

LOCAL ANESTHESIA FOR THE MAXILLARY ARCH

Injection Sites

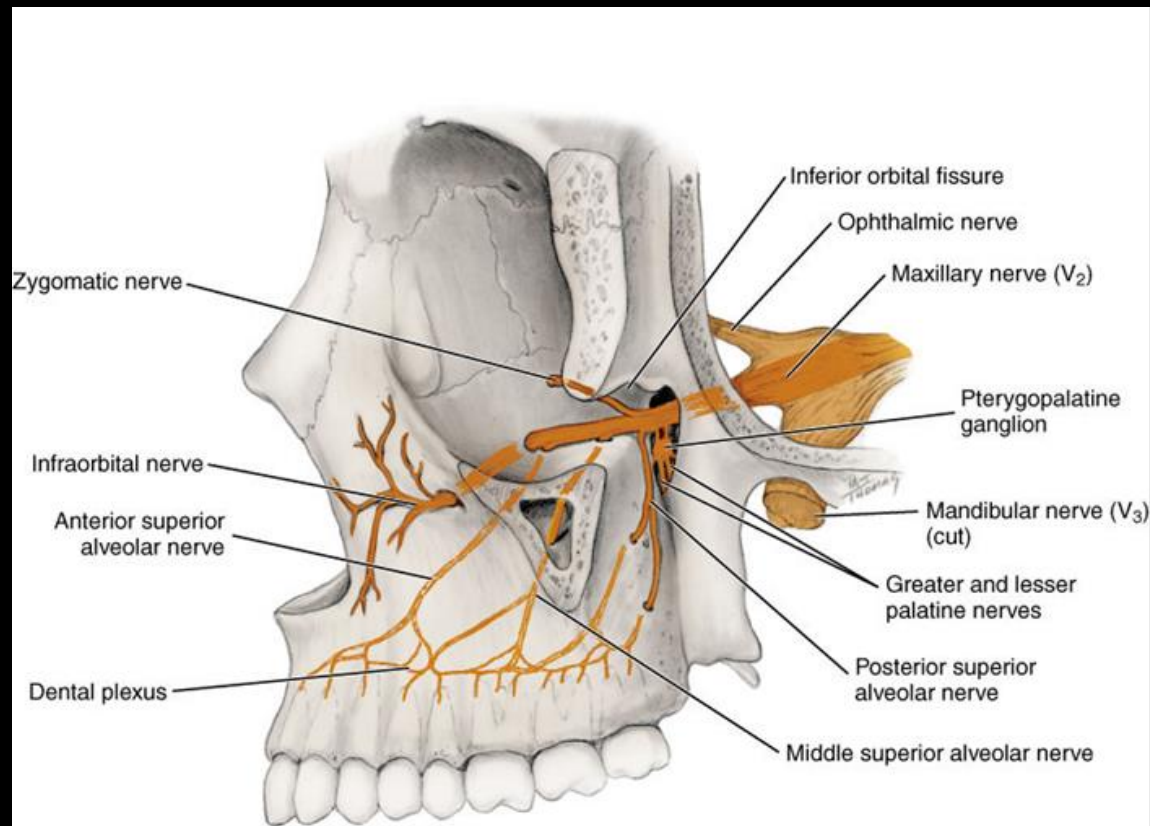
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Prof Anne Fiordimondo
Dr Daniela Taranto

This is only Highlights

- The Purpose of this PowerPoint Presentation is to highlight information from your book.
- You are responsible from your reading to know the suggested clock positions for either a right handed or left handed operator.
- The nerve anatomy
- Which injections anesthetize which areas of the mouth
- Know where the penetration site is for each injection
- Gate theory of pain transmission

- “Dental patients themselves are aware of the difference between local anesthesia administered by the dental hygienist and that administered by the dentist. They frequently comment on the lack of discomfort when the hygienist injects the local anesthetic. Be it a slower rate of administration, great attention to the details of atraumatic injection technique, or greater empathy, it works”
~STANLEY MALAMED

Trigeminal Nerve V₂

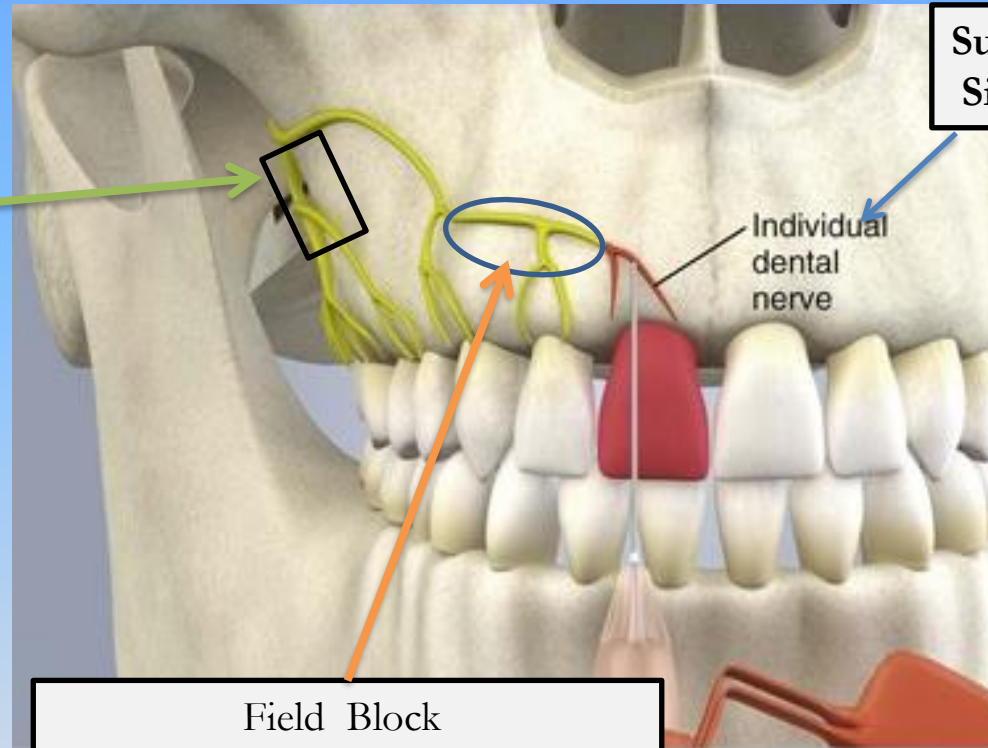


From Fehrenbach MF, Herring SW. Illustrated Anatomy of the Head and Neck, ed 3. St. Louis, 2007. WB Saunders



Anatomy of the Head and Neck, ed 3, St. Louis, 2007

Where am I depositing the anesthetic solution?



Maxillary PSA Nerve Block

Main branch of the nerve.

Blocks for the Maxillary arch

1. Posterior superior alveolar
2. Infraorbital
3. Greater palatine
4. Nasopalatine(Incisive)
5. Maxillary nerve (V2)

Supraperiosteal
Single tooth infiltration

Individual
dental
nerve

Field Block

or

Regional Infiltration

Anesthetic is deposited at a larger
nerve terminal

Allowing anesthesia for 2 to 3 teeth

Examples ASA MSA and PSA

*The Field infiltration techniques
is what you are learning.*

Maxillary Block Dental Injections

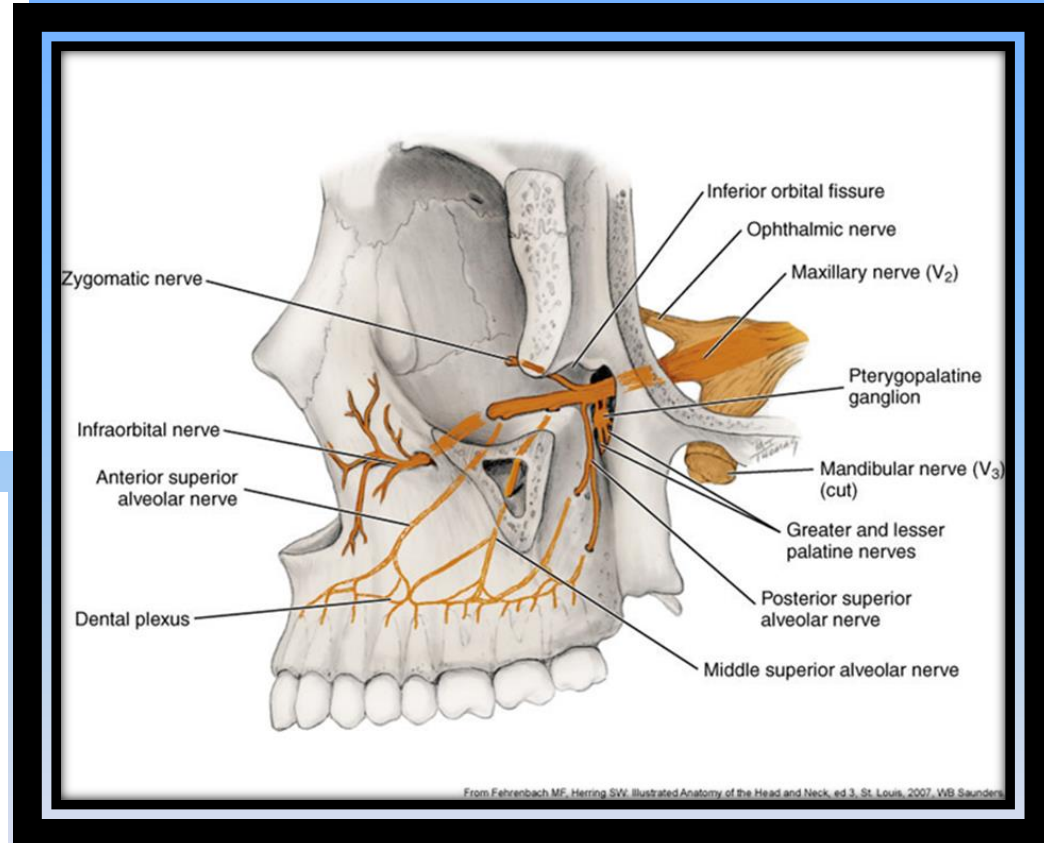
Block Injections:

Infra-orbital Block provides:

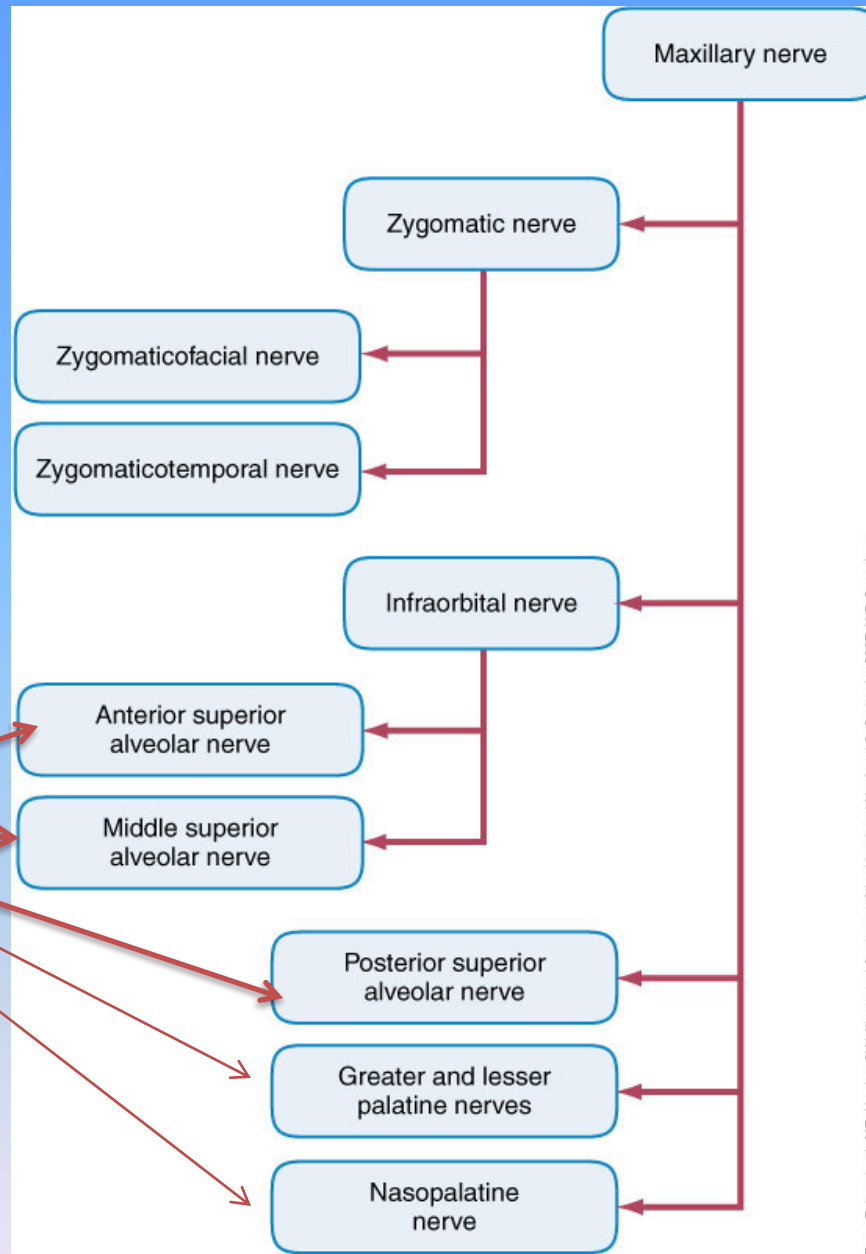
- a) anesthesia to middle & anterior superior alveolar nerves.
- b) is used for anesthesia of the maxillary premolars, maxillary canines, & maxillary incisors.

PSA provides:

- a) anesthesia to the PSA nerve
- b) is used to achieve pulpal anesthesia in the maxillary 3rd 2nd 1st molars in most patients.



NYS
law



From Fehrenbach MF, Herring SW: Illustrated Anatomy of the Head and Neck, ed 3, St. Louis, 2007, WB Saunders.

Figure 8-12

Maxillary Infiltration Dental Injections

Supraperiosteal- Single tooth Infiltration *Regional Infiltrations (Field Blocks)*

PSA (posterior superior alveolar)

MSA (middle superior alveolar)

ASA (anterior superior alveolar)

With all of the above type of injections, you will anesthetize the pulpal and buccal tissue.

