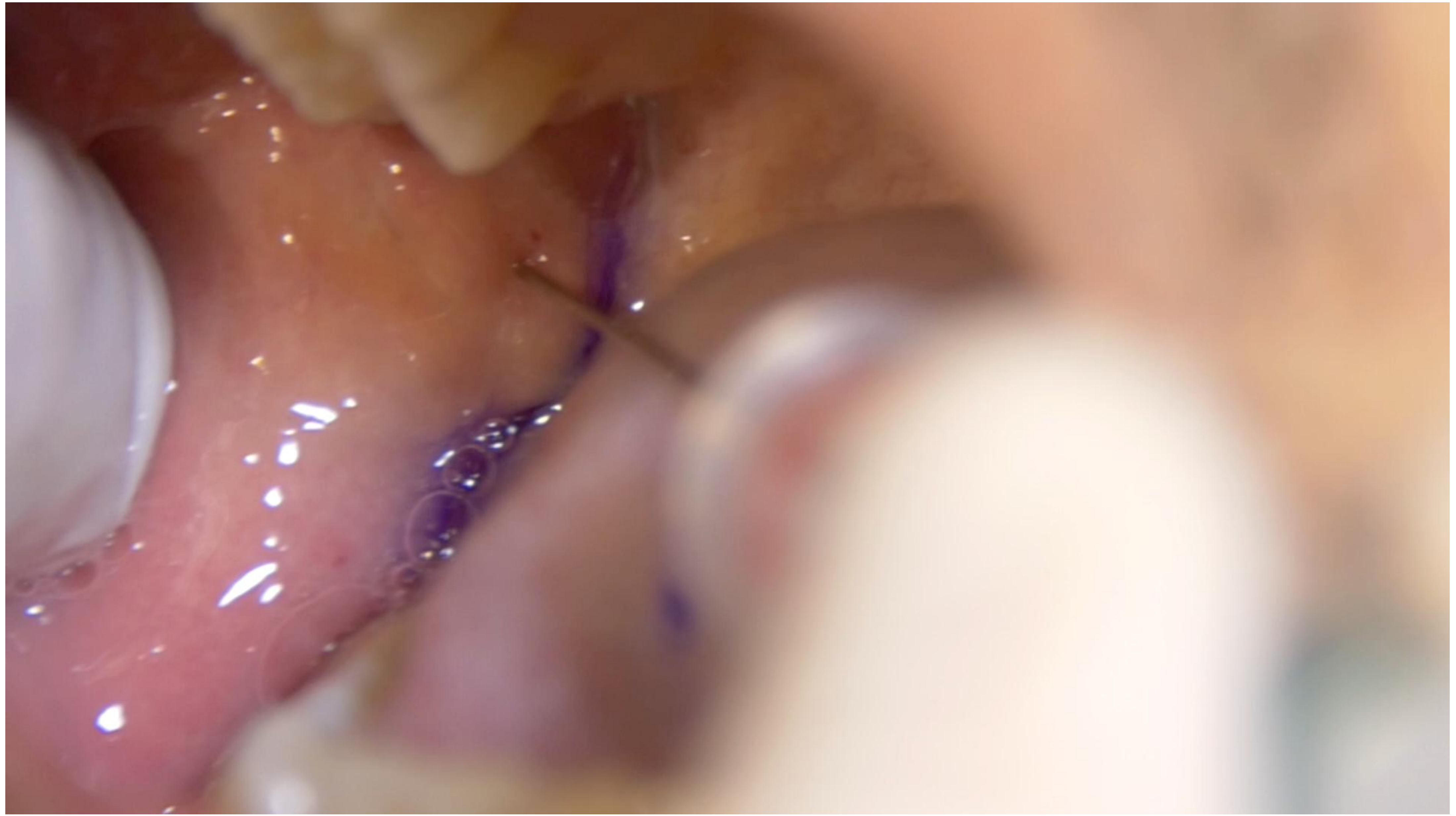
2nd Site- Inject 1/2 mL distal to the tooth, on the buccal.

1/2 mL Distal



IF NEEDED, inject 2 mL using the mandibular block again.

LOWER ANESTHESIA VIDEO



MANDIBULARBLOCK - STEP 1

Locate Pterygomandibular Raphe (crescent-shaped seam at back of the mouth)



