

# **General Surgery for Dental students**

## **Stage 3**

**“Introduction to clinical surgery, and general principles of patient assessment.**

Dr. Adil Tawfeeq

17 Of Oct. 2022

# Surgery

**Definition:-** Surgery is a type of medical treatment, usually performed by doing wound to the patient body for excision, inoculation, repair, readjustment, of organ or a tissue, and for sampling and drainage.

# Surgical diagnosis

**Surgical diagnosis** is based on sound knowledge of anatomy, physiology & pathology, a specific history & exam with confirmation by Lab. Investigations, imaging & operative surgery.

# The surgical management

Surgical management of the patient becomes ideal by, emergency resuscitation, preoperative preparation, skilled surgeon for operation, and postoperative care.



# Surgical concept for operation

We have to consider the benefit of the patient from the operation & the mortality & morbidity if left untreated.

# Surgical history

History of the complaint is the key in surgical diagnosis.

History of 2 types:

- 1-Outpatient ( emergency) history: where specific complaint of the patient is pinpointed. The object is to obtain diagnosis & assess treatment planned.
- 2-History for elective surgery

# The clinical examination

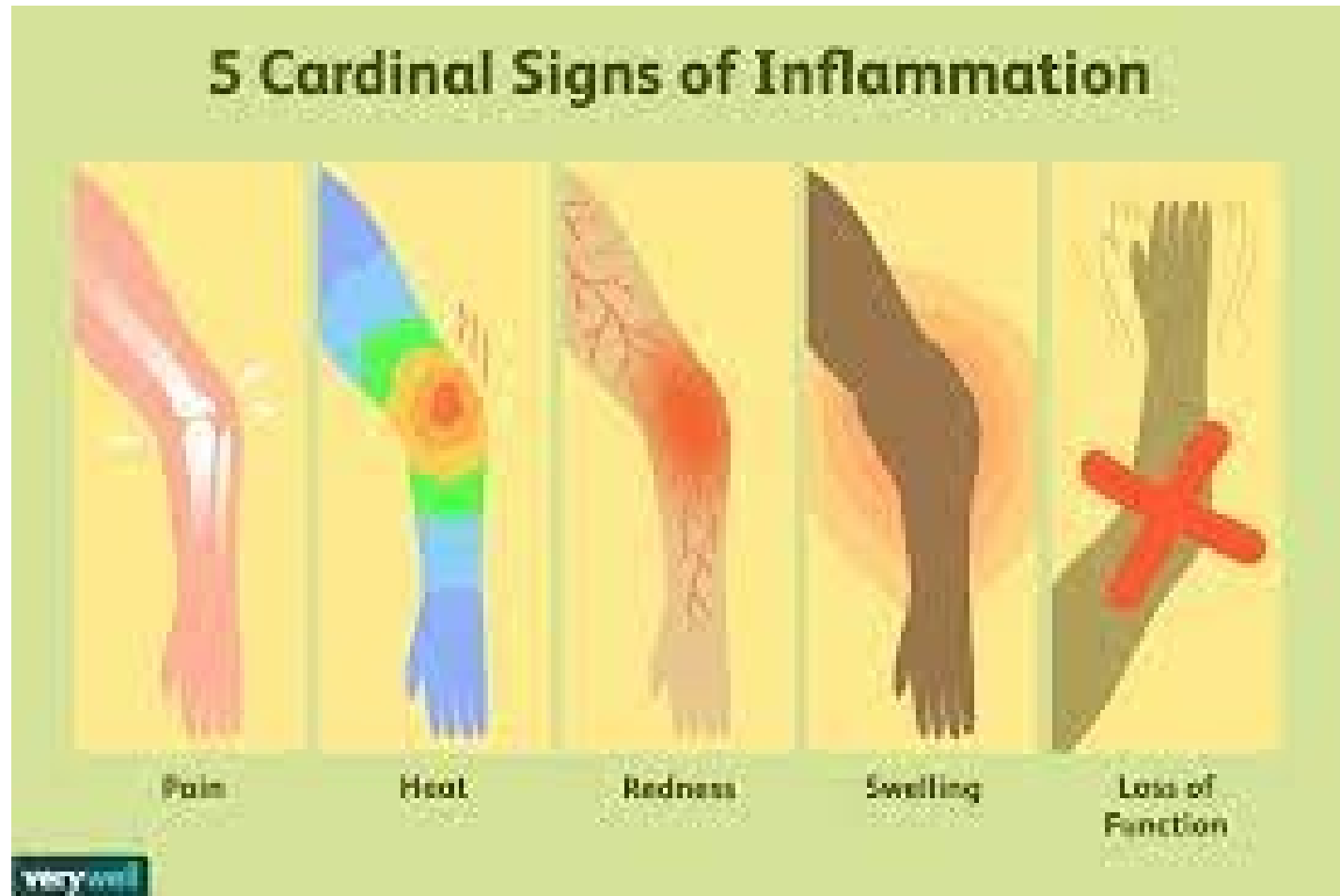
The clinical examination including

1- general examination .

and

2-local examination.

# Cardinal signs of inflammation



# Cardinal signs of inflammation

Redness  
Swelling  
Tenderness  
Hotness  
Loss of function



# General principles of patient assessment

- 1- general appearance of the patient.
  - fatty
  - short like dwarfism.
  - long like a giant.
  - Macrogathia or miecrognathia.
  - Down syndrome.



Figure 4 - Profile Clinical Images: A) pre-operative; B) post-operative.

# General principles of patient assessment

- 2. Things to be noticed important for proper assessment of the patient .
  - colour of the skin and sclera.
  - colour of the lips and tongue.



# General principles of patient assessment

- 3. Eyes .
  - exophthalmos
  - lid lake.
  - normal.





# General principles of patient assessment

- 4. Hair distribution.
  - Hirsutism.
  - Alopecia.



# General principles of patient assessment

- 5. Smell.
  - normal.
  - bad smell of the body .
  - halitosis ( bad breath) caused by decomposed food between teeth, gingivitis, atrophic rhinitis, growth of nasal passages

# General principles of patient assessment

- 6. psychological status .
  - anxiety
  - relax
  - respiration
- 7. Asking important questions.
  - bleeding tendency
  - aspirin taking
  - medical history ( diabetes and hypertension )
  - history of accidents
  - drug history ( anti-epileptic and antidepressant )

# General principles of patient assessment

## 8. General question

- ✓ -drug allergy
- ✓ -Smocking
- ✓ -alcoholic

## 9. Age of the patient

# Pre intervention investigation

- 1-HIV (human immunodeficiency virus)
- 2- Hepatitis B
- 3- Hepatitis C
- 4- **PCR( polymerase chain reaction ) test for COVID-19.**

The end

- Thank you

# Case sheet in surgical patient & history taking

L.2-3 for Medical Dental Students

Stage 3

25<sup>th</sup> of Oct. 2022 - Dr. Adil Tawfeeq

# Case sheet in surgery

- Case sheet is something and history taking is something else.
- Case sheet is a form which can be filled by the sub-staff, while the history taking should be and mandatory done by the doctor.
- Case sheet including
  - Name
    - \*Marital state
  - Date of birth
    - \*Blood group & RH
  - Sex
  - Occupation
  - Address and Mobil No.



# Principles and ethics

- Stand on the right side of the patient.
- High confidence.
- Introduce yourself.
- Be gentle with the patient.
- Speak clearly.
- Don't hurt the patient in any way.

# What is the purpose of the history?

- The primary aim of the history is to establish a list of differential diagnoses based on the patient's history of presenting complaint and risk factors.
- The second aim is to determine the patient's medical, social and functional background, which would guide further therapy and management.

# History taking

- History taking including
  - 1. The chief complaint and duration.
  - 2. History of present complaint.
  - 3. Review of systems.
  - 4. Past medical & surgical history.
  - 5. Drug history.
  - 6. Personal and social history.    7. Menstrual history in females.

# The chief complaint (C.C.) & duration

- Concentrating upon the main cause that made the patient get attend the hospital or the clinic.
- Avoid the medical terms.
- Should be symptoms and not a signs.
- The signs observed by the doctor.
- • Symptom 1 duration
  - Symptom 2 duration
  - Symptom 3 duration

# Examples of the medical terms

- You should write
- Increased body temperature and not a fever.
- Difficulty of swallowing and not a dysphagia.
- Shortness of breath and not dyspnoea .
- Swelling and not edema.
- Bleeding nose and not epistaxis.

# History of presenting complaint (HPC) or (History of present illness)

- It is the main part of the history
- Avoid medical terms
- Avoid leading questions
- In this part you should discuss the system that the chief complaint belongs to

# How to start present illness

- By two ways

A. If the patient has chronic condition

You will write:- the patient is a known case of ..... for duration

B. If the patient has an acute condition

You will write:- the condition started when the patient (suddenly or gradually) complained of .....

# What are the questions to ask

- If the patient is suffering of pain
  1. site of pain & degree of pain .
  2. intermittent or continuous.
  3. Radiation.
  4. Associated symptoms.
  5. Aggravating and reliving factors.



# What are the questions to ask

- If the patient is suffering of headache.
  1. Character of pain(throbbing or dull) and the frequency.
  2. History of head injury.
  3. history of hypertension.

# What are the questions to ask

- If the patient is suffering of medical condition like shortness of breathing ( dyspnoea ).
  1. Sudden or gradual.
  2. Degree of distress.
  3. Associated with cough, sweating, or palpitation.
  4. Is the patient free of symptoms in between attacks.

# Review of systems

- A systems review in history taking, involves performing a brief screen for symptoms in other body systems which may or may not be relevant to the primary presenting complaint. A systemic review may also identify symptoms that the patient has forgotten to mention in the presenting complain.

# Review of systems

In the review of systems you have to

- 1. Exclude the system that involved in present illness.
- 2. You can use medical terms.
- 3. you can use leading questions.

# Review of systems

- A. Cardiovascular system.

Q.s about :- Chest pain, dyspnoea, edema, epistaxis, bleeding under the skin, claudication, and calf muscle pain.

# Review of systems

- B. central nervous system ( CNS )

Q.s about :- Headache, blurred vision, diplopia, convulsion,  
loss of consciousness, and abnormal movement.

# Review of systems

- C. Respiratory system

Q.s about :- Cough, Sputum, Dyspnoea, and chest pain.

## D. Urinary system

Q.s about :- Loin pain and its radiation, dysuria, urgency, frequency, burning micturition, and the volume of urine.

# Review of systems

E. Gastro-intestinal Tract ( GIT ) or The digestive system

Q.s about :- Appetite, nausea, vomiting, dysphagia, heart burn, abdominal pain, abdominal distention, diarrhoea, constipation, melena, and pain on defecation.

F. Locomotor system.

Q.s about :- Arthralgia, myalgia, bone pain, disturbance of gait, and joint swelling.



# Past medical & surgical history

- Is there any history of previous hospitalization?
- admissions/operations/illnesses.  
Is there a history of diabetes mellitus and hypertension or an chronic
- disease?
- Is there a history of irritable bowel disease ( IBD ) ?
- Is there a history of any gynecological problems?

# Social & personal history

- To focus on :-
- Smoking
- Alcohol
- Overseas travel history, Has patient taken time off work?  
How do the symptoms interfere with your life?
- Occupation

# Drug history

- What medications are you currently taking?
- Why are you on that?
- Anticoagulant or antiplatelet agents: warfarin, heparin, aspirin, contraceptive pills ( in case of females ).

Any drug allergy?

# Family history (FH)

- • Relevant hereditary conditions

# Menstrual history in case of Female

- Are you in menses?
- Any pain or sever discomfort before menses?
- Amount of menses?
- Regular or irregular?

The end

- Thank you for attention

# General surgery for Med. Dental students stage 3

- Lecture 4
- Postoperative care & management
- Monday 31 of Oct.2022
  
- Dr. Adil Tawfeeq

## Postoperative Care

Definition :- Postoperative care is the care you receive after a surgical procedure.

The type of postoperative care depend on the type of surgery, past medical history, age of patient, and whether the operation in the hospital or at the clinic .

Postoperative care is aimed at meeting the patient's physical and psychological needs directly after surgery.

# Postoperative management

Post-Operative Management is the management of the patient after surgery. This includes care given during the immediate post operative period, both in the operating room and the post anesthesia care unit (PACU), as well as the days following surgery.

## Postoperative management

- The type of postoperative management depends on the type of surgery, age of the patient, as well as the health history. It often includes pain management and wound care.



# Postoperative care

- Pain management :- 1.Linear assessment tools :- In acute pain always ask the patient about the severity of the pain with a scale from 0 to 10 then the analgesia will be given accordingly.
- 2.Patient controlled analgesia :-  
Epidural analgesia  
- advantages & disadvantages.

## Types of anesthesia & analgesia

### Types of anaesthesia

1. General anaesthesia.
2. Local A.
3. Regional A.
4. Block A.
5. Spinal A.
6. Epidural A.

### Types of analgesia

Morphine, Pethidine, Tramale, and NSAID (non steroidal anti-inflammatory drugs).

## The corner stone of p.o.c.

- The Vital signs in post op. period are the most important things to be done.
- They are the leading signs for any vital changes.
- including the ( respiration, pulse rate, blood pressure, & temperature).

## Postoperative care in Phases

- What are the phases of post operative care?
- The recovery from major surgery can be divided into three phases:
  - (1) an immediate, or post anesthetic, phase; (2) an intermediate phase, including the hospitalization period; and (3) a convalescent phase.

# What are the House Officer interventions for a postoperative patient?

The care interventions include

1. Monitoring vital signs, airway patency.
2. Neurologic status of the patient, managing pain, and assessing the surgical site.
3. Assessing and maintaining fluid and electrolyte balance.
4. Providing a thorough report of the patient's status to the receiving doctor on duty, as well as the patient's family.

## What are the classical things you have to look for in the post operative period with the patient?

The classic list consists of :- Asking the patient about passing Water and wind, Walking, and Drugs received in time.

There is a characteristic timeframe after surgery when many of these complications tend to develop (postoperative days).

Important instructions for the patient on discharge from the hospital

# Having home care is important, because of the

1 • . •

## Self-care Tips after surgery & on Discharge of the patient

- Take your medication to control pain, (The doctor will prescribe medication to help control pain at home).
- Follow your doctor's instructions for incision care.

Ease into activity.

- Look for signs of a blood clot.

Be patient with yourself.

Thank you

# General surgery for 3rd class dental students

Surgical nutrition

L.5

7th of November 2022

Dr. Adil Tawfeeq

## The aim of nutrition

- The aim of nutritional support is to identify patient at risk of malnutrition and to follow the best route for them to minimise complications.

# Surgery and nutrition

- Up to 40% of patients lose weight following surgery.

- **Lose of Wt. may be due to:-**

1. Vomiting
2. Diarrhoea
3. Dumping
4. Early satiety(feeling full after eating a very small amount of food)
5. Malabsorption
6. Bacterial overgrowth

## Surgical Complications

➤ Up to 60% of patients lose wt. Because of post operative complications.

➤ Major trauma , burn, super major surgery, and sepsis are critical

Illness which have high effect on patient recovery and may need

Nutritional support, otherwise will be followed by clear lose of weight.

# Serum Albumin

- **Low serum albumin affects:-**

- A.           Wound healing
- B.           Lead to dehiscence of the surgical wounds
- C.           Infection become more common

## Vitamins and minerals

- Vitamin C and Vitamins B are essential for collagen synthesis.
- Zinc is co-factor for important enzymes involved in healing, its deficiency retard healing .



# The Calorie intake

- The daily caloric intake in adults can be calculated at
- 20-30 Cal/Kg Body-Wt. /day
- In case of burn, add 70 Cal/percent burn to daily requirement.
- Protein intake is 1g/kg Body-Wt., plus 3g/percent burn.
- Vitamins supplements and iron must also be provided.
- Its undesirable to use parenteral nutrition in burn patient.

# Glucose and Fat

1- Glucose requirement of adult human being is :

**2 gm /kg Body-wt. /day.**

2- Fat : Dietary fat is composed of Triglycerides of long chain fatty acids.

- Energy during parenteral nutrition should be given as Mixture of Fat together with glucose.
- Basal requirement for glucose is ( 100-200g /day).
- The essential fatty acid is 100-200g / week.

# Proteins and Vitamins

- The basic requirement for Nitrogen (pure protein) is  
0.10-0.15 g/kg /day.

## Vitamins ,minerals and trace elements

like *Vitamins B & Vitamin C* (water soluble **vitamins**)

Act as co-enzymes in collagen formation and wound healing

Fat soluble vitamins *like A,D,E, and K* are reduced in the absence of Bile,

*Sodium (Na),Potassium( K) , and phosphate* (are prone to losses in patient with diarrhoea and vomiting).

Trace elements like *Magnesium ,Zinc and iron* supplementation is necessary

# Metabolic response to starvation

- Low plasma insulin
- High plasma glucagon
- Hepatic glycogen-lysis
- Protein catabolism
- Hepatic glucone-genesis, water soluble vitamins
- Lipolysis (Mobilization of fat )
- Adaptive ketogenesis
- Reduction in resting energy expenditure.