Local anesthetic solutions in the Maxilla diffuse easily through bone, anesthetizing the nerves of the dental plexus

Regional Infiltrations (Field Blocks)

- Local anesthetic is deposited near a larger nerve terminal branches
- Treatment is done away from the site of local anesthetic injection
- Maxillary injections administered above the apex of the tooth, near a larger nerve terminal are properly referred to as field blocks not local infiltrations

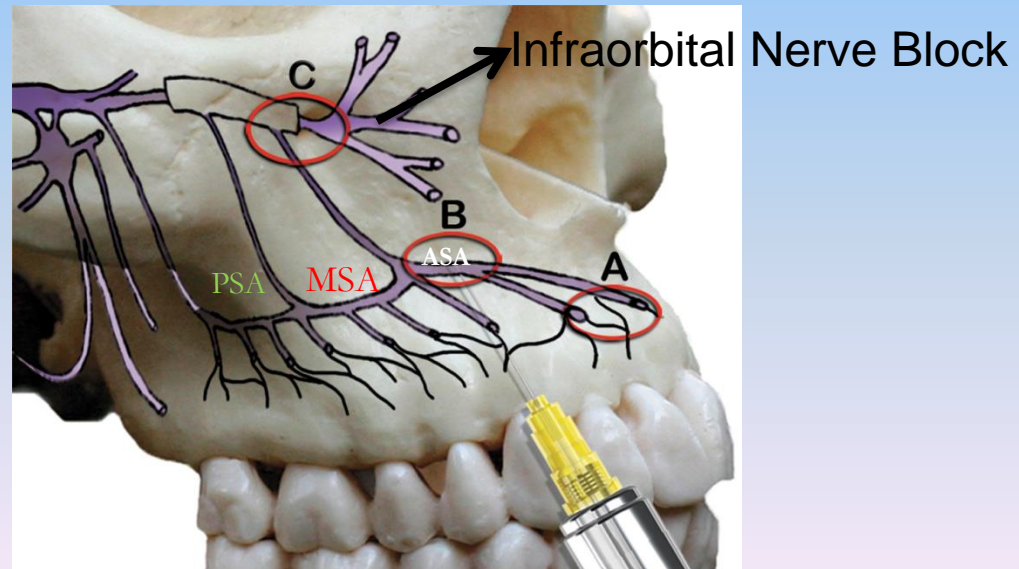
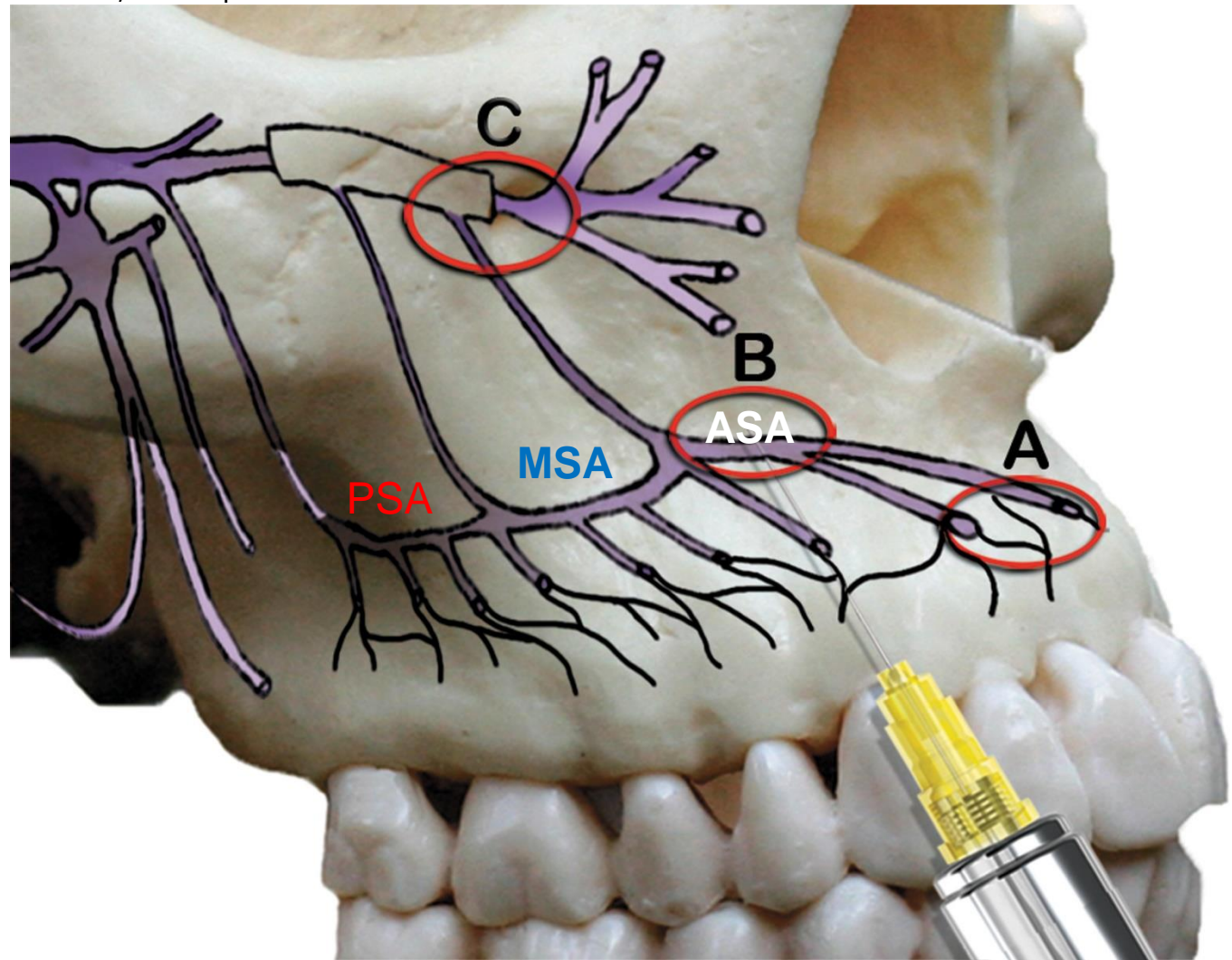
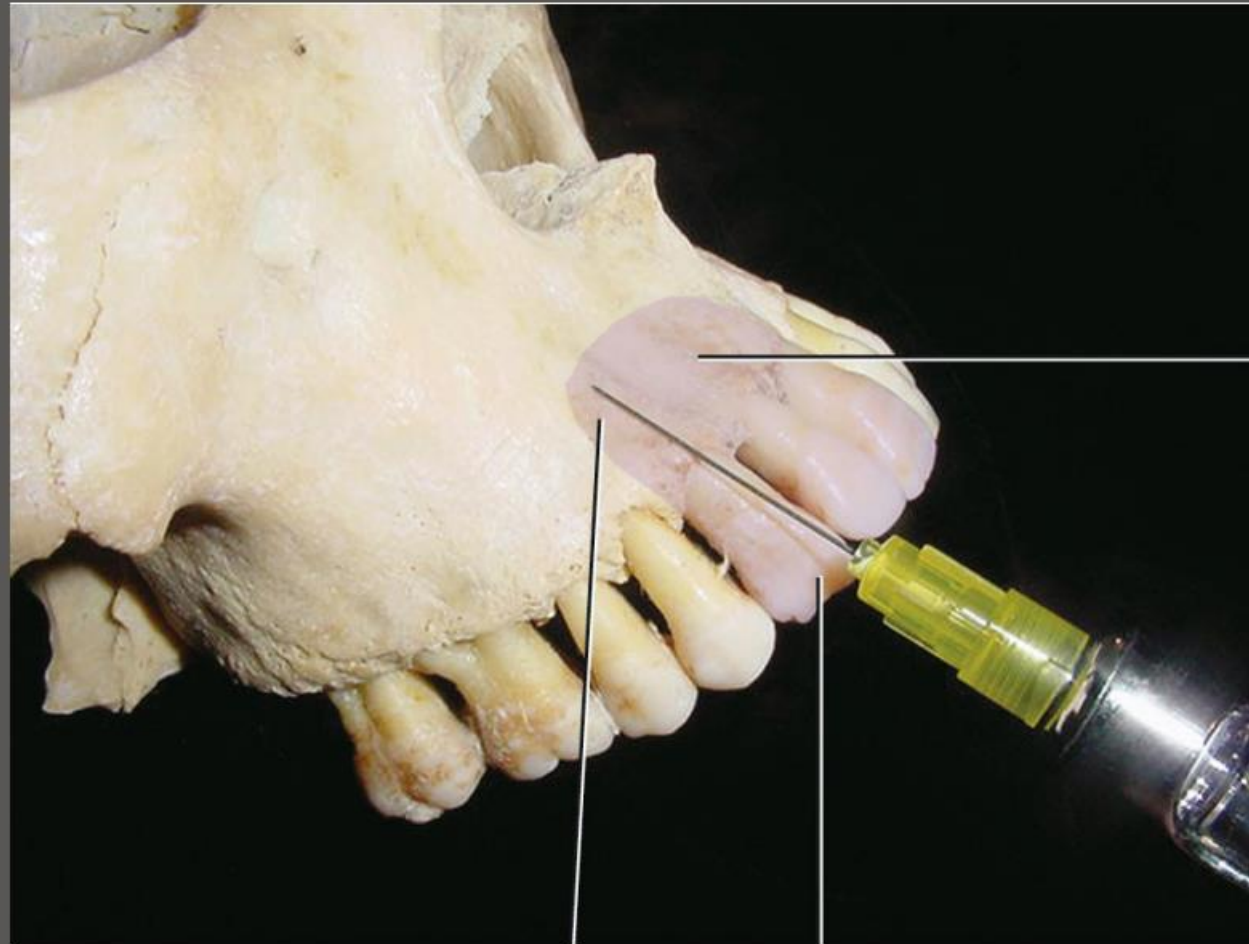


FIGURE 11-1 Types of Injections Defined. **A**—Infiltrations involve deposition directly at or near small terminal nerve endings in the immediate area of treatment. **B—Field block injections involve depositions near larger terminal nerve branches.** **C**—Nerve block injections involve depositions near major nerve trunks at a greater distance from the area of treatment, which provide wider areas of anesthesia.



We are teaching you to deposit anesthesia at the **B** location

ASA



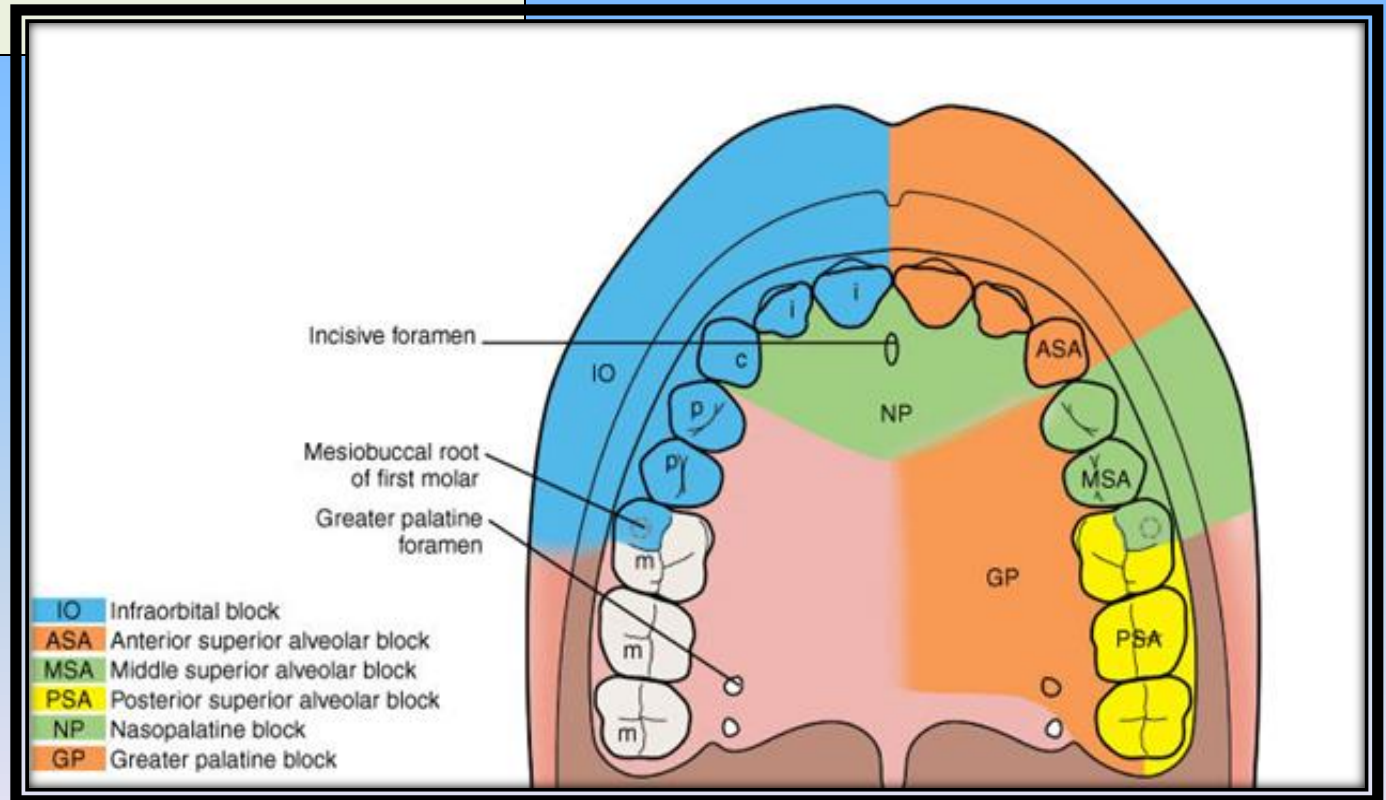
Alveolar process
of the maxilla

Canine
eminence

Maxillary
canine

Notice:

- The 1st molar is innervated by PSA & MSA
- The regional infiltration (PSA; MSA;ASA) injections do not anesthetize the palatal tissue