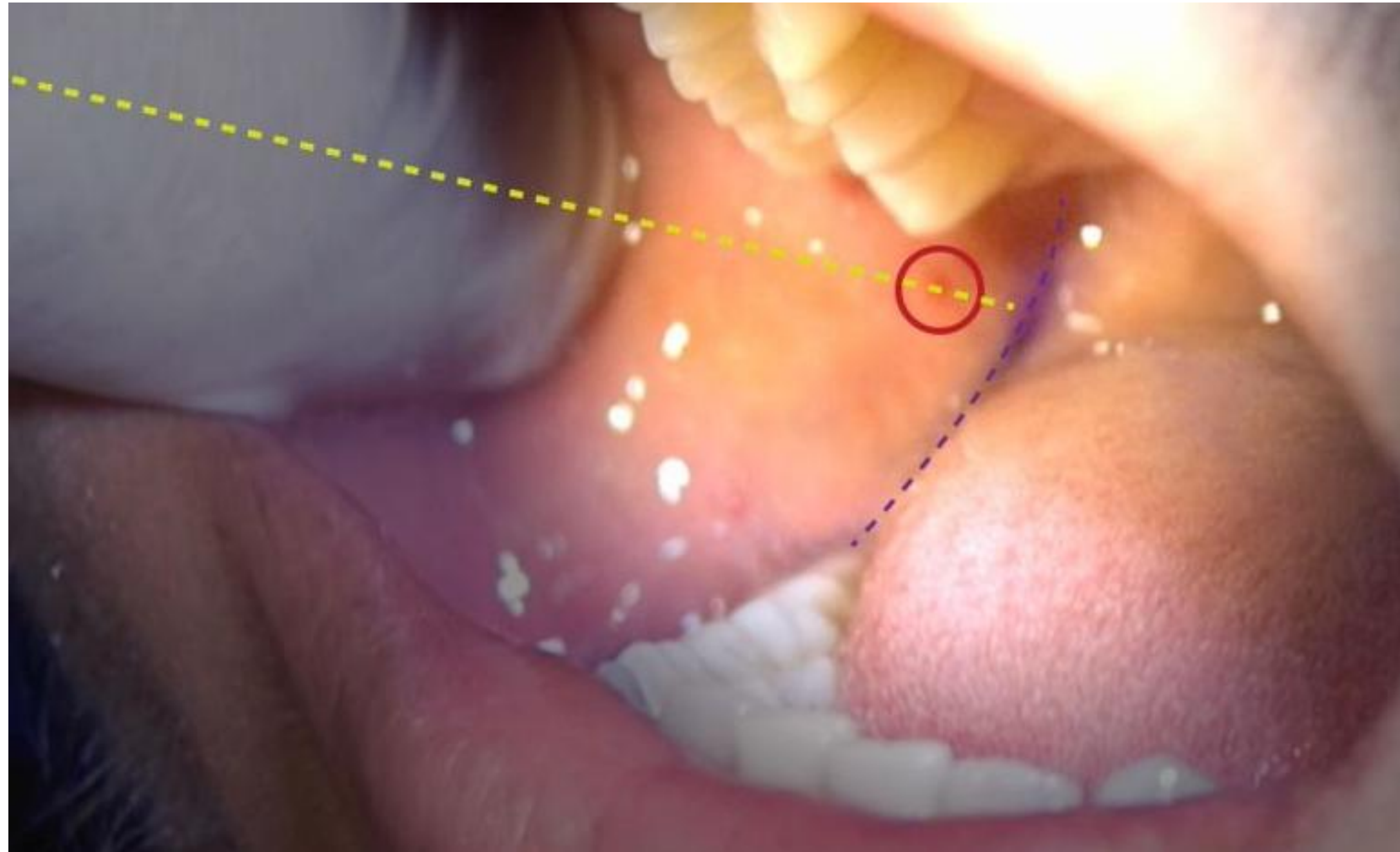
MANDIBULAR BLOCK - STEP 2

Place thumb or index finger in notch of lower jaw parallel to the teeth.



MANDIBULAR BLOCK- STEP 3

- Draw an imaginary line through the middle of your finger to the PR.
- Needle entry point is on the imaginary line, 75% of the distance from your finger to the PR.



MANDIBULAR BLOCK - STEP 4

Place the syringe across the premolars (teeth 4 & 5) on the opposite side.



MANDIBULAR BLOCK - STEP 5

- Advance the needle slowly until bone is contacted.
- Normally, about 75% of a long needle should enter the gums before the needle contacts bone.
- Very slowly inject 2mL of anesthetic while keeping the needle in contact with the bone.



MANDIBULAR BLOCK - COMMON ERROR 1

Needle is too far anterior.

The needle will not advance more than 25% into the gum tissue.

Solution: Redirect needle further back, into the correct position.



MANDIBULAR BLOCK - COMMON ERROR 2

Needle is too far posterior.

