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PN-PEI-432

DENTAL COURSE OUTLINE

- I. Introduction to the Course
- II. Basic Oral Anatomy
 - A. Maxilla and Mandible
 - B. Temporomandibular Joint
 - C. Muscles of Mastication
 - D. Important Nerves and Vessels
 - E. Teeth
 - F. Periodontium
- III. Oral Dental Diseases
 - A. Common Dental Diseases
 - 1. Caries and Its sequelae
 - 2. Periodontal Diseases
 - B. Other Oral Dental Problems
- IV. Diagnosis and Treatment Planning
 - A. Making Diagnosis
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- V. Radiography and Recording
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 - A. Medicines Commonly used in Dentistry
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 - A. Local Anesthesia
 - B. Tooth Extraction
 - C. Post Extraction
 - D. Extraction of Milk Teeth
 - E. Management/Prevention of Post Extraction Complication
 - F. Incision and Drainage of Dental Abscess
 - G. Intraoral Incision and Suture



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P. O. Box 314
Quetta, Pakistan

Dental Course
English
1991

IX. Conservative Dentistry

- A. Sealing
- B. Filling
 - 1. Temporary
 - 2. Permanent

X. Dental Infections, Sequelae and Management

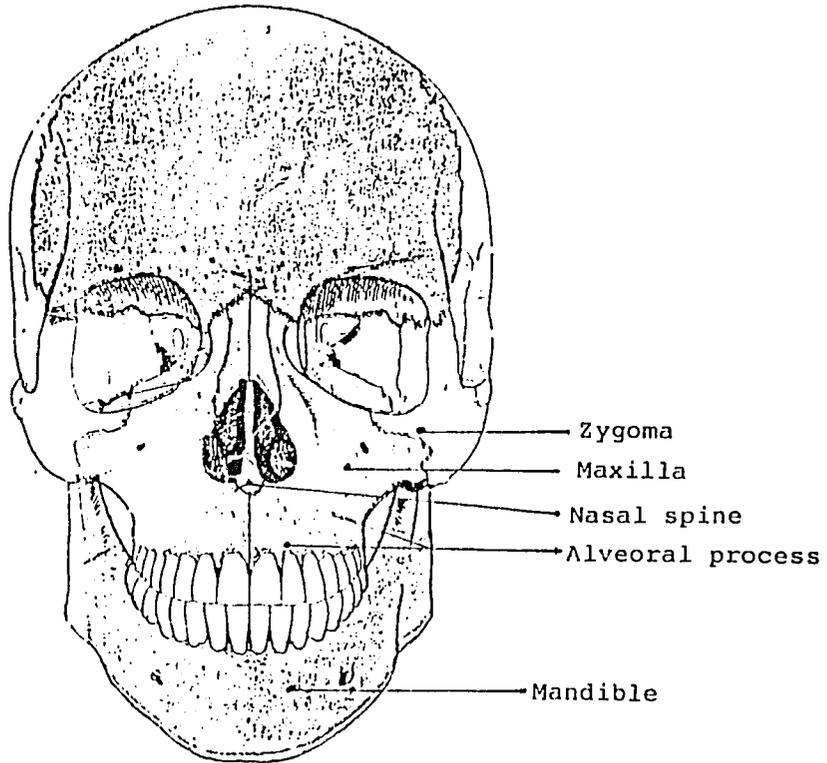
XI. Dental Emergencies

XII. Preventive Dentistry

- A. Oral Hygiene
- B. Dental Health Education

BEST AVAILABLE DOCUMENT

BASIC ORAL ANATOMY



The skull is made up of several bones joined together. The upper and the back part covers the brain. The rest makes up the facial skeleton.

The 2 main bones that make up the face are the maxilla and the mandible.

THE MAXILLA

BEST AVAILABLE DOCUMENT

The maxilla is the part that is attached to the upper part of the skull which covers the brain.

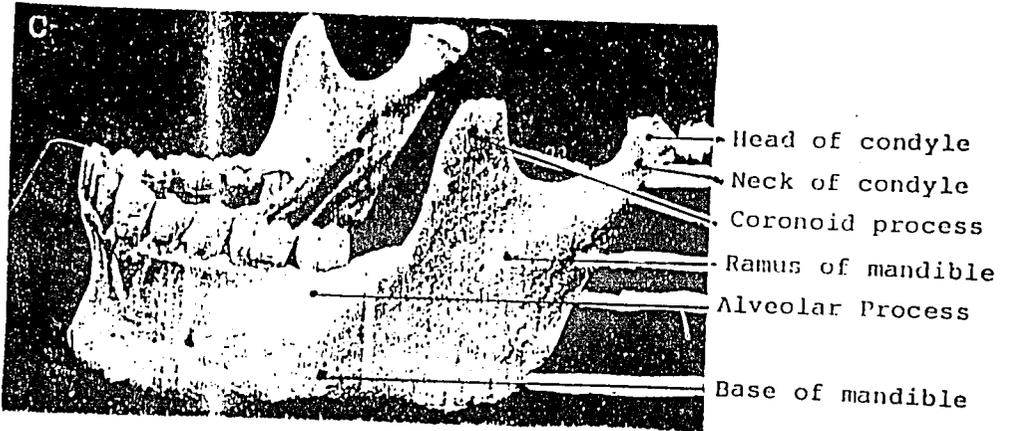
It is made up of the:

- zygomatic bone: the bone that is responsible for the prominence of the cheek, thus is also called the cheek bone.
- nasal bone: that which forms the bridge of the nose
- maxillary bone: makes up most of the face. Its growth is responsible for the elongation of the face between 6-12 years.

nasal spine: a sharp projection which marks the meeting the 2 maxilla.

alveolar process: contains the socket for the maxillary teeth.

THE MANDIBLE

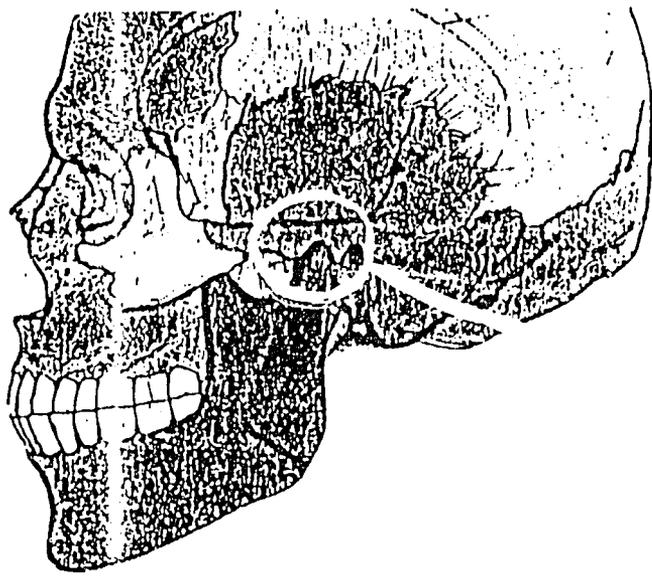


This is the largest and strongest bone of the face. It has a curved U shaped body and two rami which project upwards.

It has the following parts:

- base of the mandible: lower border of mandible
- alveolar process: upper border of the mandible which holds the lower teeth.
- ramus of mandible: this is the ascending part of the mandible.
- coronoid process: a flattened slightly triangular projection in front of the ramus.
- head of the condyle: this is the part which fits into the mandibular fossa in the skull.
- neck of the condyle: constricted part below the head of the condyle.

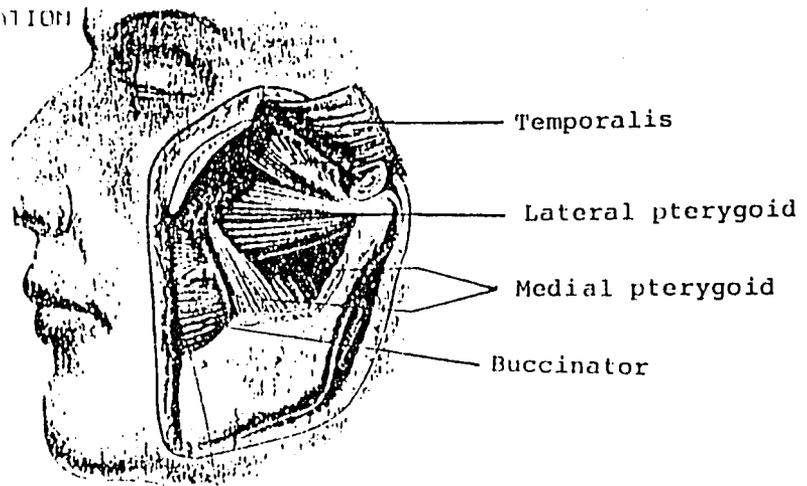
THE TEMPOROMANDIBULAR JOINT



The temporomandibular joints involve the articular tubercle and the front part of the mandibular fossa of the skull and the condyle of the mandible.

Through the workings of the different muscles attached around these joints the mandible can be depressed to open the mouth elevated to close the mouth, moved forward or backward and moved side to side when chewing.

MUSCLES OF MASTICATION



The muscles that move the mandible when chewing (and also when speaking) are called the muscles of mastication.

The following are the muscles of mastication:

1. masseter: this is a muscle that comes from the zygomatic arch and is then attached to the lower border of the mandible near the angle.

action: It raises the mandible to make the teeth come together in occlusion.

2. temporalis: a fan shaped muscle which arises from the side of the skull, goes down and is attached to the coronoid process.

action: It raises the mandible, closes the mouth and approximates the teeth.

3. lateral pterygoid: a short thick muscle attached to the skull and the neck of the mandible.

action: Assists in opening the mouth by pulling the condylar head.

4. medial pterygoid: a thick muscle attached to the inner side of the skull and to the ramus and angle of the mandible.

action: Assists in raising the mandible

Note:

When the medial and lateral pterygoids act together, they move the mandible forward.

By an alternating action of these muscles on two sides the side to side movement when chewing food is effected.

5. buccinator: a thin muscle between the maxilla and mandible in the cheek.

action: Compresses the cheeks against the teeth so that during the process of chewing the food is kept between the teeth.

IMPORTANT NERVES AND VESSELS

The nerves and vessels that will be studied are those that you will most likely encounter in your practice of basic dentistry.

A. Trigeminal Nerve

This is the fifth nerve coming from the brain and its function is mainly sensory.

It has 3 main branches:

1. ophthalmic: nerve that goes to the eyes
2. maxillary: nerve that supplies the
 - > lower lid
 - > side of the nose
 - > all maxillary teeth and their gums
 - > hard and soft palate
 - > lining of mouth and the sinuses
3. mandibular nerve: this nerve divides into
 - a. inferior alveolar nerve: supplies the teeth, buccal gums and lips
 - b. lingual nerve: supplies the tongue and lingual gum
 - c. buccal nerve: supplies the gum opposite the second and third molars and the cheeks

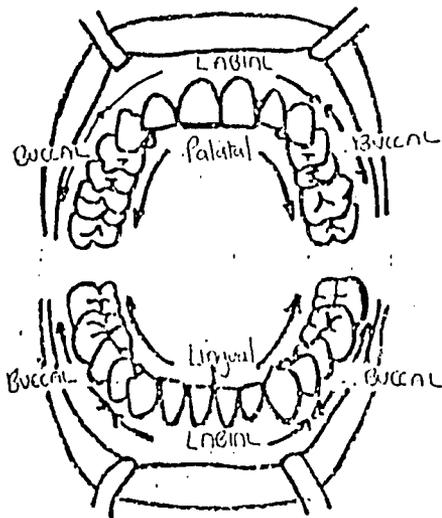
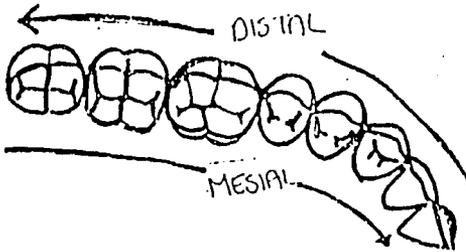
B. Facial Nerve

This is the 7th nerve and its function is both sensory and motor.

It supplies the:

- > corner of the mouth
- > cheeks
- > upper and lower lip
- > upper lid of eyes

The teeth are arranged in the upper and lower jaw. The different surfaces are given names.



 Incisal

 Occlusal

labial - side nearest the lips

buccal - side nearest the cheeks

palatal - side nearest the palate

lingual - side nearest to the tongue

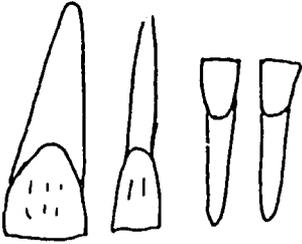
occlusal - side facing tongue on opposite jaw

mesial - side of tooth facing the midline(front)

distal - side of tooth facing the back

Different teeth have different shapes and sizes of crowns and different shapes, sizes and number of roots.

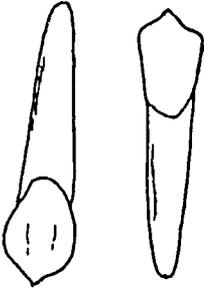
INCISORS



They have chisel shaped crowns which are good for biting into food.

They have single cone shaped roots.

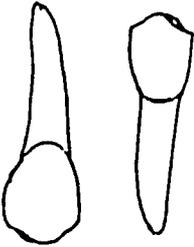
CANINES



They have pointed crowns which are ideal for tearing food such as meat.

They have long cone shaped roots with grooves on the side for better anchorage.

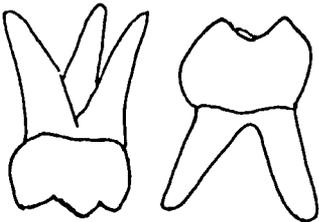
PREMOLARS



Their crown shape is a cross between the canines and molars.

They may have 1 or 2 roots. Sometimes the 2 roots are fused together.

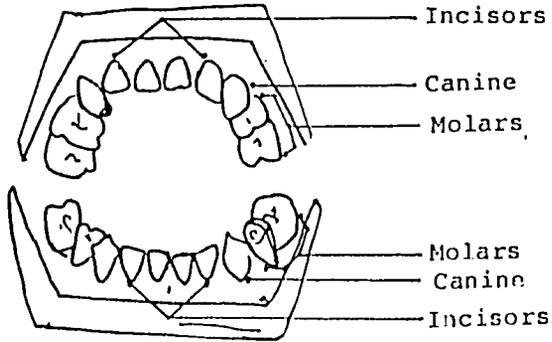
MOLARS



They are box shaped with elevations and depressions on their crowns making them efficient in grinding food.

THERE ARE 2 SETS OF TEETH IN A PERSON'S LIFETIME.

1st Set - - - Temporary or baby teeth

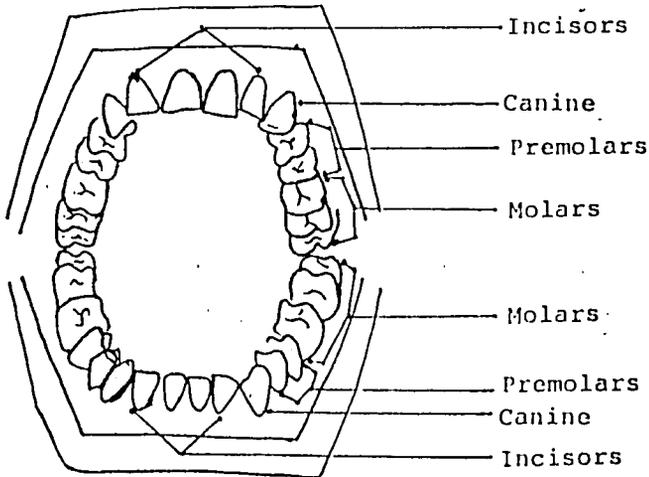


These teeth are 20 in number.