Field of Anesthesia

Maxillary Injections

ASA

Teeth anesthetized:
canine, lateral, central

Peridontium/Soft tissues:
facial to affected teeth

MSA

Teeth anesthetized:
maxillary premolars and
mesiobuccal root of first molar*

* For most people

Peridontium/Soft tissues:
facial to affected teeth

IO

Teeth anesthetized:
premolars, canine,
lateral, central

Peridontium/Soft tissues:
facial to affected teeth

Infiltration

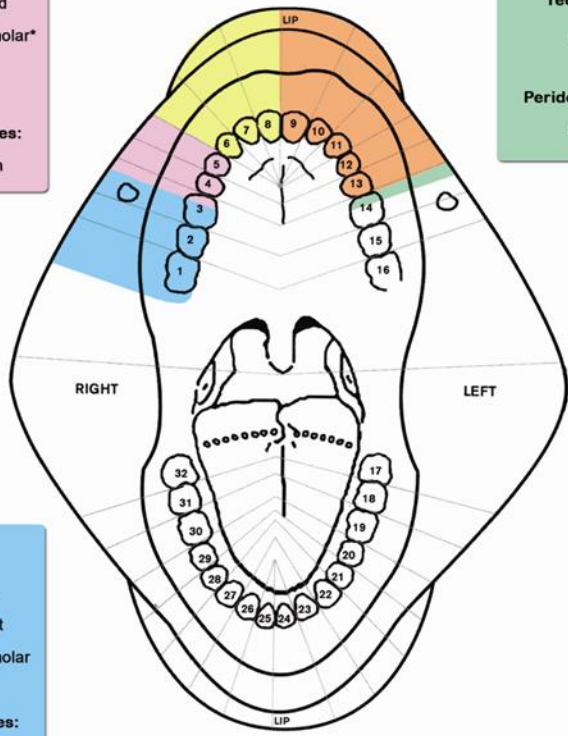
Teeth anesthetized:
at injection site

Peridontium/Soft tissues:
at injection site

PSA

Teeth anesthetized:
maxillary molars except
mesiobuccal root of first molar

Peridontium/Soft tissues:
buccal to affected teeth



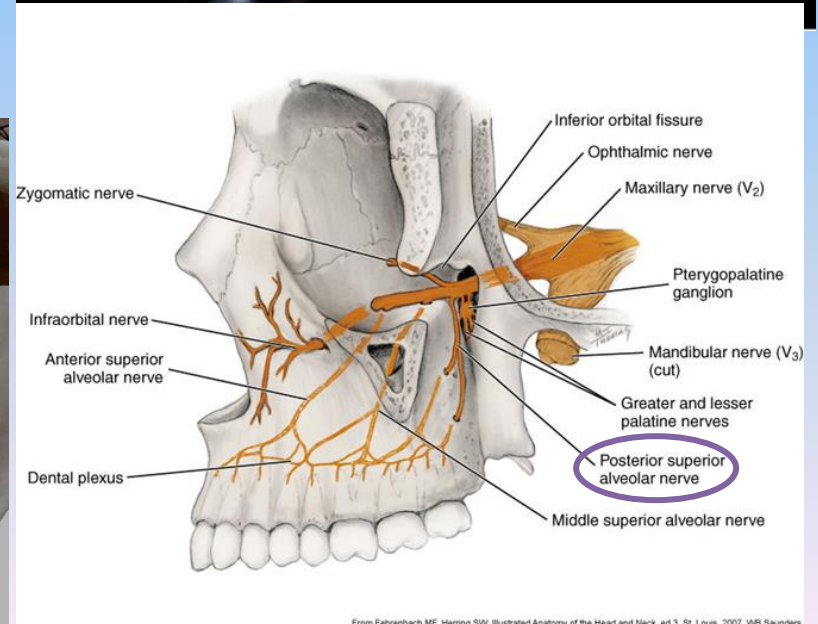
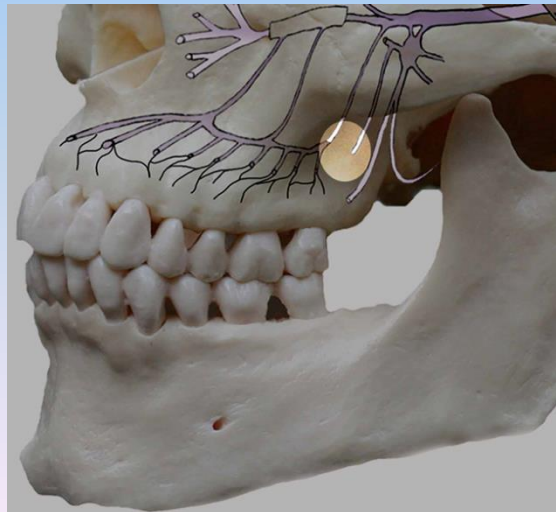
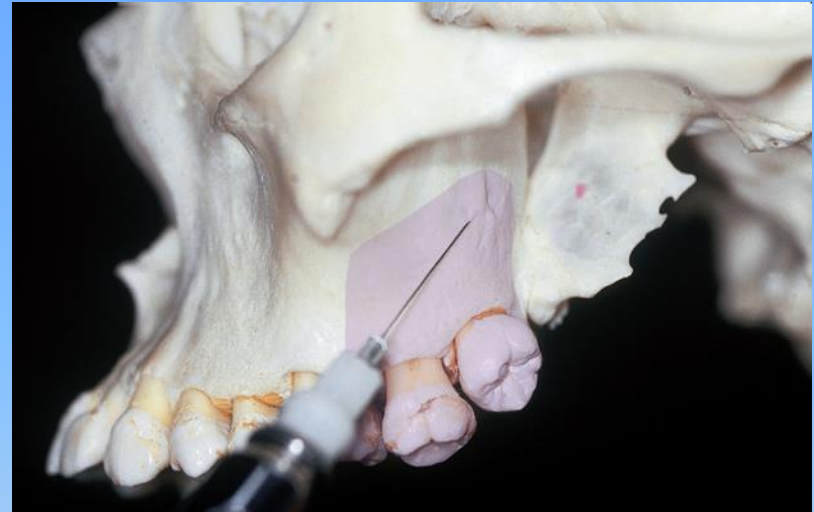
Not learning this injection

Learning PSA Regional Infiltration
not PSA Nerve Block

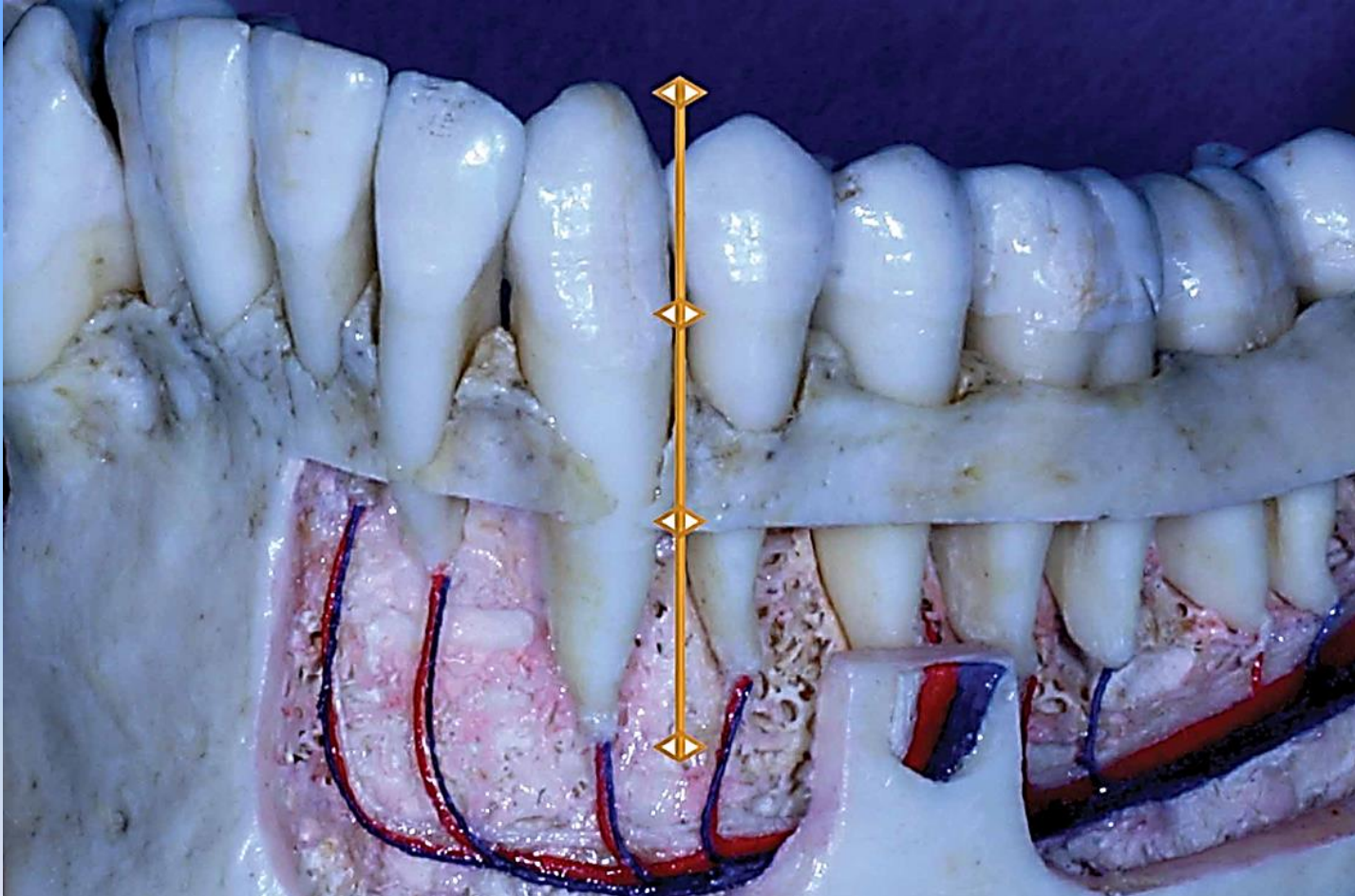
What is the difference between a
“Block” anesthesia and Regional
Infiltration?

Depth of Penetration of the Needle

- Block injections the penetration of the needle goes closer to the portion of the nerve before it divides



Infiltration height of needle penetration



Deposits the anesthetic solution near the apex of the teeth usually achieved ***within 3 to 6 mm***. More shallow on Maxilla and deeper on Mandible

How to Retract for a Dental Injection?



Remember for all Injections

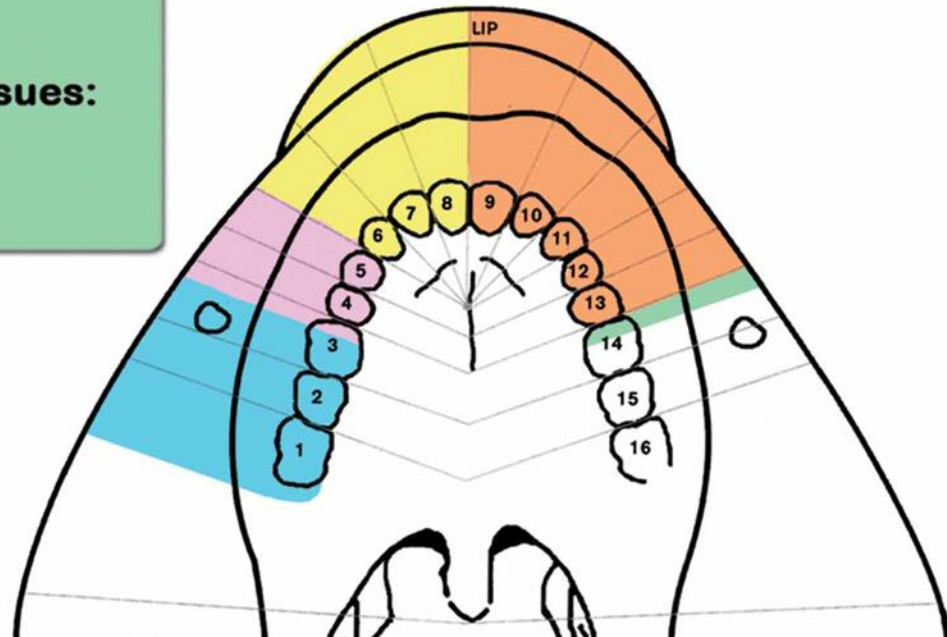
The **Bevel** of the Needle should
always face the bone

Bevel toward the Bone

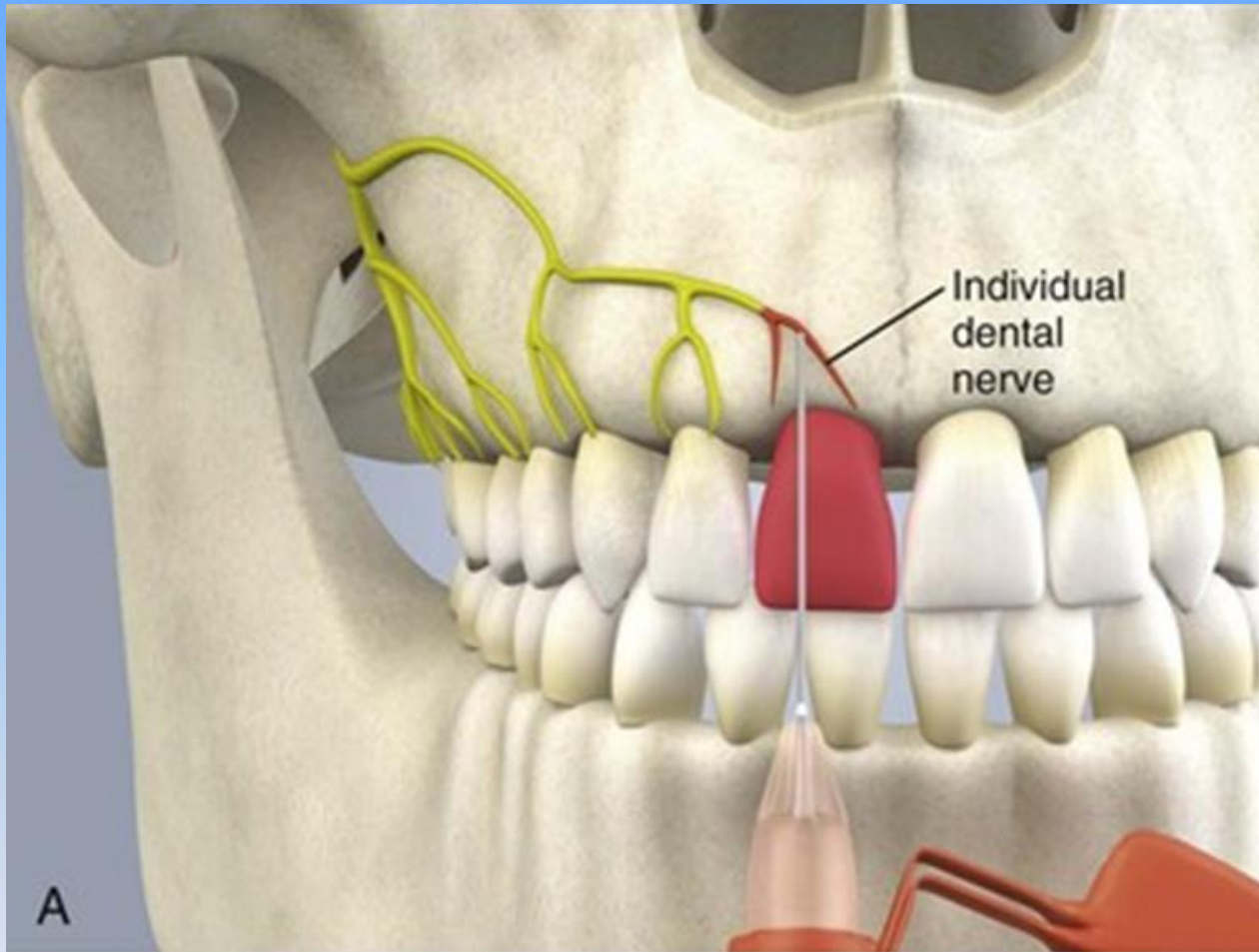
Infiltration

Teeth anesthetized:
at injection site

Periodontium/Soft tissues:
at injection site



Single Tooth Infiltration



Infiltration at
apex of the tooth
an easy injection
To learn

Single Tooth Infiltration-Maxillary Arch

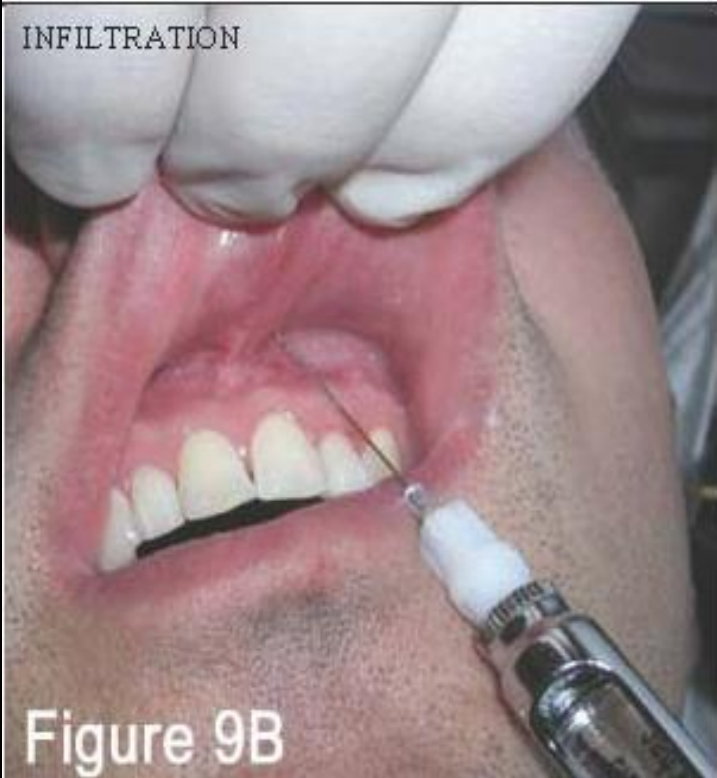
	Point of Insertion	Site of Deposition	Amount Deposited
INFILTRATION 	For Buccal Infiltration: Height of mucobuccal fold buccal to tooth	Apex of tooth	@ 1/4 carpule or less
	*****		*****
	For Lingual Infiltration: In palatal mucosa, lingual to tooth	In palatal mucosa, lingual to tooth	@ 1/8 carpule

Figure 9B

Single Tooth Infiltration-Maxillary Arch



Needle pathway:

Generally, parallels the long axis of the tooth **or** slope of the alveolus

Passing through thin mucosal tissues to superficial fascia containing loose connective tissue, small vessels and microvasculature, and nerve endings.