# Metabolic response to Trauma and sepsis

- Increased adrenaline ,Noradrenaline ,cortisol, glucagon and growth hormone.
- Increased energy requirements, up to 40 Cal /kg /day.
- Increased Nitrogen requirements
- Insulin resistance ( glucose intolerance)
- Oxidation of Lipids
- Increased protein catabolism
- Fluid retention with hypoalbuminemia

## Simple method of assessing nutritional status

- 1. Estimate body weight lose
- 2. Body mass index BMI , Less than 18.5 indicate nutritional impairment ,if BMI is less than 15 , it will be associated with significant hospital mortality.

$$\text{BMI} = \frac{\text{weight in kg}}{\text{height in meter square}}$$

# BMI

- BMI < 18.5 means the person is under weight
- BMI = 18.5-24.9 means the person is normal
- BMI = 25 - 29.9 means the person is over weight
- BMI > 30 means the person is obese

## The average water Balance of healthy adult:

- The average water Balance of healthy adult is:

<b>Urine output</b>	<b>1500 ml</b>
<b>Insensible losses</b>	900 ml
<b>faces</b>	100 ml
<b>Water intake as beverage</b>	<b>1200 ml</b>
Water from food	1000 ml
Water from oxidation	300 ml

# Nutritional supply

1. Naturally per mouth
2. Intravenous fluid for short stay in hospital
3. Nutrition through Nasogastric tube
4. Nutrition through enterostomy
5. Parenteral nutrition for long stay in hospital ( nutrition given intravenously).

## Total Parenteral nutrition

- Total Parenteral nutrition defined as:  
giving all nutritional requirements by means of the intravenous route  
without the use of gastrointestinal tract.

# Indication of nutrition and fluid therapy

- 1. Pre operative nutritional problems.
- 2. Post operative complications.
- 3. Major maxillofacial trauma.
- 4. Burn.
- 5. Intractable vomiting.
- 6. Malignant disease.
- 7. Anorexia nervosa.
- 8. Massive bowel resection.

## Complications of Total Parenteral nutrition

1. Hypoglycemia and hyperglycemia
2. Hypocalcaemia
3. Hypophosphatemia
4. Hyperosmolar dehydration
5. Hepatic affection
6. Fluid retention
7. Sepsis (catheter related)
8. Venous thrombosis

- The end

# Thank you

# Alnoor University

## Medical Dental Students Stage 3

### General Surgery

### Lecture 6

### Surgical

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## Surgical Infection

## (surgical site infections)

## SSI

**Definition:- an infection that occurs after surgery in the part of the body where the surgery took place.**

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## **Types of surgical site infections(SSI)**

- Superficial incisional SSI. This infection occurs just in the area of the skin where the incision was made.
- Deep incisional SSI. This infection occurs beneath the incision area in muscle and the tissues surrounding the muscles.
- Organ or space SSI.

## **surgical site infection classification**

- **Clean surgical site infection.**
- **Clean-Contaminated surgical site infection.**
- **Contaminated surgical site infection.**
- **Dirty/Infected Surgical site infection.**

# surgical site infection risk factors

- Having surgery that lasts more than 2 hours.
- Having other medical problems or diseases.
- Being an elderly adult.
- Being overweight.
- Smoking.
- Having cancer.
- Having a weak immune system.
- Having diabetes.

## Factors contributing to surgical site infection

- Include prolonged procedures and inadequacies in either **the surgical scrub** or the antiseptic preparation of the skin. Physiological states that increase the risk of SSI include trauma, shock, blood transfusion, hypothermia, hypoxia, and hyperglycemia.

# Causes of surgical site infection

- Infections after surgery are caused by **germs**. The most common of these include the bacteria Staphylococcus, Streptococcus, and Pseudomonas.

# The symptoms of surgical site infection

- Pus or drainage.
- Bad smell coming from the wound.
- Fever, chills.
- Hot to touch.
- Redness.
- Pain to touch.

# Picture of surgical site infection



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# Picture of surgical site infection



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# surgical site infection treatment

- Most surgical site infections can be treated with **antibiotics**. The antibiotic given to patients depends on the bacteria (germs) causing the infection. The germs(bacteria) identified by Culture and sensitivity.
- Sometimes patients with SSIs also need another surgery to treat the infection, **treatment** often involves opening the **wound**, evacuating pus, and cleansing the **wound**. The deeper tissues are inspected for proper assessment.

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## Prophylaxis antibiotics for preventing SSI

- The most common prophylaxis antibiotics used in adult to prevent surgical infections are:-
  - first generation cephalosporin ( Cefazolin )
  - second generation cephalosporin ( Cefuroxime )
  - third generation cephalosporin ( Ceftriaxone )
  - vancomycin
  - gentamycin

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# Antibiotic Prophylaxis to Prevent Surgical Site Infections

Surgery	Common pathogens	Recommended antimicrobials*
Orthopedic	S. aureus, coagulase-negative staphylococci	Cefazolin, cefuroxime sodium, or vancomycin
Vascular	S. aureus, coagulase-negative staphylococci, enteric gram-negative bacilli	Cefazolin or vancomycin

## Some details about bacteria causing SSI

- Coagulase-negative Staphylococci are a type of staph bacteria that commonly live on persons skin.

It is harmless to the persons when the skin is in tacked, but causing infection when it inters inside the body.

The types of coagulase negative

# Some details about bacteria causing SSI

- Gram-negative bacilli are a members of family called ( Enterobacteriaceae ), including:-
  - Escherichia coli ( E. coli )
  - Klebsiella
  - Proteus
  - Enterobacter
  - Morganella

## Prophylaxis antibiotic before Surgery

- Prophylaxis antibiotic reduces the incidence of surgical wound infection. Prophylaxis is uniformly recommended for all clean-contaminated, contaminated and dirty procedures. It is considered optional for most clean procedures, and indicated for certain patients and clean procedures that fulfill specific risk criteria. Timing of antibiotic administration is important. The first dose should always be given before the procedure, preferably within 30 minutes before incision. Re administration at one to two half-lives of the antibiotic is recommended. In general, postoperative administration is not highly recommended in clean surgical wounds.



# prevention of surgical site infection

- **Many hospitals take these steps to help prevent surgical site infections:**
- Hand washing ( by soap and antiseptics ).
- Clean skin ( by antiseptics ) pre operative.
- Sterile clothing and drapes.
- Clean air ( by special air filters ).
- Careful use of antibiotics.
- Controlled blood sugar levels.
- Controlled body temperature.
- Proper hair removal.

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## The end



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# General surgery for Dental

## 3rd class

## Surgical Infections II

Alnoor university

Dental M. Students

3rd class

Lecture 7, on Monday, 21-Nov.-2022

Dr. Adil Tawfeeq

## Surgical site infection



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# Sources of infection

1. Primary or endogenous source :- such as following perforated peptic ulcer .
2. Secondary or exogenous source :- Acquired from the operating theatre or from the ward or from contamination at or after surgery

## Spread of infection

Spread of infection is either by:-

A. Self infection :- The infection is either

- 1. Locally: like Cellulitis, and Abscess.
  - 2. Regionally: like Lymphangitis.
  - 3. Systemically:— by the blood stream like bacteremia, septicaemia, and pyemia.
  - -body cavities infection called peritonitis, infection of the meninges called meningitis, infection of lymphatic system called lymphangitis.
- B. Cross infection :- The infection spreads from one patient to another.

# Cellulitis

- Cellulitis: is nonsuppurative invasive infection of the subcutaneous (s.c.) tissue, spreading along the s.c. fascial planes & cross the intercellular spaces. Caused by Beta hemolytic streptococci, which has entered the tissue through an accidental wound, graze, scratch or following surgical incision.
- Clinical presentation:- wide spread swelling, redness, pain without definite localization, itching & stiffness of the site & suppuration may occur later on if not treated.

## Cellulitis affecting the



# Abscess

- Abscess :- is a collection of Pus that has built up within the tissue of the body. Pyogenic organism, predominantly *Staphylococcus aureus*, cause tissue necrosis and suppuration.
- **The clinical presentation:-** 1. The symptoms:- depend on the site , size, tension of abscess, & virulence of the microorganism.  
2. The signs:- a. general :- Elevation of temperature , rigor, generalized illness, throbbing pain and swelling.  
b. Local :- Are the signs of inflammation (hotness, redness, swelling, pain, and loss of function).
- Treatment :- drainage of the pus. culture & sensitivity test. Proper A.B.

## Root abscess as an example



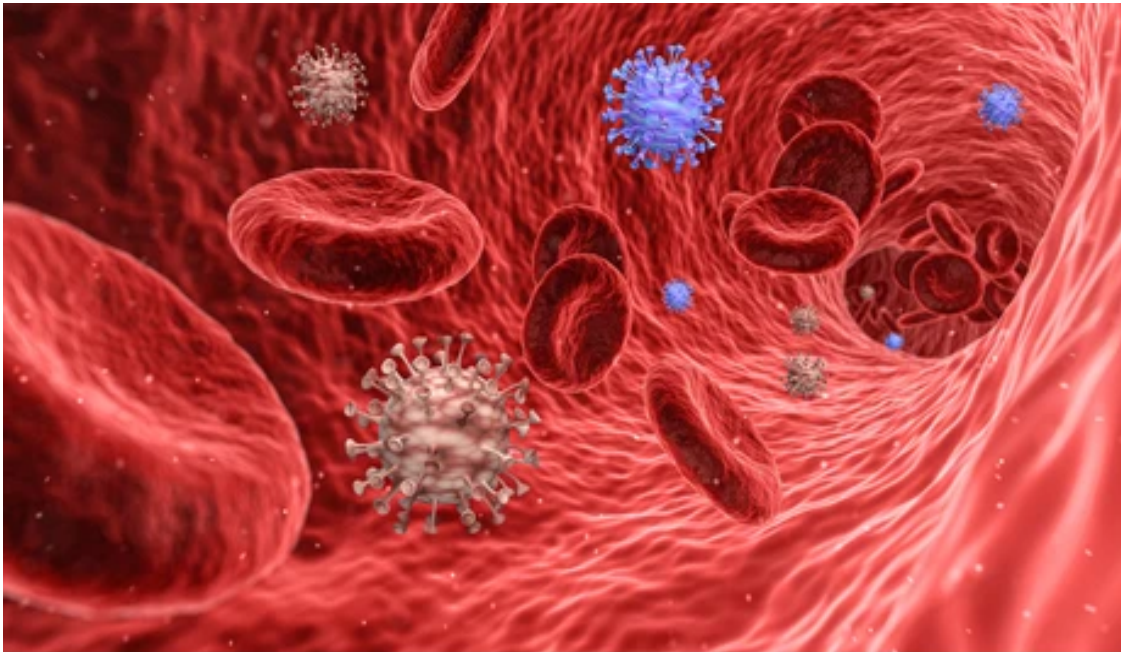
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# Bacteremia

Bacteremia:- the presence of viable bacteria in the bloodstream as proved by blood culture without indication of toxemia or clinical features.

- **The causes of bacteremia are:-** follow dental procedure, pyelonephritis, and major trauma.
- **The Complications:-** multiple metastatic abscess in the distal organs which need treatment.

## Bacteremia



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# Septicemia

- **Septicemia:-** The presence of bacterial toxins in the bloodstream, due to the proliferation of the pathogenic bacteria.
- **Routes by which the bacteria reach the blood:-**
  1. Direct through the blood vessels.
  2. Release of infected thrombi following thrombosis of blood vessel in the area of inflammation.
  3. Discharge of infected lymph into the blood following lymphangitis.

# Pyemia

- **Pyemia:-** The circulation of pus in the bloodstream, leading to multiple focal abscesses in many parts of the body.
- **The clinical presentation C.P.:-** Rigor & intermittent fever with abscess formation such as in the brain, bone, and liver.
- **Treatment:-** Blood for culture and sensitivity, proper antibiotics, and drainage of pus after localization by the diagnostic aids.

# Diagnosis of infection

- 1- C\P ( The clinical presentation of the case ).
- 2- laboratory investigation like CBC (complete blood count) leukocytosis, blood culture, and biopsy in case of granulomatous lesion eg; TB.
- 3- imaging: - conventional X-ray ( fluid level)
- 4- radioisotopes study ( Technetium, gallium scan)
- 5- U\S: for liver, spleen, kidney, biliary system.
- 6- C.T. Scan for brain abscess.

# Prevention of infections

**1- prophylactic antibiotics** :- when instrumentation or surgery is performed upon a site with normal flora or when infection is already exist eg: cystoscopy.

Prophylaxis antibiotic may be given IV or IM as bolus dose before the induction of anesthesia .

The antibiotics must be given half an hour before the surgery eg.: patient with

prosthetic heart valve or prosthetic graft of cardiovascular system or with a

# Prevention of infections

## 2- control of hospital infection:-

A- prevention of infection at operation ( op. theater cross infection)

a- theater design & architecture.

b- the theater best separated from the ward.

c- sterilization center also away from the theater

d- Walls smooth easy to wash & use UV light

e- good ventilation to prevent air borne infection

f- chemical antiseptic are used often to clean the op. room.

B- Prevention of infections in the ward ( by fully trained sub staff ).

## The End

## Thank you



# Alnoor University

## Medical Dental Students Stage 3

General Surgery

Lecture 8

Medical emergencies in the dental office, 1<sup>st</sup> aids and  
cardiopulmonary

Resuscitation ( C.P.R. )

Date :- 28 of November 2022

Dr. Adil Tawfeeq

# Medical emergencies

- I. Unconsciousness .
- II. Respiratory difficulties.
- III. Chest pain.

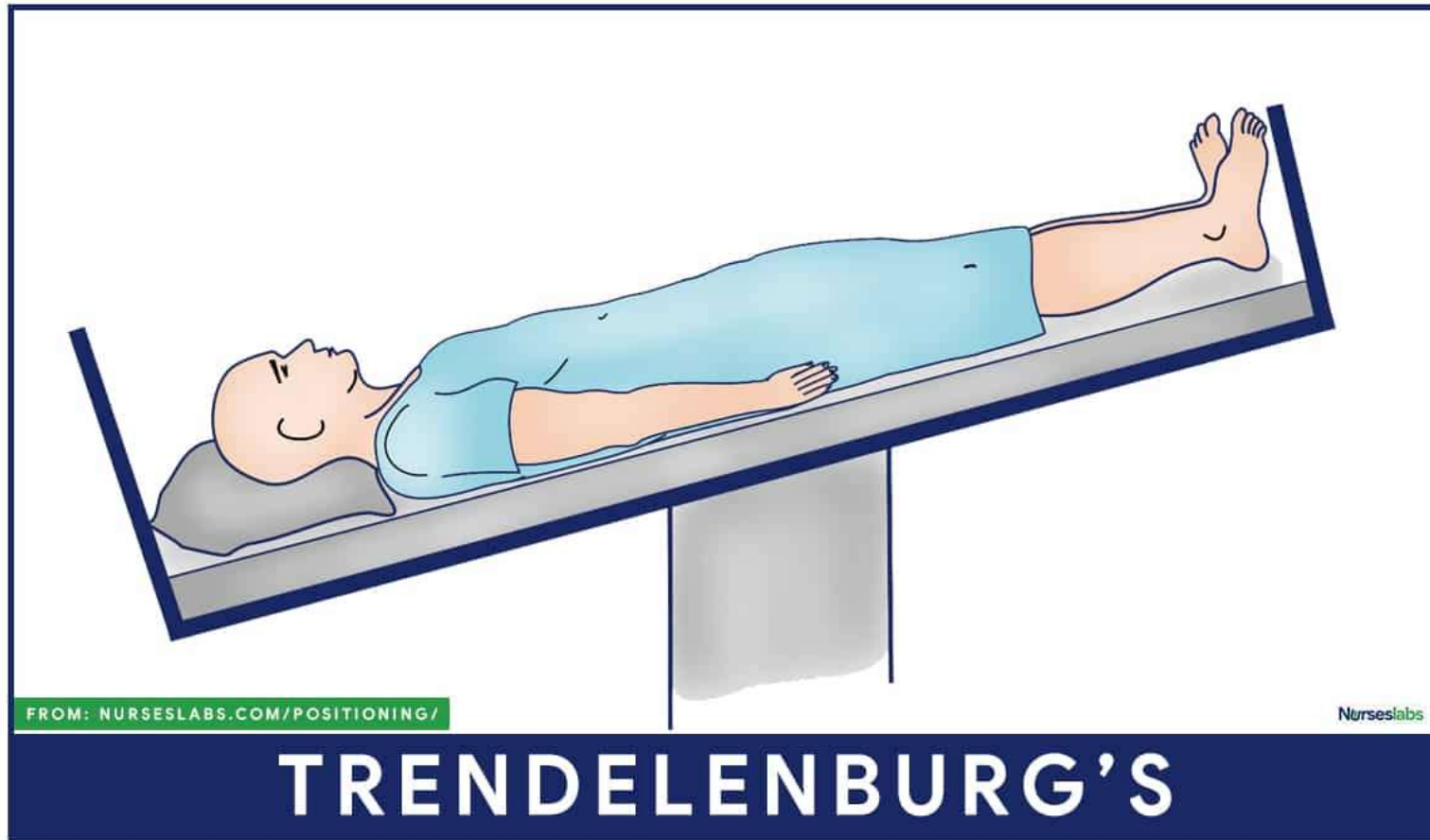
# I. Unconsciousness

- 1. Syncope
- 2. Shock
- 3. Cardiac arrest
- 4. Diabetic coma
- 5. Adrenal insufficiency
- 6. Convulsion
- 7. CVA ( Cerebro Vascular Accident )
- 8. Local anesthesia & Drug toxicity

# 1. Syncope

- - Most commonly observed potentially life threatening emergency.
- - Usually easy managed by
  - Trendelenburg position
  - Protect the airway passage
  - Monitor the vital signs
  - Oxygen may needed
  - If not resolved conservatively and the blood pressure low.
  - IV fluid ( Dextrose water, Normal saline, Ringer lactate solution)

# Trendelenburg's position



## 2. Shock

### Psychogenic

- Fright
- Anxiety
- Emotional
- Pain
- Sight of blood

### Non-psychogenic

- Prolonged sitting or standing
- Hunger
- Exhaustion
- Physically poor
- Hot humid environment

### 3. Cardiac arrest

- Cardiac arrest means, abrupt loss of heart function, breathing, and consciousness.
- Management by following the A.B.C.D. rule.
  - Airway passage patency.
  - Breathing.
  - Circulation ( start CPR ).
  - Drugs ( Ringer Lactate solution IV, Adrenaline 1mg every 5 minute, Sodium bicarbonate, Oxygen, and Atropine 0.5mg every 5 minute ).

