

NAME #ADIL ZAHoor  
BANGASH

ID # 14236

PAPER # MAXILLOFACIAL  
SURGERY.

PROGRAM # BS (DENTAL  
TECHNOLOGY)

SUBMITTED TO # MA~~AM~~AM  
NATASHA KAMRAN

SEMSTER # 6<sup>th</sup>

DEPARTMENT # ALLIED  
HEALTH SCIENCE

QNO: 2

Define local anesthesia.

Also write in detail about the six constituents of local anesthesia.

ANSWER:-

LOCAL ANESTHESIA:-

Local anesthesia is defined as a loss of sensation in a circumscribed area of the body caused by depression of excitation in nerve endings or an inhibition of the conduction process in peripheral nerves.

OR

Local anesthesia is any technique to induce the absence of sensation in a specific part of the body, generally for the aim of inducing local analgesia, this is local.

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in sensitivity to pain, although other local sense may be also loss for some short duration of time.

In the dental treatment they will be used local anesthetics.

Local anesthesia will be used for specific organs minor procedure.

Local anesthesia are the drugs which when applied topically / injected locally, block nerve conduction and cause reversible loss of all sensation in the part supplied by the nerve.

### CONSTITUENTS OF LOCAL ANESTHESIA:-

There are six (6) constituents of local anesthesia are as follow:

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- 1- Local anesthetic agents.
- 2- Vasoconstrictors
- 3- Reducing agents.
- 4- Preservatives
- 5- Fungicide
- 6- Vehicle.

### 1- LOCAL ANESTHETIC AGENTS:-

Lignocaine hydrochloride  
2% is most commonly used  
Local anesthetic agents.

#### USES:-


Conduction block.

### 2- VASOCONSTRICTORS:-

Adrenaline is used for  
vasoconstriction in local  
anesthesia.

#### USES:-

They will delays  
absorption of local anesth-  
esia from the site provides  
blood less field. Prolong the

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actions . .

Reduces the systemic toxicity

### 3- REDUCING AGENTS:-

Sodium metabisulfite is used to prevent the oxidation of the vasoconstrictor.

### 4. PRESERVATIVES:-

Methylparaben  
It increases the shelf life of the anesthetic solution  
Acts as a bacteriostatic agents.

### 5. FUNGICIDE:-

Thymol is used as fungicide.

### 6- VEHICLE:-

Modified ringers solution (distilled water) is used as vehicle. It produces the volume of the solution

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and act as diluent.

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write a detail note about 3 techniques of administration of local anaesthesia.

ANSWER:

### TECHNIQUES OF ADMINISTRATION OF LOCAL ANESTHESIA:-

There are three (3) techniques of administration of local anaesthesia.

1. Local infiltration
2. Field block
3. Nerve block.

## 1- LOCAL INFILTRATION:-

Small terminal nerve endings in the area of surgery are flooded with Local anesthesia solution rendering them insensitive to pain. In this method, insertion is made through the same area in which the solution has been deposited. This technique is usually successful for treatment of mandibular deciduous canines, incisors and even in molars.

Local infiltration is used when anesthesia is required in small areas (e.g. repair of minor lacerations, skin biopsies). The anesthetic solution is infiltrated to the deep dermis, where the sensory plexus supplying the skin begins to branch. The amount of solution.

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depends on the area  
that needs to be infiltrated.  
however, extensive local  
infiltration is not  
recommended.







## 2. FIELD BLOCK:-

- Here the local anesthesia is deposited in proximity to the large terminal nerve branches so that the area to be anesthetized is circumscribed to prevent the central passage of afferent impulse.
- Maxillary injections administered above the apex of the tooth can be termed field blocks.
- Field block is an alternative to direct wound infiltration when a large area requires treatments or in wounds that are grossly contaminated has the advantages of fewer injections than direct wound infiltration.

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## PROCEDURE:-

Start the injection in the same plane as in local infiltration on intact skin.

- A large bore needle (25G/1 1/2") is required.