- 8 incisors
- 4 canines
- 8 molars

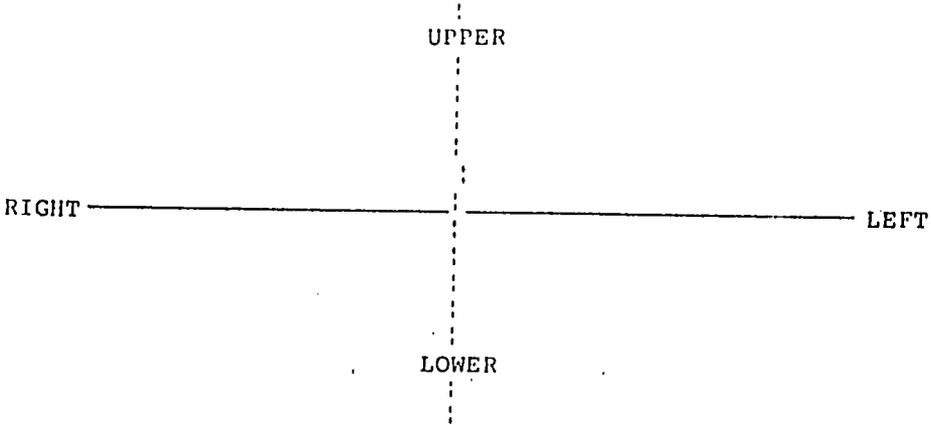
The temporary teeth are formed while the baby is still inside the mother's womb. They begin to erupt with the coming of the lower incisors when the baby is about 6 months. The 20 teeth should have all been erupted by the time the child is two years old.

2nd Set - - - Permanent Teeth

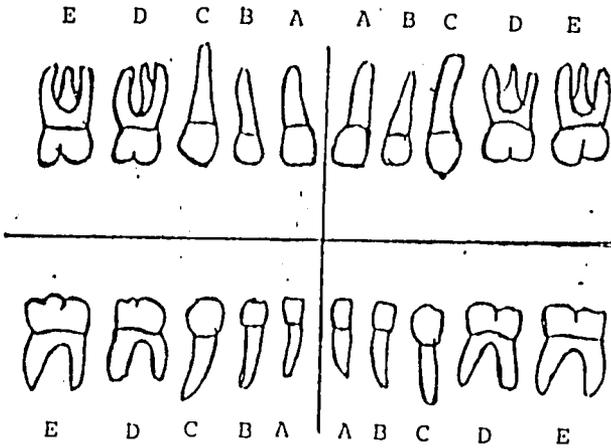


SYMBOLS USE FOR TEETH

To make it easier to write down and remember the different teeth and their positions, letters or numbers have been designated for them and the mouth has been divided into 4 parts - upper, lower, right and left.



Temporary Teeth



- A - temporary first(central) incisor
- B - temporary second(lateral) incisor
- C - temporary canine (cuspid)
- D - temporary first molar
- E - temporary second molar

These teeth are 32 in number.

8 incisors
4 canines
8 premolars
12 molars

Some of the teeth may have begun forming just before birth but most of them are formed after a child is born. Their eruption begins when the child is 6 years old with the coming of the first permanent molars.

ERUPTION OF PERMANENT TEETH

Age	Erupting Teeth
6 years - - -	lower first molars then upper first molars
7 years - - -	lower first incisors then upper first incisors
8 years - - -	lower second incisors then upper second incisors
9-10 years - -	lower cuspids and first premolars
10-11 years -	second premolars and upper canines
12 years - -	second molars
16 & above - -	third molars

The above sequence is an average and the actual time of eruption which is affected by several factors still vary slightly from person to person.

Difference between the two sets of teeth:

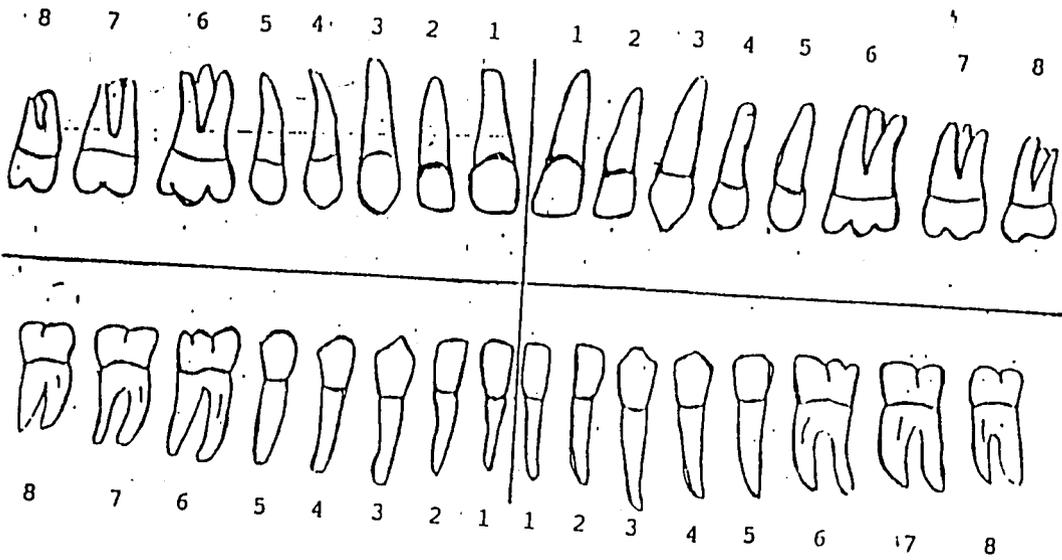
The temporary teeth
> are smaller
> are whiter
> have bigger pulp chambers
> have more spread out roots
than the same teeth in the permanent set.

From age 6 - 12 you have a mixture of temporary and permanent teeth in the mouth and it is important that you can recognize the difference.

Some Points to Remember:

1. The first permanent molars erupt at the back of the second temporary molars i.e. behind the baby teeth.
2. The temporary teeth become loose when the permanent teeth taking their place start erupting.
3. The premolars take the place of temporary molars.

Permanent Teeth



- 1 - first(central) incisor
- 2 - second(lateral) incisor
- 3 - canine(cuspid)
- 4 - first premolar
- 5 - second premolar
- 6 - first molar
- 7 - second molar
- 8 - third molar

Examples On How To Use The Above Method:

- lower left canine -
- upper right first incisor -
- lower right first molar -
- upper left first premolar -

DIAGNOSIS OF ORAL-DENTAL DISEASES

Before any treatment is done, the disease or the problem must be identified first. You have to know what disease you are dealing with before you can treat. CORRECT TREATMENT BEGINS WITH A CORRECT DIAGNOSIS.

Diagnosis - is the systematic method of identifying a disease.

Arriving at a correct diagnosis requires knowledge of the diseases and their symptoms, skills at doing clinical examination and the ability to put the findings together to identify the disease.

The process of diagnosis involves:

1. History taking

This is when you listen to the patient's history of the disease. Encourage the patient to say his symptoms in his own words.

chief complaint - this is the reason why the patient came for treatment. This usually determines the direction of further questions.
- a symptom or a set of symptoms described by the patient in his own words relating to the disease.

symptom - any change in the body or its function which the patient notices and may indicate disease.

Ask questions related to the chief complaint. While asking you should already have a tentative diagnosis in your mind which you want to confirm by your questioning.

In dentistry, the most common symptom that makes patients seek treatment is pain.

Ask for:

location of pain: where? which part of the mouth? which tooth?

type of pain: severe or mild? sharp or dull? throbbing? radiating to other part of face?

what elicits the pain: eating? hot and cold? sweets? lying down?

frequency of pain: on and off or continuous?

Ask questions in such a way that you do not put the answers in the patient's mouth.

During history taking you should also ask questions related to the patient's medical past and present history. There may be problems that will affect your treatment.

2. Clinical Examination

Careful history taking should be followed by a thorough clinical examination. In clinical examination you look for signs.

signs - are changes in the body or its function related to a disease such as changes in structure shape, size color or texture.

To do clinical examination-

a. Asses the patient's general appearance

Does the patient look well or ill?
Does he look healthy or weak?

b. Do extraoral examination

i. Look - develop observant eyes
Is there any assymetry on the face?
Is there any swelling?

ii. Palpate - using your fingers
Is the tissue tender or hard?
Is there any fluctuance?

c. Do intraoral examination

To do this you need:

1. mouth mirror
2. cotton plier
3. probe
4. cotton or gauze

In doing intraoral examination it is important that you see clearly so position yourself in such a way that you do not block the light.

> Look at the structures in the mouth. Do you recognize them? Are they normal?

> Examine the area or the tooth which the patient complains of.

If on soft tissue or gum:

- > any swelling or redness?
- > if swelling, is it hard or fluctuant?
- > any periodontal pockets?

If a tooth:

- > is there a cavity? is the pulp expose or not?
- > is the tooth painful when tapped?
- > is the tooth loose or moving?

After getting the history and doing the clinical examination it is often possible to already make a tentative diagnosis. At times though you may need other examinations such as x-ray or biopsy.

Sometimes you will be confronted with signs and symptoms that are manifested by two or more diseases. In this case you will need to differentiate the diseases to come up with the diagnosis. This process is called differential diagnosis. It is simply differentiating diseases with similar signs and symptoms.

REMEMBER;

To make an accurate diagnosis you need to be good on your collection of history, symptoms and clinical signs and have a good working knowledge of oral diseases which can produce the said signs and symptoms.

ORAL-DENTAL DISEASES

DENTAL CARIES

This is the disease of the calcified portion of the tooth. It is a destruction of enamel, dentin and/or cementum that has not reached the pulp. It is caused mainly by dental plaque.

Dental plaque - is basically made up of bacteria and mucin, a sticky substance from saliva. It is thin, smooth and colorless.

- sticks to the tooth surface and can be removed only by brushing.

How caries form:

Carbohydrates in diet + Dental plaque → Acid

Acid → tooth = Dental caries

The bacteria in the dental plaque can produce acid in the presence of carbohydrate in the diet. This acid destroys the enamel and dentin of the tooth.

Signs that there is caries:

1. small pit - the appearance of a small black pit which may just be big enough for a probe to catch indicates the beginning of caries.
2. bluish or whitish area - because dentin is softer than enamel it is destroyed more quickly. It is the destroyed dentin under a solid enamel that gives the whitish color when you look at the enamel.
3. open cavity - as caries spread into dentin, it leaves an area of unsupported enamel which eventually collapses leaving an open cavity.

Symptoms of Caries:

1. There is no symptom when the caries is on enamel.
2. The tooth is sensitive to cold and sweet when the caries is on dentin.
3. Sensitivity as the caries get closer to the pulp.

Areas of teeth that are usually attacked by caries:

1. pits and fissures - on occlusal surfaces of premolars and molars
2. contact points - where teeth on the same jaw touch each other
3. cervical areas - neck of the tooth

Factors that affect the formation of caries:

These factors while not being directly the cause of caries can hasten or slow down caries formation.

1. oral hygiene - if the teeth are clean the bacteria in the mouth have nothing to feed on to produce acid. If the teeth are not cleaned and dental plaque accumulates then more acid is produced to destroy teeth.
2. diet - the composition of the diet has a very direct effect on caries formation.
 - > refined carbohydrates and sugar such as those found in cakes increase acid and make caries formation faster.
 - > soft, sticky food clings to the teeth longer and hasten the destruction of enamel and dentin.
 - > fibrous food such as vegetables are not only cleared from the mouth faster but they also have cleansing on the teeth while being chewed.
3. teeth - the form and position of teeth can indirectly affect the formation of caries.
 - > teeth with deep pits and fissures are more prone to caries.
 - > crowding and incorrect alignment of teeth makes cleaning very difficult.

Treatment:

Clean the cavity and put a temporary or permanent filling.

IF CARIES IS LEFT UNTREATED THE PROCESS CONTINUES UNTIL THE INFECTION REACHES THE PULP AND DESTROYS IT.

PULPITIS

Pulpitis is a disease of the dental pulp. It is an inflammation of the pulp cause by bacterial infection or other irritant such as acid.

- Hyperemia - is a mild, transient inflammation of the pulp
 - tooth is sensitive especially to cold but this symptom disappears as soon as the irritant is removed.
 - treatment is simply cleaning the cavity and putting a dressing of zinc oxide eugenol cement.

Two Main Types of Pulpitis:

1. Acute Pulpitis

Signs and symptoms:

- a. Pain is severe, sharp and sometimes radiating.
- b. Sometimes patient cannot point which tooth is painful.
- c. Pain can be caused or increased by hot and cold, sweet and acidic food and by lying down.
- d. Tooth is not painful to tapping.
- e. Deep cavity
- f. There may or may not be a visible pulp exposure.

2. Chronic Pulpitis

Signs and symptoms:

- a. Little or no pain except when food is packed in the cavity
- b. The cavity may or may not have a visible pulp exposure.
- c. In children or young people you may see a fleshy, reddish pulpal tissue coming out of the pulp chamber.
- d. The tooth is not painful to tapping.

Note: It needs to be differentiated with caries.

Treatment for Pulpitis:

Extraction of the tooth

APICAL PERIODONTITIS

This is an inflammation of the periodontal fibers around the apex of the root usually as a result of infection from the pulp.

Two types of Apical Periodontitis:

1. Acute Apical Periodontitis

Signs and symptoms:

- a. Severe toothache which may be continuous or intermittent.
- b. Tooth is tender and extremely painful when tapped.
- c. The cavity on the tooth may or may not show pulp exposure.

Treatment:

- a. Antibiotics for 7 days
- b. Analgesics every 4-6 hours as needed
- c. Patient to return after 3-4 days for extraction of the tooth

2. Chronic Apical Periodontitis

Signs and symptoms:

- a. Mild to moderate pain usually felt when biting.
- b. Tooth is slightly painful to percussion.
- c. The cavity may or may not show pulp exposure.

Treatment:

Extraction of the tooth

DENTO-ALVEOLAR ABSCESS

This is when the infection has spread from the apex of the tooth and led to pus formation and bone destruction.

Two types of Dento-Alveolar Abscess:

1. Acute Abscess

Signs and symptoms:

- a. Severe throbbing pain on the tooth accompanied or followed by swelling of tissues overlying the abscessed tooth.
- b. Area is red and very warm.
- c. There may or may not be fluctuation.
- d. Tooth is extremely painful when tapped.

Treatment:

- a. Pen V, Ampicillin or Erythromycin 500 mg. QID x 7-10 days
- b. Analgesic 2 tablets every 4 hours as necessary
- c. Hot mouth rinses several times in a day

If:

- Abscess is fluctuant - incision and drainage can be done
- Abscess is not fluctuant - ask patient to return after 5 days for incision and drainage and/or extraction of the tooth

2. Chronic Abscess

Signs and symptoms:

- a. Tooth may be painless or mildly painful.
- b. There may be a history of previous swelling.
- c. The tooth is tender and painful to tapping.
- d. Sometimes there is a draining sinus on the soft tissue adjacent to the tooth either on the gum or on the face.

Treatment:

- a. Extraction of tooth
- b. Pen V or Erythromycin 250 mg. QID for 7 days
- c. Analgesic 1-2 tablets every 4 hours as necessary

CELLULITIS

Here we will be describing facial cellulitis that come about as a spread of infection from an infected tooth.

Cellulitis is a diffused inflammation of soft tissues which is not confined to one area. This type of problem occurs as a result of infection cause by highly invasive microbes usually not pus producing.

Signs and symptoms:

1. Patient looks ill, with fever.
2. There is painful swelling of involved tissues.
3. The tissue is firm and hard to touch, red or purplish in color.
4. Lymph nodes in the area are swollen and can be palpated.
5. If lower molars are the source of infection, there can be trismus and discomfort or difficulty in swallowing.