# Cardiopulmonary resuscitation(CPR)





## 4. Diabetic coma

Blood glucose level	Diabetic emergency
800	Diabetic Coma
400	Diabetic Keto Acidosis
120	Hyperglycemia
80	Normoglycemia
40	Hypoglycemia (insulin shock)

## 5. Adrenal insufficiency (Adrenal Crisis)

- Hydrocortisone 100mg or dexamethasone 4mg.
- Adrenaline 0.5mg .
- Oxygen 10ml/min.

## 6. Convulsion

Convulsion could be due to

- Hypoglycemia
- Cerebrovascular accident (CVA)
- Epilepsy
- Drugs

The management by transferring the patient to causality hospital after resuscitation.

## 7. Cerebro Vascular Accident(CVA)

- CVA occurs due to thrombus or emboli that closed major artery in the cerebral circulation, also called STROKE

## 8. Local anaesthesia & drug toxicity

- Managed by following the ABCD rule.

Oxygen and drug antidote

## II. Respiratory difficulties

- 1. Heart failure
- 2. Asthma
- 3. Foreign body
- 4. Allergy

# 1. Heart failure

- In old age and in young with congenital anomaly, heart failure is the main cause of respiratory difficulty.

## 2. Asthma

- Respiratory airway passages allergic disease

Managed by

- Oxygen
- Hydrocortisone 100mg IV
- Aminophylline 250-500mg in the drip
- Ventolin inhaler
- In resistant and difficult cases, adrenalin 0.5mg may be needed
- Hospitalization



### 3. Foreign body

- Common cause of respiratory problem in clinical practice .  
In dental clinic, aspiration or inhalation of
  - Tooth
  - Tooth root
  - Part of an instrument
  - Saliva

## 4. Allergy

- Maintain airway, and breathing
- Oxygen
- Antihistamine ampule I.V.(intra Venous)
- Hydrocortisone 100mg I.V.
- Adrenalin may be needed

### III. Chest pain

- 1. Myocardial infarction
- 2. Angina pectoris

# 1. Myocardial infarction

- Recognition, and follow the ABC rule first.
- Oxygen 4-5L/minute using face mask.
- Monitor Vital signs.
- Pain relief (morphine or pethidine) and reduce anxiety.
- Position to comfort.
- Prepare to perform CPR(Cardio Pulmonary Resuscitation).
- Hospitalization.

## 2. Angina pectoris

- Treatment
  - Stop procedure
  - Position patient to comfort
  - Oxygen
  - Glyceryl-trinitrate (Nitroglycerin) tablet sublingual
  - If no response, transfer to ER( emergency room)

The End

Thank U



# ORTHOPAEDICS

For medical dental students  
stage 3, L. 9

5<sup>th</sup> Of December 2022

Dr. Adil Tawfeeq

# Orthopedic surgery in general

- Orthopedic surgery, is **the branch of surgery concerned with conditions involving the musculoskeletal system**. Orthopedic surgeons use both surgical and nonsurgical means to treat musculoskeletal trauma



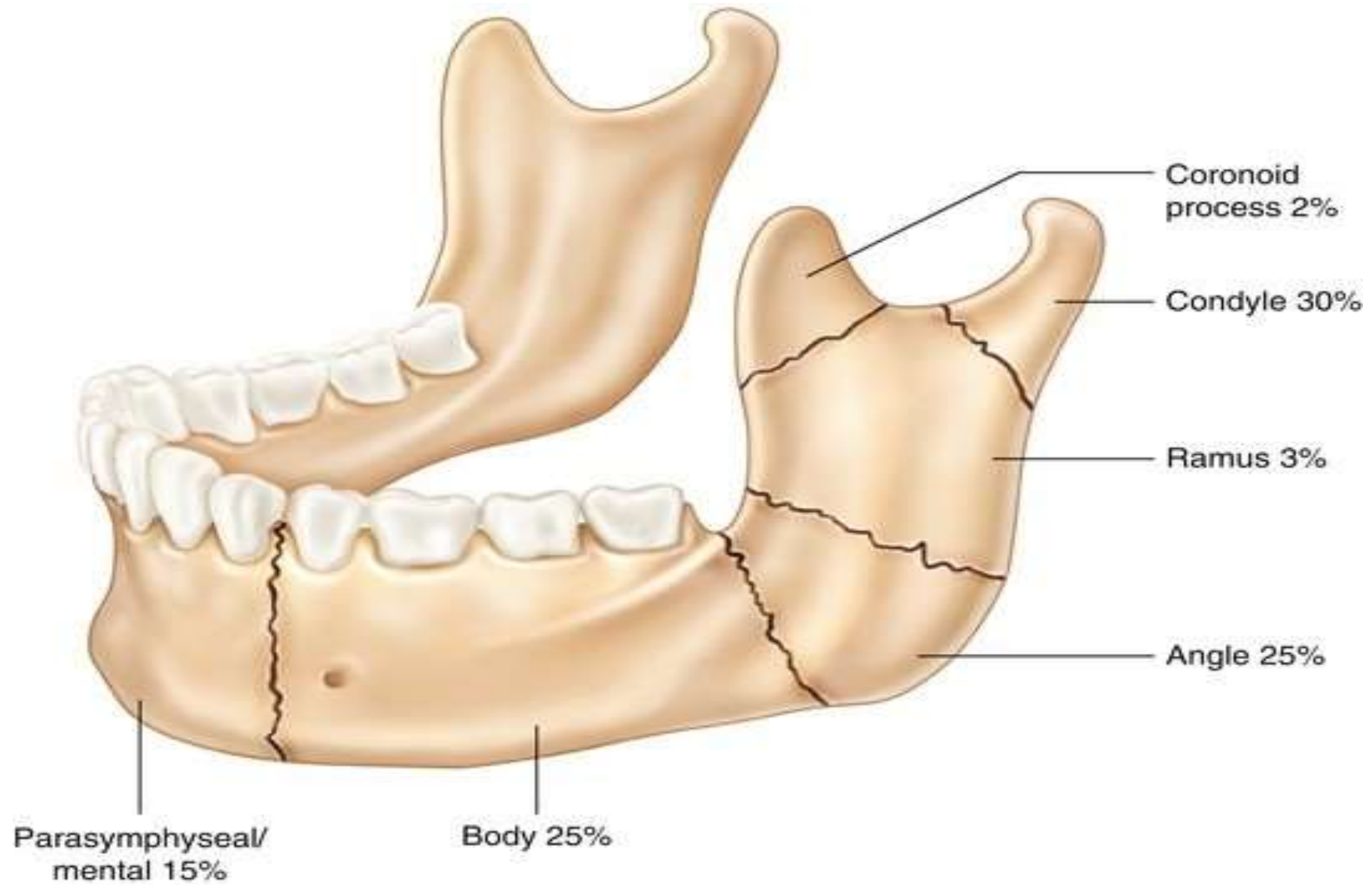
# the Most Common Types of Orthopedic Surgery

- **the Most Common types are**
  1. Soft tissue repair.
  2. Internal Fixation of Bones.
  3. Osteotomy.
  4. Joint Replacement Procedures.
  5. Debridement and Bone Fusion.

## Orthopedic surgery concerned with

- **The prevention, diagnosis, and treatment of disorders of the bones, joints, ligaments, tendons and muscles.**

## Sites of Fracture Mandible



# General considerations in orthopedic surgery

- **History and Physical Exam**

- the history and physical exam are still important in the evaluation of the patient. The chief complaint should be specified, and this must be clearly defined because it determines the direction for the rest of the history and physical examination.
- The next step is imaging and laboratory exams.



# Imaging Studies

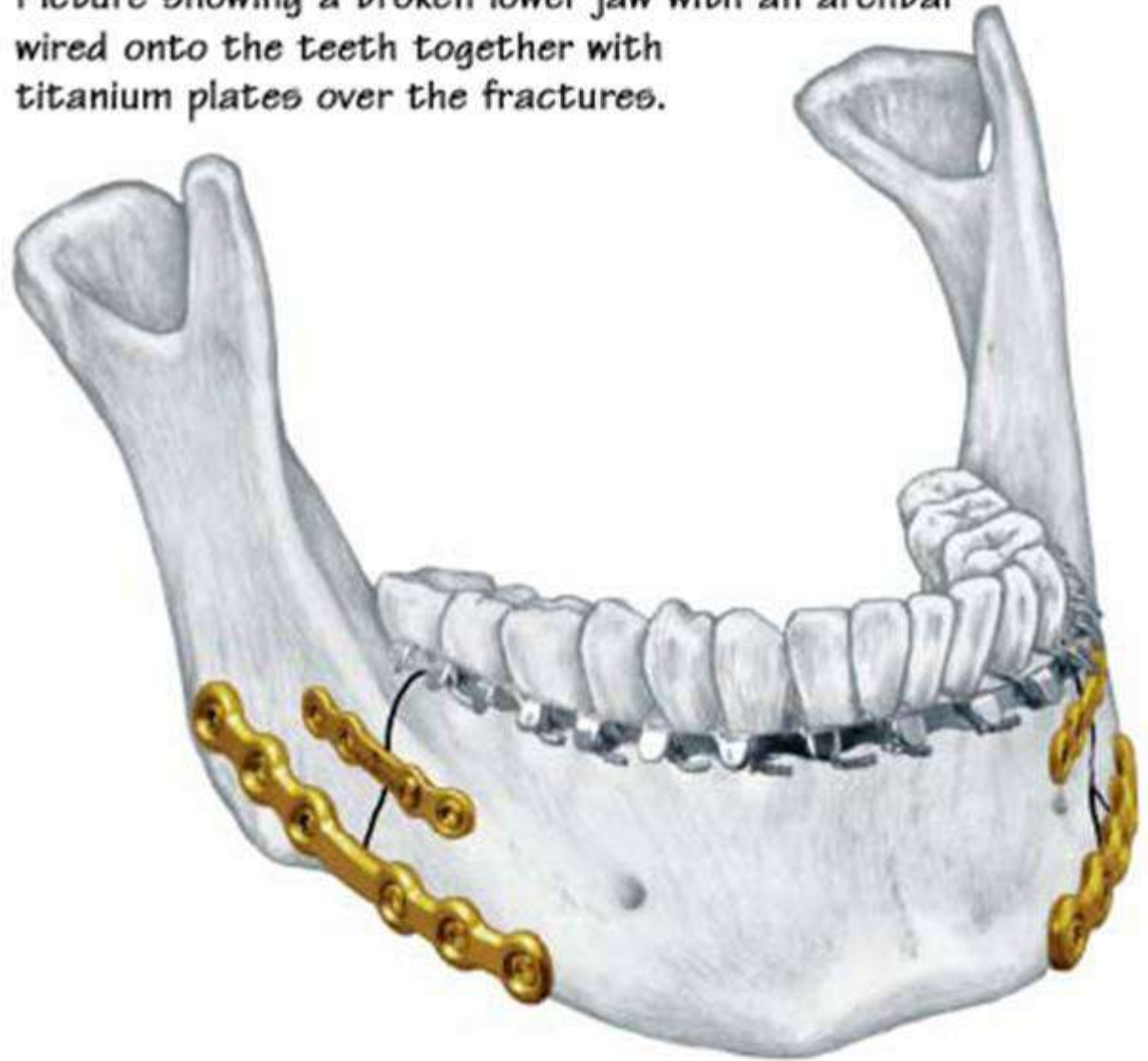
- **Roentgenography also called X-ray picture.**
- Roentgenography is still the most cost-effective and most important initial diagnostic test in the orthopedist's
- Almost every patient should have a radiograph prior to going to a more sophisticated imaging study.
- The picture should be taken in posteroanterior (PA), and lateral views.
- If those views show no information, and consideration of pathology is still present, magnetic resonance imaging (MRI) to be ordered.

# Repairing bone fractures

- Orthopedic surgery is often used to treat fractures for internal fixation by, correctly repositioning the bone/bone fragments, so that they are returned to the normal alignment.
- Orthopedic implants like plates, screws, nails, and wires are then used to secure the damaged bones. This method is commonly used when dealing with fractures like maxillary bone and mandible, or other facial bone fracture like the zygomatic bone

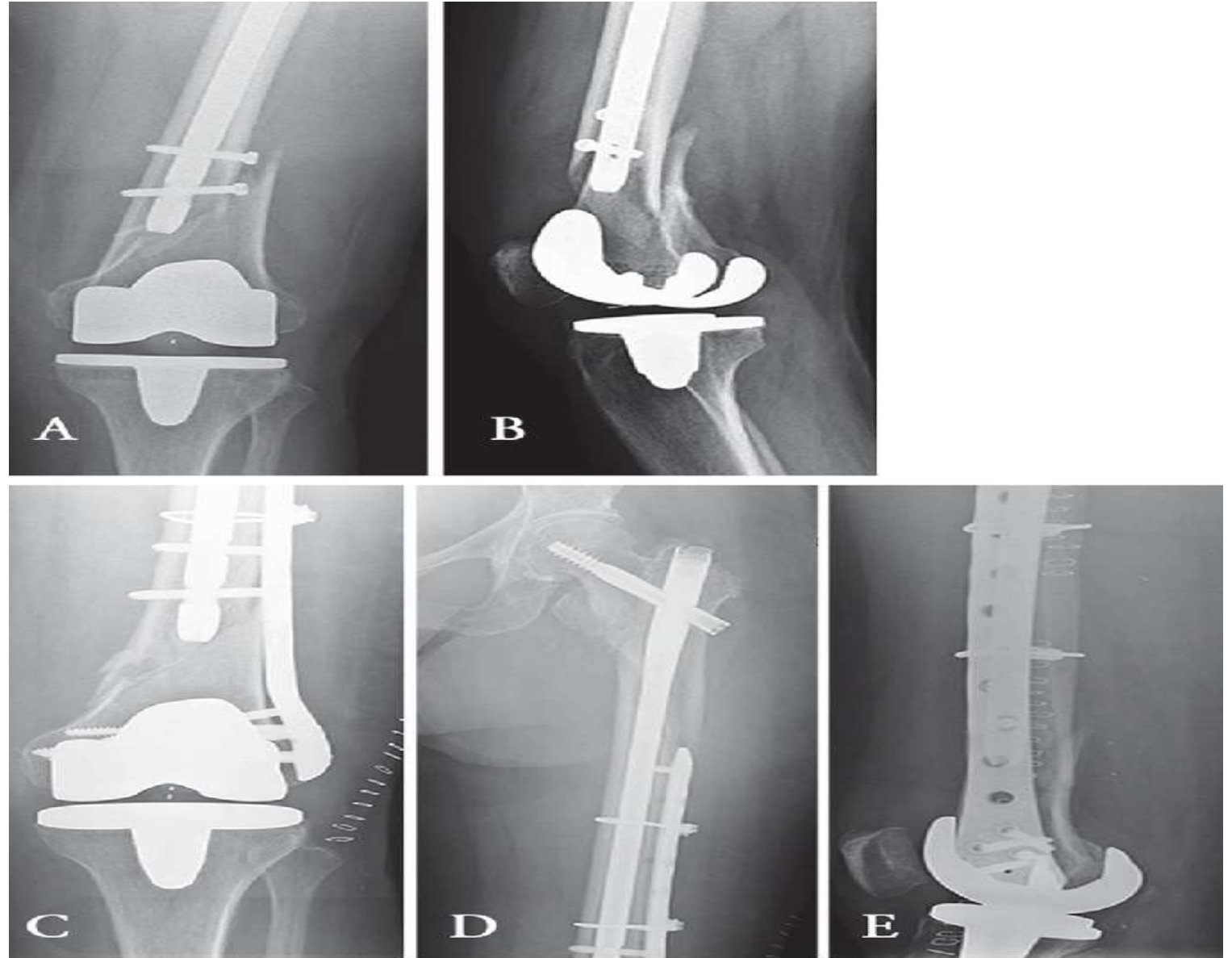
# Plate fixation of fracture mandible

Picture showing a broken lower jaw with an archbar wired onto the teeth together with titanium plates over the fractures.