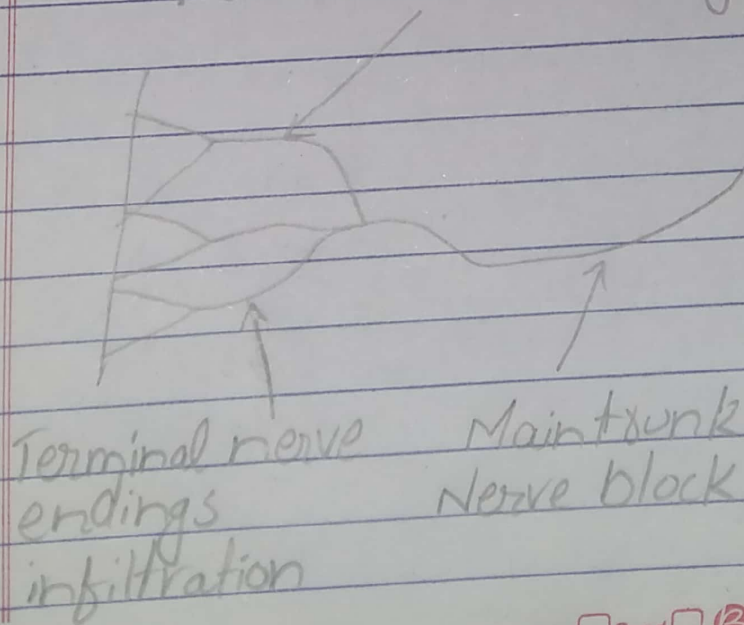


### 3- NERVE BLOCK:-

- Method of securing local analgesia in which suitable local anesthetic solution is deposited within the close proximity to the main nerve trunk, thus preventing nerve impulses from travelling centrally beyond that point.

- The LA solution is deposited in close proximity to the field main nerve trunk supplying the operative field.

Topical Free Nerve Endings.





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QNO: 3


Enumerate all extraction complications. Write about soft tissue injuries in detail.

ANSWER:-

EXTRACTION COMPLICATIONS:-

There are the following extraction complications:-

- 1- Soft tissues injuries
- 2- Problem with the tooth being extracted
- 3- Injuries to the adjacent tooth
- 4- Injuries to the osseous structures.
- 5- Oroantral communication
- 6- Post-operative bleeding
- 7- Delayed healing and infection
- 8- Injuries of the mandible.

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# 1. SOFT TISSUE INJURIES:-

## CAUSES:-

- Surgeon's lack of adequate attention to the delicate nature of the mucosa.
- Attempts to do surgery with - inadequate access.
- Rushing during surgery.
- Use of excess and uncontrolled forces.

Soft tissue injuries occur in the form of.

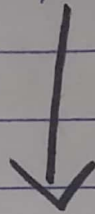
- 1- Tear of a mucosal flap
- 2- Puncture wounds.
- 3- Stretch or abrasion.

# 1. TEAR OF A FLAP:-

The most common soft tissue injury during oral surgery.

## CAUSE:-

Inadequately sized envelop flap



Forcibly retraction beyond the ability of the tissue to stretch (to gain needed surgical access)



Tearing



## PREVENTION:-

- 1- Creating adequately sized flap to prevent excess tension on the flap.
- 2- Using uncontrolled amounts of retraction forces on the flap.
- 3- Creating releasing incisions when indicated.

## MANAGEMENT:-

- Carefully repositioned once the surgery is completed.
- Excise the edges of torn flap to create a smooth flap margin.

## 2. PUNCTURE WOUND.

### CAUSES:-

- > Due to uncontrolled forces during using the

instruments such as straight elevators or a periosteal elevator which may slip from from the surgery field and puncture or tear into adjacent soft tissues.

**PREVENTION:-**

- 1- Use of uncontrolled forces.
- 2- Using finger rests
- 3- Support from the opposite hand if slippage is anticipated

**MANAGEMENT:-**

- 1- Wash your hands. This helps prevent infection.
- 2- Stop the bleeding - Apply gentle pressure with a clean bandage or cloth.
- 3- Clean the wound. Rinse the wound with clear water for five to ten minutes.
- 4- Apply an antibiotic
- 5- Cover the wound.
- 6- Change the dressing.

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### 3. STRETCH OR ABRASION:-

#### COMMON SITES:-

Lips, corners of the mouth

#### CAUSES:-

- Abrasion or burns from the rotating shank of the burr rubbing on soft tissue.
- Metal retractor coming into contact with the soft tissues.