Treatment:

1. Prompt high dose antibiotic therapy e.g. Ampicillin 500 mg. QID should be given:
 - oral - if not very severe and patient has no difficulty in swallowing.
 - intravenous - if case is very severe and patient has difficulty swallowing

Another choice would be 1.2 million units of Pen G intramuscular QD

2. Aspirin 300 mg. 2 tablets every 4 hours for pain as necessary.

If early and prompt treatment is done, the cellulitis will resolve without localizing.

PERIODONTAL DISEASES

The most common periodontal diseases commonly known as gum diseases are gingivitis and periodontitis.

Dental plaque and calculus (calcified dental plaque) have been the main cause of periodontal diseases

- > Dental plaque with its bacterial composition can produce toxic products which irritates the gum causing inflammation.
- > Calculus is attached to surfaces of teeth. When the teeth moves during function the calculus causes injury to the gums which does not move with the teeth.

1. GINGIVITIS

This is an inflammation of the gums covering the alveolar bone.

Signs and symptoms:

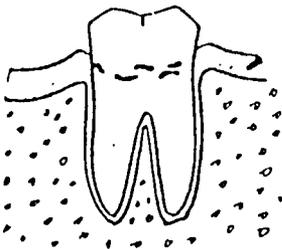
- a. Gums are inflamed, bright pink or reddish in color.
- b. The margins of the gums are rounded.
- c. The gum bleeds when touched e.g. when brushing
- d. There is plaque and calculus around the teeth

Treatment:

Scaling of teeth

Teach patient how to clean his teeth properly

WHEN GINGIVITIS IS LEFT UNTREATED OR IMPROPERLY TREATED, THE DISEASE WILL PROGRESS INTO PERIODONTITIS WHERE THE ALVEOLAR BONE AND PERIODONTAL LIGAMENTS ARE DESTROYED.



Gums are swollen

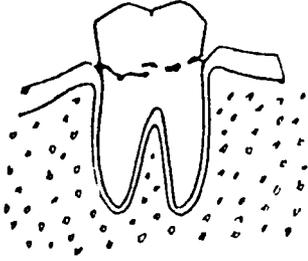
No bone resorption

No gum recession

No tooth mobility

Scaling will make gums normal again.

Gingivitis



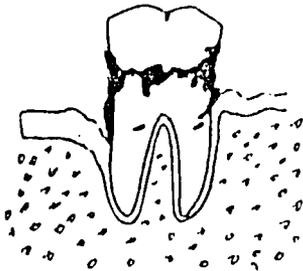
1st Stage Periodontitis

Swollen gums
 Minimal bone loss
 Very little gum recession
 No tooth mobility
 Scaling will stop the destruction of bone



2nd Stage Periodontitis

Increased bone loss
 Evident gum recession
 Tooth is mobile
 Scaling will stop the destruction but bone will not grow again and the gum will stay in the same position.



3rd Stage Periodontitis

Swollen gums
 Much bone loss
 Much gum recession, tooth looks elongated
 Tooth very mobile
 Tooth will have to be extracted.

2. PERIODONTITIS

In periodontitis you have inflammation and later breakdown of the periodontal ligament and bone resorption.

Signs and symptoms:

- a. Inflamed gums with rounded margins.
- b. Bleeding when gums are touched.
- c. Plaque and calculus around the teeth.
- d. Presence of periodontal pockets.
- e. Tooth mobility due loss of bone support.
- f. Gum is receded

Treatment:

Deep scaling for first and second stage periodontitis
Teach patient proper oral hygiene
Extraction for third stage periodontitis

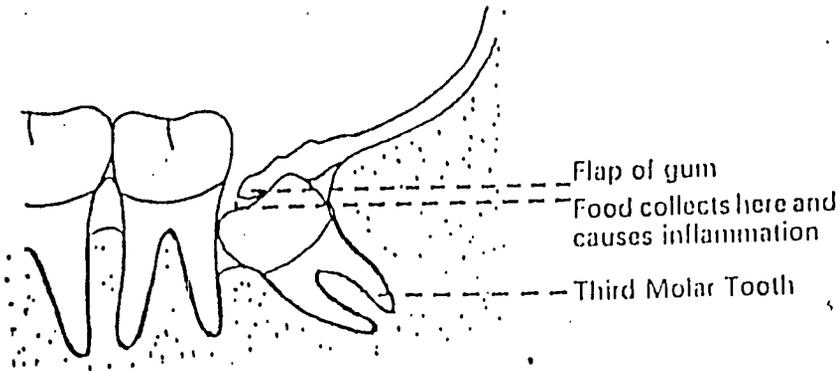
IF SCALING IS NOT DONE, THE PROBLEM WILL CONTINUE EVEN
WHEN MEDICINE IS GIVEN.

OTHER ORO-DENTAL PROBLEMS

1. PERICORONITIS

Pericoronitis is an inflammation of the gum around the crown of a partially erupted tooth.

peri - around
 corona - crown
 itis - indicates inflammation



Any tooth may be involved but usually this occurs on the gums around erupting mandibular third molars.

Signs and symptoms:

- a. Pain which can be mild or severe.
- b. Inflamed gum flap covering part of the erupting crown.
- c. There may be swelling near the angle of the jaw.
- d. Submandibular lymph nodes on the affected side are swollen.
- e. There may be limited mouth opening (trismus).
- f. In severe cases there is discomfort in swallowing.

Treatment:

- a. Clean the area gently.
 Irrigate with normal saline solution or a mixture of 1 part hydrogen peroxide and 1 part warm water.
- b. Soak a pellet of cotton in iodine and apply under the gum flap.

- c. Prescribe hot mouthwashes before and after eating.
- d. Hot moist compresses on face when there is trismus.
- e. Give analgesics - ASA or Paracetamol 1-2 tablets every 4 hours for one or two days
- f. Give antibiotics if there is swelling near the angle of the jaw or there is discomfort in swallowing.

Pen V or Erythromycin 250 mg. QID for 7 days

If trismus is severe, do c to f.

If gum flap is large and is impinged by the second molar, it can be cut using gum scissors or blade no. 15 or 12.

2. PERICORONAL ABCESS

This is an abcess formed around a partially erupted tooth. Again, this usually happens around the mandibular third molar.

Signs and symptoms:

The signs and symptoms are similar to those in pericoronitis but in this case the swelling is fluctuant or you may actually see pus coming from the gum.

Treatment:

- a. If the abcess is fluctuant do incision and drainage.
- b. Clean the area as you would do in pericoronitis.
- c. Prescribe warm mouthwashes.
- d. Give analgesic and antibiotics as in pericoronitis.

3. PERIODONTAL ABCESS

This is usually related to a pre-existing periodontal pocket.

When the pocket is 5-8 millimeter in depth, the soft tissues around the neck of the tooth may hug the tooth tight enough to occlude the opening of the pocket. Microbes then multiply in the depth of the pocket, cause sufficient irritation to form an abcess with exudation of pus in the area.

Foreign body like a small piece of wood or bone may also cause this abcess formation.

Signs and symptoms:

- a. A gum boil
This happens when the bone is destroyed allowing the abscess to inflate the overlying tissue.
- b. Pain is usually mild to moderate except in acute cases.
- c. The adjacent tooth is not painful to tapping.
- d. In chronic cases you may see a sinus tract where pus comes from.

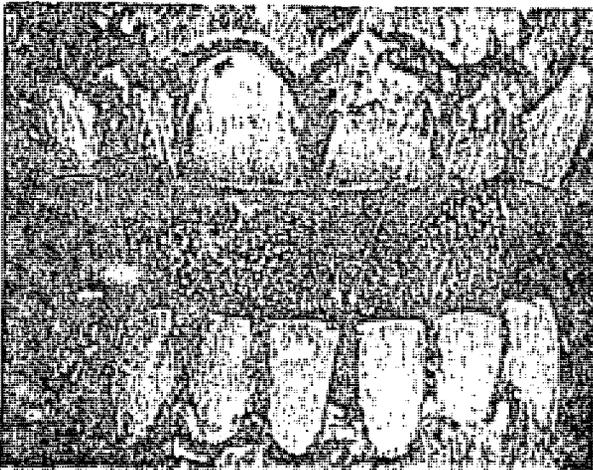
Treatment:

- a. Drainage can be done either by inserting a probe or a small spoon excavator in the pocket or by doing an incision if the abscess has come to a point.
- b. Give analgesic such as Aspirin or Paracetamol for pain.
- c. Give antibiotics - Pen V or Erythromycin for 7 days.

Note:

If there is a periodontal pocket, the patient should come back and the gum should be cut to reduce the pocket and prevent the recurrence of the same problem.

4. ACUTE ULCERATIVE GINGIVITIS



This inflammatory condition involves primarily the margins of the gums and the triangular portion of the gums in between teeth.

On rare occasion the lesions spread to the soft palate and the tonsillar areas. In this case the term "Vincent's angina" is applied.

Cause: fusiform bacilli and spirochetes

The fact that these microbes are normal inhabitants of the mouth suggests that certain predisposing factors are needed to develop it.

Lowering of the body resistance has been the most important factor.

The following are prone to this disease:

- > those who have inadequate diet.
- > those who are malnourished
- > those who have been sick for sometime

This disease has been found to be common among the young and middle age persons.

Signs and symptoms:

- a. Inflamed gums which are very painful when touched.
- b. Ulcerated interdental papilla and margins of the gums.
- c. Bleeding when the ulcerated parts are touched.
- d. Very bad smell in the mouth.
- e. Excessive salivation
- f. Inability to eat solid food because of painful, tender and bleeding gums.
- g. Patient feels weak and look ill.
- h. Fever and headache before or after the appearance of the ulcers.
- i. Swollen submandibular and submental lymph nodes.

Treatment:

- a. Clean the mouth gently using either a scaler or a cotton swab.
- b. Prescribe a mouth rinse of 1 part hydrogen peroxide mixed with 1 part warm water.
- c. Give Pen V and/or Flagyl for 5-7 days
- d. Give Vit B complex and Vit C BID for 7-14 days
- e. Prescribe liquid or soft diet with less salt and spices.

If the teeth are extremely dirty, the patient should come back for scaling once the acute symptoms have subsided.

5. HERPETIC GINGIVOSTOMATITIS

It is probably one of the most common viral diseases affecting man.

Cause: Herpes simplex virus

a. PRIMARY HERPETIC GINGIVOSTOMATITIS



This is the primary infection in persons who have no circulating antibodies against the virus.

Signs and symptoms:

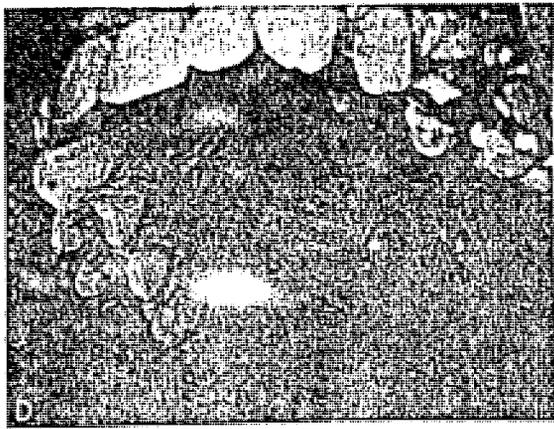
1. Fever, headache, irritability
2. Pain in the mouth and difficulty in eating.
3. Shallow small ulcers with yellowish center surrounded by a reddish halo are seen on gums, lip, tongue, palate and in the mucosa inside the mouth.
4. Pain in swallowing.
5. Swollen lymph nodes.

Treatment:

Treatment is only supportive and symptomatic.

1. Give Aspirin for pain and fever.
2. Give Vit B complex and Vit C BID for 7-14 days.
3. Prescribe bland, soft or liquid diet.
4. Prescribe mouth rinses made of 1 part hydrogen peroxide and 2 parts warm water.
5. Tell patient to clean teeth after each meal.

b. SECONDARY OR RECURRENT STOMATITIS



This is seen in persons who already have antibodies against the virus.

Signs and symptoms:

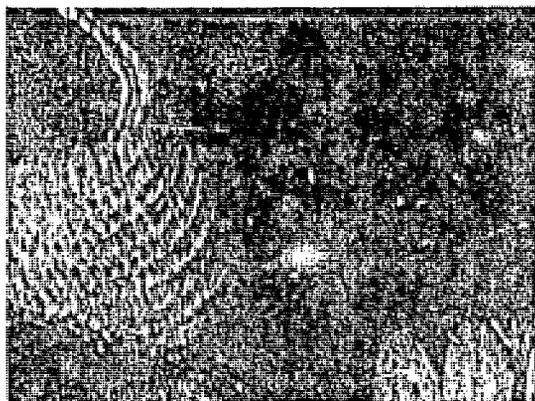
1. Lesions are similar in appearance to the primary ones but much lesser in number.
2. The lesions develop either on the border of the lips or inside the mouth.
3. The lesions are very painful
4. The appearance of the ulcerations are preceded by a burning or tingling sensation and a feeling of tightness on the mucosa.

Treatment:

Treatment is symptomatic and supportive. Healing comes spontaneously in 7-14 days.

1. Paint gentian violet on the lesions.
2. Give Aspirin if there is much pain.
3. Give Vit B complex and Vit C BID for 7-14 days.
4. Tell patient to keep the teeth clean.

6. RECURRENT APTHOUS ULCERS



The cause of this lesions has been debated. Some of the suspected causes have been bacterial infection, autoimmune reaction of the body against oral tissues, nutritional deficiencies especially iron, Vit B 12, folic acid deficiency.

There are some factors that may cause the ulcers to appear.

- a. trauma such as self-inflicted bites
- b. acute psychological problems

Signs and symptoms:

1. Painful recurring, single or multiple ulcerations in the mouth.
2. The lesions are bigger than those in recurrent herpes stomatitis
3. Low grade fever.
4. Malaise.

Treatment:

1. Antiseptic mouthwash.
2. Application of steroid ointment on the lesions.
3. Vit B complex and Vit C BID for 7-14 days.
4. Iron tabs TID for 7-14 days.

TREATMENT PLANNING

After you have made your diagnosis, it is important that you plan your treatment taking into consideration several factors that may affect it and the patient.

YOU SHOULD REMEMBER THAT YOU ARE TREATING A PERSON AND NOT AN ISOLATED TOOTH OR GUMS. YOUR MAIN GOAL IS TO RESTORE THE PATIENT TO HEALTH AS SOON AS POSSIBLE.

Here are some basic principles that can guide you in planning your treatments:

1. Always consider the medical, physical and psychological condition of your patient.
 - > In cases where the patient has a medical problem that will affect your treatment, then the medical problem should be taken care of first.
 - Example: A patient that needs a tooth extracted but has an uncontrolled diabetes mellitus
 - > Patients with heart problems should be put on prophylactic medication before doing any dental treatment.
 - > If the patient looks sick, or very weak or very nervous consider postponing the dental treatment.
 - > It is better to postpone surgery or extractions on patients who are in the first three months of their pregnancy.
2. Treat the disease or the problem for which the patient came for treatment first. The other problems that you have seen can be taken care of in the next visit.
3. Do not do surgery or extractions in a very dirty mouth. Infection and delayed healing can result.
4. If both scaling and extraction are to be done on the same visit, do the scaling first and then the extraction afterwards.
5. In the presence of acute infection surgical treatment is delayed until the infection has subsided.
6. If you are faced with several dental problems on a patient, learn to prioritize i.e. base on your knowledge of the diseases choose which you will have to treat first.

Remember :

BEFORE DOING ANY TREATMENT PLAN THE STEPS IN YOUR MIND.

Registration and Recording

Keeping a record of your patients is very important and very helpful. You may need the information sometime and it is good when you have written it down. You can just look at your records instead of trying to recall from your memory.

The dental patients' record when filled up properly will give you the following information:

1. vital statistics of the patients
2. what treatment you have done and what medicines you have given the patients.
3. how many patients you see in a given period of time e.g. in a day, in a week and in a month.
4. what common dental problems people have in your area.
5. what type of treatments you usually do.
6. how much medicines and dental supplies you use in a given period of time.