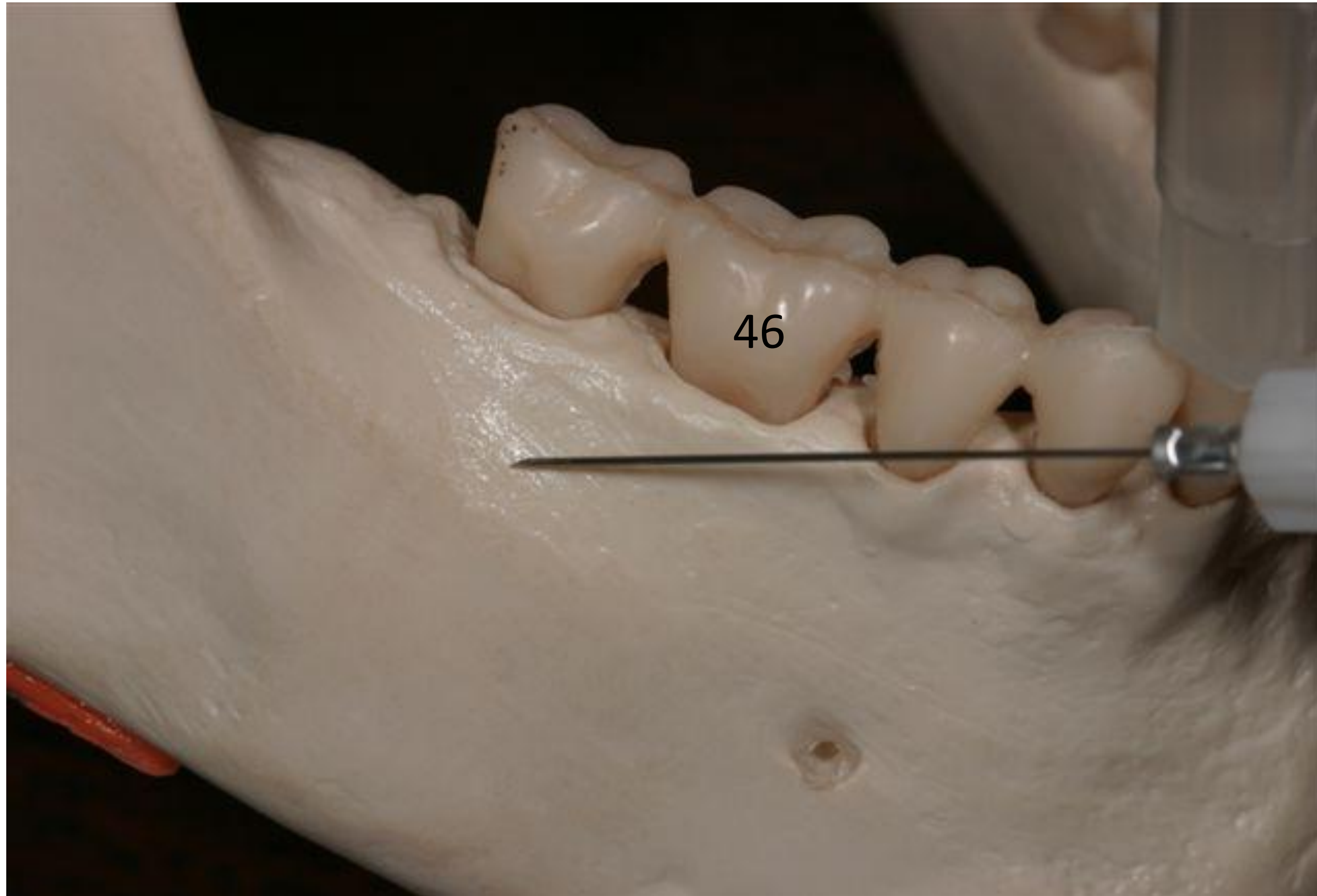
The needle completely misses the bone.

Solution: Redirect needle to the front, into the correct position.