Nail and screws, plating and  
joint replacement for fractured  
FEMUR

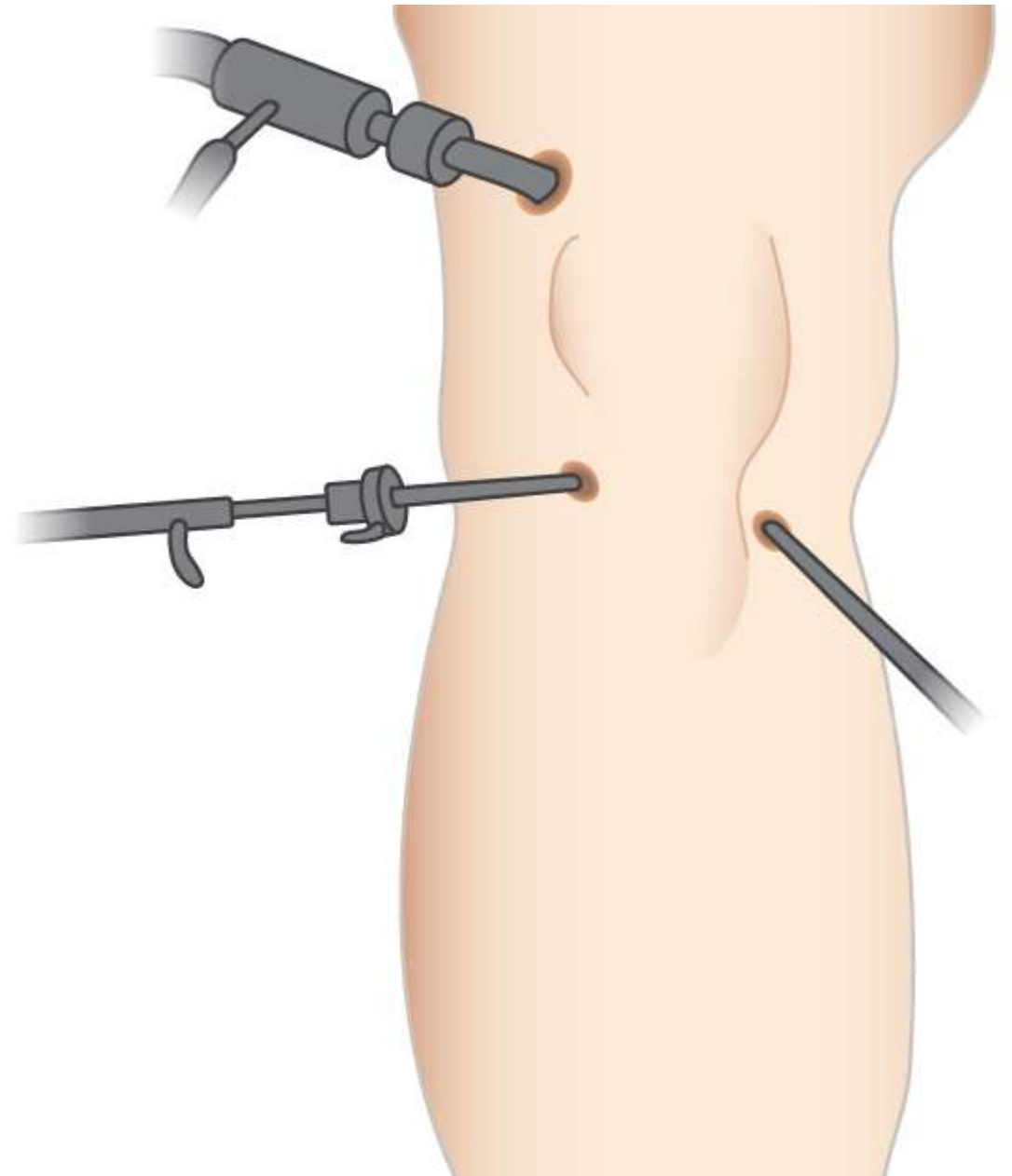


# Arthroscopy

- Used to investigate, diagnose, and treat problems affect the joints.
  - The procedure is conducted by using an arthroscope which is specialized endoscope that is inserted into the joint via small incision.
- 

Repair of tissue damage:- The repair includes treatment for damaged muscles, torn ligaments or tendon.

Strain and sprains are treated with rehabilitation.



# Rehabilitation

- Rehabilitation is one of the most important aspects of orthopedic care. The results of rehabilitation are often slow and requires great deal of effort.
- The aim of rehabilitation is to promote and restore the full range of movement to the affected area.







Thank you



Alnoor University  
3<sup>rd</sup> year medical dental students  
Lecture 10 - Bone infection  
By Dr. Adil Tawfeeq – 12 of Dec. 2022

## Bone infection





# Bone infection



# Bone infection :- Also called Osteomyelitis

- When the infection affects the joint, it called ( septic arthritis ).
- Its presents with swelling of that joint and loss of its function.
- When we try to aspirate the joint, it will reveals pus .

# Septic arthritis



Bone infection



# Bone infection

- Bone infection is tow types.
  - A. Primary infection.
  - B. Secondary infection.

## A. Primary bone infection

- The primary bone infection is due to haematogenous transmission of microorganisms.
- Its not common.
- Affect children more than adults.

## A. Primary bone infection

- It presents with acute pain, high fever.
- Sever tenderness at the site of infection.
- Loss of function ( in the early stages, the patient is reluctant to use the limb ).

## A. Primary bone infection

- The primary bone infection usually follows respiratory or skin infections.
- The most common sites affected are the long bones of the lower limbs.

## A. Primary bone infection

- In children, 90% of cases are due to *Staphylococcus aureus*.
- In adults often present with rare un expected microorganisms as a result of :-
  - Comorbidity
  - Immunosuppressant therapy
  - Indwelling prosthetic material ( like renal dialysis catheters )
  - Intravenous drug abuse



## A. Primary bone infection

- Poorly treated acute bone infection ( osteomyelitis ) may lead to chronic osteomyelitis associated with a life-long risk of acute exacerbations and sinus formation.

# Management of primary osteomyelitis

- Although the diagnosis is clear through the clinical presentation, however X-ray picture to the affected area is highly important to prove the diagnosis.
- Blood sample for culture and sensitivity to obtain and know the microorganism specifically and the best antibiotics for treatment.
- Bone sampling or pus also for culture and sensitivity.

Note :- all these should be done before starting the antibiotic treatment.

# Osteomyelitis



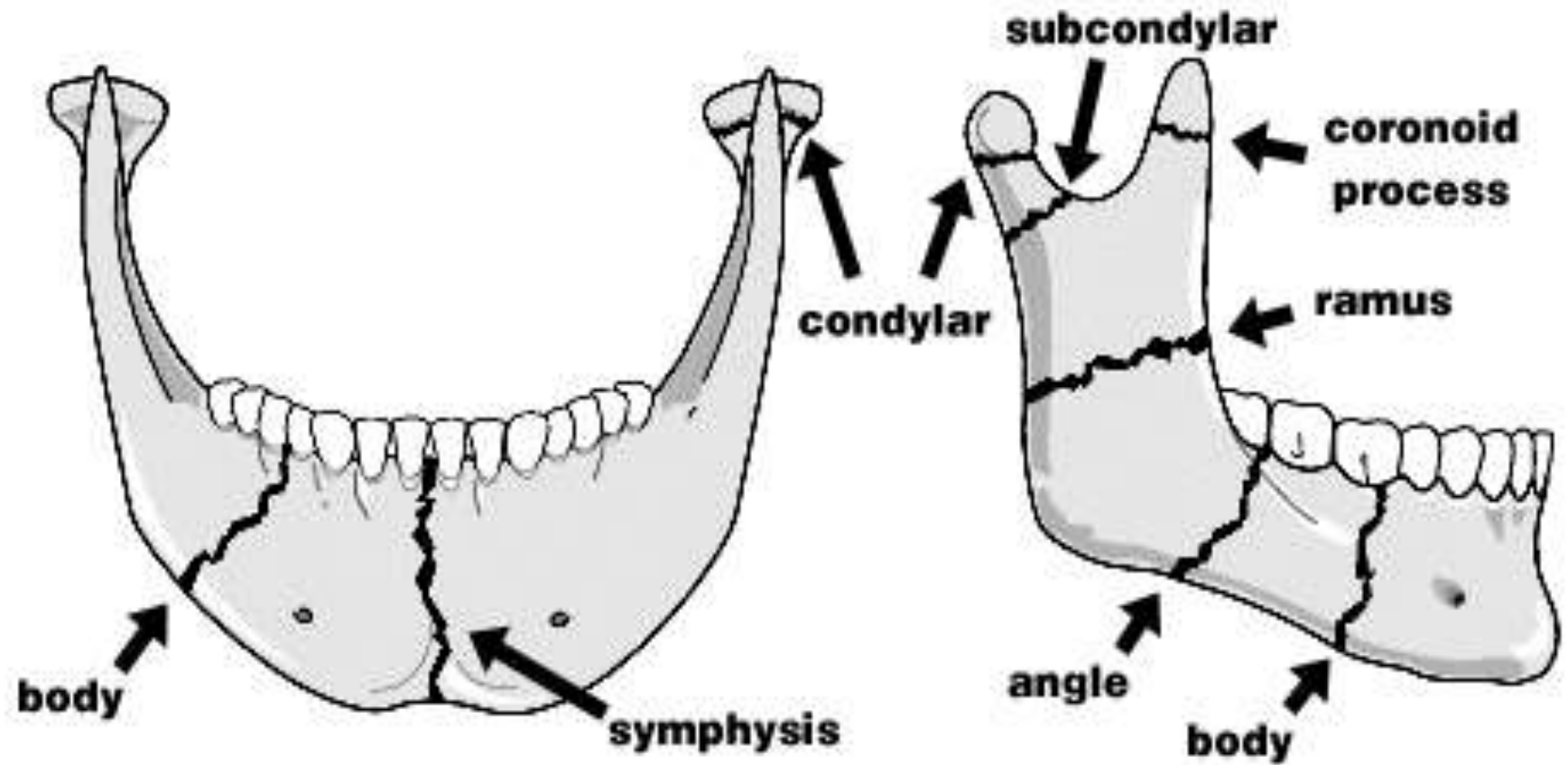
# The definite treatment of osteomyelitis

- The definite treatment is by operation for drainage of pus ( collection under the periosteum of the affected bone ).
- Giving the proper antimicrobial according to the result of culture and sensitivity.
- Rest of the affected area.

## B. Secondary bone infection.

- Secondary bone infection is more common than primary osteomyelitis.
- The secondary bone infection is an osteomyelitis due to
  1. Trauma ( compound fracture ).
  2. Post operative ( insertion of metals ).
  3. External fixator to treat fracture.

# Sits of fractures in the mandible



Open ( compound ) fracture.



# External fixator





## B. Secondary bone infection.

- In case of secondary bone infection dead bone ( sequestrum ) may form a reservoir of infection.
- Although this dead bone is usually walled off by new bone growth, infection, once established, may lie dormant for years before reactivating.

## B. Secondary bone infection.

- Secondary bone infection following elective orthopedic operations, ( without preceding trauma ) are relatively rare .
- The prosthesis or the materials inserted ( metals like plates, wires, screws and pins ) all acts as a foreign bodies and once infection happen, it will not be curried unless you remove it.

The End





**Alnoor University**  
**3<sup>rd</sup> year medical dental students**  
**Lecture 11 – Congenital disorders**  
**By Dr. Adil Tawfeeq**  
**Hall-TD5**

# Congenital deformity

- **Congenital craniofacial abnormalities are a group of defects caused by abnormal growth and/or development of the head and facial soft-tissue structures and/or bones.** Both environmental and genetic factors have been implicated as causes. Prenatal maternal use of tobacco and alcohol may increase risk.

# Faciomaxillary congenital disorders

- 1. Cleft lip – unilateral
  - bilateral
  - associated with cleft palate
- 2. Cleft palate – involving the soft palate only
  - involving the soft and hard palate
- 3. Alveolar bone defect and oral developmental abnormalities.
- 4. Micrognathia.
- 5. Macrognathia.
- 6. Retrognathia.
- 7. Facial asymmetry.

the most common congenital anomaly of the face

- Cleft **lips** and cleft palates are the most common **congenital facial anomalies**. Solitary cleft lip deformity occurs in 1:800 births. Cleft lip, cleft lip and cleft palate, and isolated cleft palate, are collectively termed **oral clefts (OCs)**.

# Unilateral cleft lip





# Bilateral cleft lip



# Cleft palate



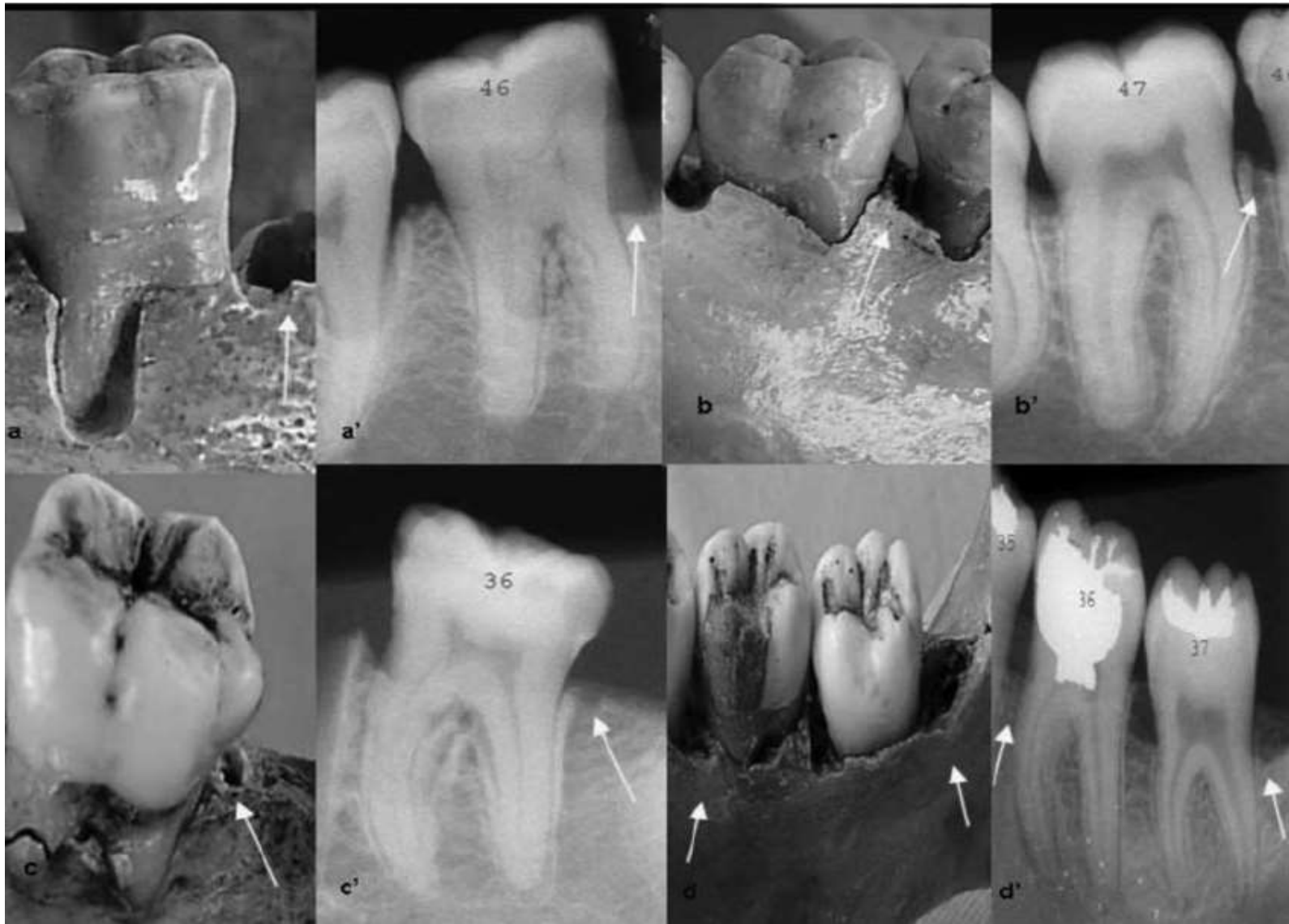
# Combined cleft lip with cleft palate



# Alveolar bone defect

- **Alveolar bone defect is a periodontal disease can cause loss of the bony ridge in the jaw that holds the teeth and supports its roots.**
- **Local factors (periodontitis, trauma, and infection secondary to caries)** account for the majority of cases of premature bone loss.
- Bone loss can be prevented by **giving the jawbone a replacement tooth with a root that can exert the same or similar pressure as natural teeth**. This is done immediately after extraction by replacing single teeth with dental implants.