Some helps in doing registration and recording:

1. Write out clearly and accurately the date, name of the patient, age, sex, diagnosis, treatment and/or medicines given, dental supplies used on the dental patients record form.
2. Write the information on the records as the patients come even when you are busy. Do not leave it till the end of the day or after a few hours because you may forget.
3. At the end of each day write down the total number of patients you saw and the number of treatments you have done.
4. At the end of each month write the following information in your form.

Total Number of Patients:

Male:

Female:

Children:

Total Number of Treatments:

Extraction:

Filling:

Scaling:

Others:

Most Common Dental Problem Seen:

DENTAL PHARMACOLOGY

Dental pharmacology is the study of drugs usually used in dentistry - what they are, what their uses are and what their effects are.

The 2 main groups of drugs used in dentistry are:

1. Analgesics

These are drugs that allay pain.

- a. Aspirin - also has antipyretic and antiinflammatory effect

Indication: for pain, fever and inflammation

Contraindication: Should not be given to patient with gastritis or stomach ulcer.

Should not be given to children under 2 years or mothers who are breastfeeding babies because it may cause bleeding tendency by interfering with infant platelet function.

Side Effects: May irritate the stomach

Can cause prolonged bleeding

Dosage: 300-600 mg every 4 hours when needed

- b. Paracetamol - has analgesic and antipyretic effect

Indication: for pain and fever

Contraindication: Should not be given to people with kidney problem

Dosage: 500-1000 mg every 4 hours when needed

- c. Pentazocine - a stronger analgesic compared to Aspirin or Paracetamol.

Indication: for moderate to severe pain

Contraindication: Do not give to children under 12 yrs.

Side Effects: May cause nausea, vomiting, dizziness or sedation

Dosage: Single adult dose is 50 mg, which can be repeated after 4 hours if necessary

2. Antibiotics

These are drugs that kill microbes causing disease.

- a. Penicillin - this is the drug of choice for most oral infection.

Indication: for oral infections

Contraindication: Do not give to patients who had previous allergic reaction to penicillin or ampicillin.

Dosage: 250-500 mg. every 6 hours for at least 7 days.

Note:

Penicillin is best taken on an empty stomach.

- b. Ampicillin - this is very similar to penicillin but kill more bacteria than penicillin.

Indication: for oral infections

Contraindication: Do not give to patients who have allergic reaction to penicillin.

Side Effects: May cause stomach irritation and diarrhea.

Dosage: same as penicillin

- c. Erythromycin - similar to penicillin in its effect

Indication: for oral infections when patient is allergic to penicillin.

Contraindication: Do not give to patients who have shown allergy to erythromycin.

Dosage: same as penicillin

- d. Tetracycline - a broad spectrum antibiotics which is very rarely used in dentistry. *commonly*

Indication: in infections where many kinds of microbes are involved.

Contraindication: It should not given to children below 12 years old and to pregnant mothers. It causes discoloration of developing teeth.
Do not give to patients with kidney problems.

Dosage - same as above

However, we may also use when indicated:

Antihistamines - for mild allergic reaction

Dosage: 2-4 mg. PO TID

Tranquilizers - for preoperative preparation of extremely nervous patients.

Dosage: 5-10 mg. PO one hour before treatment

Metronidazole - for acute ulcerative gingivitis

Dosage: 200 mg.-400 mg. TID for five days

NOTE: The above dosages are for adults.
Children's dosages should be based on weight.

Route of Administration:

This is the way by which the drug enters the body.

Most drugs will have to be distributed all over the body before the effect comes. Therefore, the route by which the drug enters the body will affect the time required for the drug to enter the bloodstream and have its effects.

- 1. Oral route - the medicine is taken by mouth, enters the gastrointestinal tract and there its absorption into the bloodstream occur.
 - the most used route because it is safe and simple enough for the patient to do by himself.

Tablets, capsules and liquid preparations are taken this way.

Note:

- > Some drugs can cause stomach and intestinal irritation that results in nausea, vomiting and diarrhea.
- > The presence of food may slow down the absorption of some drugs.

2. Parenteral Route

This route bypasses the gastrointestinal route.

a. Injections - drug enters the body by needle and syringe.

subcutaneous - injection under the skin

intramuscular - injection of drug into a muscle

intravenous - injection of drug directly into a vein

b. Topical - application of drug on mucus membrane.

Always ask how to take before giving drugs

Too much or too little of drug will not have the desired effect.

> Give the correct dose and length of time the drug should be taken. Incorrect doses of drugs can do harm.

2. You should have a knowledge of drug interaction.

Different drugs taken at the same time may interact with one another, sometimes increasing each others effect sometimes lessening it or completely cancelling it.

Example: Penicillin and tetracycline can almost cancel each others effect when taken at the same time.

3. Some drugs make changes in the body which can contraindicate the use of certain drugs or certain dental procedures.

Example: Extraction is contraindicated on patients taking anticoagulant like heparin.

Some Rules In Dispensing Drugs:

BEST AVAILABLE DOCUMENT

Rule 1

YOU SHOULD NOT GIVE DRUGS THAT YOU ARE NOT FAMILIAR WITH.

Rule 2

YOU ARE NOT THE ONLY ONE GIVING DRUGS SO ALWAYS ASK THE PATIENTS IF THEY ARE TAKING ANY BEFORE GIVING NEW ONES.

Rule 3

ALWAYS ASK IF THE PATIENT IS ALLERGIC TO THE DRUGS YOU ARE GOING TO GIVE.

Rule 4

MAKE SURE THAT THE PATIENT KNOWS AND UNDERSTAND

- a. HOW TO TAKE
- b. WHEN TO TAKE
- c. HOW LONG HE HAS TO TAKE
THE MEDICINES HE IS GIVEN.

ASEPTIQUE TECHNIQUES

Many diseases are caused by microbes. These microbes and the infection they cause can be transferred from dental worker to patient and vice versa and also from patient to patient. The transfer can be direct or indirect via unsterile instruments.

When the microbes are introduced in an operation wound, there can be a delay of healing or an acute infection with accompanying swelling and pain.

To prevent these problems and complications you need to practice aseptic techniques before, during and after treatment.

Here are some of the aseptic techniques that you need to practice:

1. Cleanliness

This is the most basic technique.
You and your working area should be clean.

2. Washing of hands

The physical action of thorough hand washing with plain soap is very effective in removing dirt, skin secretions and contaminating microbes from skin surfaces.

3. Disinfection

This is done to kill the microbes on objects or things.

> You can disinfect your metal trays by washing them and then wiping them with ethyl alcohol in 70% concentration. Ethyl alcohol (in 70% concentration) kills bacteria in 1-2 minutes but is less effective at lower or higher concentration.

> Immersing instruments in savlon in 1% concentration will disinfect them.

4. Sterilization

This is the removal or complete destruction of microbes from a given object.

This can be done by:

a. Subjecting the objects to moist heat at 120 C for about 10-12 minutes.

Example: Using an autoclave or a pressure cooker

b. Immersing instruments in boiling water for 20 minutes.

If you have placed the instruments before the water is boiling you, you should start timing only when you see the water actually boil. During this time you should not add instruments to the boiling water.

BEFORE THE INSTRUMENTS ARE STERILIZED, THEY MUST BE THOROUGHLY WASHED AND CLEANED. ALL BLOOD, PUS AND OTHER DIRT MUST BE REMOVED FROM THEM

Practicing Aseptic Techniques When Treating Patients:

1. Wash your hands well with soap and water and dry them with a clean towel before and after each patient.
2. Remember that dirt can easily be hidden under long nails, so keep your fingernails short and clean.
3. During the treatment avoid touching with your hands areas which can cause contamination e.g. the chair, the patient's head, your clothing.
4. Use only sterile instruments on patients. Sterile instruments should be kept in clean covered trays and handled only by a sterile cheater forcep.
5. Be sure your tray has been washed with soap and water, dried and wiped with 70% alcohol before putting sterile instruments on it.
6. Wash the patient's drinking glass with soap and water before and after each patient.
7. A clean plastic bib can be placed over the patient's chest.
8. The patient's mouth is a potential source of infection. Do not do surgery on an extremely dirty mouth. Clean it first either by doing scaling or making the patient rinse with an antiseptic mouthwash.
9. Wear a surgical mask.
10. If you have a cut or a wound in your hand, wear surgical gloves.

LOCAL ANESTHESIA

The most widely used method in dentistry for controlling pain is blocking the pathway of painful impulses to the brain. This is usually carried out by injecting drugs with local anesthetic property close to the nerve involve.

2 Types of Injection to Produce Anesthesia in the Mouth:

1. Infiltration

This is the injection of the anesthetic solution on the tissues and bone near the apex of the tooth.

This will anesthetize the tooth, the gum and the bone supporting the the tooth.

This type of injection is used for all upper teeth and and lower front teeth where the supporting bone has more holes.

A short dental needle is used for infiltration.

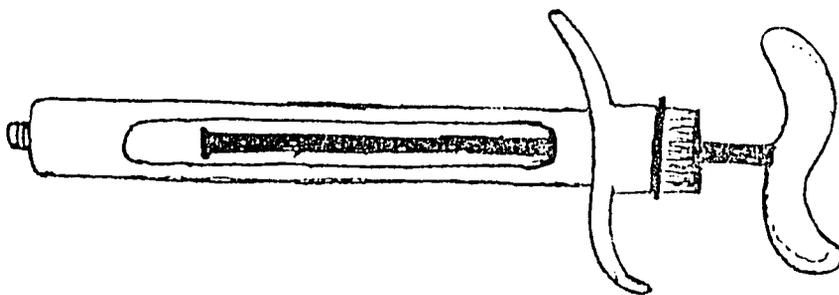
2. Mandibular block

This injection is used to block the passage of pain impulses by depositing the anesthetic solution close to a nerve trunk, cutting off pain sensation on the region it supplies.

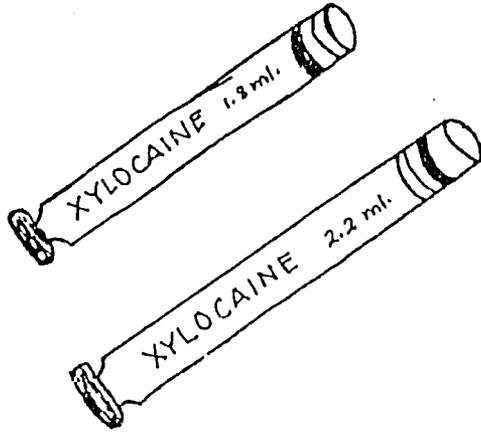
This type of injection is used for lower back teeth where the supporting bone is compact and has fewer holes.

A long dental needle is used for this injection.

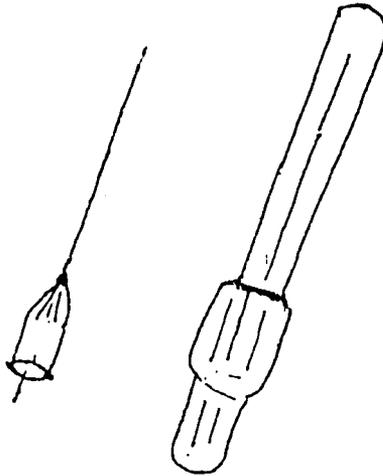
What you need:



Metal Cartridge syringe



Carpule Anesthesia



Disposable Dental Needle

HOW TO DO IT:

Infiltration:



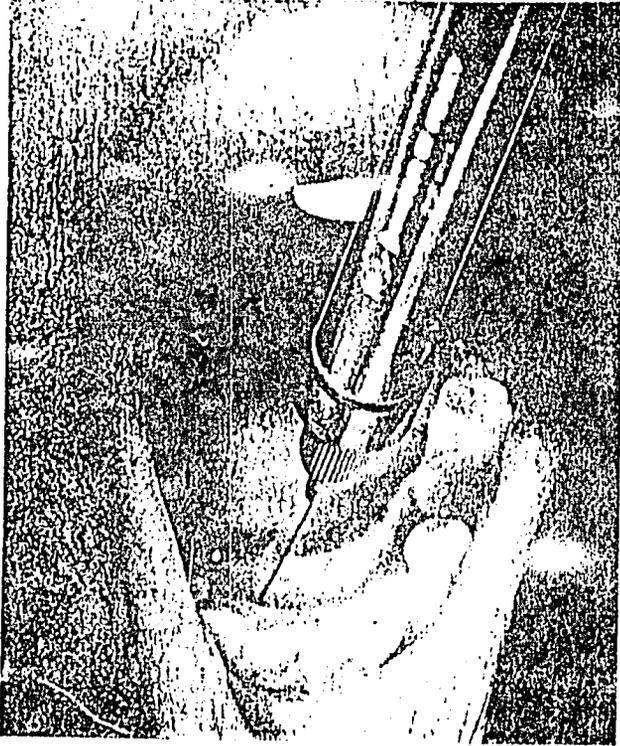
For labial and buccal injection:

1. Hold back cheek or lip with fingers or mouth mirror so you can clearly see the depression where the gum joins the cheek.
2. The needle is inserted at the depression at a 45 angle until it touches the bone. Make sure the bevel of the needle is facing the bone
3. Once the bone is touched, do not push any further. Slowly deposit 1/2 of the content of the cartridge.



For Palatal Injection:

1. The needle is inserted about 1 and 1/2 centimeter away from the crown of the tooth to be anesthetized. Make sure that the bevel of the needle is facing the bone.
2. The needle is inserted until the bone is touched. Remember that this is a shallow injection.
3. Deposit the solution slowly until the gum turns white. Do not try to put so much solution. This injection is quite painful.



For Lingual Injection:

1. Pull the tongue away with the mouth mirror to protect it.
2. Insert the needle approximating the apex of the root. Make sure the bevel of the needle is facing the bone.
3. Deposit the anesthesia slowly.
A small swelling may occur but it will disappear soon.



Mandibular Block:

1. If the patient is on the chair, the head should be positioned so that when the mouth is open, the body of the mandible is parallel to the floor.
2. Ask the patient to open his mouth as widely as possible.
3. The finger or thumb is placed inside the mouth to palpate the front part of the ramus.
4. Slightly move the finger and feel a depression. This is where the needle is to be inserted.
5. Keeping your finger there as a guide, insert the needle. Again, the needle should be facing the bone.

The syringe should be resting between the premolars on the opposite side of the mouth.

6. Insert the needle until you touch bone.

if only 1/3 of the needle is inserted and you touch bone you are probably in the wrong place. Withdraw the needle and reinsert it more backward.

if most of the needle is buried and you still do not touch the bone. Withdraw the needle and reinsert it more anteriorly.

if 2/3 of the needle is inserted and you touch bone, you are most likely in the right place. Aspirate and if no blood comes, deposit 2/3 of the anesthetic solution slowly.

7. Sometimes a second injection is needed to anesthetize the buccal nerve.

Insert the needle on the lowest part of the gum opposite the second molar and deposit the solution there.

Some things to remember when injecting:

- 1. Never inject more than 5 carpules.
- 2. Inject slowly. It is painful when you inject fast.
- 3. Deposit only enough solution to have good anesthesia.
- 4. Do not inject into a swollen or inflamed area.
- 5. Always use sharp sterile needles.

Checking for Effective Anesthesia

For infiltration anesthesia:

The best way is to insert a probe or a plastic filling instrument between the gum and the bone. If there is no pain, then anesthesia must be good.

For mandibular block:

The whole side of the jaw must feel thick or heavy. The lower lip on the injected side must feel numb. Half of the tongue must be also numbed. Check the gum around the tooth to be extracted with a probe or your plastic filling instrument. If this too is numbed then your anesthesia is good and you can go ahead with the treatment.

Possible Complications After Injecting Local Anesthesia:

1. Fainting or syncope

This is the most frequent complication associated with local anesthesia.