Depositing anesthetic solution slightly above the apex of the root of the tooth being anesthetized

Notice _the needle is not “Hubbed” and **about 3mm of the needle** is inserted into the tissue

Papillary infiltration

Technique: In the center of the interdental papilla toward the base

Deposit: enough anesthetic to cause blanching-about 1 stopper width (0.2ml)



Location: insertion of the needle is correct

Technique correction:

Do not allow the needle to deflect

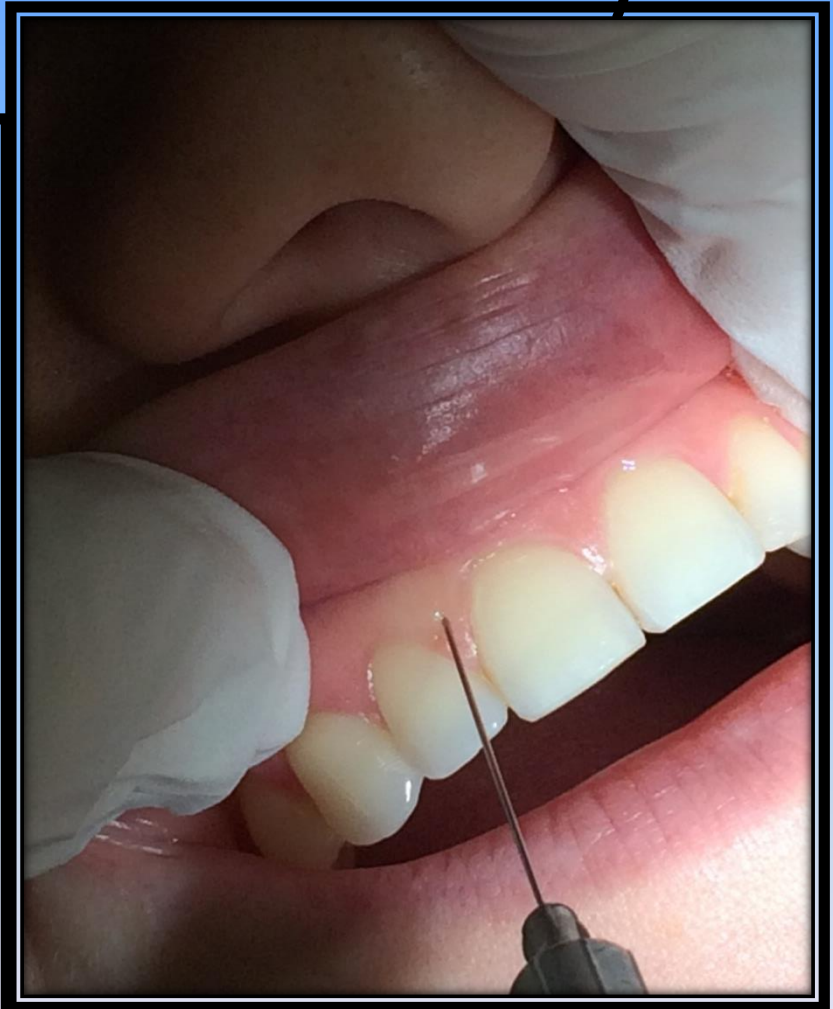
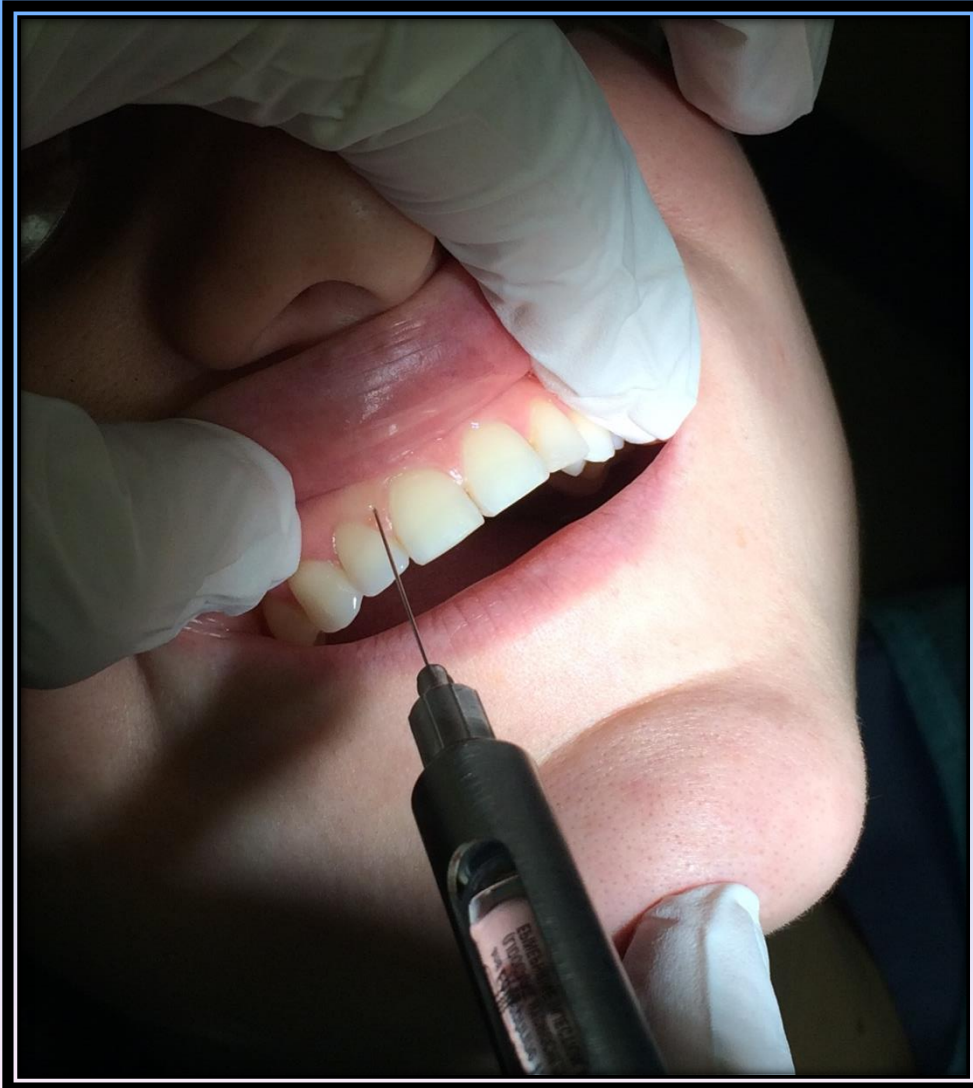
Clinician should keep needle straight



Papilla should be “blanched”
or white upon completion
of the injection

Papillary Infiltration-Maxillary

Photos taken by Prof. Cortell



Correct location for insertion & the needle is not deflected

Technique Correction: poor retraction of the lip

Regional Infiltration Techniques For the Maxilla:

ASA
MSA
PSA

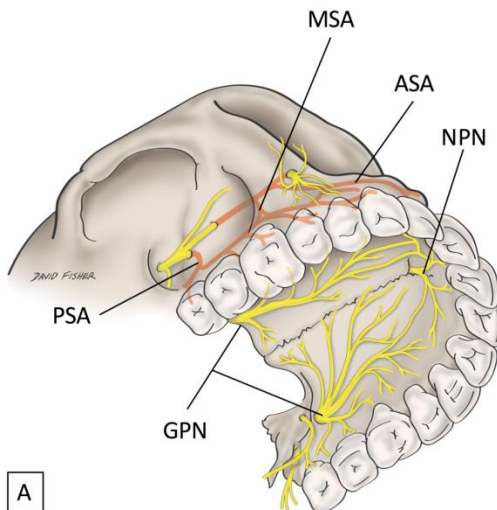
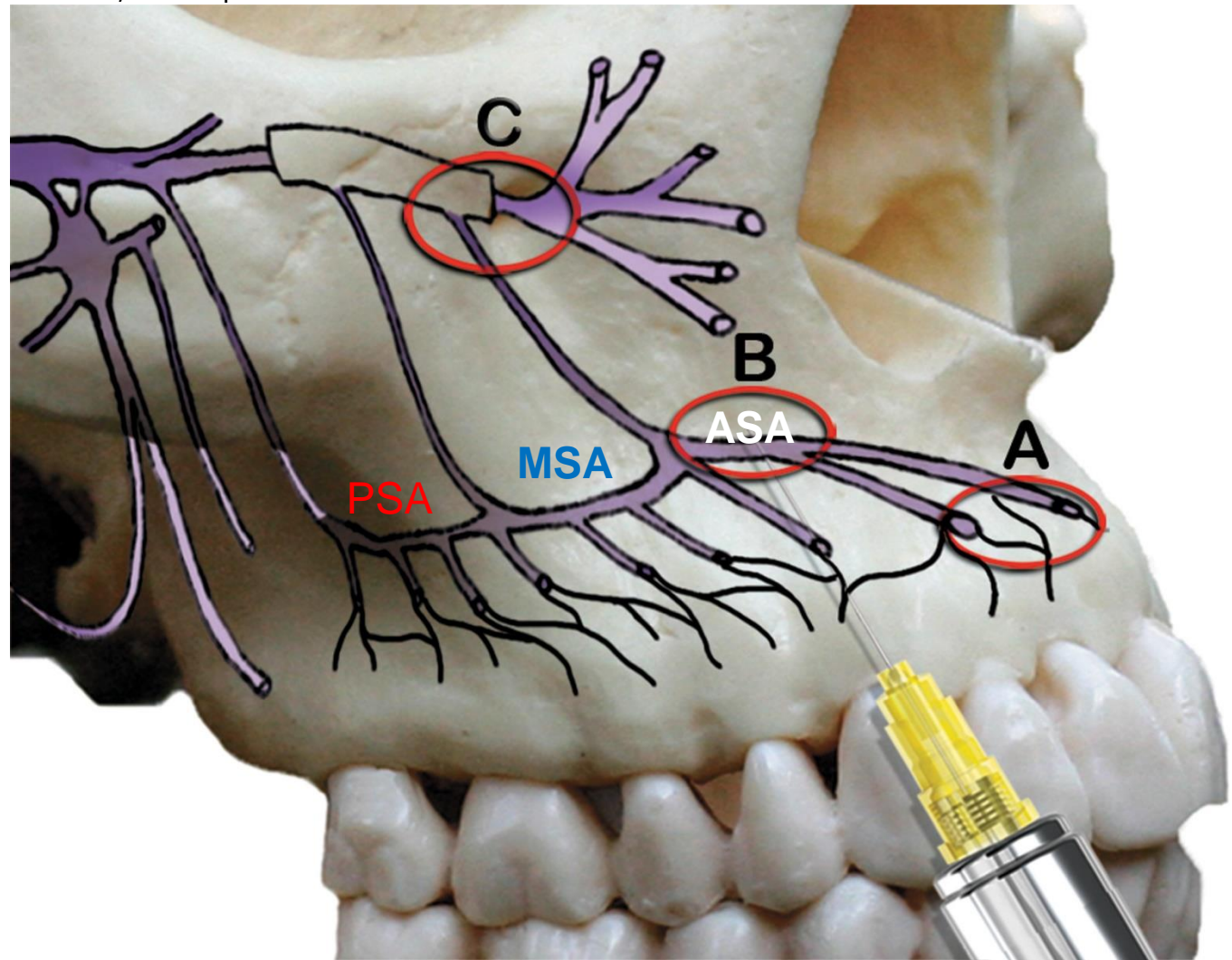


FIGURE 11-1 Types of Injections Defined. **A**—Infiltrations involve deposition directly at or near small terminal nerve endings in the immediate area of treatment. **B—Field block injections involve depositions near larger terminal nerve branches.** **C**—Nerve block injections involve depositions near major nerve trunks at a greater distance from the area of treatment, which provide wider areas of anesthesia.