# Alveolar bone defect



# The oral developmental abnormalities

- The developmental anomalies of oral cavity are **malformations affecting dental and oral tissues.**

**Dental abnormalities include missing or extra teeth, enamel dysplasia, and malocclusion as well as abnormality of shape of teeth ( microdontia and macrodontia ).**

- Anomalies are the results of disturbance in the developmental stages of tissues which may be influenced by genetic and/or environmental factors.



# Oral developmental abnormalities



# Oral developmental abnormalities





# The jaw congenital disorders

- The jaw can be missing, deformed, or incompletely developed at birth.
- The most familial conditions affecting the mandible are .
  1. Micrognathia ( small mandible ).
  2. Macrognathia( large mandible ).

# Micrognathia

- Micrognathia is **a condition in which the lower jaw is undersized**. The common manifestation of micrognathia characterized by a U-shaped cleft soft palate and upper airway obstruction caused by glossoptosis (a tongue that falls to the back of the throat).
- sometimes cyanosis develops because the tongue is posterior and may obstruct the pharynx. Prone positioning during feeding may help.
- In sever cases it may require nasogastric tube for feeding.
- About one third of patients with micrognathia have associated anomalies that suggest an underlying chromosomal defect or genetic syndrome. When other anomalies are present, a clinical geneticist can help guide the evaluation because identification of the underlying syndrome is important for prognosis and family counseling.

# Micrognathia( small mandible )



# Treatment of micrognathia

- The child's lower jaw may grow long enough on its own, during [puberty](#). In this case, no treatment is necessary.
- The use of corrective devices, such as orthodontic [braces](#), to fix misaligned teeth caused by having a short jaw can also be helpful.
- The child may need corrective surgery performed by an oral surgeon.

( The surgeon will extend the child's lower jaw.)

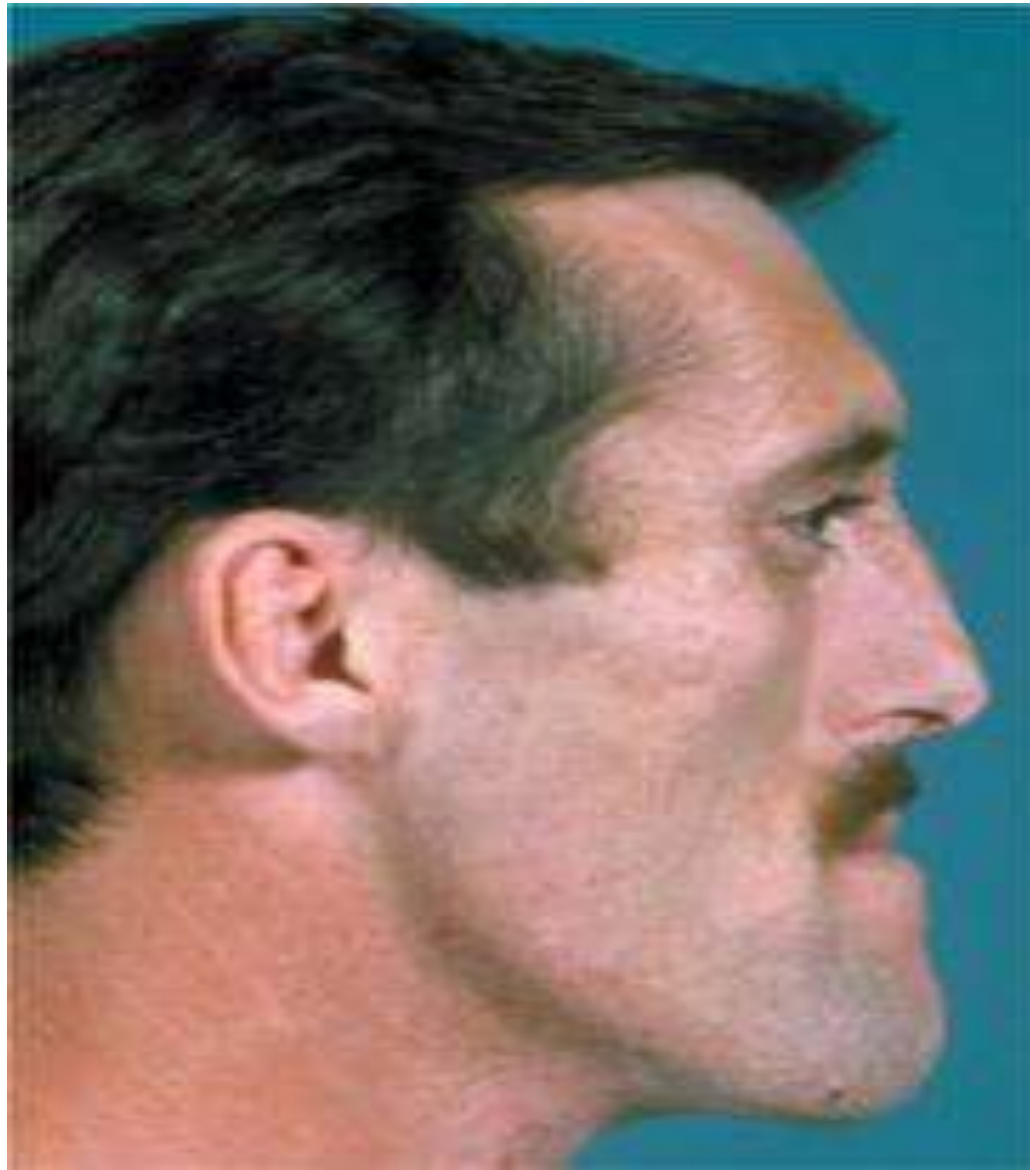
# Macrogathia.

Also known as prognathic mandible

- Macrogathia: **An abnormally large jaw.**
- In new born, it's a congenital anomaly.
- In adults macrogathia can be associated with pituitary disorders, (Acromegaly).
- Macrogathia can often be corrected with surgery.

( The surgeons usually do Osteotomy )

# Macroglossia



# What is the difference between micrognathia and Retrognathia?

- The **key difference** between micrognathia and retrognathia is that **micrognathia is the condition of having an abnormally small mandible, while retrognathia is the condition where the mandible is displaced posteriorly .**

# Facial asymmetry

Children with Facial  
Asymmetry





# Corrections of congenital facial and oral disorders

- It's a team work management, by faciomaxillary and plastic surgeons.



Alnoor University  
3<sup>rd</sup> year medical dental students  
Lecture 12 – Paranasal sinuses.  
By . Adil Tawfeeq ( 26 -Dec.-2022 )



# Paranasal sinuses

Paranasal sinuses are **a group of four paired air-filled spaces that surround the nasal cavity.**

The maxillary sinuses are located under the eyes; the frontal sinuses are above the eyes; the ethmoidal sinuses are between the eyes and the sphenoidal sinuses are behind the eyes.

# The paranasal sinuses

- The paranasal sinuses are air cavities that help circulate the air that moves in and out of [the respiratory system](#). The four pairs of sinuses are:
- The maxillary sinuses
- The frontal sinuses
- The sphenoidal sinuses
- The ethmoidal sinuses

# The maxillary sinus

- 1. The maxillary sinus  
Located under the eyes.



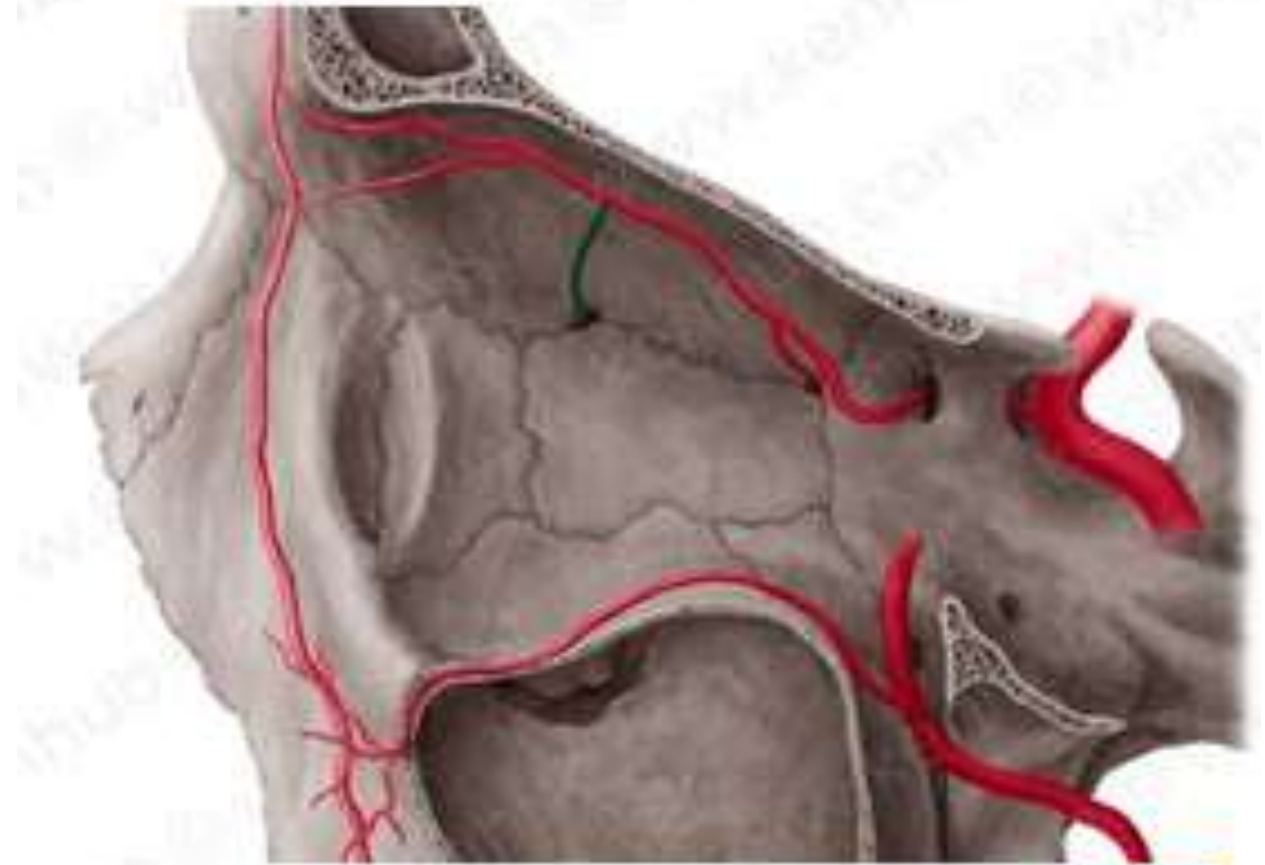
# The frontal sinus

- 2. The frontal sinuses  
Located above the eyes



# The ethmoidal sinus

- 3. The ethmoidal sinus  
Located between the eyes



# The sphenoidal Sinuses

- 4. The sphenoidal sinuses  
Located behind the eyes





# The Maxillary Sinuses

## Maxillary sinuses Boundaries

Superior wall - bony orbit  
Inferior wall - alveolar bone of the maxilla  
Medial wall - nasal cavity  
Lateral and anterior walls - cheekbones  
Posterior wall - pterygopalatine fossa,  
infratemporal fossa

Innervation - anterior superior alveolar,  
middle superior alveolar, posterior superior  
alveolar nerves (branches of the *maxillary nerve*)

Vascularization - anterior superior alveolar,  
middle superior alveolar, posterior superior  
alveolar arteries (branches of the *maxillary artery*)



# The frontal sinuses

Frontal sinuses boundaries	<p>Anterior wall - forehead and superciliary arches</p> <p>Superior and posterior walls - anterior cranial fossa</p> <p>Inferior wall - bony orbit</p> <p>Medial wall - contralateral sinus</p> <p>Innervation - supraorbital nerve, supratrochlear nerve (branches of the <i>ophthalmic nerve</i>)</p> <p>Vascularization - anterior ethmoidal, supraorbital, supratrochlear arteries (branches of the <i>ophthalmic artery</i>)</p>
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# The Ethmoidal sinuses

Ethmoidal  
sinuses  
Boundaries

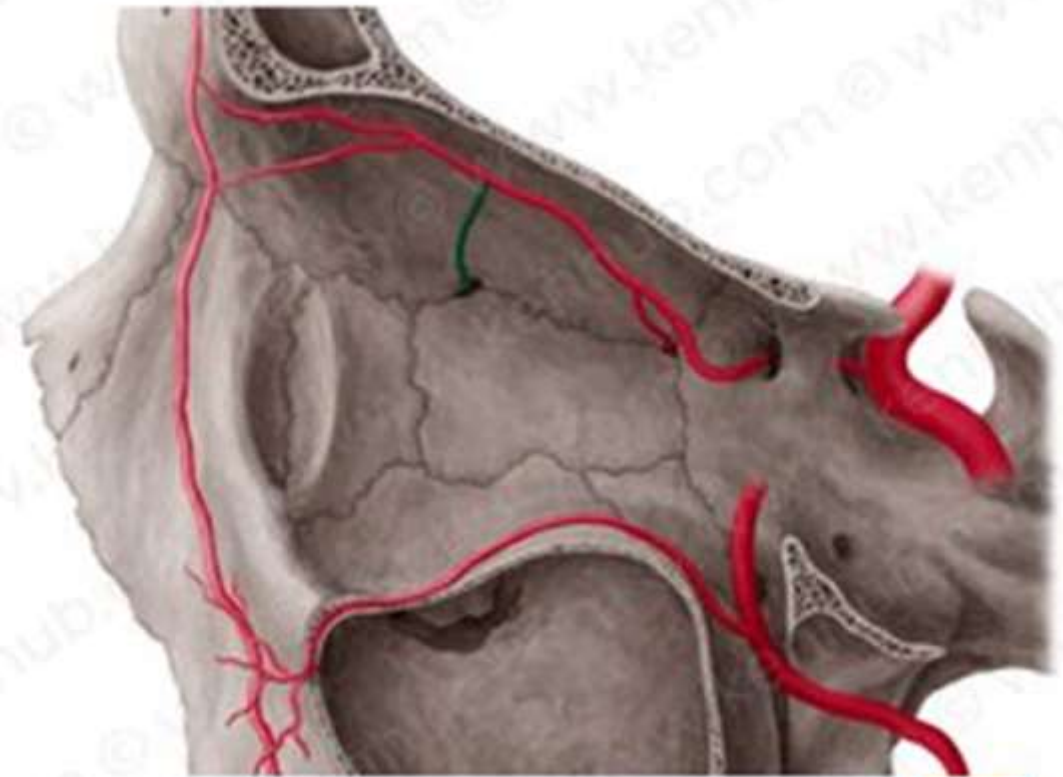
Superior wall - anterior cranial  
fossa, frontal bone

Lateral wall - bony orbit

Medial wall - nasal cavity

Innervation - anterior and posterior  
ethmoidal nerves (branches of  
the *nasociliary nerve*)

Vascularization - anterior and  
posterior ethmoidal arteries  
(branches of the *ophthalmic artery*)

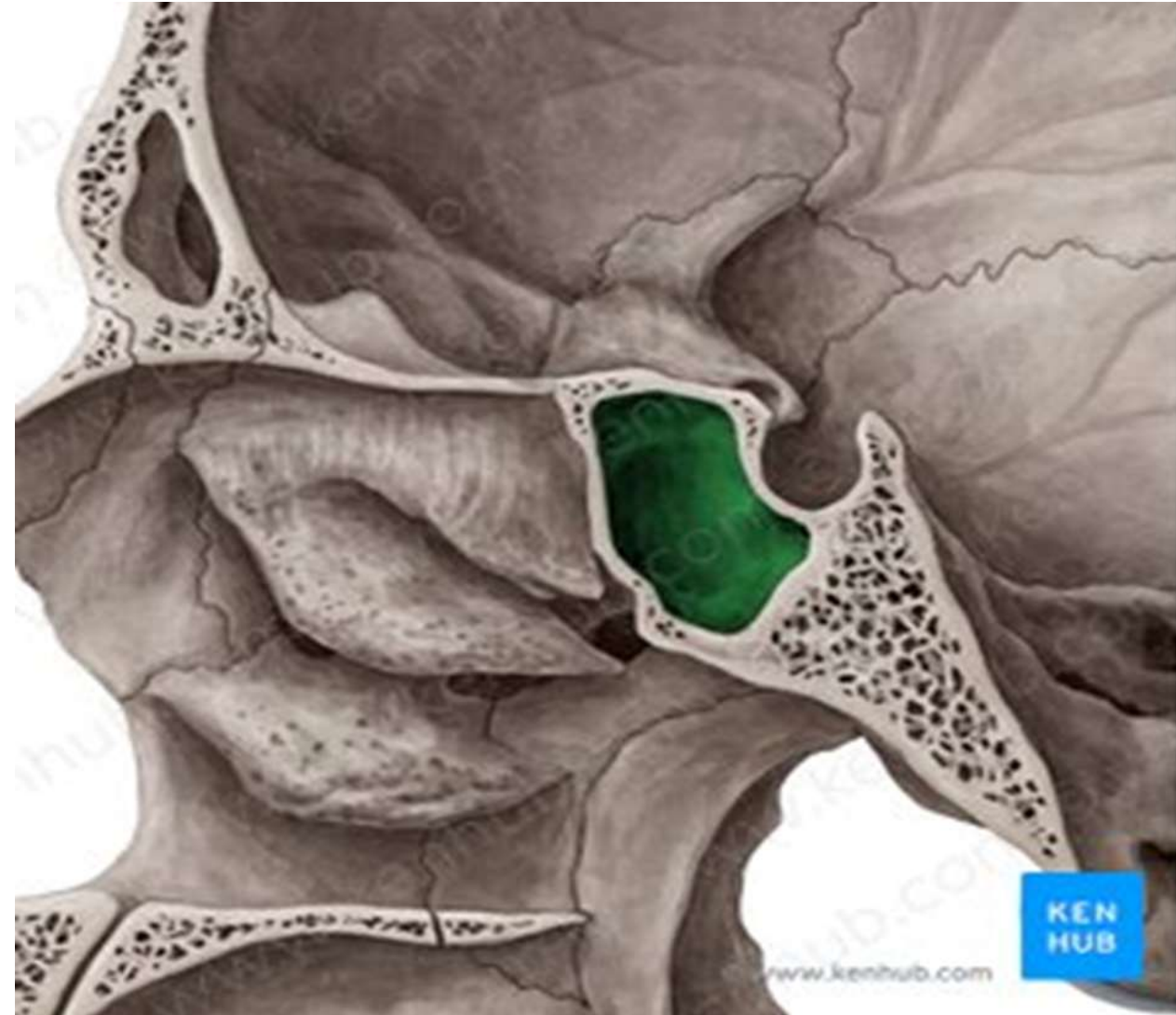


# The Sphenoidal sinuses

Sphenoidal  
sinuses  
Boundaries

Anterior wall - nasal cavity  
Superior wall - hypophyseal  
fossa  
Inferior wall - nasopharynx and  
pterygoid canal