Cause: decrease blood supply in the brain

Signs and symptoms:

- a. Patient may complain of dizziness or lightheadedness.
- b. Patient's face turn very pale.
- c. Skin becomes cold and moist.
- d. Patient may appear he is about to lose consciousness.
- e. Sometimes there is an accompanying difficulty in breathing.

What to do:

1. Stop the dental treatment.
2. Immediately put patient in a semi reclining or lying position with the legs slightly raised.
3. If patient is conscious tell him to take a few slow, deep breaths.
This will provide adequate oxygen and also make the patient calm.
4. Respiratory stimulants such as spirit of ammonia on cotton or gauze can be place near the patient's nose.

Usually this treatment is enough and the patient regains normal feeling.

The patient should be reassured and re evaluated before continuing the treatment.

ANYTIME a patient loses consciousness unexpectedly in the dental chair, the pulse, respiration and color should be checked to determine the severity of the condition.

IF pulse is not palpable or respiration is difficult and accompanied by cyanosis or extreme paleness, or if the patient exhibits an ashen grey color associated with a very fast or very slow heartbeat then something more than fainting has occurred. Artificial ventilation is needed.
Cardio pulmonary resuscitation is needed.

2. Pain or hyperesthesia

This is pain during or after the giving of the anesthetic injection.

Cause: Too rapid deposition of anesthesia.
Injecting too much anesthesia especially in a constricted area.
Infections

Prevention: Inject slowly.
Use the least amount of anesthetic solution to have good anesthesia.
Do not inject anesthesia in infected areas.

3. Muscle Trismus

This means limitation of muscle movements and soreness of muscle after an injection.

It usually happens after block of the inferior alveolar nerve.

Cause: Trauma to a muscle during the insertion of the needle.
Low grade infection.

Treatment: Analgesics and warm moist compresses.
Jaw exercises

Prevention: Use sharp, sterile needles.

4. Broken needles

How to prevent it:

- a. Do not force a needle against resistance. It may break.
- b. Do not try to change the direction of the needle when inside the tissue. Always withdraw and redirect.
- c. Do not attempt an injection when you are not familiar with the anatomy of the area.
- d. Do not surprise the patient with sudden, unexpected needle insertion.

WHEN DOING INJECTION, DO NOT INSERT ALL OF THE NEEDLE. ALWAYS LEAVE ABOUT 1/3 OUTSIDE THE TISSUE SO THAT IN CASE OF BREAKAGE, YOU CAN GRASP IT WITH AN INSTRUMENT AND PULL IT OUT.

5. Hematoma

This is the effusion or spread of blood in the surrounding tissues.

- Cause: A torn blood vessel
Blood coagulation problem
- Treatment: No treatment if due to a torn vessel.
Discoloration will disappear.

If you suspect a blood coagulation problem, refer to UPD worker.
- Prevention Use sharp needles

6. Allergic reactions

Cause: hypersensitive reaction to the anesthesia

a. Localized allergic reactions:

Signs and symptoms:

1. Appearance of elevated red spots on the skin.
2. Intense itching.
3. Edema of hands, face, lips, tongue and even the pharynx.

Treatment:

1. Oral antihistamine if reaction is mild and cutaneous.
Such as CPM 4 mg. TID
2. 0.3-0.5mg (i.e. 0.3-0.5 ml) adrenalin IM or SC if severe.

b. General allergic reaction

This is also known as anaphylactic shock. This is a life threatening emergency. Immediate treatment is needed.

Signs and symptoms:

1. Patient may suddenly complain of being sick.
2. Sudden, complete collapse and loss of consciousness
3. Cyanosis or ashen gray color
4. Difficulty of breathing, sometimes with wheezing
5. Very, very weak pulse
6. Increase or decrease in heart rate
7. Nausea, vomiting, abdominal cramps and incontinence

Treatment:

- 1. Quickly evaluate the respiration and circulation.
- 2. Support respiration - patent airway and artificial ventilation.
- 3. Support circulation - put patient in semi reclining position.
- inject 0.3-0.5 ml adrenalin IV

7. Toxic reaction (Overdose)

Cause: Accidental intravascular injection of anesthesia
Injection of too much anesthesia

Signs and symptoms:

Initial reactions:

- a. Talkativeness and restlessness
- b. Apprehension or anxiety
- c. Convulsions

Secondary reactions:

- a. Lethargy
- b. Very weak pulse, decrease blood pressure
- c. Unconsciousness

Treatment;

- a. Mild reaction needs no treatment.
Only patient's reassurance is needed.
- b. For severe reaction-

Initial reaction or Convulsive stage:

- 1. Restrain arms and legs
- 2. Padded tongue blade or rolled placed between teeth.

Secondary reaction or Depressive stage:

- 1. Put patient in a semi reclining position.
- 2. Make sure airway and ventilation is maintained.
- 3. Rapid IV administration of 250-500 ml of 5% dextrose in water to support blood pressure.
- 4. 0.5 mg IM or IV injection of atropine to overcome bradycardia.

EXTRACTION OF TEETH

Indications for Extraction:

1. Pulpitis
2. Apical periodontitis
3. Periodontitis - very mobile teeth
4. When tooth is traumatized beyond repair
5. An abscessed tooth
6. Retained temporary teeth

Contraindications for Extraction:

1. The presence of acute infection
 Example: cellulitis, acute abscess, acute apical periodontitis
2. In cases of pericoronitis
3. When the mouth is extremely dirty
4. The first three months of pregnancy
5. The presence of a systemic disease or condition which may endanger the patient's health and life such as
 - a. uncontrolled diabetes mellitus
 - b. uncontrolled hypertension
 - c. blood coagulation problems
 - d. severe hepatitis
 - e. severe heart problems

In this case consult a doctor or an OPD worker first.

Techniques in Tooth Extraction:

Positions:

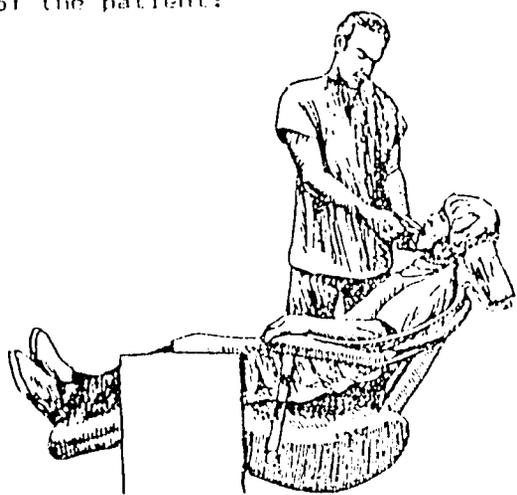
The position of the patient and your position are important to consider when you want to take out a tooth. You have to know those positions that will make it easier for you and for the patient.

Position of the dental worker:

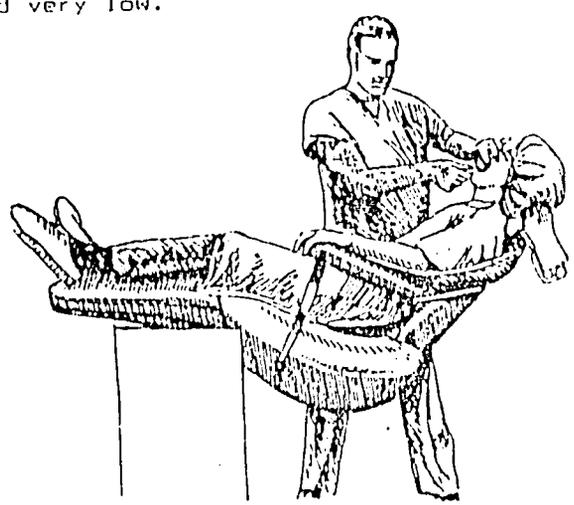
For the right handed person all teeth except the lower right ones can be removed by standing on the right side and slightly to the front of the patient.

For the teeth on the lower right side of the mouth it is better for you to stand slightly at the back of the patient.

Position of the patient:



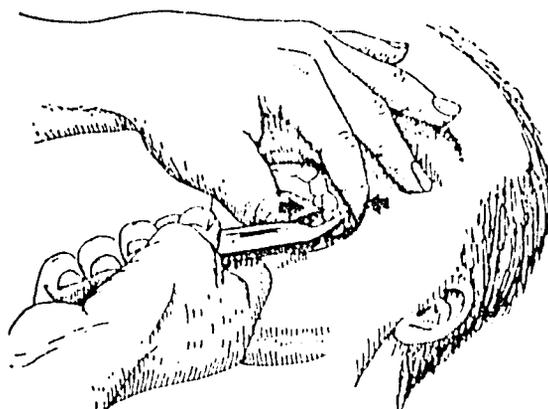
When taking out lower teeth, it is better for the patient to be seated very low.



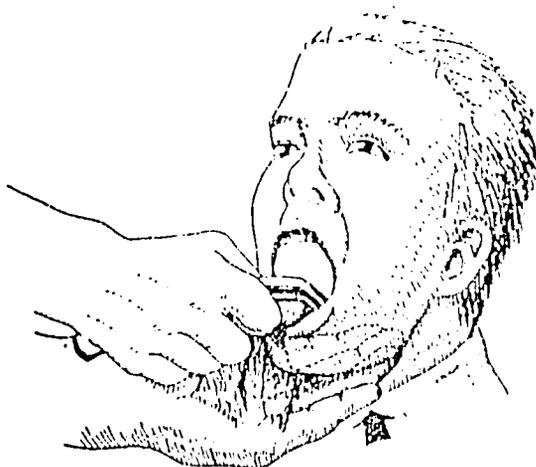
When taking out upper teeth, it is better that the patient is on a higher position or you can put the backrest more backward putting the patient in a semi reclining position.

This will help you, the worker, to use your movements more effectively. This way your arms will not also tire easily.

Forcep and hand positions:



When doing extraction in the maxilla, place your thumb and index fingers on either side of the alveolar process next to the tooth that is being removed. This position will enable you to stabilize the maxilla and feel the movements in the alveolar process during the extraction.

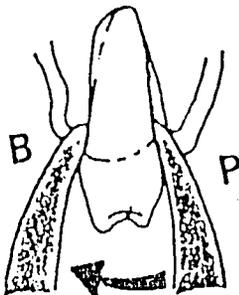
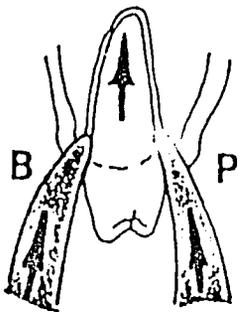


When extracting a lower tooth give some support to the mandible to counteract the forces of extraction and prevent injury to the temporomandibular joint which can be caused by strong side to side movements.

Extraction Movements:

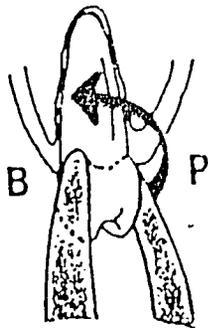
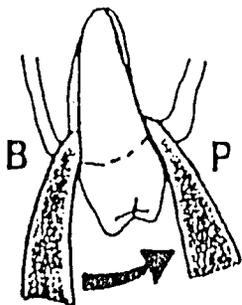
Skill at extracting teeth comes mainly with practice. Here are some helpful notes on the basic movements.

For Upper Teeth:



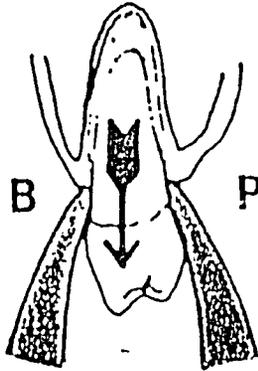
Place forcep in position and push towards the apex

Begin side to side movement by moving towards the buccal



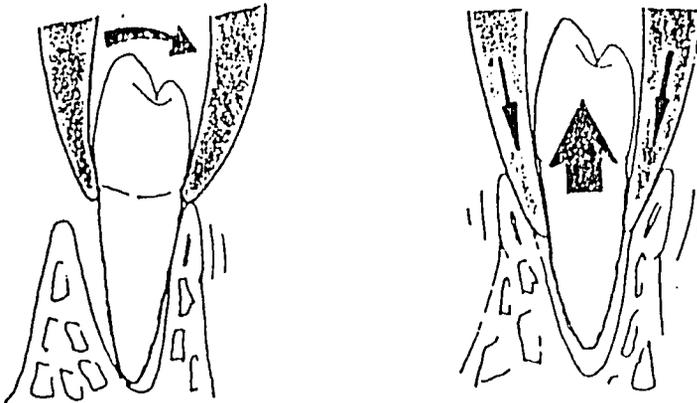
Continue side to side movement

You can also use a slight rotation (a figure of 8 movement for upper molars)



Once the tooth is slightly loose start adding a pulling force to the side to side movement until the tooth is out of the socket.

For Lower Teeth:



The same basic movements are used on lower teeth.

1. Place the beak of the forceps as far down as they can go.

- 2. Make side to side movements until you feel that the tooth is slightly loose.
- 3. Add a pulling motion to the side to side movement until the tooth is out of the socket.



WHEN EXTRACTING A TOOTH TRY TO KEEP IN MIND THE SHAPE AND NUMBER OF THE ROOTS OF THE TOOTH YOU ARE TAKING OUT.

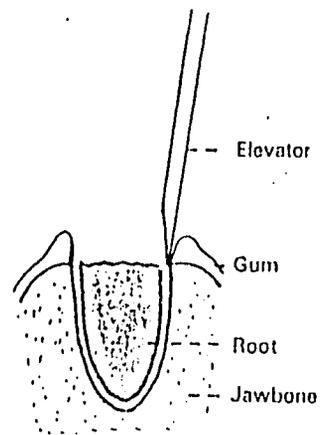
- > Incisors and canines have conical roots so an apical push with side to side movements and rotation will easily loosen them and they can be removed easily.
- > The same movements are applicable to premolars except for upper first premolars which usually have 2 roots.
- > The upper molars usually have 3 roots. The pointed beak is to grip the outer side of the crown and the pointed part is slid down in between the two outside roots for a good grip.

Steps on Doing Extraction:

- 1. Explain to the patient what you are going to do.
- 2. Inject local anesthesia.
- 3. Check for the effectiveness of the anesthesia.
- 4. Separate the gums.
- 5. Loosen the tooth with a straight elevator if it is very strong or if the crown is broken down.
- 6. Position the forcep to have a good grasp of the tooth.
- 7. Push the tooth apically.
- 8. Make side to side movement until tooth becomes loose.
- 9. Add a pulling motion to the side to side movement until the tooth is out.
- 10. Check the tooth - Did you get it all out?
- 11. Check the socket - Any broken bone? broken root?
- 12. Clean the socket.
Remove any broken bone, dead or granulation tissue.
- 13. Press the alveolar bone back to its position.
- 14. Put a folded gauze over the socket and ask the patient to bite on it.
- 15. Give post extraction instructions to the patient.
 - a. Bite on the gauze for thirty minutes.
 - b. Wait for at least an hour before eating.
 - c. Do not rinse the mouth vigorously for 24 hours.
This will dislodge the blood clot and bleeding will start again.
 - d. Do not touch the socket with fingers. It can be infected.
 - e. Do not put medicine or anything in the socket.
 - f. Keep the teeth clean.
 - g. Take the medicines as instructed.
 - h. If any problem arises related to the extraction the patient should come back to the clinic and do not just try to treat himself.

Root Extraction:

Roots are usually removed using elevator or a combination of elevator and root extraction forceps.



A straight elevator is usually used in this case. The tip of the elevator is placed between the bone and the tooth. Gently move around the root trying to loosen it. Once it is loose a root forcep or the elevator can be used to remove the tooth from the socket.