SECOND LOWER SITE

1/2 mL distal to the tooth, on the buccal



SECOND LOWER SITE

1/2 mL distal to the tooth, on the buccal

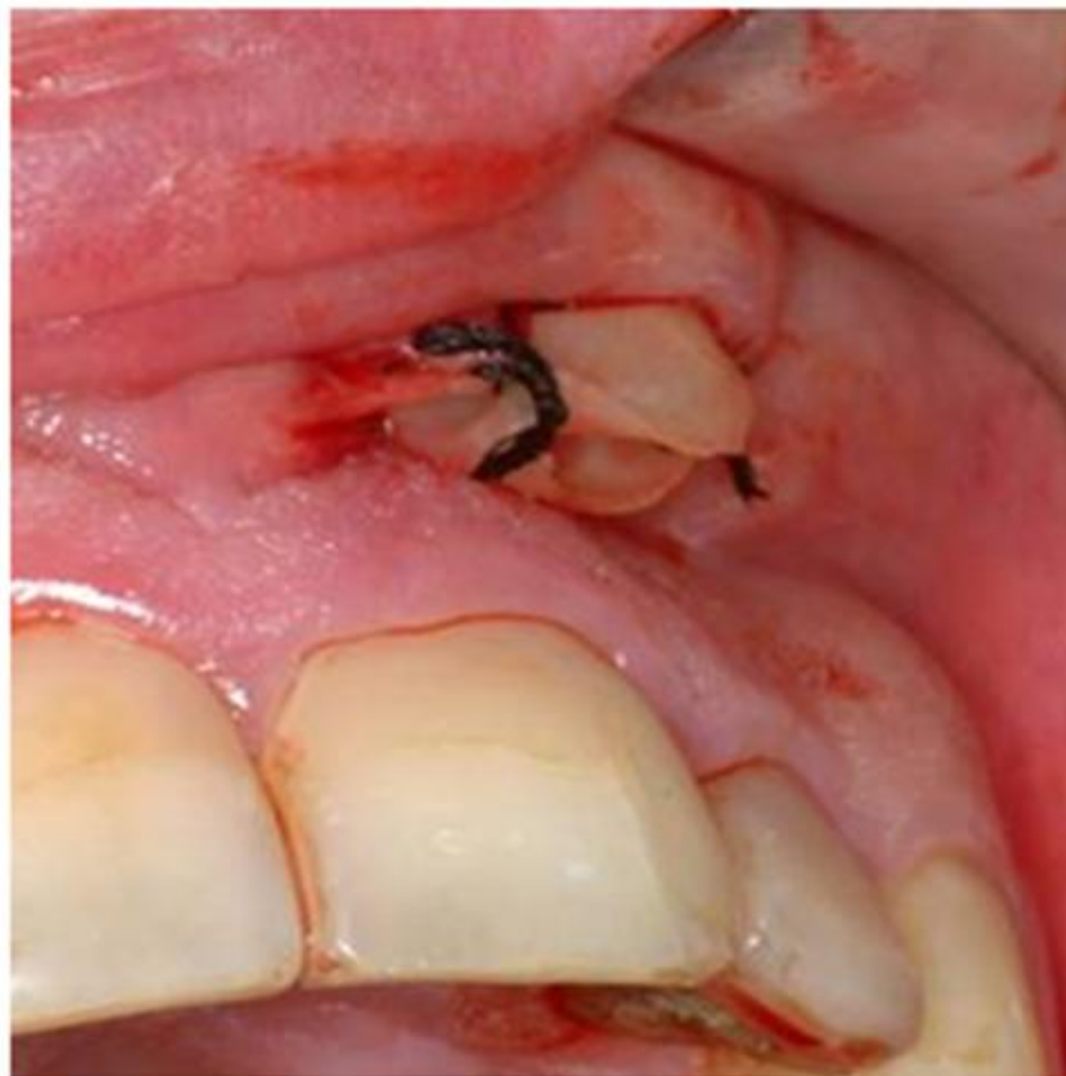
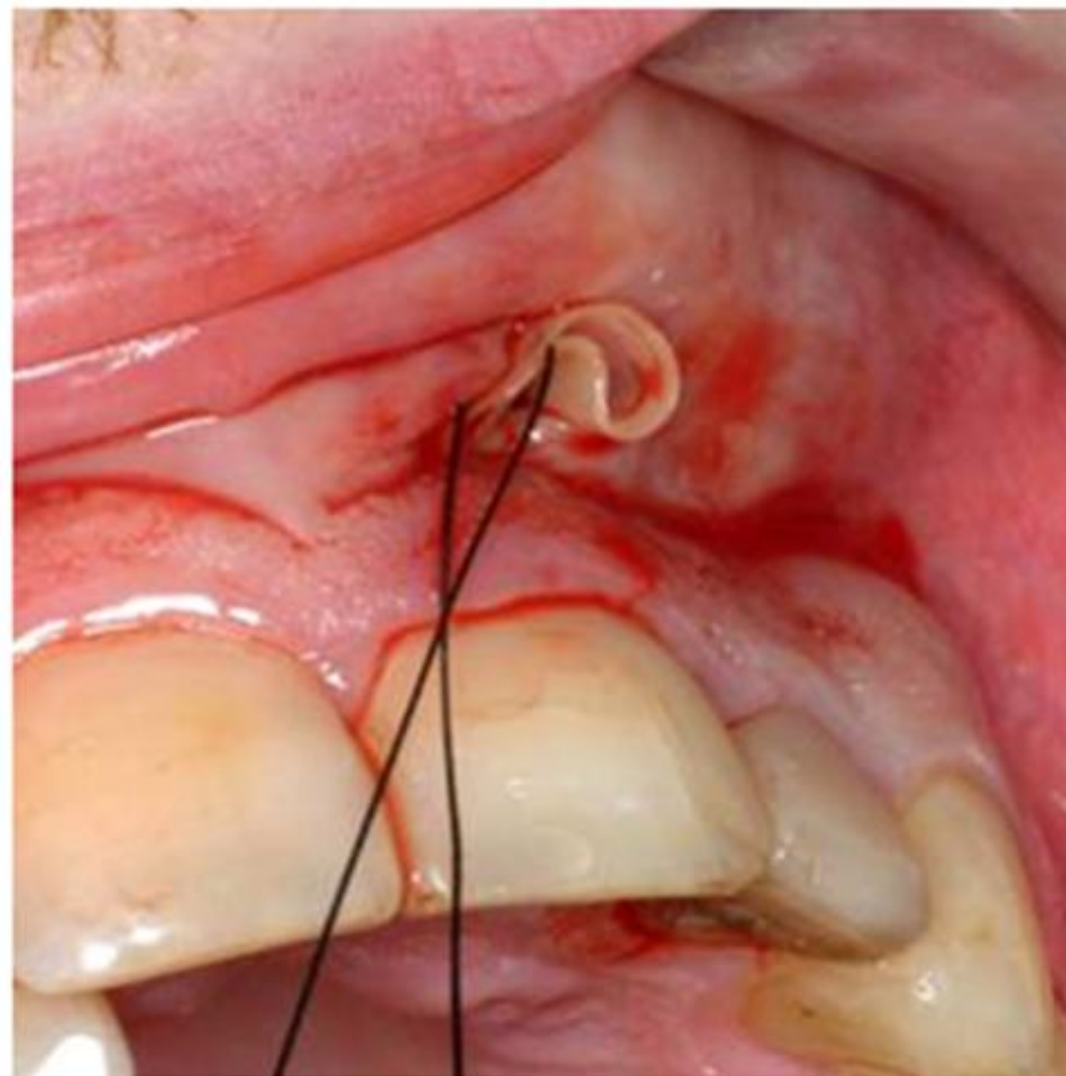