PR

## PREVENTION: OF

Surgeon should focus on the cutting end of bur as well as the location of shank and shaft in relation to the soft tissues.

## MANAGEMENT:-

- > Clean the area with regular oral rinsing.
- > Usually such wounds heal 4-7 days without scarring.
- > The scare didnot left on the lips or corner of the mouth.
- > If such abrasion or burn does develop on skin advised to keep it moist with antibiotic ointment (5-10day).

QNO: 4

1  
Define an impacted tooth. What are the causes of tooth impaction?

ANSWER:-

IMPACTED TOOTH:-

An impacted tooth is one that fails to erupt into the dental arch within the expected time. They are retained for the patient's lifetime unless surgically removed.

OR

An impacted tooth is a tooth that is positioned against another tooth, bone, or soft tissues. The position of the tooth makes it unlikely to fully erupt through the gums to reach



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its normal position  
in the mouth. wisdom  
teeth (Third Molars).

## MOST COMMONLY IMPACTED TEETH:-

- Mandibular third molars
- Maxillary third molars
- Maxillary cuspids
- Mandibular bicuspids
- Upper central incisors
- Upper lateral incisors.



# Impacted Tooth



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## CAUSES OF TOOTH IMPACTION:-

There are the following causes of tooth impaction.

### LOCAL CAUSES:-

- 1- Obstruction for eruption
- 2- Lack of space
- 3- Ankylosis of tooth
- 4- Non absorbing, over retained tooth.
- 5- Ectopic position of tooth bud
- 6- Non-absorbing alveolar bone
- 7- Dilaceration of roots
- 8- Soft tissues or bony lesions
- 9- Habits.

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## SYSTEMIC CAUSES:-

- 1- Prenatal causes - Heredity
- 2- Postnatal - Rickets, congenital syphilis, Anaemia,
- 3- Endocrinal disorders
- 4- Rare causes
  - \* Cleidocranial disorder,
  - Osteopetrosis, Ancheronyplasia, cleft lip and palate.

## OTHER CAUSES:-

- > Irregularity in the position and pressure of an adjacent tooth.
- > Density of the overlying or surrounding bone.
- > Chronic inflammation with fibrosis of the overlying mucosa.
- > Lack of space due to under develop jaws.

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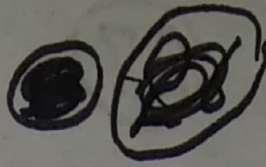
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Unduly over retention  
of the deciduous teeth

- Inflammatory changes  
in the bone due to disease  
in children, like chicken  
pox, parotitis.
- Heredity
- Malnutrition
- Endocrine dysfunctions
- Disease of jaw and  
surrounding tissue

In the jaw disease the  
jaw did not develop  
properly the jaw become  
become small in size.

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QNO : 1

Enumerate the instruments used during extraction process.

ANSWER:-

INSTRUMENTS USED DURING EXTRACTION PROCESS:-

To provide instrumentation for surgical removal of tooth/teeth, reshaping bone and placing sutures.

- 1- Local anesthesia syringe, needles, and cartridges
- 2- Sterile gauze
- 3- Surgical aspirating tip
- 4- Cotton pliers.

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5. Mouth mirror
6. Periosteal elevator
7. Straight elevator
8. Surgical curette
9. Hemostat
10. Extraction forceps.

### EXAMINATION INSTRUMENTS:-

1. Mouth mirror
2. Cotton plier
3. Probe

### ELEVATORS:-

- Straight elevator
- Angular elevator
- Cross bar elevator
- Craiers elevator.
- Periosteal elevator.
- Gooptand Coyer's elevator
- Crane Pick elevator



## FORCEPS:-

- Cheatle forceps
- Alligator forceps
- Anesthesia forceps
- Artery forceps.
- Atraumatic forceps
- Biopsy forceps.
- Bone cutting forceps
- Bone reducing forceps.
- Cowhorn forceps
- Transfer forceps.

## SYRINGE:-

- Anesthesia syringe cartridge
- block needle (long)
- Infiltration need (short)
- Scalpal
- Surgical blades
- Hemostats
- Bone file
- Bone Ronger
- Bone chisel and mallet
- Saliva ejection tip
- Needle holder
- Suture
- Tissue Scissors
- Disposable syringe.