REMEMBER:

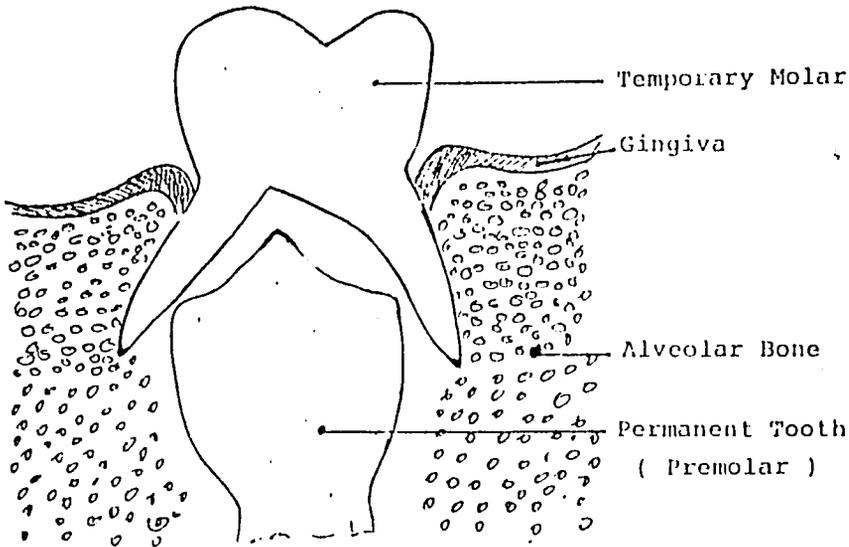
1. The most important thing when taking a root is to have a good direct vision.
 - > if there is blood in the socket and you cannot see, dry it before trying to position your elevator.
 - > if there is some tissue hindering your vision, cut it.

2. Make sure you have the tip of your elevator in between the root and the bone before pushing the elevator in.

If the elevator is on top of the root you will push the root in instead of loosening it.

3. Stability and control are a must when you are using an elevator. It may slip and destroy tissues in the mouth. Put your thumb and index finger on each side of the bone adjacent to the tooth you are extracting to have stability and control.

Extraction of Temporary or Baby teeth



Things to Remember:

1. When extracting temporary tooth you have to be very careful because you can do harm to the permanent tooth that is growing under it. This is especially true when you are extracting temporary molars.
2. The bone of children is not as hard as that of the adult so you do not need to put so much force to take their tooth out.
3. Children's bone is more porous i.e. more holes, therefore infiltration injection is possible for both the upper and the lower jaw.
4. When you take out a temporary tooth and find that the root is not complete but there was no breaking sound, you did not break the root. It has just been resorbed by the growing permanent tooth under it.
5. Sometimes the permanent teeth erupt behind the temporary ones like in cases of permanent incisors. If the patient is brought to you for extraction make sure that what you are taking out is the temporary tooth and not the permanent one.
6. If after taking a temporary, you find that there is something white and hard inside the socket, DO NOT try to dig it out! That is the crown of a growing permanent tooth.

COMPLICATIONS DURING AND AFTER EXTRACTION:

1. Breaking the Crown

Cause: { Wrong position of the forcep
 Wrong movements during extraction
 - Badly broken down crown

Management: Dry the socket and find where the root is.
 If the whole root is inside try taking it out with the use of elevator.
 If only 1/3 or less than 1/3 of the root is broken, you can leave it.

Prevention: Make sure your forcep is positioned well as apically as possible.
 You can loosen a very strong tooth with an elevator before using your forcep.
 Making the "pushing in" movement before loosening the tooth helps in preventing breakage of the roots.

2. Lacerated and torn soft tissues

Cause: Not separating the gum before extraction
 Incorrect separation of gum
 Lack of hand stability and control

Management: Suture big lacerations
 Very small ones can be left alone

Prevention: Take care in separating the gums before extraction.
 Position yourself so that your hands and arms are relaxed and make slow, controlled movements.

3. Bleeding

Cause: Presence of too much infected tissue
 A torn blood vessel
 Systemic blood coagulation problem

Management: Make patient bite hard on a piece of gauze for 3-5 minutes
 Remove infected and dead tissues from the socket.
 You may need to put suture after extraction

In case of a systemic blood coagulation problem, refer patient to a hospital

Prevention: Be careful in handling the tissues
Always ask the patient if they have had bleeding problems before.

4. Destruction of the floor of the maxillary sinus

This can happen when you are extracting upper second premolars, first and second molars.

Cause: An elevator that was positioned on top of the root and then pushed.
Very thin bone separating the roots and the maxillary sinus.

Management: If the root disappeared into the sinus, do not try to get it. Refer patient to a dentist.

If the tooth is out and you see the piece of bone at the tip of the root or blood comes from the nose, the floor of the sinus has been broken. Suture the gum well so there is no gap food or dirt can enter. Give antibiotics.

5. Post-extraction Bleeding

This is one of the most common complication.

Cause: Torn blood vessels
Lacerated tissues
Prolonged bleeding time
Foreign bodies in the socket

Management: a. Bleeding immediately after extraction

Check if it is-

- > oozing - place a damp gauze and ask patient to bite for about 5 minutes. Then check again before letting the patient go.
 - this type of bleeding is usually from very small blood vessels and it stops by application of pressure.
- > pulsating - put a gauze in the socket and press for 1 minute. Remove the gauze and quickly look to see where the bleeding is coming from. Put pressure directly on the bleeding point, a burnisher using the back of a spoon excavator or gauze.

b. Bleeding a few hours after extraction:

Put adrenalin on a piece of gauze and ask patient to bite for 20-30 minutes.

c. Bleeding after 24 hours:

This is usually due to sharp bone, broken bone or foreign body inside the socket.

1. Anesthetize
2. Clean the socket.
Remove small bone fragments, old blood clots and dead tissues.
3. Cut any sharp bone.
4. Stimulate socket for fresh blood
5. Put clean gauze and ask patient to bite for 20 minutes.
6. Check the socket again before sending the patient home.

6. Swelling

Cause:	Trauma to tissues Infection
Management:	Due to trauma - give antiinflammatory drug Due to infection - give antibiotics
Prevention:	Handle tissues gently Practice aseplique techniques

7. Dry socket

The signs and symptoms appear 3-4 days after extraction.

- a. Severe pain on the site of extraction
- b. Pain increases when bone is exposed to cold or touched
- c. Bare bony socket with broken down blood clot

Cause:	Low grade infection Trauma Prolonged bleeding Injection of too much anesthetic solution
Management:	Clean the socket. Irrigate it gently with normal saline solution. Place zinc oxide eugenol dressing over the socket. This can be changed every 3-4 days until the bone is covered with tissue and pain is gone
Prevention:	Treat tissues gently Practice aseplique technique Do not inject too much anesthesia

INTRAORAL INCISIONS

There are times when you need to make an incision on the gum like when you are trying to get a broken root that is partly under it.

Remember the following when making an incision:

1. Use a sterile blade handle and a sharp sterile blade.



blade handle

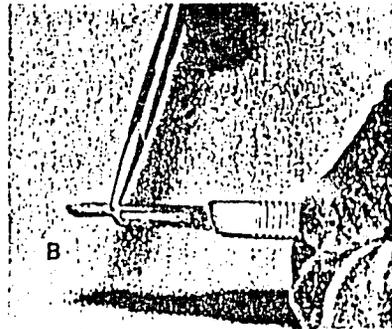
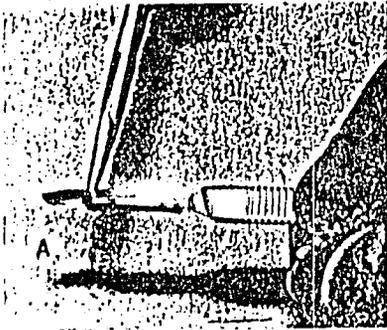


#11 blade

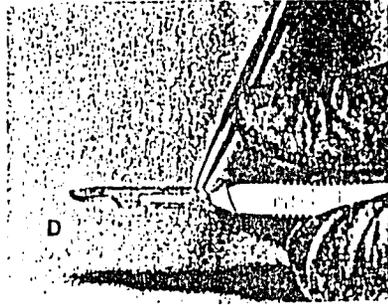
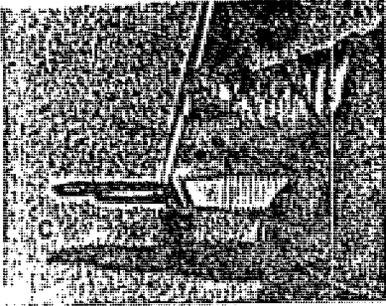


#15 blade

2. Care should be taken when placing or removing a blade from the blade handle so you do not cut yourself. Use a needle holder to do these.

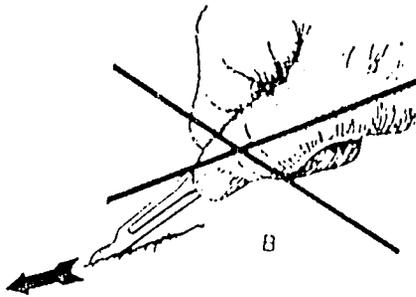
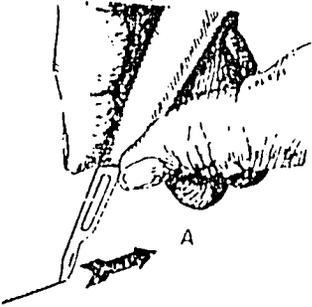


Placement of the blade onto the blade handle.

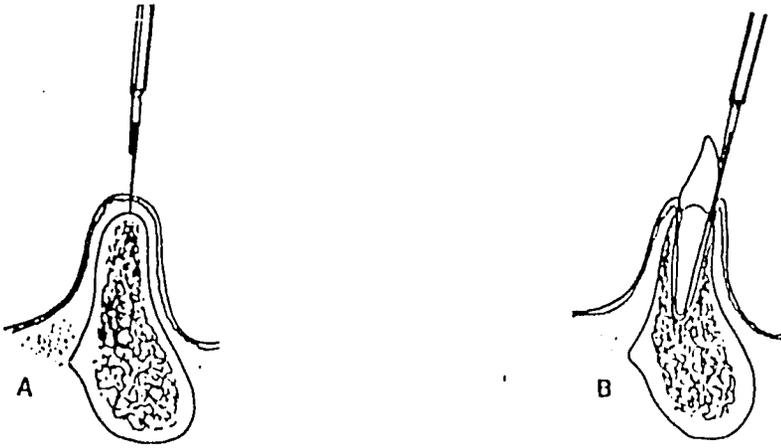


Removal of the blade from the handle.

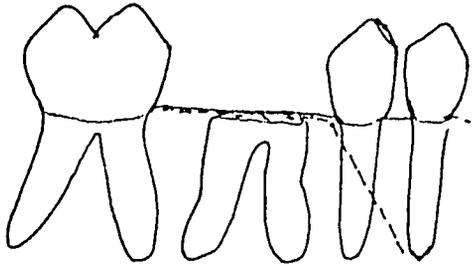
2. The knife should be held as a pen.



- 3. The incision should be made at right angle to the tissue and must be right down to the bone. Make one clean cut so it is easy to suture the gum together.



- 4. The base of the incision should be wider than the top to good blood supply.



----- - incision

INTRAORAL SUTURING

When to Suture:

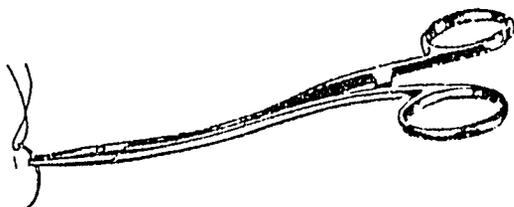
1. When you have extracted several neighboring teeth and the gum in between the teeth is torn.
2. When you have made a big incision and want to put the gum back to place.
3. When you want to stop prolonged bleeding.

What is needed:

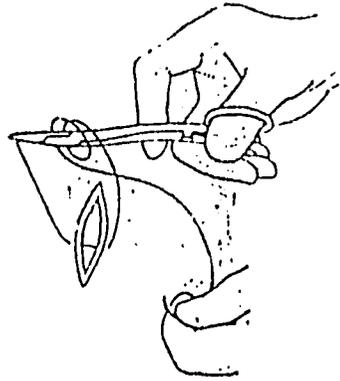
1. needle holder
2. needle
3. suturing thread
4. tweezer

How to do it:

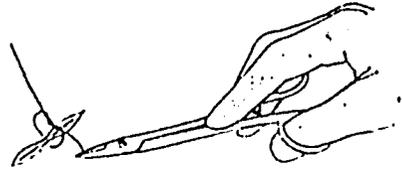
1. The needle holder is clamped on to the needle about midway between the tip and the needle. (Do not hold the needle over its eye. This will cause bending and even breakage.)
2. Insert the needle on the more movable side of the gum flap. The needle should always be inserted at right angles to the wound about 3-4 millimeters from its edge.
3. Grasp the needle with the needle holder as it comes out of the gum and pull it out.



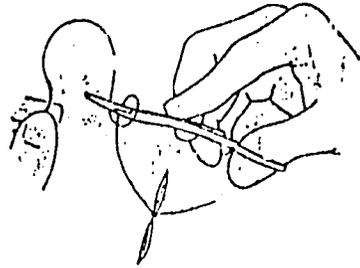
4. Do as in no. 1 and repeat the procedure to the other side of the flap.



5. Using the beak of the needle holder, make two loops on the thread on the side where you have the needle.



6. Grasp the other end of the thread and tighten to make a knot. The knot should be tightened on one side of the wound and not on top of it.



7. Make another loop, this time going in a different direction. Make another knot on top of the first one.

Do not make the suture too tight or too loose.

Removal of the Sutures:

Sutures are removed after 5-7 days.

Grasp the knot with a tweezer or an artery forcep.
Lift gently and cut with scissor just below the knot.
Pull the thread out with the tweezer.

DENTAL INFECTIONS: THEIR SPREAD AND MANAGEMENT

Dental Infections can spread to the bone and surrounding spaces and soft tissues. The spread always follows the way of least resistance.

Inflammation is one of the significant signs in diagnosing infections.

There are 5 signs of inflammation:

1. Swelling

It may be:	extraoral	- outside the mouth
	intraoral	- inside the mouth
	localized	- confined to a small area
	widespread	- involves bigger area
	fluctuant	- swelling filled with fluid e.g. as blood or pus.
	not fluctuant	- swelling has no fluid

2. Pain and tenderness

3. Increase in temperature

Swellings associated with acute infections are warmer compared to the unaffected area.

4. Redness

Areas of inflammation may appear red or reddish purple depending on the depth of swelling. Superficial ones will appear redder than deeper ones.

Note: any swelling that lacks the above signs of inflammation may be of non-infectious origin.

5. Loss of function

The following signs and symptoms are frequently associated with the infections of the head and neck area.

- a. Trismus: decreased ability to open the mouth
- | | |
|-----------|--------------------------------------|
| mild: | hurts when mouth is opened |
| moderate: | noticeable decrease in mouth opening |
| severe: | very little mouth opening |
- b. Dysphagia: difficulty in swallowing

This may develop with moderate to severe infections in the floor of the mouth and neck.

mild:	hurts a bit when swallowing
moderate:	painful when swallowing
severe:	patient cannot swallow

c. Respiratory difficulty: difficulty in breathing

This happens in very severe infection where the submental and submandibular spaces on both sides are involved.

Inflammation due to infection may start from:

- 1. the root apices
- 2. gum margins of erupted teeth
- 3. soft tissues around the crown of an unerupted tooth

From these areas the infection may localized with the fomation of pus or spread with or without pus formation.

The most common source of inflammation are infections around the root apices. Inflammation from this area may result in the formation of pus, then taking the line of least resistance burst through the enclosing bone and involves the surrounding soft tissues.

Once infection enters the tissues it may either:

- > Resolve
- > Become localized
- > Spread

Different factors play roles in determining the progress of an inflammatory process due to an infection in an individual.