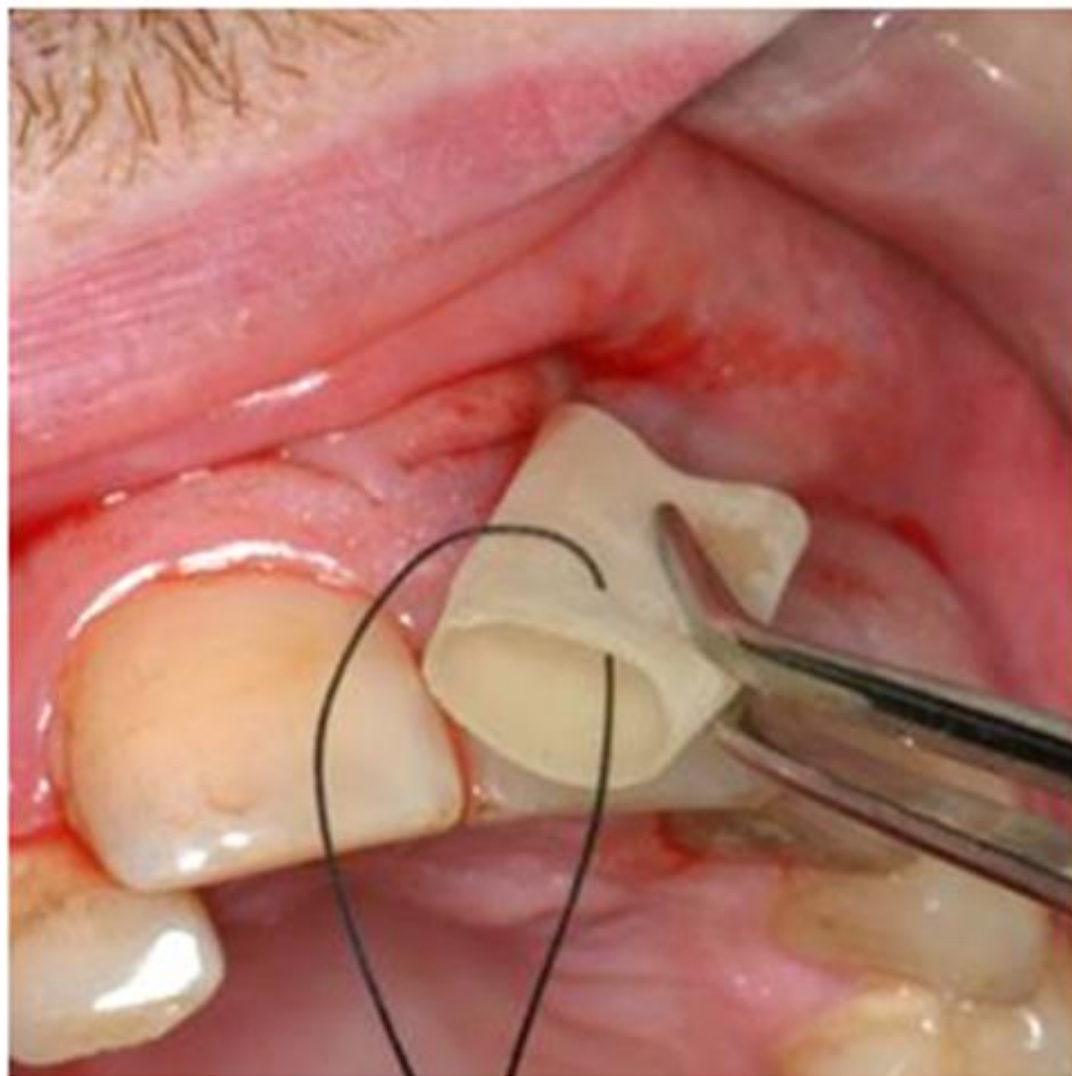
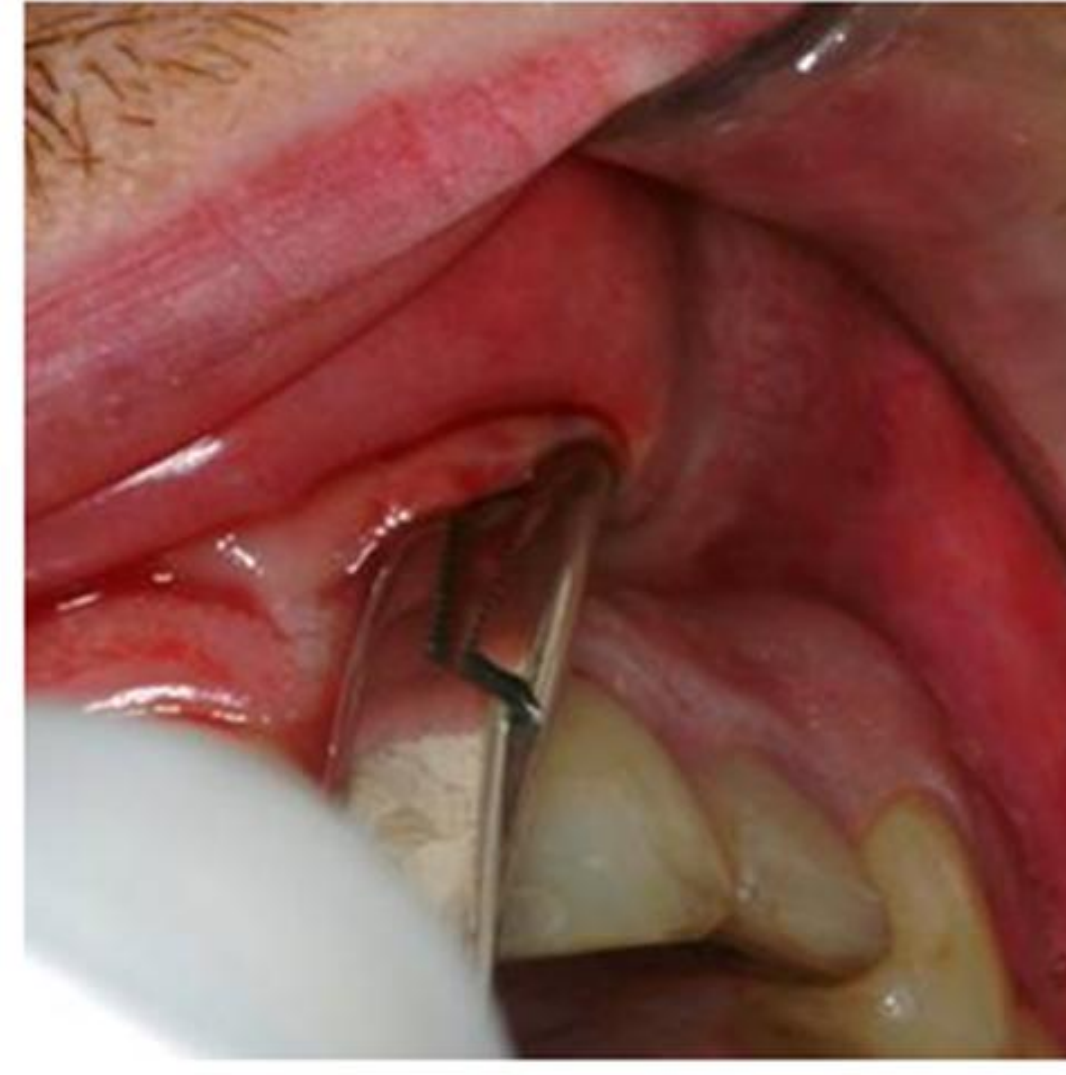