We are teaching you to deposit anesthesia at the **B** location

Anterior Superior Alveolar Injection

ASA Injection



Maxillary ASA

Technique:

Retract the tissue with a firm grip (gauze may help)

Hold the tissue to create a soft “C” so you do not distort the anatomy of the Vestibule or move frenum positions

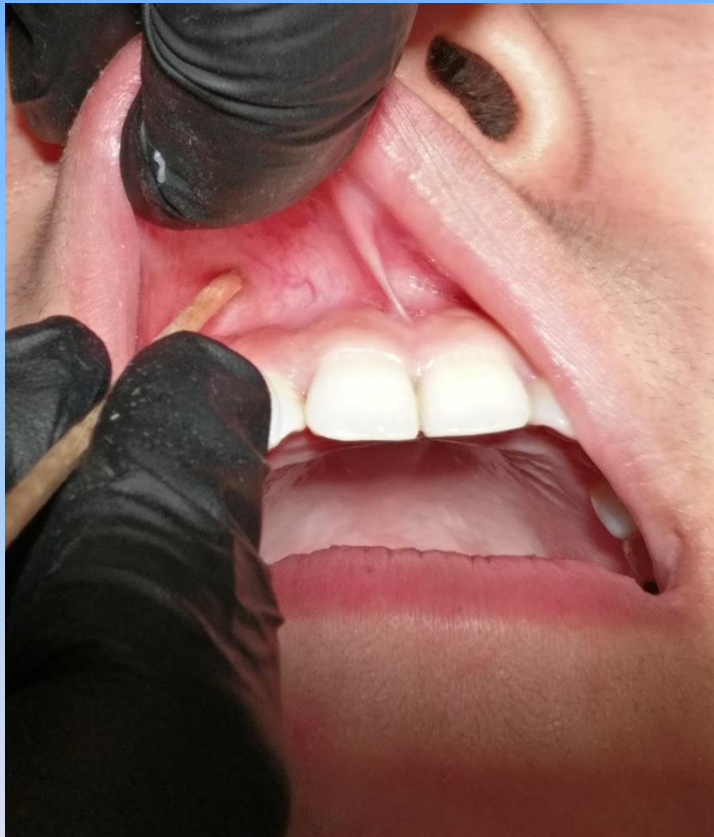
Insertion point is the height of the vestibule, in the area mesial to the canine eminence

Injection rate: slow deposition, rate

Deposit: 0.6ml to 0.9ml or about 3 to 4.5 stopper widths



Maxillary ASA



Identifying the point of insertion



Retraction using gauze and **correct angulation** of the syringe barrel to the slope of the alveolus

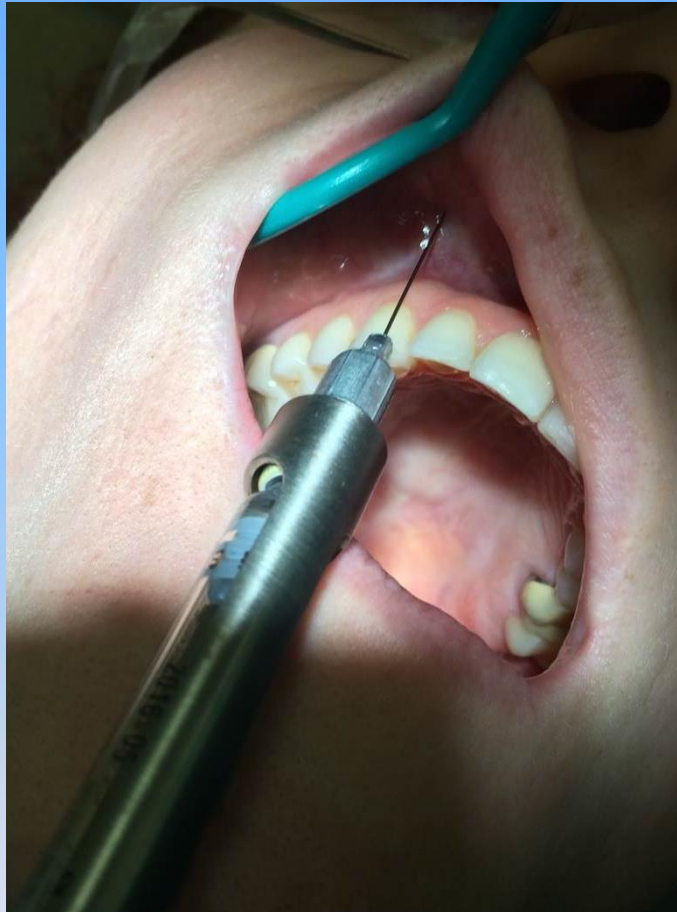
Maxillary ASA



Correct point of insertion

Poor retraction technique- “Flapping the tissue upward, no soft “C” of the vestibule and frenum is displaced.

Angulation of the syringe should have been closer to the teeth creating a more parallel position to the slope of the alveolus



Max ASA Correct location
for insertion & **Wrong syringe Angle**

Middle Superior Alveolar Injection

MSA



Middle Superior Alveolar Nerve Block

- ❖ Middle Superior Alveolar Nerve is not present in 28% (your book says 20%) of the population
- ❖ MSA provides anesthesia to 1st and 2nd premolars and mesiobuccal root of maxillary 1st molar; anesthetizes buccal periodontium and bone

MSA

Technique:

Retract the tissue with a firm grip (gauze may help)

Hold the tissue to create a soft “C” so you do not distort the anatomy of the Vestibule or move frenum positions

Insertion point is the height of the vestibule, adjacent to the 2nd maxillary premolar & the syringe barrel is parallel to the 2nd premolar.

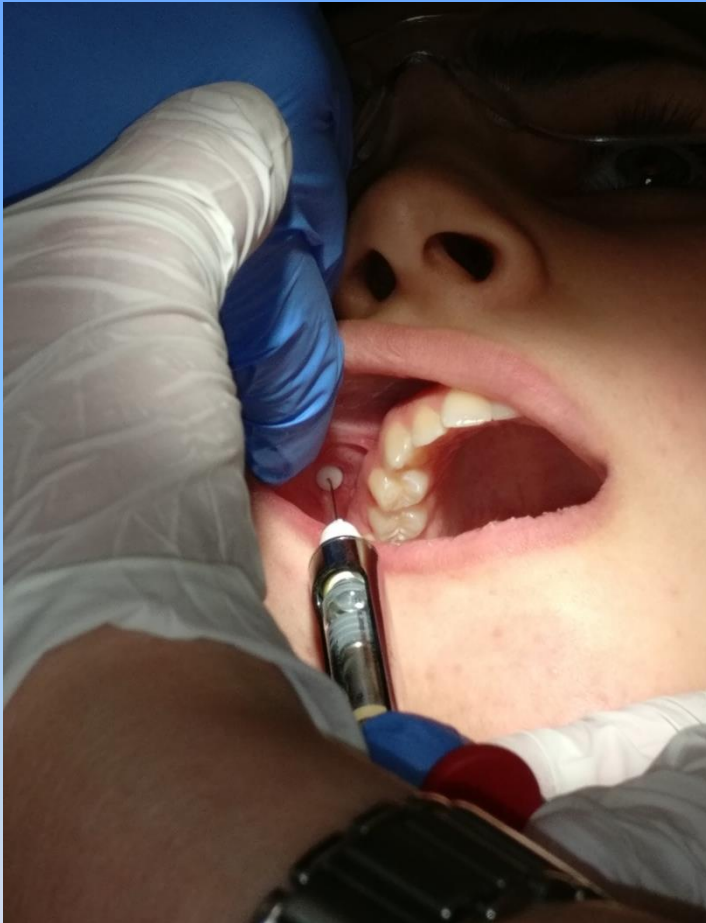
Operators seating position: 10 o'clock for a right side MSA & 8 to 9 o'clock for a left MSA

Injection rate: need to verify

Deposit: 0.6ml to 0.9ml or
about 3 to 4.5 stopper widths



MSA



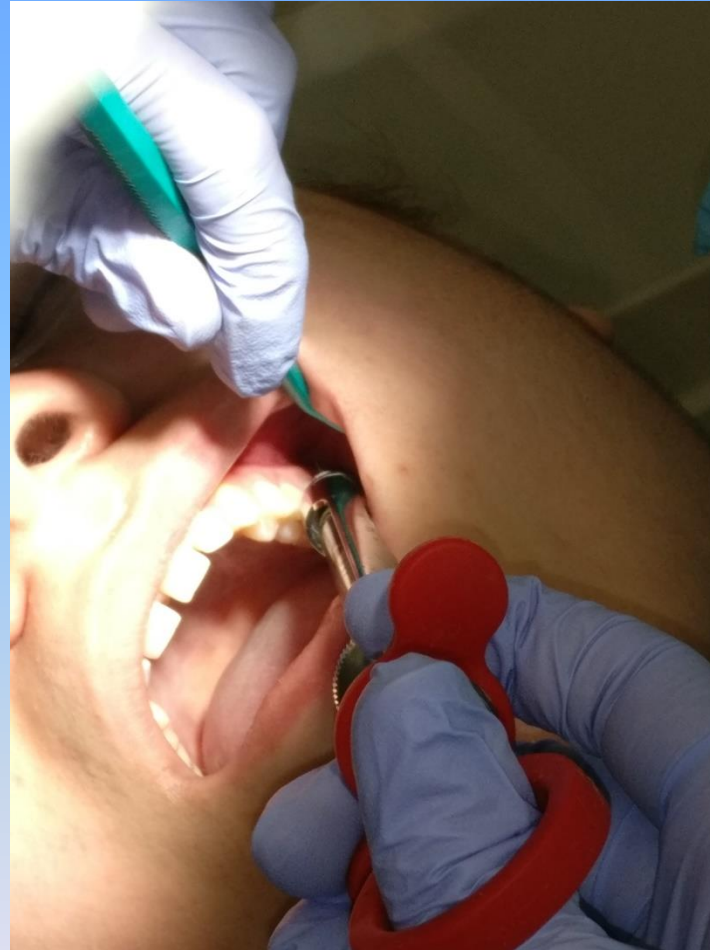
Correct site for needle insertion



Incorrect site for insertion too close to the bone

MSA

Note depth of penetration is about 3 mm of needle below the mucosa



Correct site of insertion and retraction for the MSA injection
Barrel of the syringe is parallel-although in the photograph it may be hard to see

Technique correction: The operators thumb is in poor position.

MSA Injection Video

- <http://youtu.be/geVmWb3IFFQ>

Posterior Superior Alveolar Injection

PSA



PSA

Technique:

Retract the tissue with a firm grip (gauze may help)

Hold the tissue to create a soft “C” so you do not distort the anatomy of the Vestibule or move frenum positions

Insertion point is the height of the vestibule, adjacent to the 2nd maxillary molar

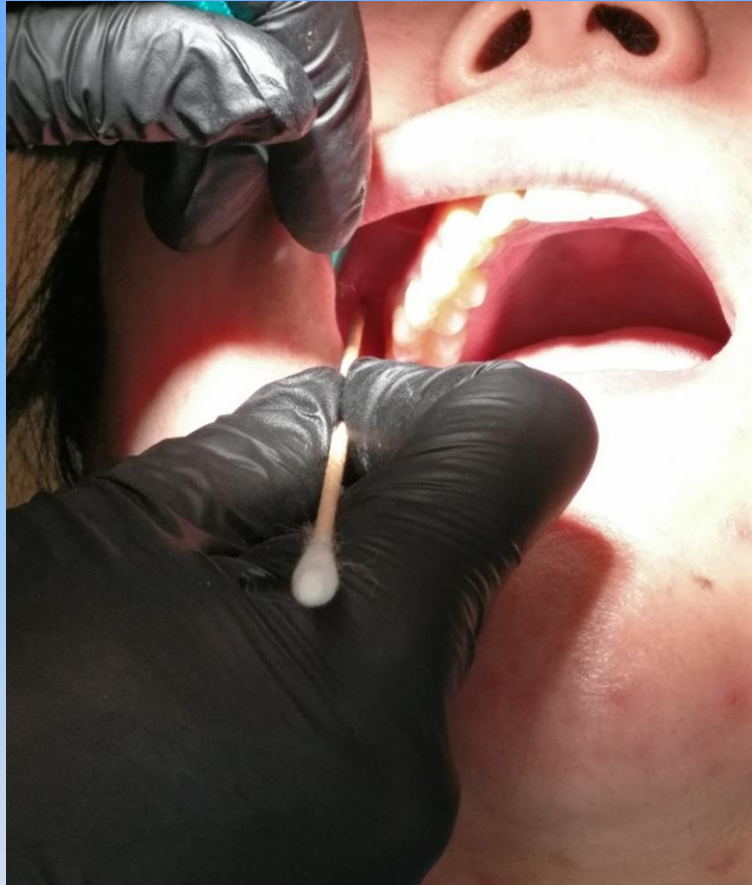
Operators seating position(right handed): 10 o'clock for a right side PSA & 8 to 9 o'clock for a left PSA

Injection rate: need to verify

Deposit: 0.6ml to 0.9ml or about 3 to 4.5 stopper widths



PSA



Correct site for needle insertion
Good retraction

Complication: Hematoma

- Insertion of the needle too far distally may lead to a temporarily unesthetic hematoma. Penetration sites near the alveolar ridge rather than into the more forgiving site at the mucobuccal fold increases risk for contact with bone and subsequent tearing of the PSA artery or vessels within the pterygoid plexus of veins. Boney resistance may also indicate too great of an angle toward the midline.

Management of Hematomas



- Apply pressure and ice to permit clotting
- Instruct patient to apply ice over the next 6 hours
- avoid anticoagulant pain relievers
- Inform patient of future discoloration

Complication: Trismus

- Caused by intramuscular injection of the anesthetics in the pterygomandibular space. It can occur even 2 – 5 days after inferior alveolar block anesthesia. ****We Do NOT Do This Injection!**
- Persistent pain at the site of injection is the most common complication of local anesthesia in the oral cavity .
- The complication of trismus after local anesthetic injection is rare and may be prevented by the use of short needles for maxillary posterior injections, and by the avoidance of multiple injections in a short period time.
- Treatment consisting of heat, analgesics, muscle relaxants, and exercises.

Maxillary Palatal Injections

The Gate Control Theory of Pain Perception is important concept for all palatal injections

Basis for “pressure” pre-anesthesia:
administered by holding a cotton-tipped applicator or smooth instrument handle against the tissues to minimize needle puncture discomfort

Topical Anesthesia *is NOT* recommended for palatal injections

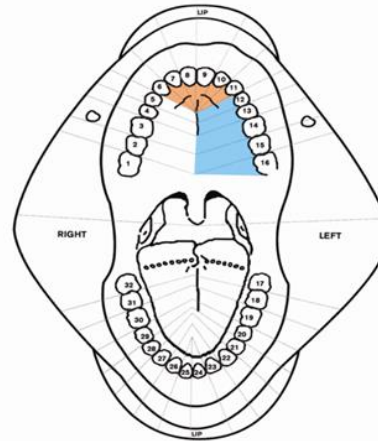
Field of Anesthesia

Pallatal Injections

NP

Teeth anesthetized:
none

Peridontium:
palatal to incisors and canines



GP

Teeth anesthetized:
none

Peridontium:
palatal tissues of
posterior teeth

AMSA

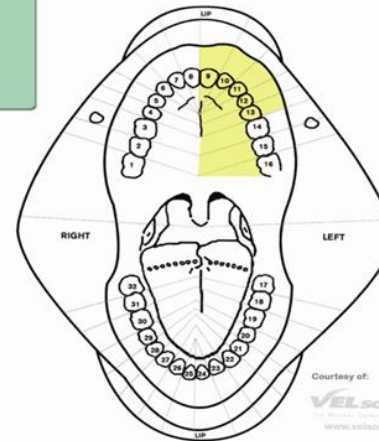
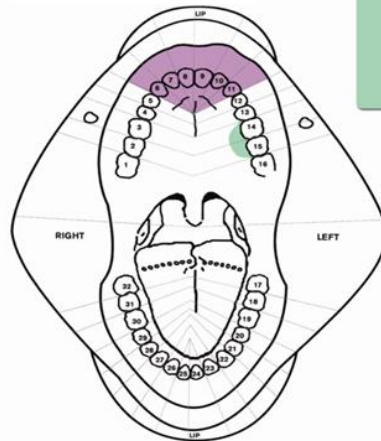
Teeth anesthetized:
central, canine,
lateral, premolars