Innervation - posterior  
ethmoidal nerve (branch of  
the *nasociliary nerve*)  
Vascularization - posterior  
ethmoidal, posterior lateral  
nasal arteries (branches of  
the *ophthalmic artery*)

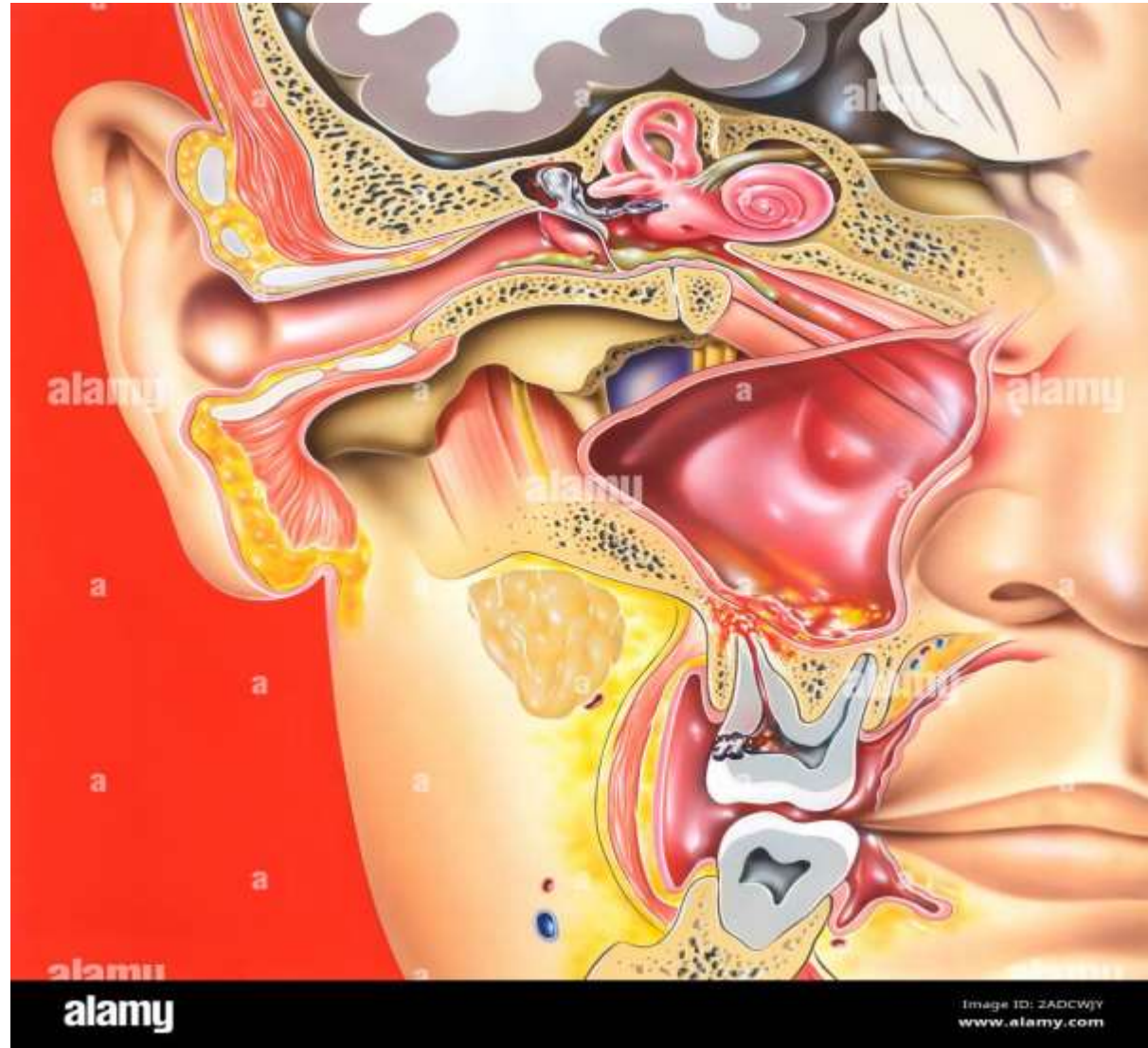


# The maxillary sinuses

- The maxillary sinuses are the largest of the paranasal sinuses. Their thin walls are often penetrated by the long roots of the posterior maxillary teeth. The superior border of this sinus is the bony orbit, and the inferior border is the maxillary alveolar bone and corresponding tooth roots. The medial border is formed by the nasal cavity, and the lateral and anterior borders are the cheekbones.



# The relation of the upper jaw teeth with maxillary sinuses



# Conditions affecting the sinuses

- Allergic rhinitis – an inflammation of the membranes lining the nose.
- Cerebral spinal fluid leaks.
- Chronic sinusitis with polyps – an inflammation of the sinuses that lasts more than 12 weeks and is associated with nasal polyps.
- Chronic sinusitis without polyps.
- Difficult infections.
- Deviated septum.

# Paranasal sinuses disease symptoms

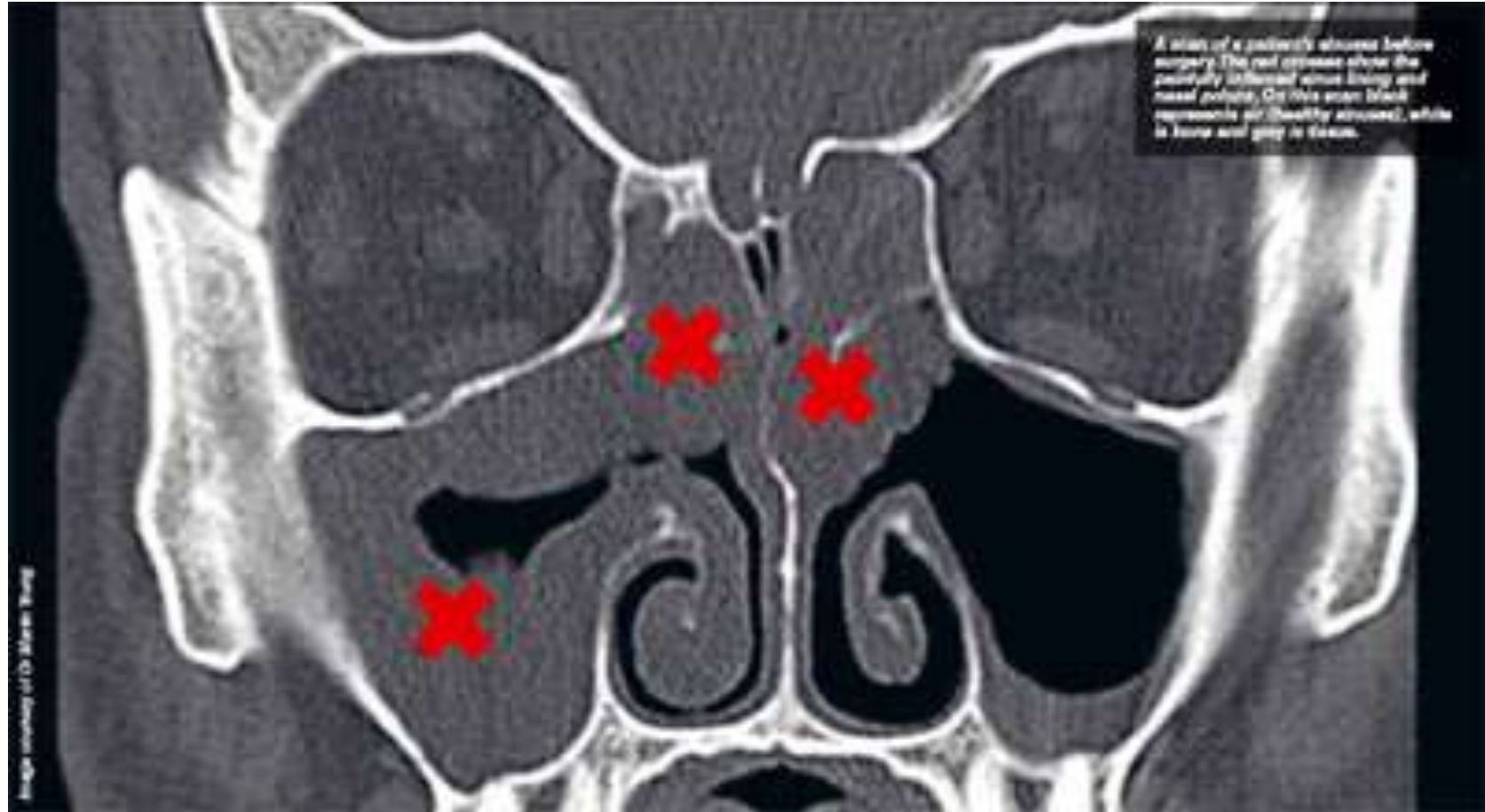
- Thick, yellow or greenish mucus from the nose (runny nose) or down the back of the throat (postnasal drainage)
- Blocked or stuffy nose (congestion) causing difficulty breathing through your nose.
- Pain, tenderness, swelling and pressure around your eyes, cheeks, nose or forehead that worsens when bending over.



# Sinus tumour symptoms

- **Numbness or pain in the face, ears, or teeth.**
- Teeth that become loose.
- Pus draining from the nose or postnasal drip.
- Frequent nose bleeding.

# Tumour of the maxillary sinuses



# Acute sinusitis



# The End





# Esophageal diseases

## For the 3rd class dental student

20 of Feb. 2023

By Dr. Adil Tawfeeq

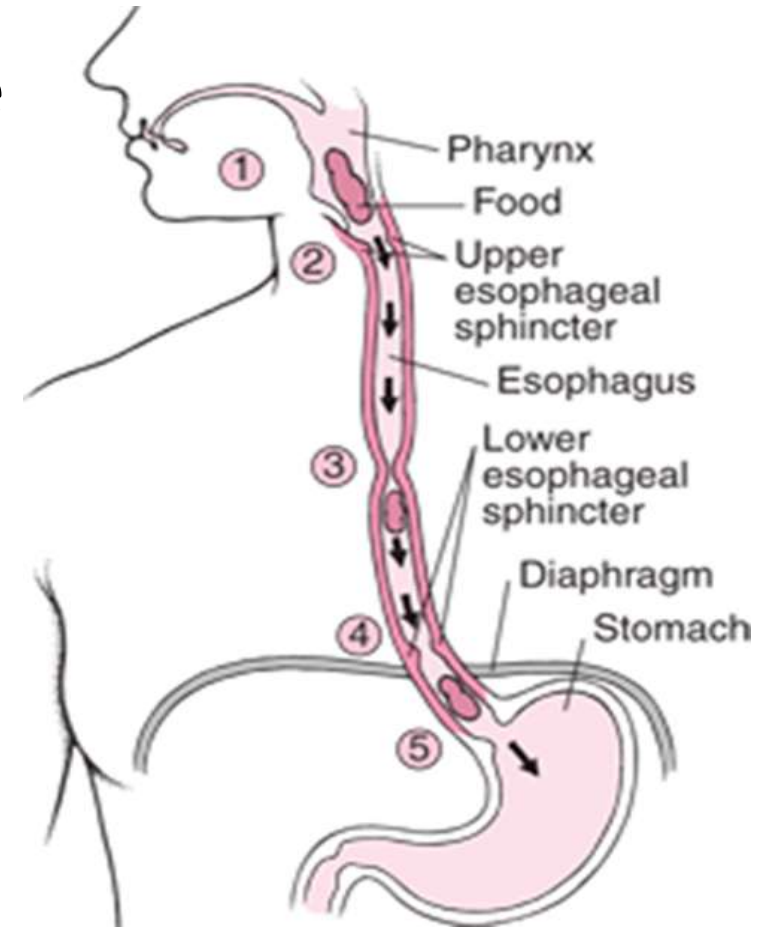
Lecture 14 in General surgery

[Alnoor university college](#)

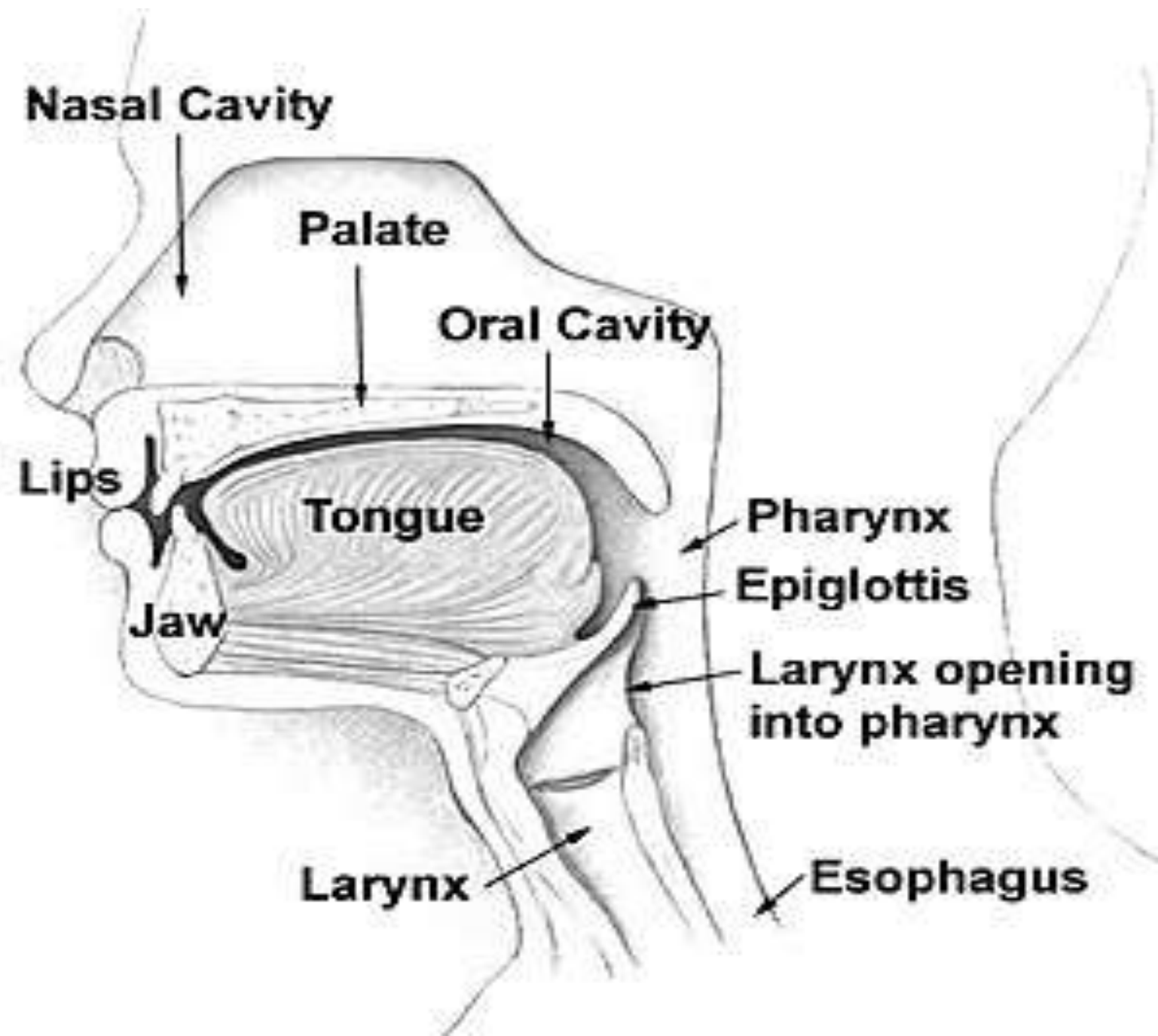
# Introduction

- The esophagus is a muscular tube like structure (25cm in length), allows the passage of food from the mouth to the stomach.