INFECTION MANAGEMENT

5 Steps for Managing an Infection:

1. Identify the tooth which is causing the infection
2. Give anesthetic
3. Make a hole in the center of the abscess with a #15 Blade to drain the pus.
4. Press on the swollen area until there is no more pus visible.
5. Flush area with saline.
6. Consider Penrose drain if tooth is not being extracted at that time.
7. Prescribe appropriate antibiotics if necessary.

Basic I&D Procedure



ANTIBIOTICS FOR INFECTION MANAGEMENT



AAA



Buccal Space Infection

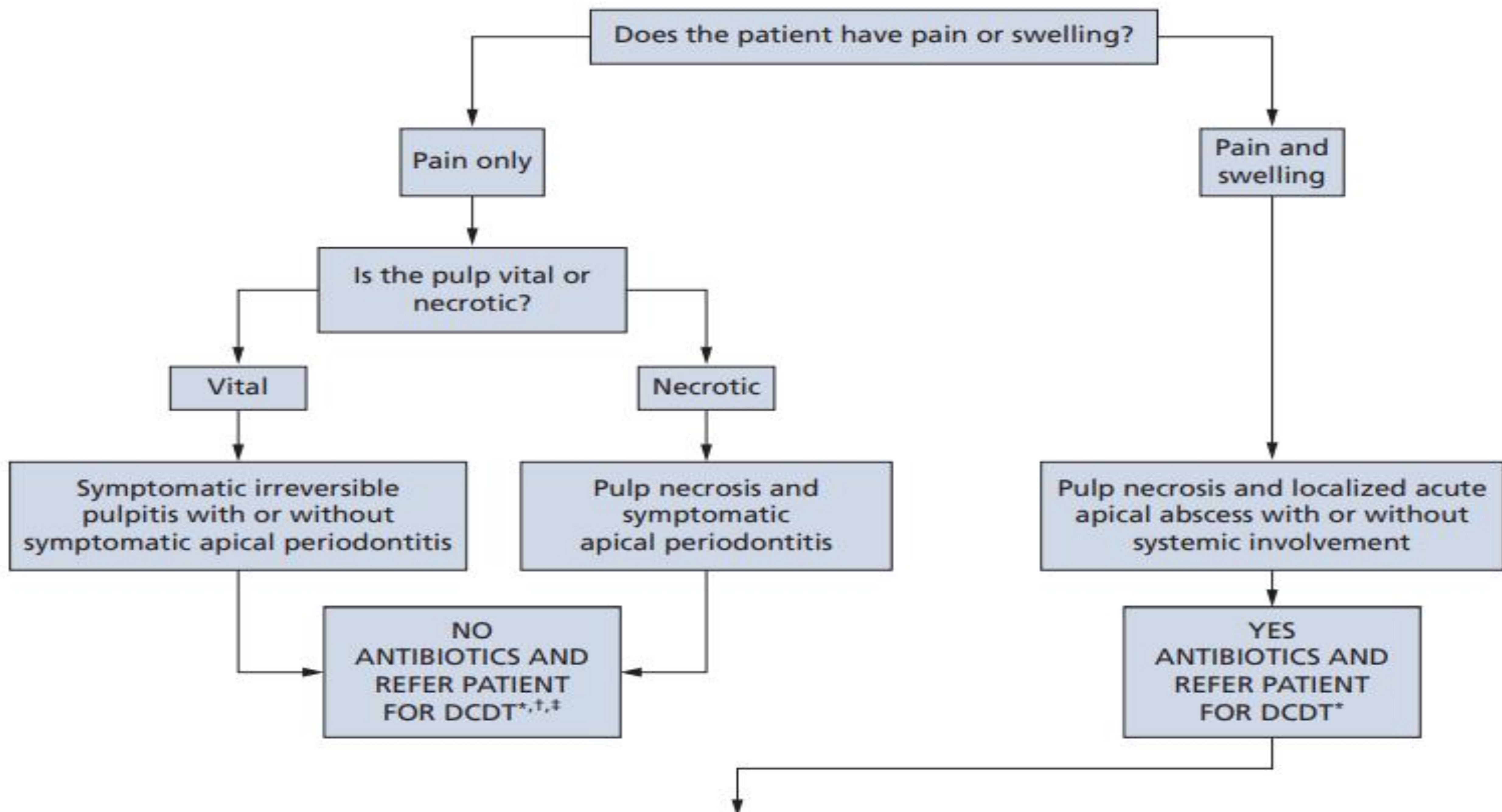


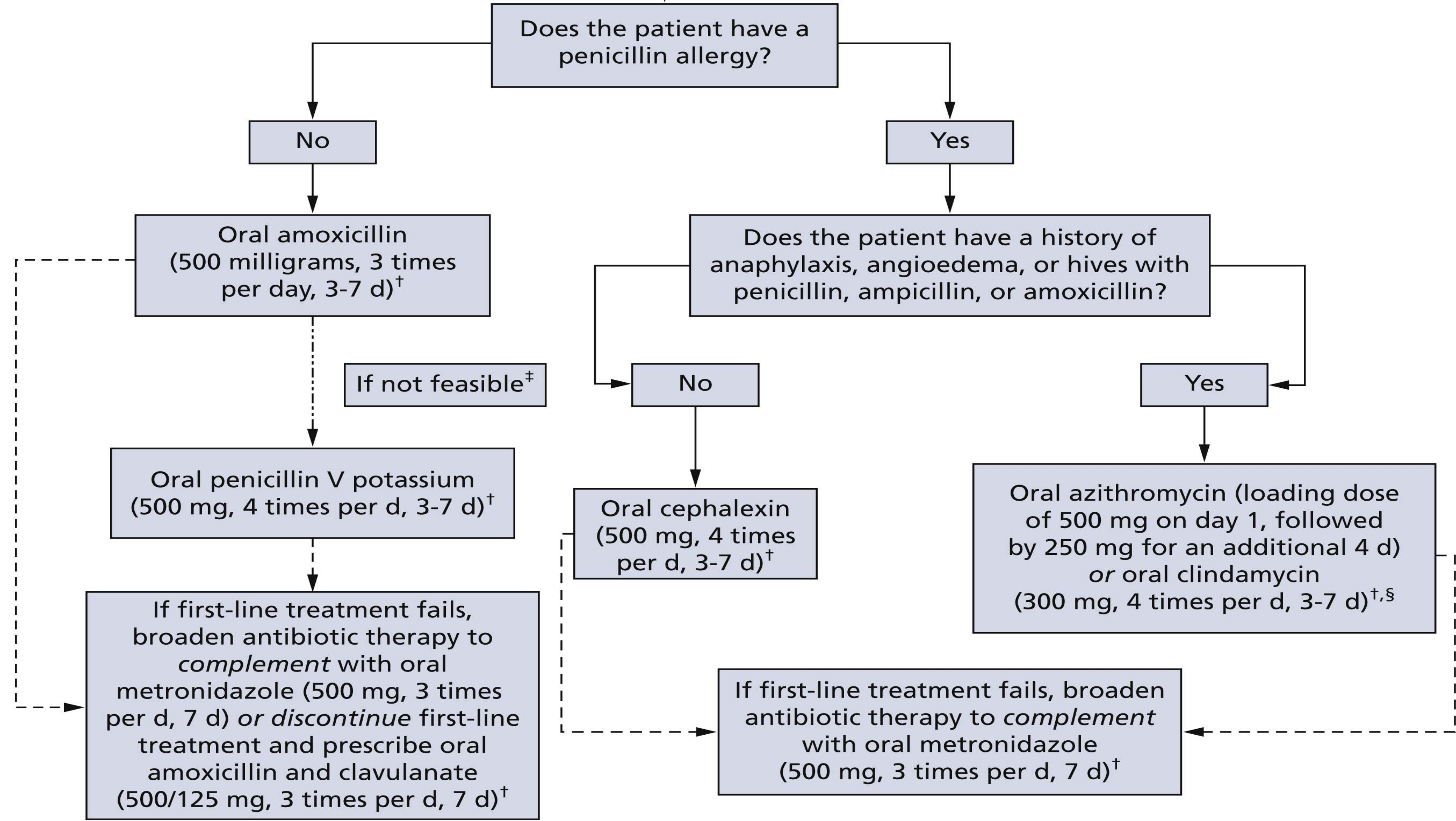
**Buccal & Submandibular
Space Infection**