Peridontium:
to incisors and premolars,
palatal to molars

Infiltration

Teeth anesthetized:
at injection site

Peridontium:
at injection site



Nasopalatine Nerve

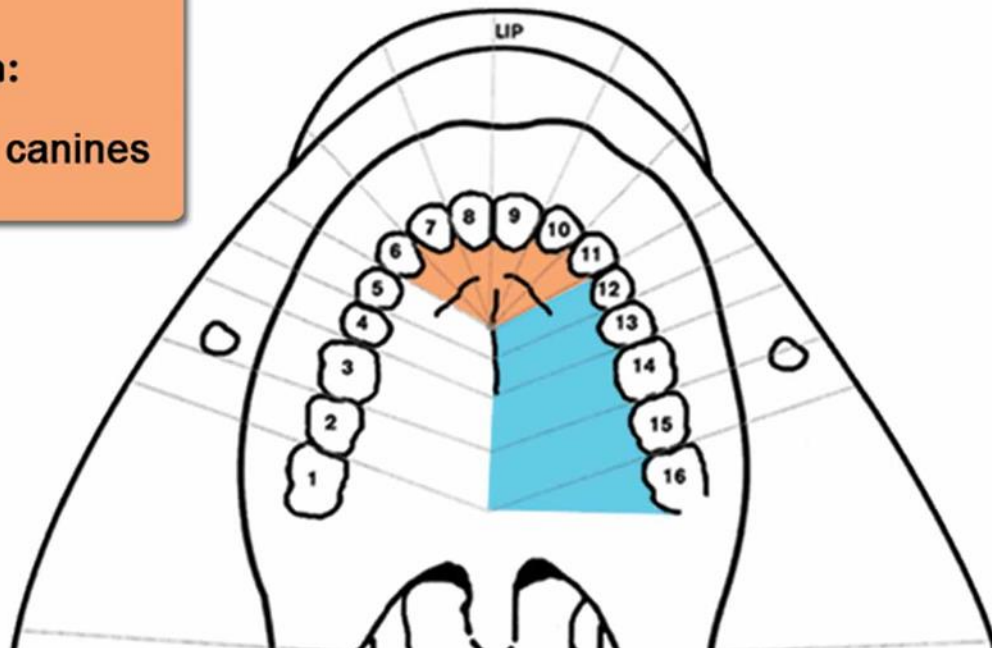
NP

Teeth anesthetized:

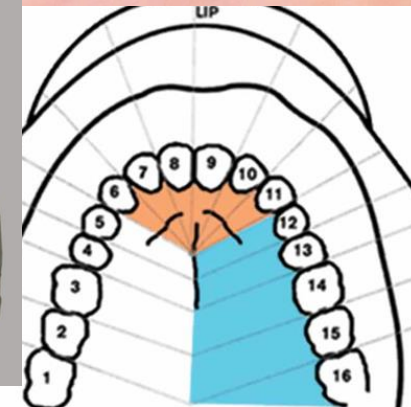
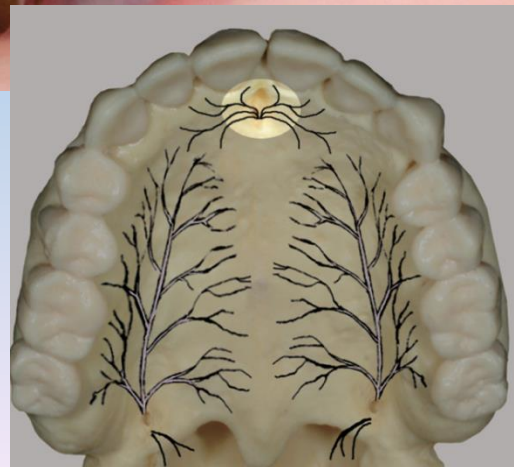
none

Periodontium:

palatal to incisors and canines



Nasopalatine Nerve



Nasopalatine Infiltration Incisive Papilla Injection

Using a Cotton applicator or the back end of a dental mirror apply pressure to the opposite side where you plan to inject to minimize needle puncture discomfort

Technique:

position the patient so you have direct vision of the Incisive papilla

Insertion point: at the widest point of the incisive papilla and where the papilla attaches to the palate

Align the syringe barrel at a 45-degree angle to the palate

Deposit: until papilla blanches ~ 0.4ml about 2 stopper widths



The Gate Control Theory of Pain Perception

- Basis for “pressure” pre-anesthesia by using pressure specially on the palatal injections

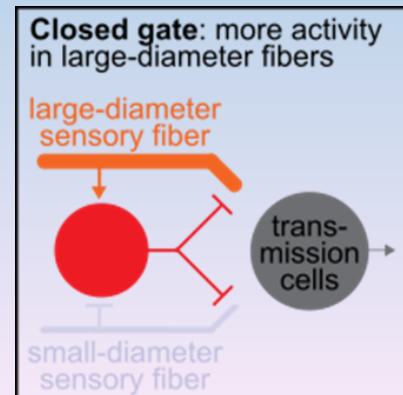
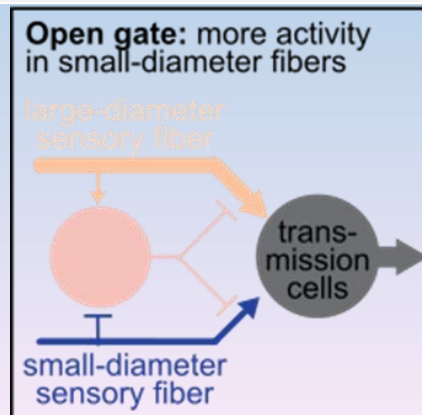
The gate control theory of pain asserts that non-painful input closes the nerve "gates" to painful input, which prevents pain sensation from traveling to the central nervous system.

Gate Control Theory of Pain describes how non-painful sensations can override and reduce painful sensations.

A painful, nociceptive stimulus stimulates primary afferent fibers and travels to the brain via transmission cells. Increasing activity of the transmission cells results in increased perceived pain.

Conversely, decreasing activity of transmission cells reduces perceived pain. In the Gate Control Theory, a closed "gate" describes when input to transmission cells is blocked, therefore reducing the sensation of pain.

An open “gate” describes when input to transmission cells is permitted, therefore allowing the sensation of pain.



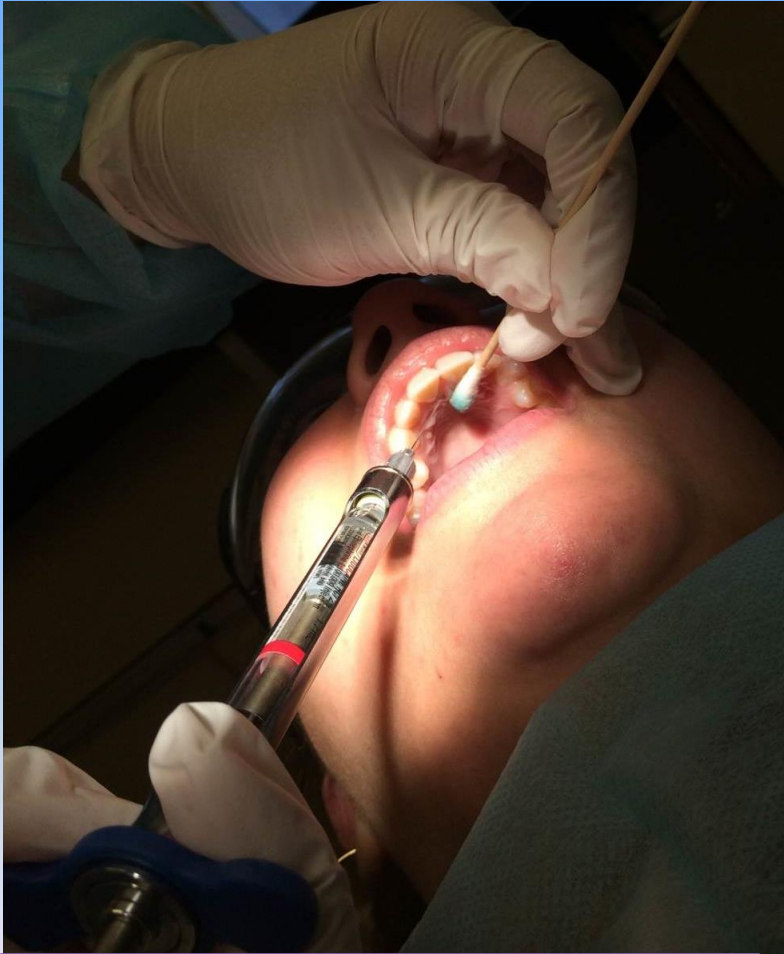
Nasopalatine (incisive papilla) Injection Pressure Anesthesia



- <https://www.rdhmag.com/career-profession/article/16405257/anesthesia-during-perio-maxillary-injections-useful-for-adult-nonsurgical-periodontal-therapy>

Nasopalatine Injection Technique

soft tissue only



Correct site of injection & correct angle of the syringe
Not recommended to use topical on the palatal injections



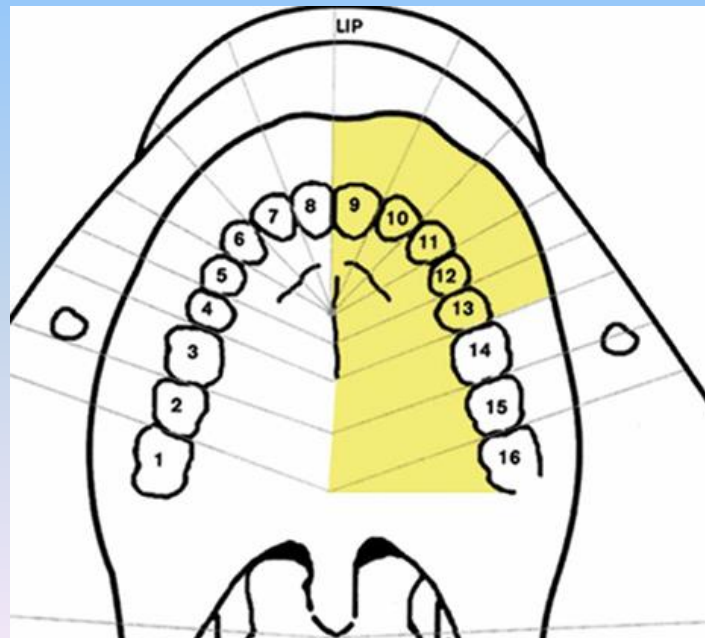
Correct use of the cotton applicator
Incorrect angle of the syringe

Nasopalatine Post Injection



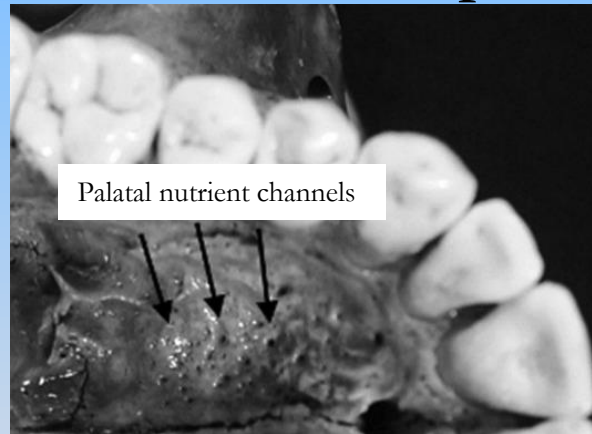
Anterior Middle Superior Alveolar Nerve Block

AMSA



AMSA

- AMSA nerve block derives its name from the anesthesia of the anterior & middle superior alveolar nerves *due to diffusion* of the anesthetic solution via numerous nutrient channels on the palatal process of the maxillary bone



- Both nerves are collateral branches of the infraorbital nerve and part of the maxillary nerve

Palatal AMSA Injection



Midway between mid palatal suture and free gingival margin in line with the interproximal of the premolars

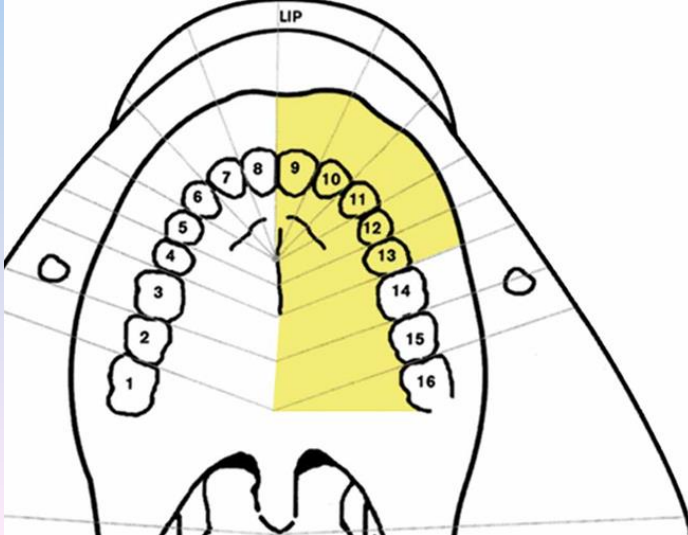
Keep needle bevel toward bone

Apex of the premolars on palate

Make sure there is adequate thickness of mucosa. If not, move slightly to an area where there is.

Approx. 1/4 - 1/2 carpule

Deposit:
usually 1/2 carpule depending on the tightness of the tissue and inject until adequate blanching



AMSA

Teeth anesthetized:

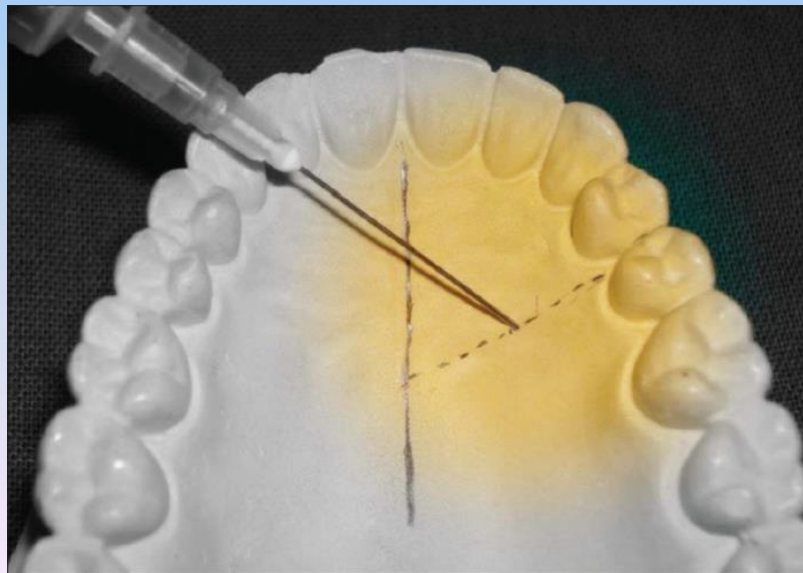
central, canine,
lateral, premolars

Periodontium:

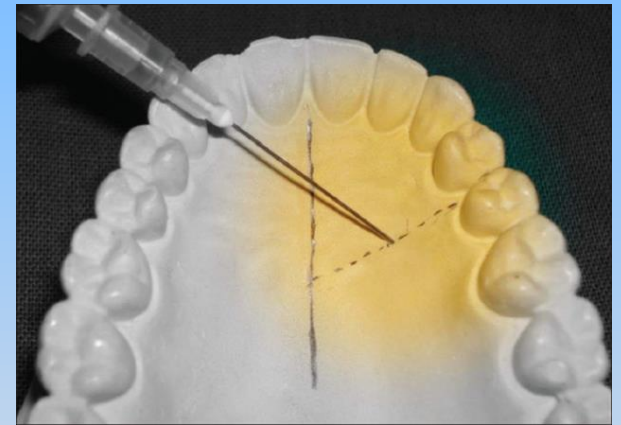
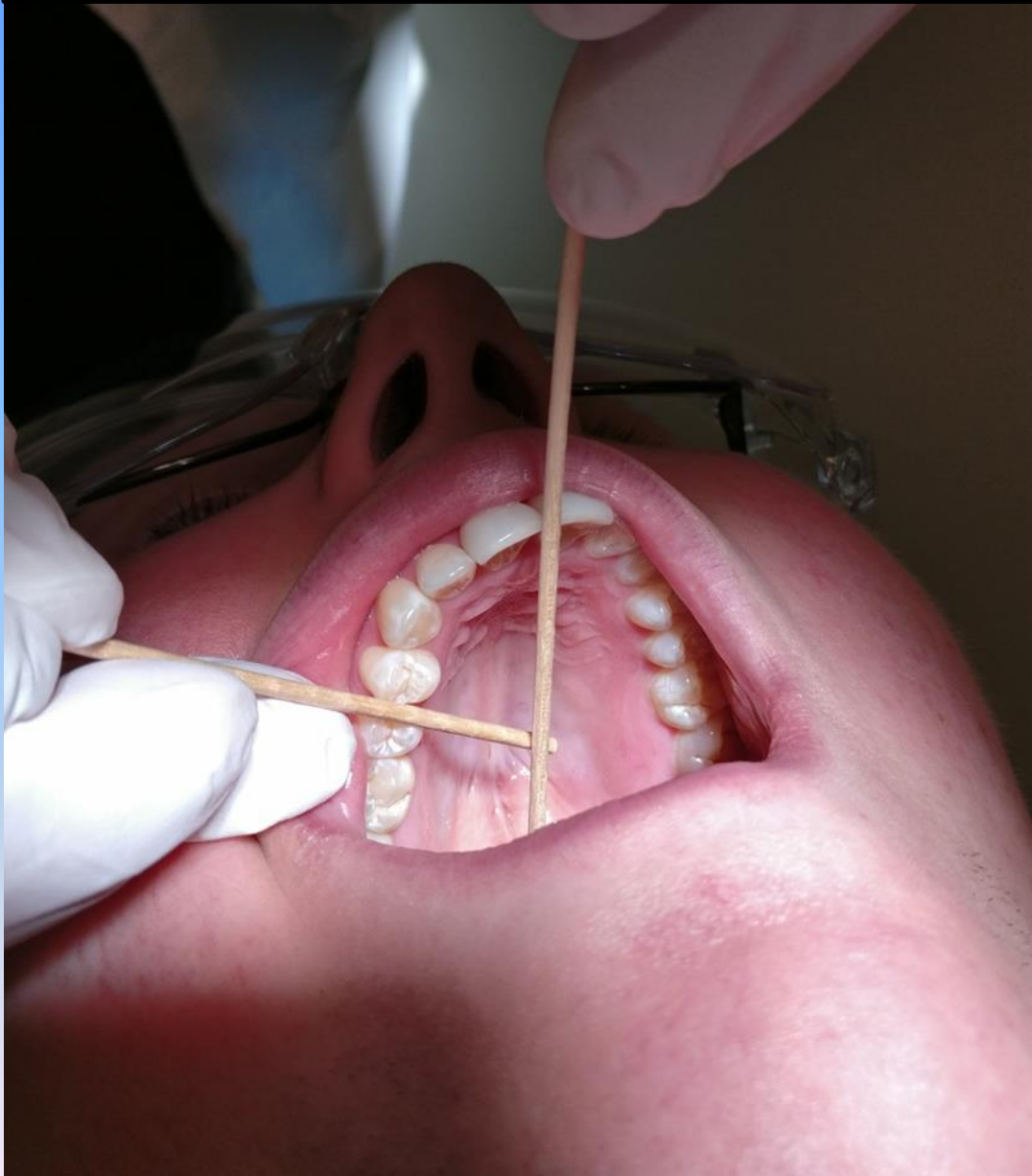
to incisors and premolars,
palatal to molars

Determining the Penetration Site for the AMSA Injection

- This technique is performed by approximating an imaginary line between the two maxillary premolars on the side to be anesthetized and drawing this line down to the junction of the alveolar process and the palatal process. Needle penetration at a 45-degree angle into the palate and delivery of anesthetic upon gentle contact with bone permits the provider to observe appropriate blanching both anteriorly and posteriorly to ensure appropriate diffusion of anesthesia.
- Delivery of anesthesia at the AMSA point of penetration maximizes diffusion of anesthesia through the palatal bone and into the maxillary dental plexus, providing both palatal and buccal anesthesia in the quadrant of choice.



Determining the Penetration Site for the AMSA Injection



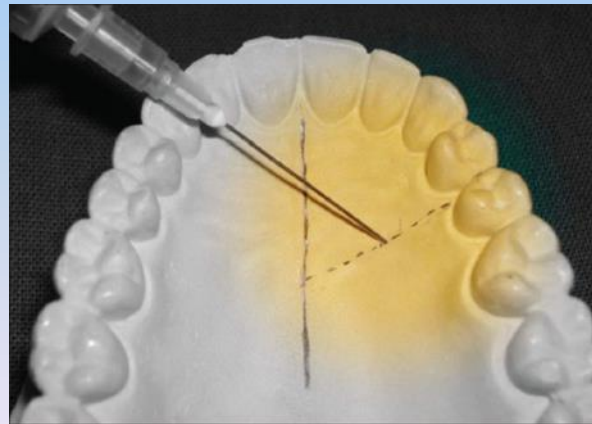
Determining the Penetration Site for the AMSA Injection



After you have used Cotton tip applicators to approximate the location for AMSA injection

- Use the cotton tip to “find a depressible” area in the hard palate
- Usually if you are in a good location you will observe with the pressure of the applicator the palatal tissue will start to “Blanch”

-the photograph maybe deceiving, but the applicator is midway between the palatal suture and the line bisecting the premolars.



AMSA Site of Penetration



For the AMSA injection the pathway of insertion comes from the opposite side of the mouth.
Technique suggestion: Notice the student is using her mirror as stabilization of the syringe barrel

AMSA Using a Traditional Syringe



Note: the color difference between the right palate and the left side of the palate



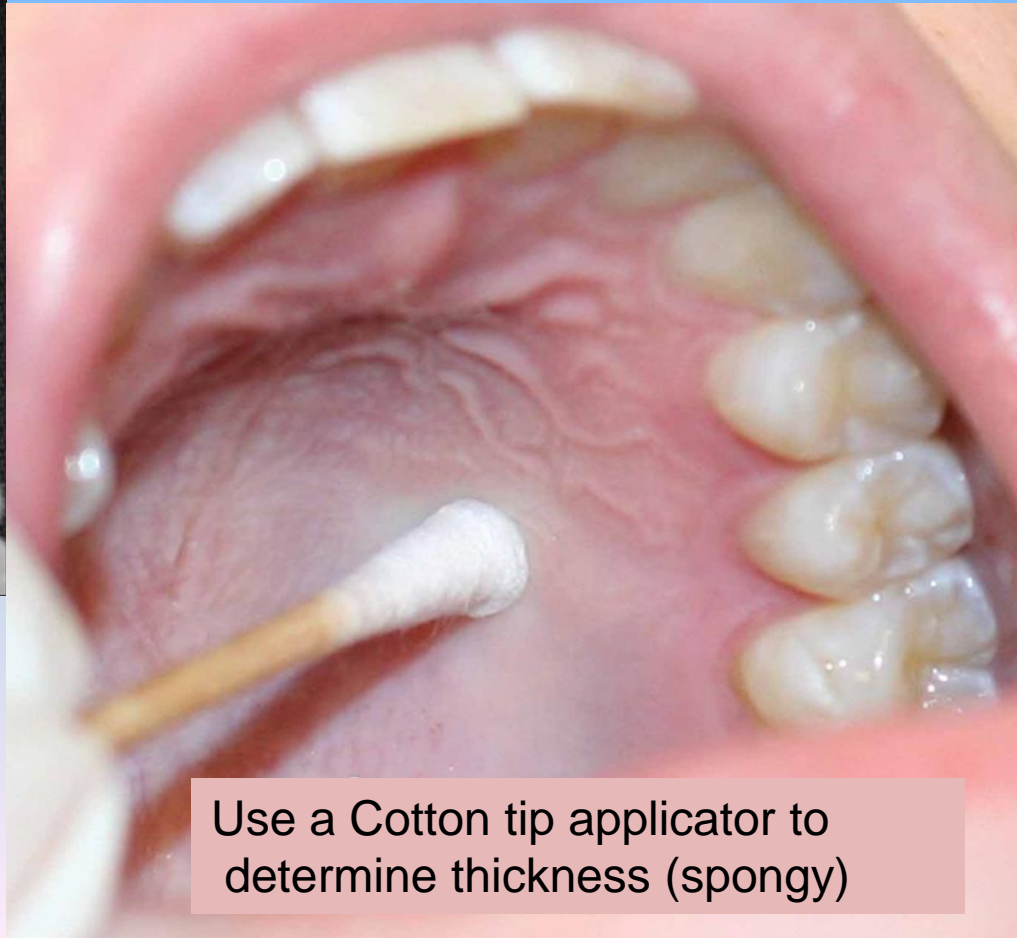
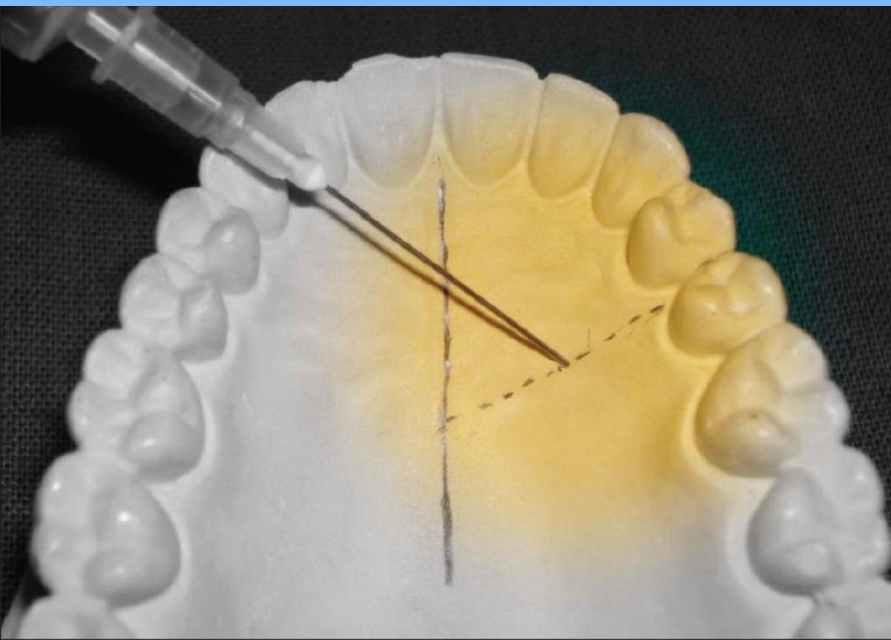
AMSA Using a CCLAD

- The use of a computer-assisted injection system is recommended as the best method for administering AMSA injections.



AMSA technique explained by Bassett

- https://youtu.be/TJX_SybuQRQ



Use a Cotton tip applicator to determine thickness (spongy)

Combination of the AMSA Injection and PSA Injection

Advantages:

1. Entire Maxillary Quadrant anesthetized with 2 injection
2. Minimizes volume of the anesthetic & vasoconstrictor used.
3. Very good anesthesia
4. Maxillary Lip & Face are not anesthetized
5. Duration with CCLAD: 55 to 90 minutes

Disadvantages:

1. Due to slow administration
may cause operator hand fatigue
2. Anxious patient may not be able to tolerate the administration time

AMSA Injection Technique

Observe the slow diffusion of solution in the palate by observing the blanching pattern.

A typical maximum rate of deposition that allows optimal diffusion without tissue trauma is 0.5 ml over 60 seconds, which is **1 cartridge over 3 minutes** when using 2% drugs.

In some instances, these slow rates can lead to hand fatigue.

If patients are unwilling or unable to tolerate long administration times, this technique should be avoided.

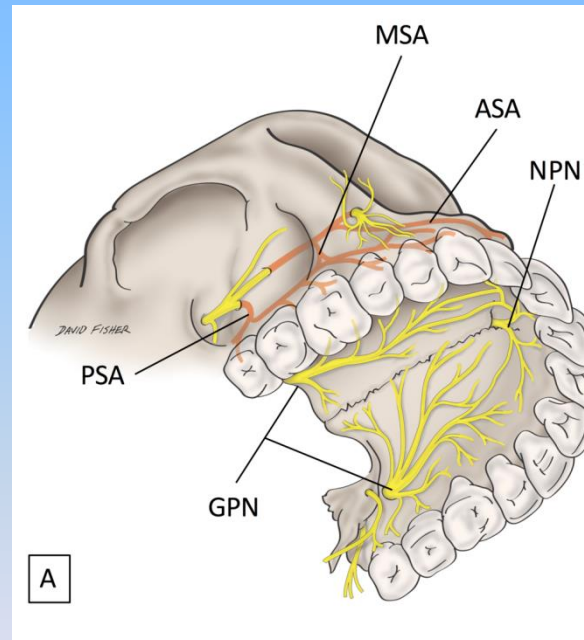


Incorrect AMSA Injection Technique

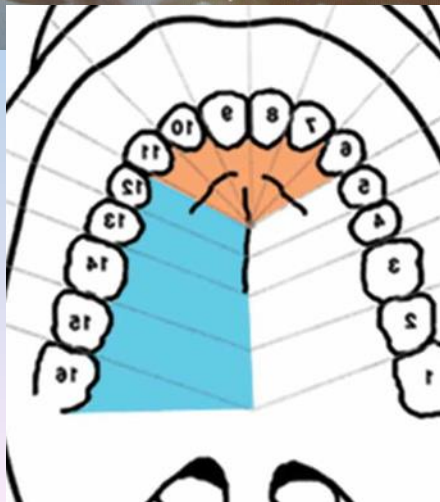
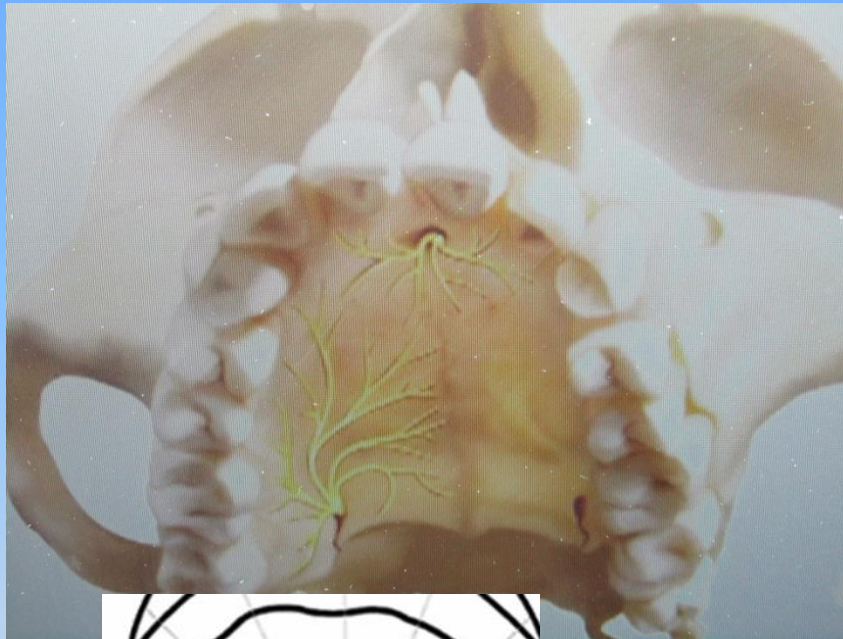


- Tissue trauma created by inadequate depth of tissue
 - the injection was not in an area where the tissue was spongy

Greater Palatine Infiltration Injection



Greater Palatine Infiltration Injection



- GP nerve will anesthetize structures innervated by the greater palatine nerve and its terminal branches
- Includes posterior portion of hard palate and overlying soft tissues
- Anteriorly as far as the first premolar and medially to the midline
- Does not provide pulpal anesthesia

Greater Palatine Injection Site



Technique Hint: Where you inject for the AMSA visualize a straight line down to the palate in the are of the 2nd molar

Greater Palatine Injection Site



The Injection site is on the palatal tissue ~ 1 to 2 mm anterior to the GP foramen, use a cotton applicator to identify where the GP foramen is.