It begins at the pharynx in the neck, passing through the chest down to join the stomach under the diaphragm in the abdomen.



# Introduction



# Esophageal diseases

Can be :-

- A. Congenital conditions, (Achalasia, Atresia, Diffuse spasm).
- B. Acquired later in life. (Esophageal cancer, esophageal varices, esophageal web, and hiatus hernia).
- C. Traumatic conditions like (Boerhaave syndrome, Caustic injury).



# The most common diseases and conditions affecting the esophagus.

(1)- GERD= Gastro-Esophageal Reflux Disease, and Esophagitis.

It is a chronic condition in which stomach contents and acid rise up into the esophagus, resulting in symptoms and/or complications.

The symptoms include the taste of acid in the back of the mouth, heartburn, bad breath, chest pain and Globus esophagus



# What is heartburn and what is Globus oesophagus

**Heartburn:-** when the person experience a burning sensation in their chest, caused by stomach acids reflux into the esophagus.

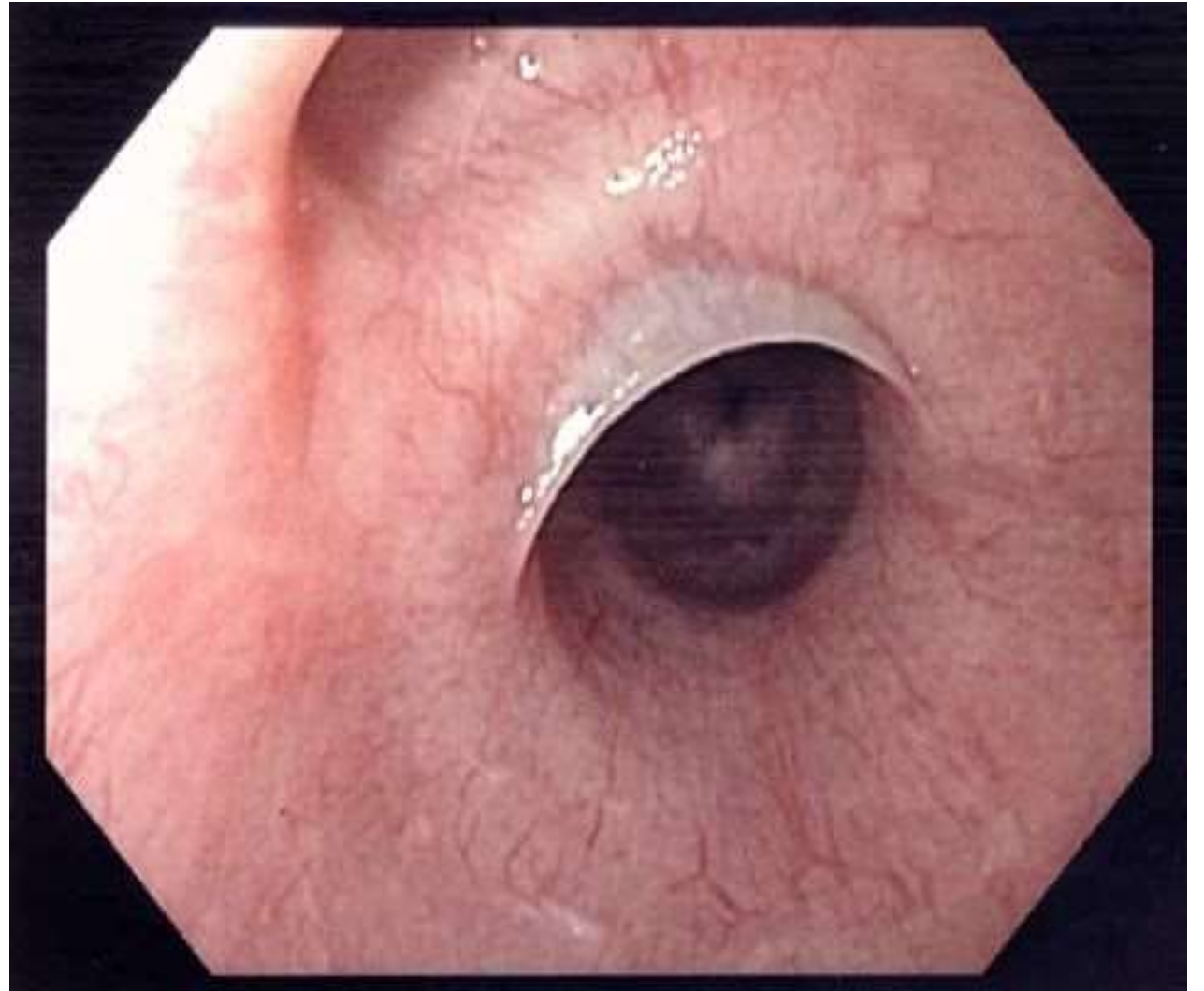
**Globus esophagus:-** when the person experience a feeling as if a ball is lodged in the lower part of the esophagus.

## (2)- Esophageal dysphagia

- Difficulty of swallowing
- The causes are, usually due to:- A. mechanical causes . B. motility problems.

# A. mechanical causes

- 1- esophageal web
- thin membranes  
occurring any where  
along the esophagus.



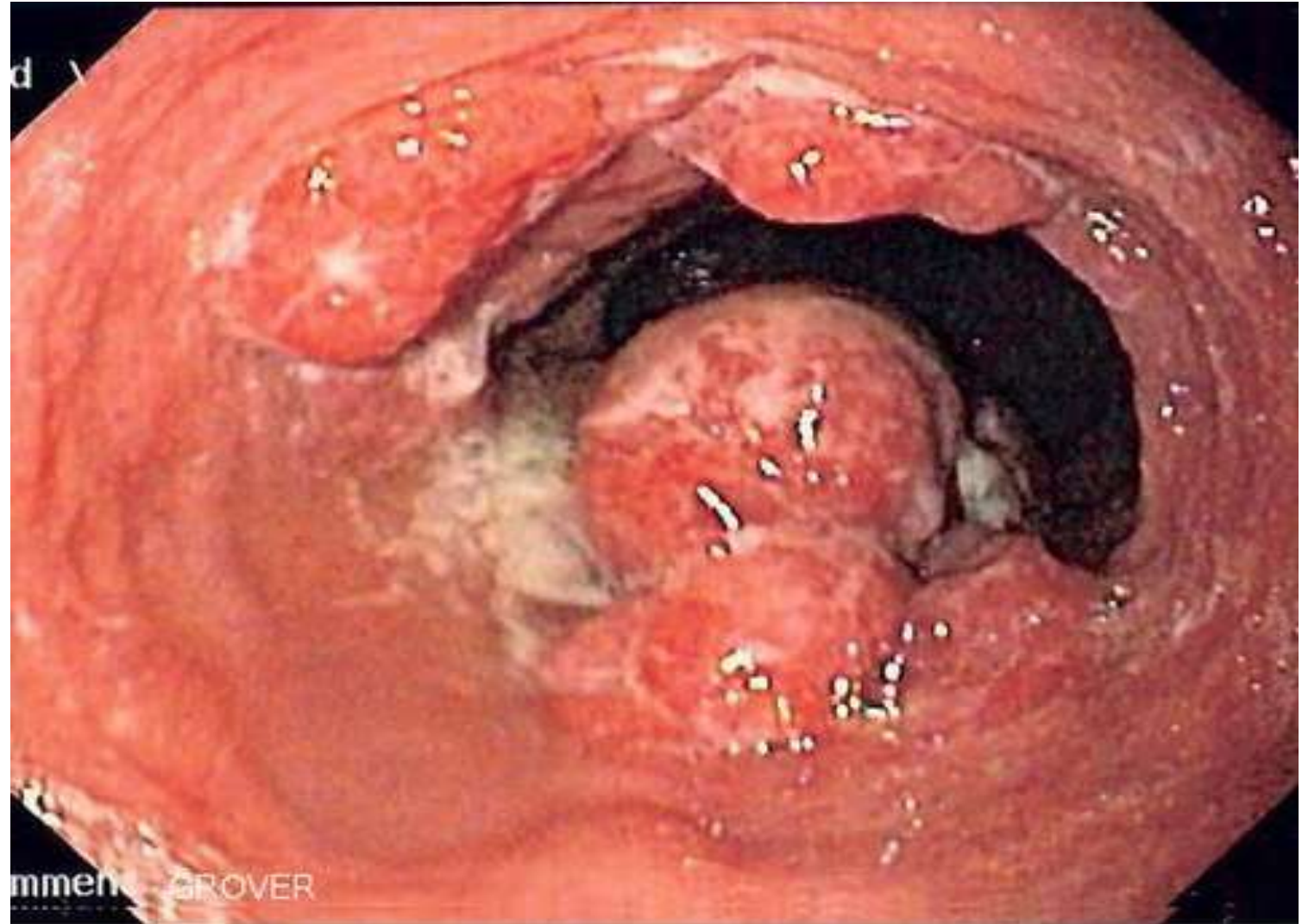
# A. mechanical causes

- 2- Esophageal varices.
- dilated sub-mucosal veins
- in the lower third of the esophagus.



# A. mechanical causes

- 3- Esophageal cancer.



## A. mechanical causes

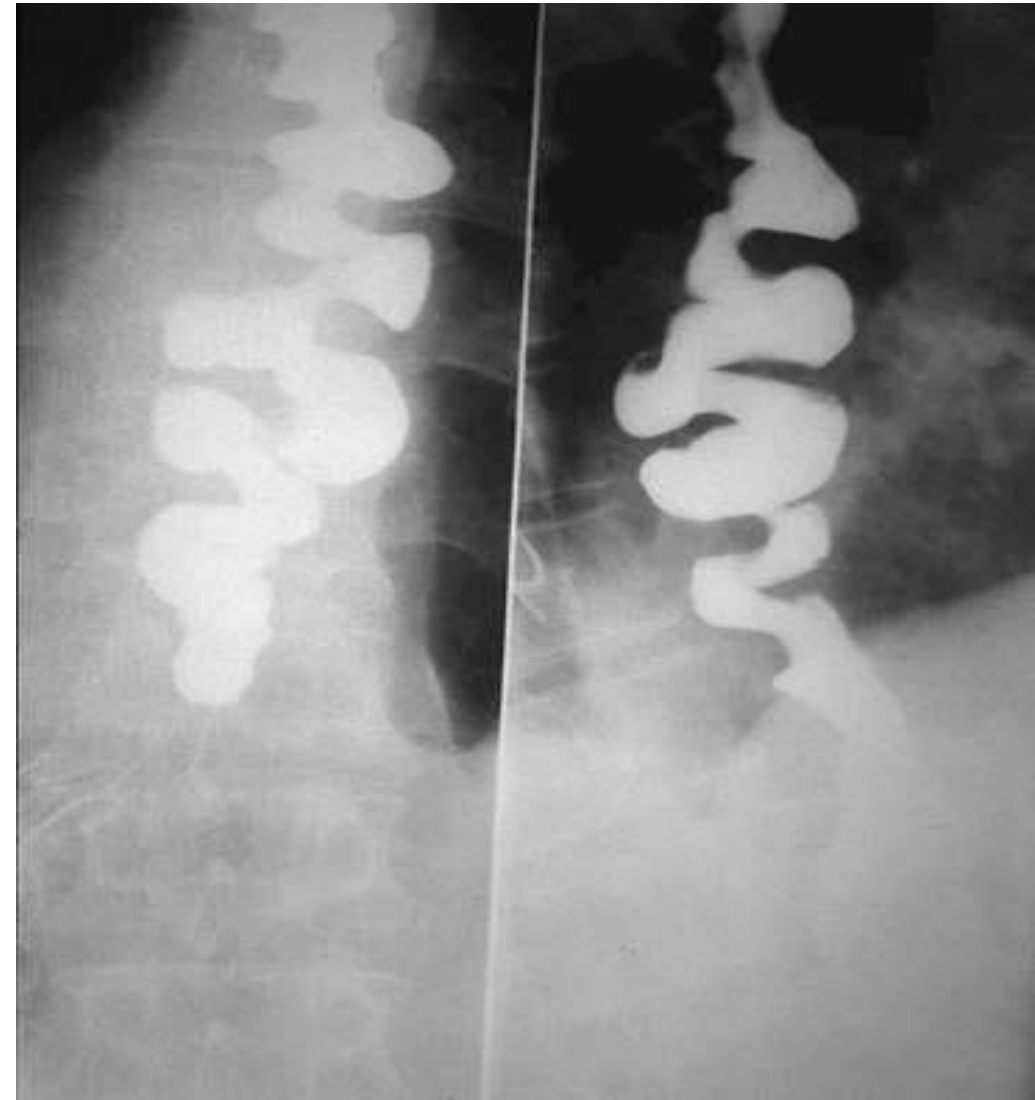
- 4- A **hiatal hernia** is a type of hernia in which abdominal organs slip through the diaphragm into the middle compartment of the chest.



## B. Motility problems

- 1- Diffuse esophageal spasm.

On doing an X-ray with contrast (barium swallow) to the oesophagus, it will appear like this picture.





## B. Motility problems

- 2- Achalasia. a failure of smooth muscle fibers to relax, which can cause the lower esophageal sphincter to remain closed.

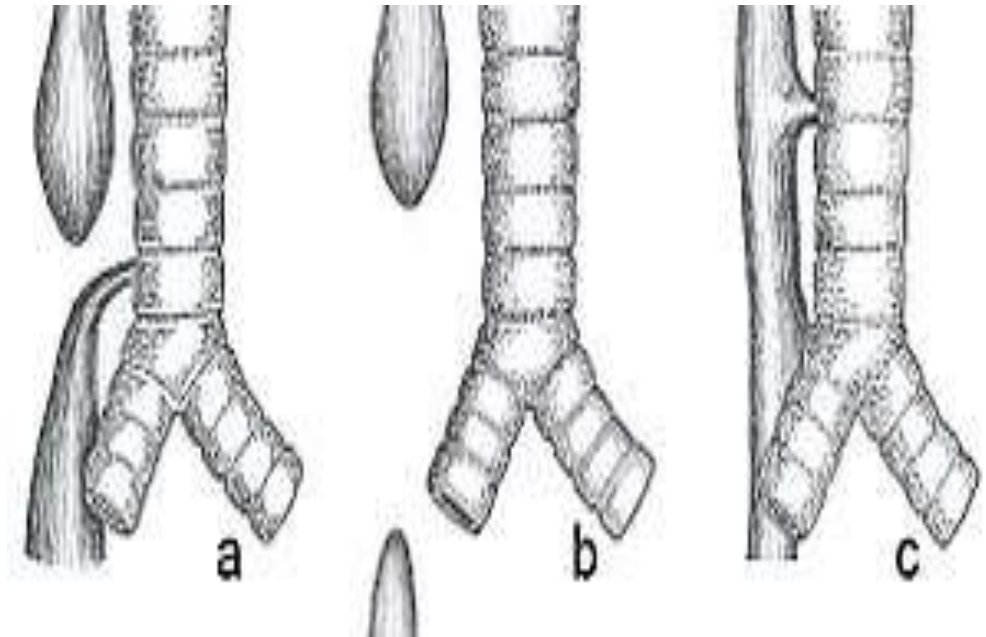
On doing X-ray with barium swallow to the oesophagus it will appear like this. The lower part is clearly very narrow due to spasm, and the upper part is clearly hugely dilated . The picture usually called ( rat tail appearance ).



# Congenital anomaly

- 3- Esophageal Atresia is a congenital condition that affects the [alimentary tract](#).

It causes the [esophagus](#) to end in a blind-ended pouch rather than to be connecting to the [stomach](#).



# Miscellaneous conditions affecting the esophagus.

- 1- **Boerhaave syndrome** is a rupture of the esophageal wall.

Iatrogenic causes account for approximately 56% of perforations, usually due to medical instrumentation

such as an endoscopy or

Para esophageal surgery.



# Miscellaneous conditions affecting the esophagus.

- 2- Caustic injury to the esophagus.  
The esophagus will be burned  
chemically  
Like this finger.



# Miscellaneous conditions affecting the esophagus.

- 3- Foreign body swallowing.

It can happen in dental clinic and in the theater during anesthesia, that a tooth or unfixed partial denture, swollen.

In case it happen, it should be removed by endoscopy.