Acute Apical Abscess: Perform I & D. Prescribe antibiotics if immunocompromised.

Single Space Infection: Perform I & D. Prescribe Amoxicillin 500mg TID. Refer for DCDT (RCT or extraction) as soon as possible. Monitor the patient daily as needed to be sure the infection is subsiding.

Multiple Space Infection: Consider Extraoral I & D. Prescribe Amoxicillin 500mg TID and Metronidazole 500mg TID. Refer for DCDT (RCT or extraction) as soon as possible. Monitor the patient daily to be sure the infection is improving.





Indications For Adjunctive Antibiotics

- Acute Apical Abscess (AAA) with systemic involvement
- Acute Apical Abscess (AAA) in medically compromised patients
- Replantation of avulsed permanent teeth
- Soft tissue trauma requiring suturing or debridement
- Rapidly progressive infections (onset within 24 hours), cellulitis, or osteomyelitis

The Recommended Guidelines of the American Association of Endodontists for The Treatment of Traumatic Dental Injuries (2019)

The Recommended Guidelines of the American Association of Endodontists for the Treatment of Traumatic Dental Injuries

Table 6: Treatment Guidelines for Avulsed Mature Permanent Teeth with Closed Apex (continued)

DIAGNOSIS & CLINICAL SITUATION	TOOTH HAS ALREADY BEEN REPLANTED	TOOTH HAS BEEN KEPT IN PHYSIOLOGIC STORAGE MEDIUM OR OSMOLALITY BALANCED MEDIUM (HBSS, SALINE, AND MILK) AND/OR STORED DRY FOR UP TO 60 MINUTES	EXTRA-ORAL DRY TIME > 60 MINUTES
ANTIBIOTICS	Prescribe systemic antibiotics: In patients <12 years old: amoxicillin for 7 days at appropriate dose for patient's age and weight. In patients >12 years old: doxycycline for 7 days, at appropriate dose for patient's age and weight. If the avulsed tooth has been in contact with soil, and if tetanus coverage is uncertain, refer to physician for a tetanus booster.		

The Recommended Guidelines of the American Association of Endodontists for The Treatment of Traumatic Dental Injuries (2019)

The Recommended Guidelines of the American Association of Endodontists for the Treatment of Traumatic Dental Injuries

Table 7: Treatment Guidelines for Avulsed Permanent Teeth with Open Apex (continued)

DIAGNOSIS & CLINICAL SITUATION	TOOTH HAS ALREADY BEEN REPLANTED	TOOTH HAS BEEN KEPT IN PHYSIOLOGIC STORAGE MEDIUM OR OSMOLALITY BALANCED MEDIUM (HBSS, SALINE, AND MILK) AND/OR STORED DRY FOR UP TO 60 MINUTES	EXTRA-ORAL DRY TIME > 60 MINUTES
ANTIBIOTICS	Prescribe systemic antibiotics: In patients <12 years old: amoxicillin for 7 days at appropriate dose for patient's age and weight. In patients >12 years old: doxicycline for 7 days, at appropriate dose for patient's age and weight. If the avulsed tooth has been in contact with soil, and if tetanus coverage is uncertain, refer to physician for a tetanus booster.		

Indications For Use Of Antibiotics

- Swelling extending beyond the alveolar process
- Cellulitis
- Trismus
- Lymphadenopathy
- Temperature higher than 101° F
- Severe Pericoronitis
- Osteomyelitis

Contraindications For Adjunctive Antibiotics

- Irreversible pulpitis
- Pain in the absence of other signs/symptoms of infection
- Pulpal necrosis
- Asymptomatic apical periodontitis (Periapical Radiolucency)
- Symptomatic apical periodontitis
- Chronic apical abscess (Sinus Tract)
- Acute apical abscess without signs of systemic involvement
- Traumatic injuries including fractures and luxation injuries

Situations In Which Antibiotics Are Not Necessary

- Patient Demand
- Severe Pain/“Toothache”
- Periapical Abscess
- Dry Socket
- Multiple dental extractions in a patient who is not immunocompromised
- Mild Pericoronitis (inflammation of the operculum only)
- Drained alveolar abscess

Further Resources



#2905, 2906



Questions?

Thank you for your attention!

jonathan.spenn@gmail.com