1. Factors relating to the infective bacteria.

- a. the number of bacteria - the greater the number the more likely the infection will progress.
- b. the invasiveness of bacteria - this shows their ability to multiply quickly and destroy tissues quickly.

2. Factors relating to the individual.

The general body resistance which is the ability to fight disease varies from person to person. It can also vary in the same person at different times.

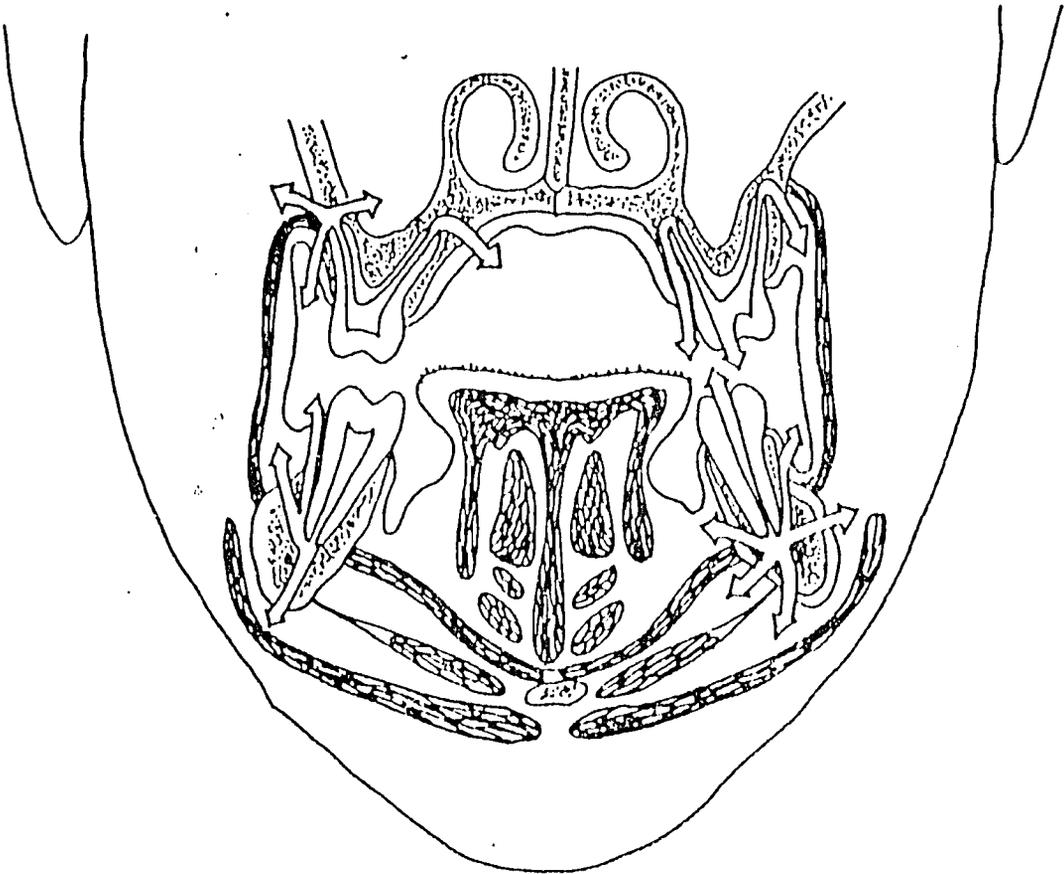
Body resistance is affected by age, presence of debilitating disease, undernourishment and vitamin deficiencies.

- > Healthy persons can fight infections more effectively than those who are not.
- > Very young and very old people are do not have very strong body resistance.

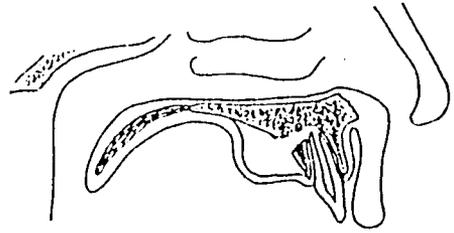
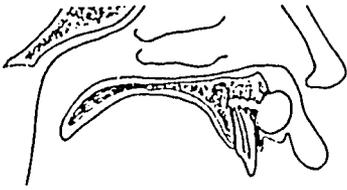
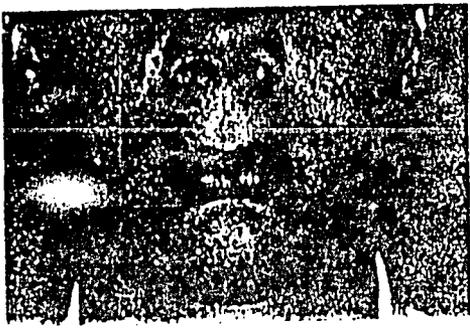
- > Malnourished persons have very weak resistance.
- > Persons who have been sick for a long time are more prone to dental infections.

3. Anatomical Factors

Infections may always take the path of least resistance. It may perforate a bone at its weakest or thinnest point. It tends to spread along and be limited by muscles and fascial planes.

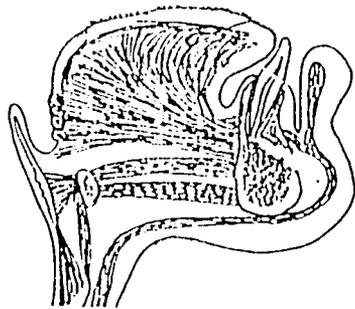
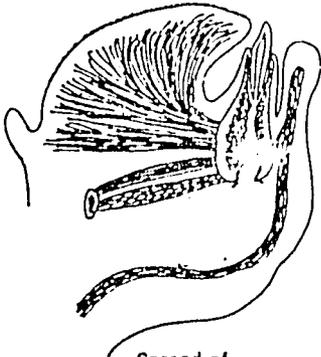
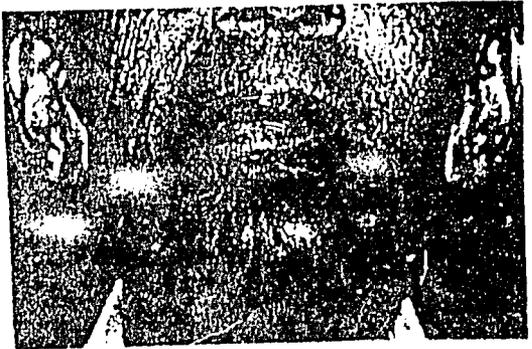
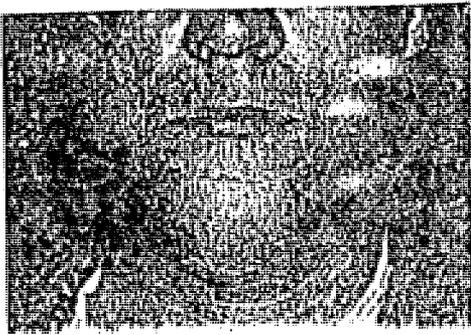


The important factor that determines which areas are affected first is the location at which the infection penetrates the mandible or maxilla in relationship to muscle attachments.



1. Spread of Infections to the base of the upper lip.

2. palatal abscess.



3. Spread of Infection to the submental space.

4. Spread of Infection from mandibular incisors to the mentalis space.

Diagnosing Dental Infections

1. Get the history of the complaint.
2. Assess patient's general appearance.
A patient with severe infection will look ill.
3. Do a careful clinical examination
 - a. look - is swelling big? where?
 - b. palpate - is tissue tender? hard? fluctuant?
 - c. percuss - is there pain when tooth is tapped?
4. Make a diagnosis

Treating Dental Infections

Objectives of the Treatment:

1. Prevent the infection from spreading.
2. Eliminate the infecting microbes.

These will involve:

- a. Improving the patient's health

rest, increase fluid intake, better diet, control of pain with analgesics

- b. Use of antibiotics

Dosage will depend on the severity of the infection.

mild - 250 mg. QID
 moderate to severe - 500 mg. QID

Penicillin is usually the drug of choice unless the patient is allergic to it or it has been found ineffective.

Route of administration

oral - if patient has no problem ^{of} swallowing
 intramuscular - if patient cannot swallow
 intravenous - if infection is very severe and patient needs to be hospitalized.

Check after 3-4 days

If medicine is effective swelling will be decreased or localized.

If there is no change or patient is worse you have to increase the dosage or change the medicine.

- c. Localization of abscess using heat application

intraoral - hot salty mouthwash (1/2 tsp salt in a 1/2 glass of hot water every 2-4 hours for 2-3 days.

extraoral - hot moist towel or cloth applied over the area 5-10 minutes several times a day.

d. Drainage

This is to release pus and get rid of it. It has been shown that antibiotics does not enter a collection of pus and eliminate it.

How to do it:

1. Palpate for the most fluctuant part
2. Anesthetize
Use topical anesthesia or superficial injection on the site of incision.
3. Make an incision
Incision should be made on the most dependent area close to the most fluctuant part.
4. Insert a closed haemostat or artery forcep and once inside the cavity open it to allow the pus to come out.
5. If you want to maintain the opening you can insert an iodoform gauze on the opening. This the patient can pull out after 24 hours.

e. If a tooth is the source of the infection the tooth must be extracted as soon as it is possible.

DENTAL EMERGENCIES

A. Severe Toothache

Possible causes: pulp exposure
 acute pulpitis

Treatment: Clean the cavity gently.
 Put a pellet of cotton with
 clove of oil

B. Tooth Injuries

1. Fractured Tooth

a. crown fracture without pulp exposure

The level of the fracture may be in enamel or dentin. The tooth maybe mildly sensitive or very sensitive.

b. crown fracture with pulp exposure

The level of fracture is on the pulp and you may see bleeding or the pink color of the pulp. There maybe severe pain.

c. root fracture

There is a possibility of root fracture if the tooth moves and the bone does not. There can be severe pain especially when biting.

You can only save a tooth that has a fracture without pulp exposure and the root is not broken.

Give the following instructions to the patient:

- > Give the tooth rest. Use other teeth for eating.
- > Do not drink things that are very hot or very cold.
- > Take analgesic for pain.

Observe the tooth that has been injured. That means, ask the patient to come back after several weeks and then several months to check the tooth. If the tooth gets darker or it develops a gum bubble, it is dead. The tooth needs to be extracted.

2. A Tooth Knocked Out

IF it is a baby tooth, you do not have to put it back.

- > Tell the child to bite on a gauze to stop the bleeding.
- > Give analgesic for pain.

Tell the parent that the permanent tooth will come and replace it, but they may take more time than usual to grow into the mouth.

IF it is a permanent tooth try to put it back.
First do 2 things:

1. Ask how long ago was it knocked out.

If it has been knocked out for less than 12 hours, you can put it back into the socket. The sooner you do this, the better. If you put the tooth back within the first hour after it was knocked out it has a better chance of joining the bone and the gum.

2. Check the socket to make sure there is no foreign body or unattached bone in the socket.

How to put the tooth back:

1. Wash the tooth gently with clean water .
There should be no bits of dirt on the root of the tooth.
DO NOT SCRAPE ANY SOFT TISSUE FROM THE ROOT OR FROM THE SOCKET.
2. Keep the tooth damp by wrapping it in a wet gauze.
3. Anesthetize the gum.
4. Gently push the tooth into the socket.
As you push it up, use a slight turning movement back and forth.
The biting edge should be relatively at the same level as the same tooth on the opposite side.
5. Wire the tooth to other teeth to stabilize it.
In order for healing to take place with the tooth attaching to the bone again, the tooth must be held in its place firmly for about 4 weeks.
6. Give analgesic and antibiotic.
Aspirin 1-2 tabs prn
Pen V QID for 7 days

Instructions to patient:

1. Put ice pack to decrease the swelling.
2. The tooth should not be used for biting for 4-6 weeks.
3. The patient should be on a liquid or soft diet.
4. The patient should come back for check up an removal of wirings after 4-6 weeks.

3. A Tooth Pushed Inside the Bone.

A Baby Tooth

You usually do not have to pull the tooth out back into normal position. In time the tooth will come out by itself.

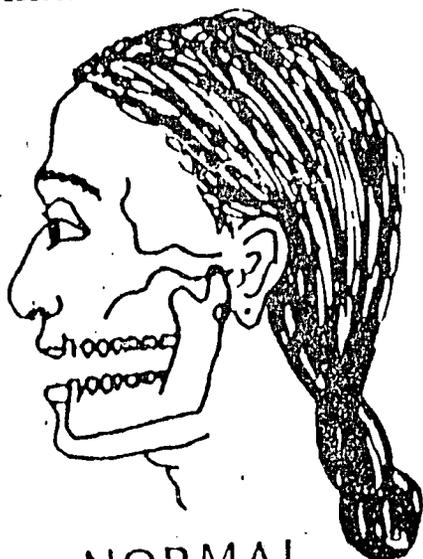
Emergency treatment is accomplished by applying cold packs to alleviate the swelling and pain and to stop the bleeding.

A Permanent Tooth

If the tooth is only slightly pushed in, you can try to pull it out gently until it is on the same level as the other tooth. Keep in place by wiring it to other teeth.

If the tooth has gone inside the bone, do not try to get it out. Apply cold packs to alleviate swelling and pain.

C. Dislocation of the Mandible



NORMAL



DISLOCATED

The usual history here is that the patient yawned or opened his mouth and then could not close it. What happened is when the mouth was opened wide, the head of the mandible moved far too forward and is unable to return to its normal position. This problem usually happens to people without several back teeth.

Signs and Symptoms:

1. Patient cannot close the mouth.
2. The jaw looks long and pointed.
3. The jaw is not broken.
4. There is pain when you press the joint in front of the ear.
5. Patient cannot speak clearly.

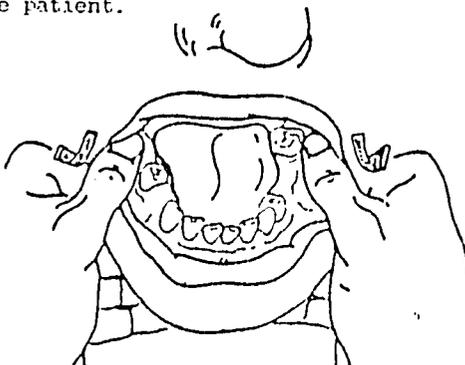
Treatment:

Move the jaw back into position and hold it there until the muscles can relax.

1. Find a way to support the patient's head.
Example: Have the patient sit on the floor with her head against the wall.

2. Position yourself in front of the patient.

3. Put your thumbs beside the last molars or behind them with the other fingers supporting the base of the jaw.



4. Press hard down with the ends of your thumb. This is a downward and slightly forward movement.

Tell the patient to relax. If he tenses up, the muscles will tighten up opposing your movements.

If the jaw does not move, perhaps the muscles are too tight. Refer to a hospital where patient can be put to sleep and the jaw put back into place.

5. When the jaw snaps back into position, keep on holding it. Tell the patient not to try to open the mouth.
6. Put a head bandage to support the jaw for 3-4 days.

Instructions for patient:

1. Eat soft food for two weeks.
2. Put a moist hot cloth on the face several times a day in the next 2-3 days to relax the muscles.
3. Remember not to open the mouth too wide again.
4. If several back teeth are missing, tell the patient to have them replaced if possible.

D. Jaw Fracture

With a strong blow the maxilla and/or mandible can be fractured in one or several places.

Signs and Symptoms:

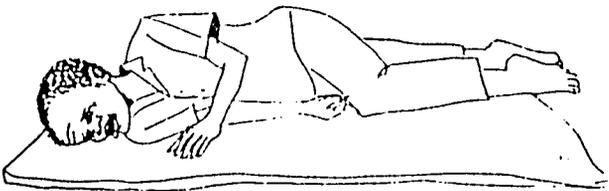
Depending on where the fracture is you will have some of the following signs and symptoms.

1. Patient cannot open or close mouth fully.
2. The bite is not normal.
3. There is swelling or bruising on the face or jaw.
4. There is bleeding in the mouth.
5. There may be blood in the eyes.
6. Parts of the jaw can be moved independently.