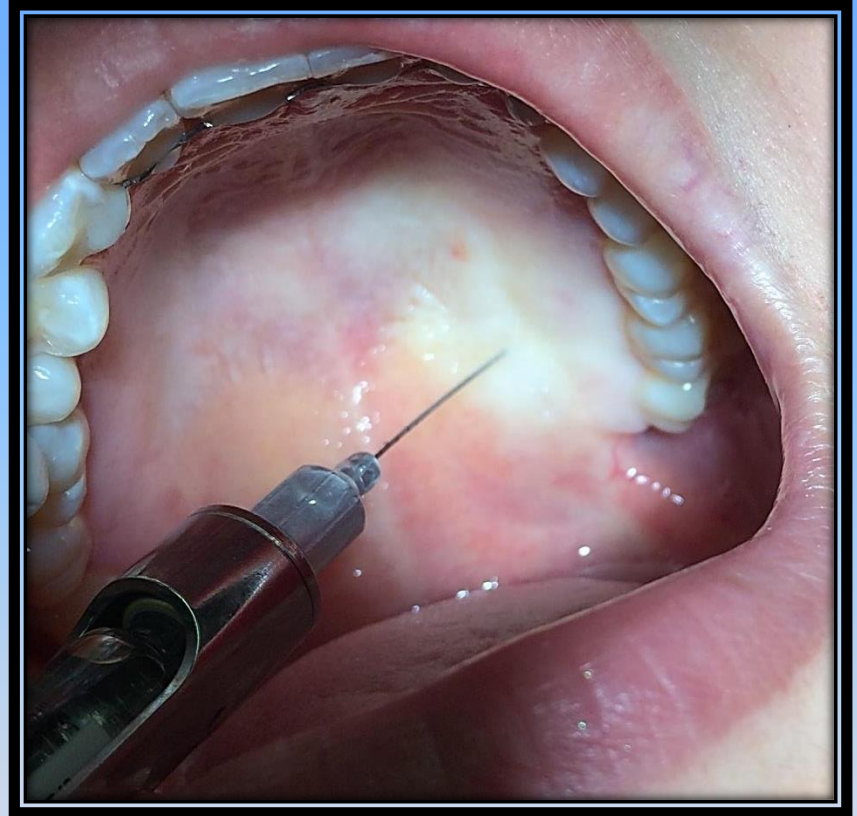
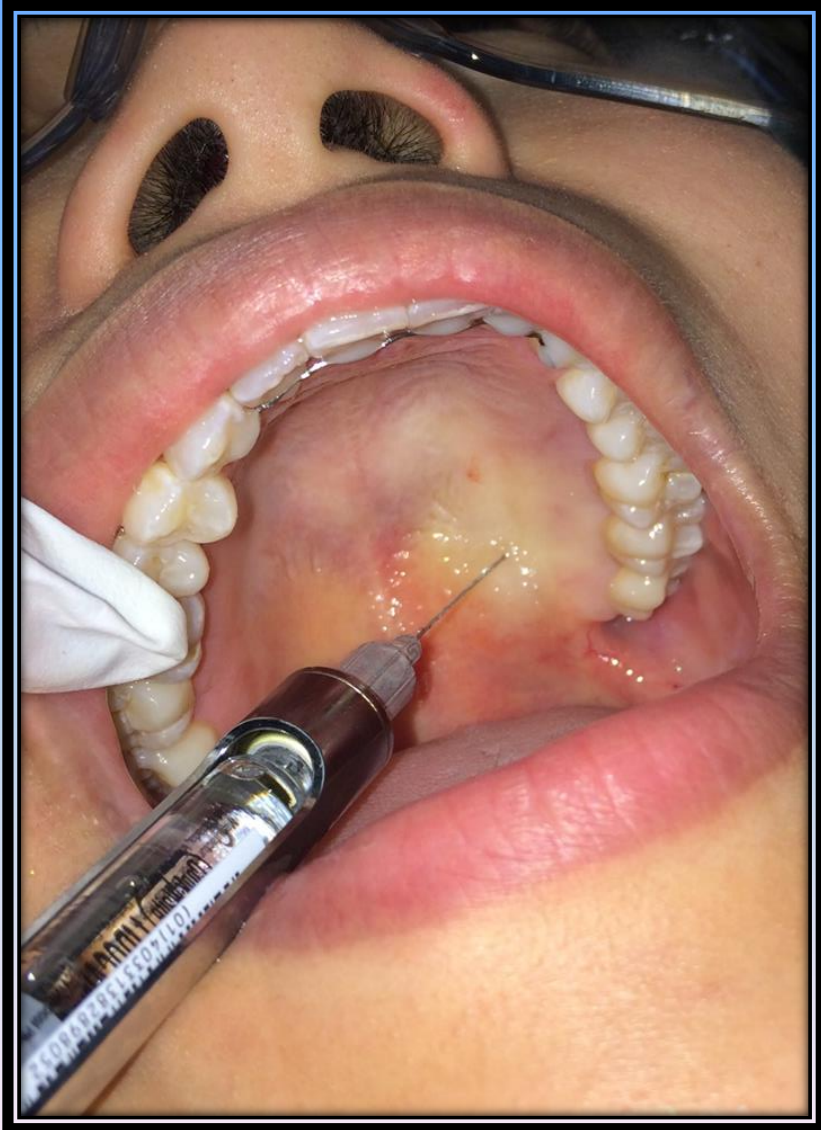
-Pathway of insertion is across the arch

-Technique hint: if you know where to inject for the AMSA then visualize a straight line down the palate in the are of the 2nd molar



Greater Palatine Injection

Photos taken by Prof. M. Cortell



Upon completion of the injection the palatal tissue should appear "white" or blanched.

Local Anesthesia Documentation

By Dr. Andrew Moshman, DMD

What Are We Documenting?

- 1) How much local anesthesia we administer
- 2) How much epinephrine we administer
- 3) Where we are administering the local anesthesia

Documenting Amount of Local Anesthesia and Epinephrine

- We can document the number of cartridges of anesthesia+epinephrine that we administer

OR

- We can document the exact mg of local anesthetic and epinephrine that we administer

**Calculating and Documenting the
Exact Amount (mg) of Local
Anesthetic and Epinephrine**

Documenting Local Anesthesia and Epinephrine:

Example: One, 1.7ml Cartridge 2% Lido with 1:100,000 Epi

- **Total mg of Anesthetic in 1.7mL cartridge with 2% concentration:**
 $1.7\text{ml} \times 20\text{mg/ml} = 34\text{mg Lidocaine}$
- **Total mg of Epinephrine in 1.7mL with 1:100,000 Epi Concentration:**
 $1.7\text{ml} \times 0.01 \text{ mg/ml} = 0.017\text{mg epinephrine/cartridge} \sim 0.02\text{mg Epi}$
- We round the 0.017mg Epi/cartridge \rightarrow 0.02mg Epi per cartridge
- So, one 1.7ml cartridge of 2% Lidocaine with 1:100,000 epi has:
34mg Lidocaine with 0.02mg Epi

Documenting Local Anesthesia and Epinephrine:

Example: Two, 1.7ml Cartridges 2% Lido with 1:100,000 Epi

- We already know that ONE 1.7ml cartridge of 2% Lido w/ 1:100K epi =
34mg lido with .02mg Epi
- Therefore, TWO 1.7ml cartridges of 2% Lido w/ 1:100k epi =
68mg lido with .04mg Epi (oh, look...that's that cardiac dose..)

Documenting Local Anesthesia and Epinephrine:

Example: HALF, 1.7ml Cartridges 2% Lido with 1:100,000 Epi

- We already know that ONE 1.7ml cartridge of 2% Lido w/ 1:100K epi = 34mg lido with .02mg Epi
- Therefore, HALF of a 1.7ml cartridge of 2% Lido w/ 1:100K epi = 17mg Lidocaine with .01mg Epi

Documenting Local Anesthesia and Epinephrine:

Example: One and a Half, 1.7ml Cartridges 2% Lido with 1:100,000 Epi

- We already know that ONE 1.7ml cartridge of 2% Lido w/ 1:100K epi = 34mg lido with .02mg Epi
- We also know that HALF of a 1.7ml cartridge of 2% Lido w/ 1:100K epi = 17mg Lidocaine with .01mg Epi
- So all we need to do is add the values for One Cartridge and a Half Cartridge=
Lidocaine: $34\text{mg} + 17\text{mg} = 51\text{mg}$ Lidocaine
Epinephrine: $.02\text{mg} + .01\text{mg} = .03\text{mg}$ Epinephrine

What about 3% Carbocaine?

- **Total mg of Anesthetic in 1.7mL cartridge with 3% concentration:**

$$1.7\text{ml} \times 30\text{mg/ml} = 51\text{mg Carbocaine}$$

What about 3% Carbocaine?

- For the same size cartridge (1.7mL), Carbocaine has a 3% concentration.
- Lidocaine has a 2% concentration.
- Therefore Carbocaine is $3/2 = 1.5$ times as concentrated.
- If there is 34mg Lidocaine in a 1.7mL cartridge at 2% concentration, then for the same volume (1.7mL) there will be 1.5 times as much Carbocaine at 3% concentration
- $34\text{mg} \times 1.5 = 51\text{mg}$ carbocaine in a 1.7mL cartridge

One Cartridge 0.5% Marcaine

1:200K epi?

- **Total mg of Anesthetic in 1.7mL cartridge with 0.5% concentration:**
 $1.7\text{ml} \times 5\text{mg/ml} = 8.5\text{mg Marcaine}$
- **Total mg of Epinephrine in 1.7mL with 1:200,000 Epi Concentration:**
 $1.7\text{ml} \times 0.005 \text{ mg/ml} = 0.0085\text{mg}$
epinephrine/cartridge $\sim 0.01\text{mg Epi}$

Is there an easier way to arrive at these numbers?

What if we just compare it to what we know about one cartridge of 2% Lidocaine 1:100K epi?

One Cartridge 0.5% Marcaine 1:200K epi?

- First, let's focus on the amount of local anesthetic:
0.5% Marcaine versus 2% Lidocaine
 $0.5/2 = 0.25 = \frac{1}{4}$.
→ 0.5% Marcaine is $\frac{1}{4}$ as concentrated as 2%
Lidocaine
- So if one cartridge of 2% lido 1:100K epi has 34mg of anesthetic, and Marcaine has $\frac{1}{4}$ the concentration, then
 $34\text{mg} \times \frac{1}{4} = 8.5\text{mg}$ anesthetic in 0.5% Marcaine

One Cartridge 0.5% Marcaine 1:200K epi?

- Now, let's focus on the amount of Epinephrine.
1:200K Epi is **HALF** as concentrated as 1:100K Epi
- We know that one cartridge of 1:100K Epi Lido has $\sim .02\text{mg}$ Epi
- So 1:200K Epi Marcaine has **HALF** that $\rightarrow .02/2 = .01\text{mg}$ Epi

By Memorizing the values for Total Anesthetic and Total Epinephrine in

2% Lido 1:100k Epi, we can easily use that to calculate the amount of LA+Epi in anesthetics with different concentrations.

**Documenting (without calculating)
the Exact Amount (mg) of Local
Anesthetic and Epinephrine**

- This is the easy method:
- If you administer one 1.7mL carpule of 2% Lidocaine 1:100K epi, you write exactly that.
→ “Administered One 1.7mL carpules of 2% Lidocaine 1:100K Epinephrine”
- If you give two 1.7mL carpules of 2% Lidocaine 1:100K epi, you write exactly that.
→ “Administered Two 1.7mL carpules of 2% Lidocaine 1:100K Epinephrine”

What if you Administer One Cartridge of Septocaine and One Cartridge of Lidocaine?

“Administered One 1.7mL cartridge of 4% Septocaine 1:100K epi and One 1.7mL cartridge of 2% Lidocaine 1:100K epi”

What's missing from Above????

WHERE the Local Anesthetic was administered!!

How To Document **WHERE** the Local Anesthetic was Administered??

You write exactly **WHERE** or **HOW**
you administered it!!

Local Anesthetic Injection Locations

- Anterior Superior Alveolar Infiltration
- Middle Superior Alveolar Infiltration
- Posterior Superior Alveolar Infiltration
- Greater Palatine
- Lesser Palatine
- Nasopalatine
- Long Buccal Infiltration
- Mental Infiltration
- Lingual Infiltration
- Inferior Alveolar Nerve Block**
- Local Infiltration of Teeth # _____

Let's Practice!!

- How would you document giving two cartridges of 2% lido 1:100K epi for Scaling and Root Planing around teeth #3,4,5

Two cartridges of 2% lido 1:100K epi for Scaling and Root Planing around teeth #3,4,5

- Administered two 1.7ml carpules 2% Lidocaine 1:100K Epinephrine via local infiltration #3,4,5
- Administered 68mg Lidocaine and 0.04mg Epi via local infiltration #3,4,5
- Administered 68mg Lidocaine and 0.04mg Epi via PSA/MSA Infiltration
- Administered 68mg Lidocaine and 0.04mg Epi via URQ posterior buccal infiltration (this is the least specific way to document where you administered)

What if you use multiple kinds/amounts of local anesthesia?

- Dr. Moshman is doing a crown prep on #19. He gives an IAN injection with one cartridge of Carbocaine and one cartridge of 2% Lidocaine 1:100K Epi. Then he gives an additional cartridge of 4% Septocaine with 1:100K Epi just for #19.
- How should he document it?

Dr. Moshman is doing a crown prep on #19. He gives an IAN injection with one cartridge of Carbocaine and one cartridge of 2% Lidocaine 1:100K Epi. Then he gives an additional cartridge of 4% Septocaine with 1:100K Epi just for #19.

Local Anesthesia:

51mg Carbocaine via Left IAN

34mg Lidocaine with 0.02mg Epi via left IAN

68mg Septocaine with 0.02mg Epi via local infiltration #19

What are there some other ways to document the type/amount/location of the local anesthesia administered?