Upper jaw fractures are usually more serious and can be life threatening. Do only emergency life saving measures if needed and refer.

Emergency Care:

1. Be sure the patient can breathe.
Lie patient on his side so that his tongue and jaw fall forward. This position makes him breathe more easily.



Remove any blood clot or broken teeth and bones that are loose. These can block the patient's airway.

2. Stop the bleeding.

Wipe away the blood from his face and from inside the patient's mouth then LOOK for bleeding spots.

Bleeding from deep cuts on soft tissues can be stopped by putting sutures.

Bleeding from gums or bones can be stopped by pressure.

3. Try to put the broken parts in correct position.

4. Put a head and chin bandage.



Tie the bandage to support the jaw.
DO NOT MAKE IT TOO TIGHT. IT WILL CHOKe THE PATIENT.

The patient can now be referred to a hospital where wiring of the teeth can be done.

FILLINGS

What is a filling?

A filling is a material that you put in the cavity of a tooth to provide a protective covering.

Why do we put fillings?

1. To stop the decay from going deeper and reaching the pulp.
 2. To stop discomfort and pain.
 3. To save the tooth so the person can use it for many more years.
- Fillings stop food, air and water from entering the cavity.

Indications for Filling:

1. When the hole is only up to dentin.
2. When the tooth is only sensitive to cold and sweet.
3. When there is no visible exposure of the pulp.
4. When there is no pain when you tap the tooth.
5. No history of abscess or swelling.
6. No gum boil or fistula on the gum next to the tooth.

Contraindication for filling:

1. When the tooth have had an abscess.
(or if the patient tells you there had been a swelling in that area)
2. When you see a gum boil or a fistula next to the tooth.
3. When you see that the pulp is exposed.
4. When the tooth is painful when you tap it.
5. When the patient is having very severe pain especially at night.
6. When the patient gets severe pain that lasts for minutes or hours when food packs into the tooth.

Two Kinds of Fillings:

A. Temporary Filling

This filling is meant to last for a few weeks or a few months. It helps to make the tooth comfortable until it is possible to get a permanent filling.

Purpose:

1. It is placed when the cavity is very deep and you are not sure if the infection has already gone into the pulp.
2. In cavities with near pulp exposure it serves as a covering that provides both protection for the pulp and allows the wall of dentin between the cavity and the pulp to become thicker.

Materials used:

1. Zinc oxide powder
2. Eugenol or Clove of oil

Instruments needed:

- | | |
|--------------------|-----------------------|
| 1. mouth mirror | 5. filling instrument |
| 2. tweezer | 6. cement spatula |
| 3. probe | 7. glass slab |
| 4. spoon excavator | |

Steps on putting a temporary filling:

1. Prepare the cavity
 - a. Put a cotton roll on each side of the tooth.
The cavity and the area around it must be dry.
 - b. Using a spoon excavator lift out the soft dentin and food from the cavity.
 - c. Scrape clean the walls and edge of the cavity otherwise food, saliva and microbes can go between the cement and the cavity and decay will continue under the filling.
 - d. If possible make the base of the cavity slightly wider than the top so that the filling will stay in place.
 - e. If the cavity is deep and you suspect that there is only a thin wall between the cavity and the pulp, you have to be careful. Do not scrape hard on that area. You can break the dentin and get into the pulp!
 - f. Dry the cavity.
Wipe with cotton pellet or dry with air syringe.
 - g. Leave a dry cotton pellet in the cavity and make a small ball of cotton which you ask the patient to bite on while you mix the cement.
2. Mix the cement.
 - a. Place separately on the glass slab zinc oxide powder and eugenol liquid.
 - b. Mix the powder to the liquid until it is thick and not too sticky.
3. Put the filling in the cavity.
 - a. Take out the pellet of cotton from the cavity and using the filling instrument put the cement in the cavity.
 - b. Fill up the hole completely.
 - c. Ask patient to bite.
 - d. Take away any excess cement using cotton pellet.
IF the cavity is on the side of the tooth, check the area between the two teeth and take away any excess cement as it will irritate the gum.

Post Filling Instructions:

1. The patient should be advised not to use that side where the filling was placed for 1 day (that is 24 hours).
2. The filling should be kept for 4-6 weeks after which a permanent filling can be placed.

IF the filling is dislodged during this time the patient should come back and the filling replaced.

3. If the tooth becomes painful the infection may have already gone into the pulp even before you put the filling. The tooth should be extracted.

NOTE: A cement temporary filling is often the first step to saving a tooth.

Advise the patient that if he again gets hole on his tooth to come for filling even if it does not hurt. This way his tooth can be saved.

B. Permanent Filling

This is a filling that is meant to last for years.

Purpose:

1. To put a covering that will prevent food and microbes from entering the cavity and continue the destruction of the tooth.
2. To replace the missing part of the tooth with a strong long lasting material so the tooth can still be used for chewing.

Materials Used:

1. Composite filling - the white filling (it will not be discussed here)
2. Amalgam filling - a mixture of silver amalgam and mercury

Instruments needed:

- | | |
|--------------------|-----------------------|
| 1. mouth mirror | 6. amalgam carrier |
| 2. tweezers | 7. plugger |
| 3. probe | 8. carver |
| 4. spoon excavator | 9. burnisher |
| 5. margin trimmer | 10. mortar and pestle |

Steps on Putting an Amalgam filling:

1. Prepare the cavity.
 - a. Put cotton roll on each side of the tooth to keep it dry.
 - b. Clean the cavity using a spoon excavator
Remove all soft dentin.

- c. Using the margin trimmer make the base of the cavity slightly wider than the top.
- d. You can further clean the cavity using a moist pellet of cotton.
- e. Dry cavity using cotton pellet or air syringe.
- f. Leave a dry cotton pellet in the cavity and make a ball of cotton which the patient can bite on while you prepare the filling.
IF the cavity is very deep put a thickly mixed zinc oxide eugenol cement as base.

2. Mix the filling.

- a. Measure the amount of filling material you mix base on the size of the cavity.
The ratio is 3:1 i.e. 3 measures of silver amalgam powder mix with 1 measure of mercury.
- b. Put the silver amalgam powder and mercury in the pestle.
- c. Mix the powder and liquid together in the mortar and pestle until they are well mixed and the mixture does not stick to the sides of the mortar.
- d. Put the mixture in a squeeze cloth and using a tweezers squeeze the excess mercury out into a container that has water.

Note: Keep the container that has the excess mercury tightly covered!
Mercury evaporates quickly. It is very harmful when inhaled or accidentally taken by mouth.
Be careful in handling it!

3. Put the filling in the cavity.

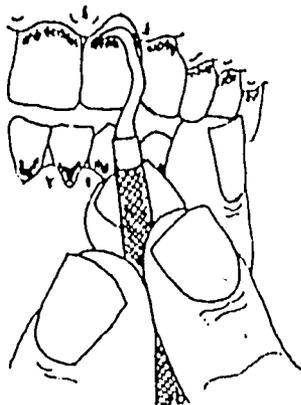
- a. Remove the cotton pellet from the cavity.
Make sure the cavity is still dry.
- b. Carry the amalgam mixture into the cavity using the amalgam carrier.
- c. Pack the cavity tightly by pushing the filling to the wall and slightly down.
- d. When the filling becomes a bit hard start carving filling using the carver.
Any excess filling should be carefully removed from the mouth.
- e. Check if the filling is not too high by asking the patient to bite normally.
Remove the excess if filling is high.
- f. Finish off by smoothing the filling using a burnisher.

Post Filling Instructions:

1. Patient should wait for 1-2 hours before eating hard solid food.
2. The side where the filling is should not be used for biting for 1 day (i.e. 24 hours)

SCALING

This is the treatment we do in cases of gingivitis and periodontitis. It is the scraping away of calculus and dental plaque around the teeth.



Why We Do Scaling:

Scaling a person's teeth gives infected gums chance to become normal again. When the calculus and the bacterial plaque are removed the swelling goes away and the gums become healthy again.

Remember:

GUMS REMAIN HEALTHY ONLY WHEN THE TEETH BESIDE THEM ARE CLEAN
THEREFORE, SCALE THE PERSON'S TEETH AND ALSO TEACH HIM HOW TO
KEEP THEM CLEAN.

Instrument: Needed:

1. mouth mirror - A small mirror used in the mouth so you will see the teeth and calculus.
2. probe - Used for checking the calculus under the gum.
3. tweezers - Used for holding the cotton when drying the teeth from saliva.

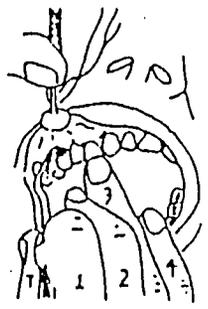
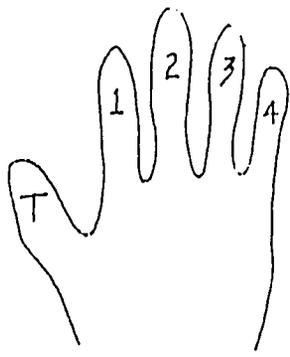
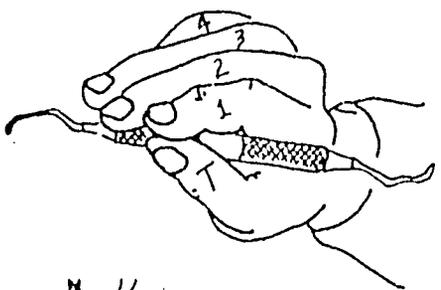
4. scaler - The special instrument used in scaling. It usually has two ends. One end is bent to the right and the other is to the left so you can easily reach all sides of the teeth.

Note:

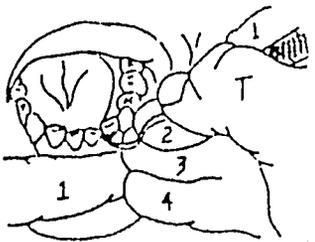
The blades of the scaler are the most important parts. They are sharp and should be kept sharp. They can be sharpened by using a smooth sharpening stone.

SHARP BLADES WILL BREAK THE CALCULUS BETTER THAN BLUNT BLADES.

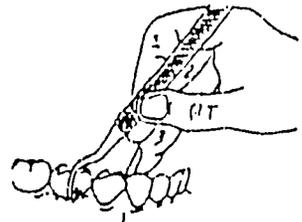
How To Hold The Scaler:



FOR AN UPPER TOOTH



FOR A LOWER TOOTH



Hold the scaler as if you are holding a pen. The thumb, finger number 1 and finger number 2 should be holding the scaler while

finger number 3 rests on a tooth for support. With this, you will be able to pull the calculus with power and control.

CONTROL is very important in scaling. The blades of the scaler are sharp and can destroy tissues in the mouth that they hit when your movements are not controlled.

When scaling always keep the tip or end of the blade close to the side of the tooth to avoid hitting the gums. The third finger should always rest against a tooth. This will steady your hand and allow controlled, smooth movements.

How To Recognize Calculus:

Calculus is hardened dental plaque. It is formed on the surfaces of teeth that are not easily cleansed, usually around the neck of teeth near the gums.

Calculus can be:

- supragingival - formed above the gingiva and is easily seen
- subgingival - formed behind the free gingiva and is not usually seen.

Calculus can be black, greenish black, brown or yellowish in color.

There are 3 areas in the mouth where calculus usually accumulate:

1. Lingual of lower incisors
2. Buccal of upper molars
3. Lingual of lower molars

Steps To Follow In Doing Scaling:

1. Before you start doing the scaling, explain to the patient what is his problem and what you are going to do.
2. Prepare your instruments.
They should be sterile. Scalers should always be sterile.
3. Feel under the gum for rough spots.
Do this gently so it will not be painful.
Calculus usually form under the free gingiva. That is why often you must feel rather than see calculus when you do scaling.
4. Once you feel the calculus, go beneath it and position your scaler so you can remove it when you pull the scaler.

5. Be sure the tip of the blade is not facing the gums. You can easily injure the gums if you are not careful.
6. Scale every side of the tooth. Start from one end of the jaw to the other.
7. Check under the gum with an explorer to make sure that there is no more calculus under the gums.

DO NOT HURRY! IT IS MORE IMPORTANT TO TAKE TIME AND REMOVE ALL THE CALCULUS.

If you leave some calculus, they will serve as rough spots where where dental plaque can easily build up.

If the patient needs more cleaning like when the gums are too swollen and it is not possible for you to remove all the calculus, recall the patient after one week.

Important:

SCALE A PERSON'S TEETH ONLY WHEN HE WANTS TO KEEP THEM CLEAN.

If he does not want to keep his teeth clean, calculus will form again, so do not waste your time in doing the scaling.

PREVENTIVE DENTISTRY

Prevention is taking measures to prevent a disease from coming. "An ounce of prevention is better than a pound of cure." This saying is very much applicable in the area of dental health.

It is a fact that 90% of the most common dental problems i.e. dental decay and gum diseases can be prevented. The problem is people do not know what causes the problems and how to prevent them.

There are several reasons why prevention is important:

1. Common dental diseases are preventable.
2. The destruction caused by these diseases are usually irreversible.
 - > Enamel and dentin do not grow back to cover a cavity in a tooth.
 - > Bone resorbed in gum diseases does not grow again.
3. Preventive measures when practiced saves the people from the pain and destruction caused by the diseases.
4. It saves people's money.
Money that is spent on expensive medicines can be saved or used for buying food for the family.
5. It saves peoples teeth.
When teeth are well cared for, they stay healthy in the mouth and you can use them until you are old.

Remember: NATURAL TEETH ARE BETTER THAN FALSE PLASTIC TEETH.
THEY ARE BETTER FOR CHEWING AND ALSO SPEAKING.
6. Dental infections can affect general health.
An infection from the mouth can spread to other parts of the body.
7. Dental infections can cause bigger problems in people with other medical problems such as gastric ulcers, asthma diabetes mellitus.

When To Teach About Preventive Dentistry:

1. You can do a chairside dental health education.

TAKE TIME TO TALK TO YOUR PATIENTS ABOUT THEIR DENTAL PROBLEMS.

People are usually more willing to listen to suggestions on how to prevent dental problems when they are having problems with their teeth or gums.

2. You can teach a group of people.
For example, people waiting for their turn at your OPD are a good captive audience. You can give a 5-10 minute talk on a dental topic like oral hygiene to make them more conscious about their dental health.
3. When you are talking to a group of friends in the community where you serve, you can make dental health as one of the topics of conversation.

HOW YOU TEACH IS JUST AS IMPORTANT AS WHAT YOU TEACH

1. USE SIMPLE WORDS.
People will not learn if you use words that they do not understand.
2. KEEP YOUR MESSAGE SIMPLE AND TO THE POINT.
Too many words can be confusing and people will not remember what you have said.
3. ENCOURAGE PEOPLE TO TALK OR ASK QUESTIONS.
Some people may have ideas or questions regarding dental health and it is good to have them expressed. You and the others can learn from them.
4. REPEAT THE MOST IMPORTANT MESSAGE.
Repetition makes people remember better.
5. IF POSSIBLE USE VISUAL AIDS SUCH AS PICTURES.
Visual aids help keep people's attention and help them understand and remember what has been taught.

In doing health education, your aim is not only to teach but also to motivate. You would want people not only to listen to you but to be motivated so they will do what you have taught them.

YOU CAN ONLY MOTIVATE PEOPLE WHEN YOU YOURSELF BELIEVE AND PRACTICE WHAT YOU TEACH.

What To Teach:

- A. Why teeth are important.
- B. The cause, signs and symptoms of common dental problems.
- C. The preventive measures that they can take.

Expected Results:

When you increase people's awareness on dental health-

- They will learn to seek treatment as they recognize their problems
- They will take care of their teeth when they realize the benefits i.e. when they realize that it is for their own good.