The end

- Thank you

# General Surgery

## 3<sup>rd</sup> year students

### Neck lesions-L.13

2-January-2023



# ANATOMY

**Anterior Triangle** : middle of the neck, the sternocleidomastoid muscle and lower border of the mandible

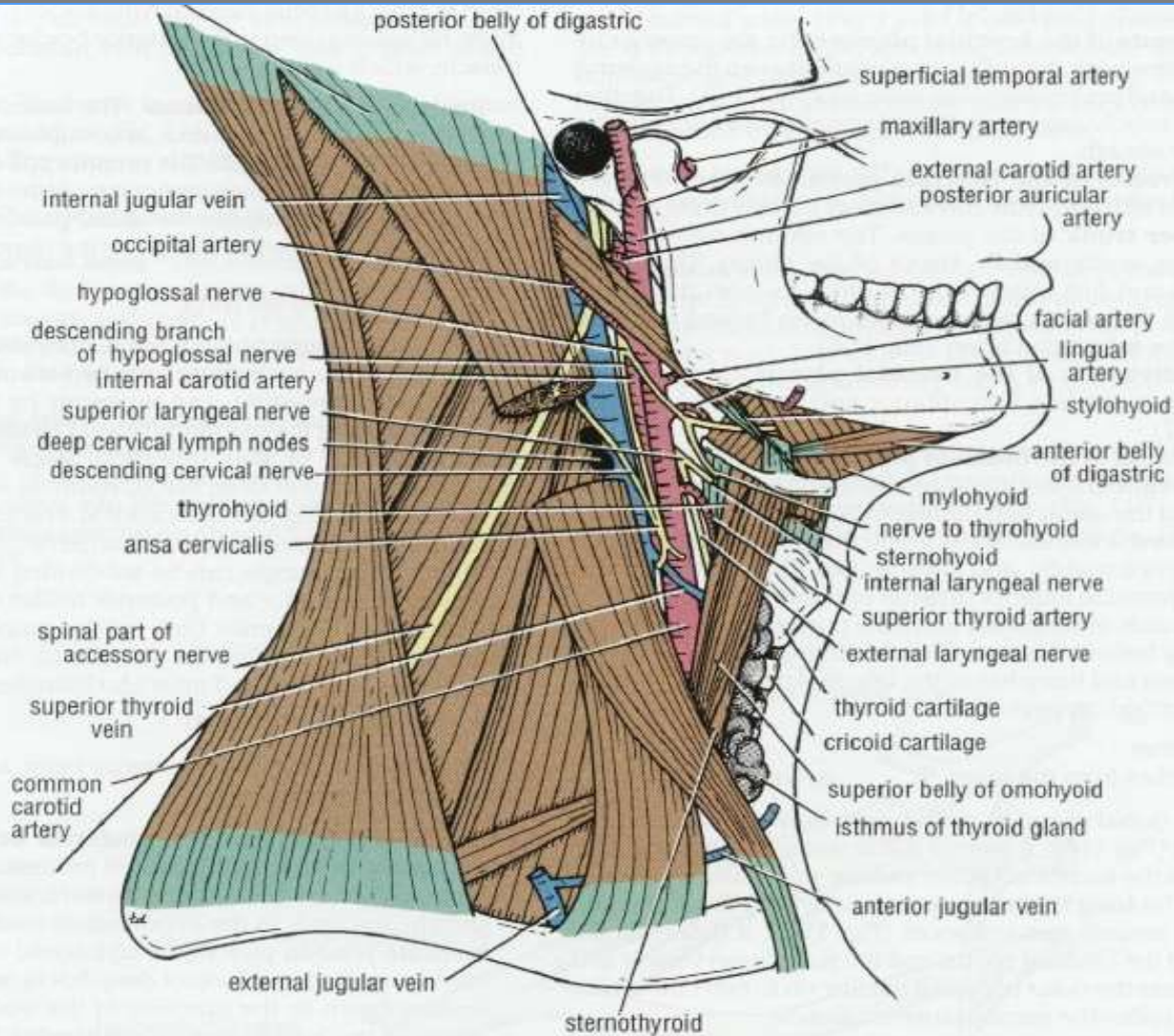
- Submental triangle
- Submandibular triangle
- Carotid triangle
- Muscular triangle

**Posterior Triangle**: sternocleidomastoid, the anterior border of the trapezius, and the middle third of the clavicle

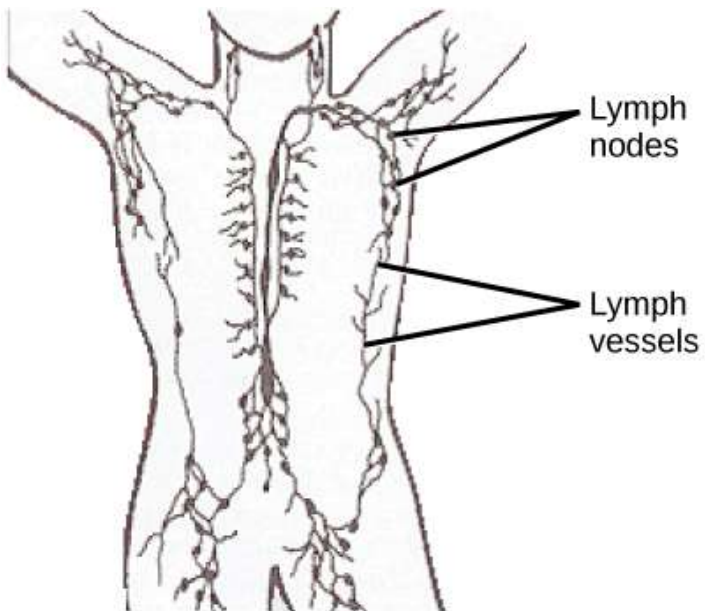
- Occipital triangle
- Subclavian triangle



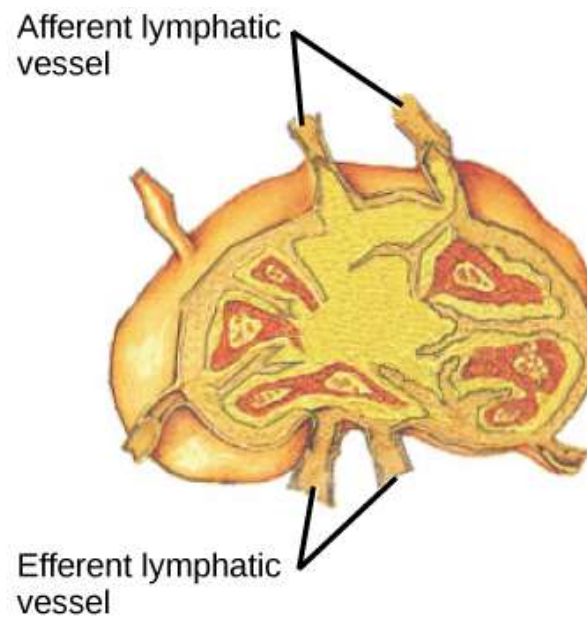
# ANATOMY



# LYMPH NODES



(a)



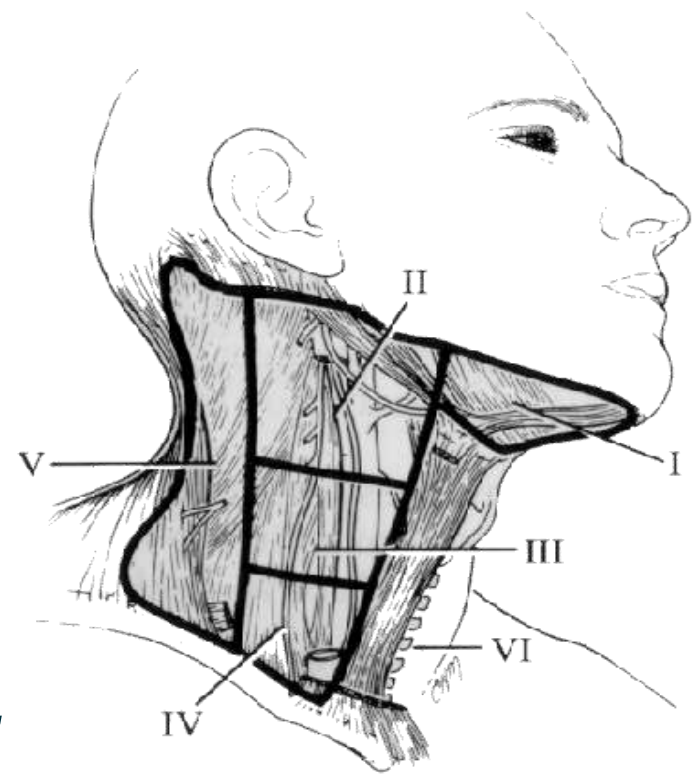
(b)

# LYMPH NODES

**Level 1** contains the submental and submandibular nodes.

**Level 2** is the upper third of the jugular nodes medial to the SCM, and the inferior boundary is the plane of the hyoid bone (clinical) or the bifurcation of the carotid artery (surgical).

**Level 3** describes the middle jugular nodes and is bounded inferiorly by the plane of the cricoid cartilage (clinical) or the omohyoid (surgical).

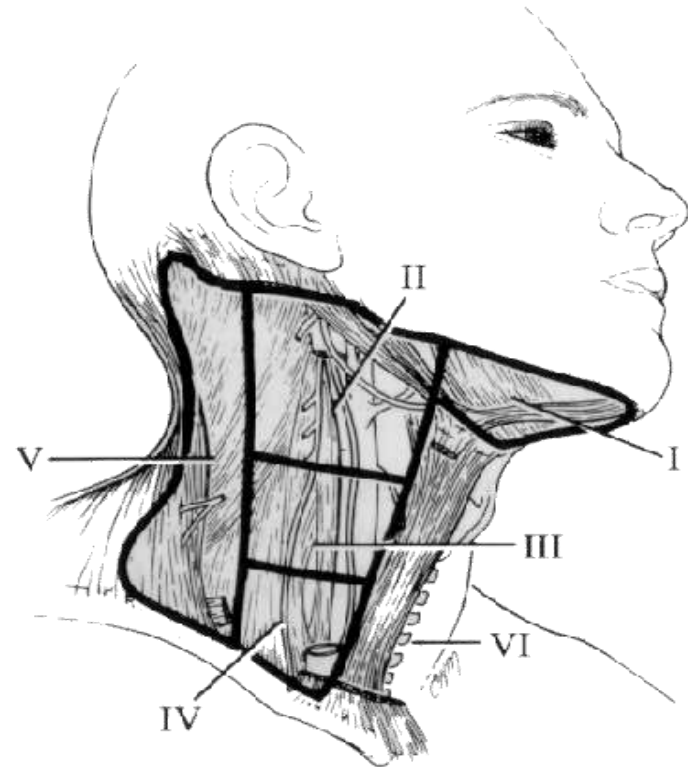


# LYMPH NODES

**Level 4** is defined superiorly by the omohyoid muscle and inferiorly by the clavicle.

**Level 5** contains the posterior cervical triangle nodes.

**Level 6** includes the paratracheal and pretracheal nodes.



# NECK LESIONS

## KITTENS

- K:** Congenital.      Sebaceous cysts, branchial cyst, thyroglossal cyst, hemangioma, dermoid cyst pharyngeal pouch.
- I:** Infectious & inflammatory. lymphadenitis
- T:** Toxin. metals Lead, drugs Diphenylhydantoin
- T:** Traumatic. Foreign body , aneurysm
- E:** Endocrine. Thyroid disease, carotid body
- N:** Neoplastic. Benign lipoma malignant lymphoma
- S:** Systemic. AIDS , Kawasaki disease

# NECK LESIONS

## Anterior triangle

*Move with swallowing*

**cystic**      thyroglossal cyst  
thyroid isthmus  
thyroid enlargement

**solid**      L.N





# NECK LESIONS

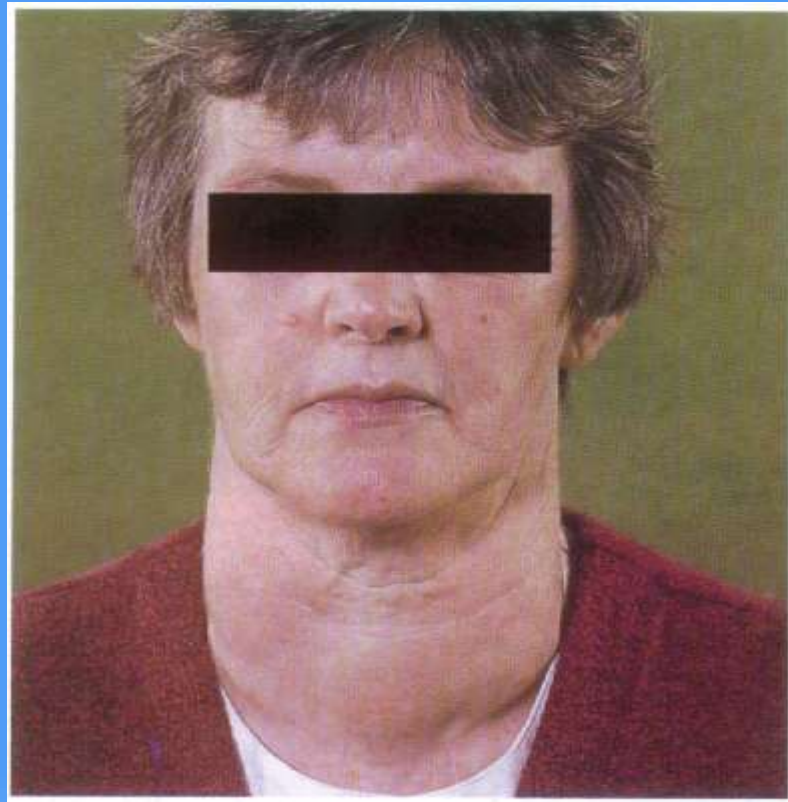
## Anterior triangle

Move with swallowing

**cystic**

thyroid enlargement

Goiter



# NECK LESIONS

*Not move with swallowing*

## **cystic**

- abscess
- branchial cyst
- dermoid cyst
- lipoma
- sebaceous cyst
- sublingual dermoid
- ranula

## **solid**

- carotid aneurysm
- salivary gland enlargement
- ectopic thyroid nodule
- neurofibroma
- Carotid body tumor



# NECK LESIONS

## Anterior triangle

*Not Move with swallowing*

**solid**

carotid body tumor



# NECK LESIONS

*Not move with swallowing*

**cystic**

dermoid cyst



# NECK LESIONS

*Not move with swallowing*

**cystic**

ranula



# NECK LESIONS

*Not move with swallowing*

**solid**

neurofibroma



# NECK LESIONS

## Posterior triangle cystic

cystic hygroma  
subclavian art. Aneurysm  
pharyngeal pouch  
sebaceous cyst  
dermoid cyst  
lipoma

## solid

L.N  
cervical rib  
clavicular tumors  
SCM tumors ( SternoCleidoMastoid )



# NECK LESIONS

## Posterior triangle

**cystic**      cystic hygroma

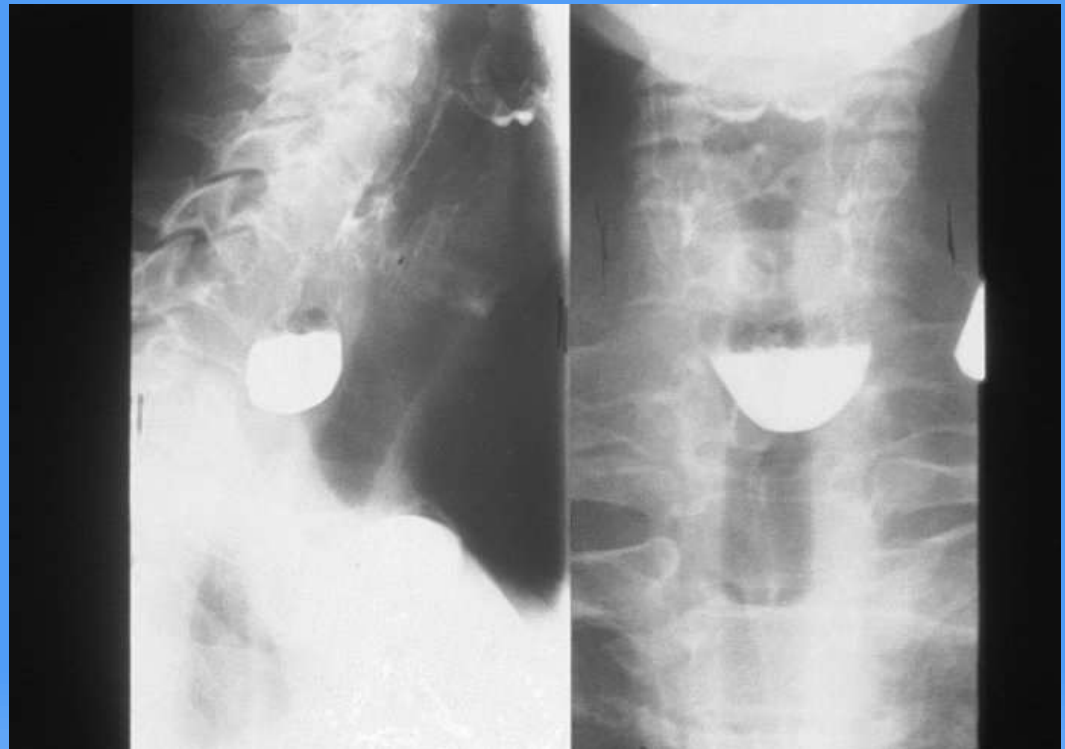
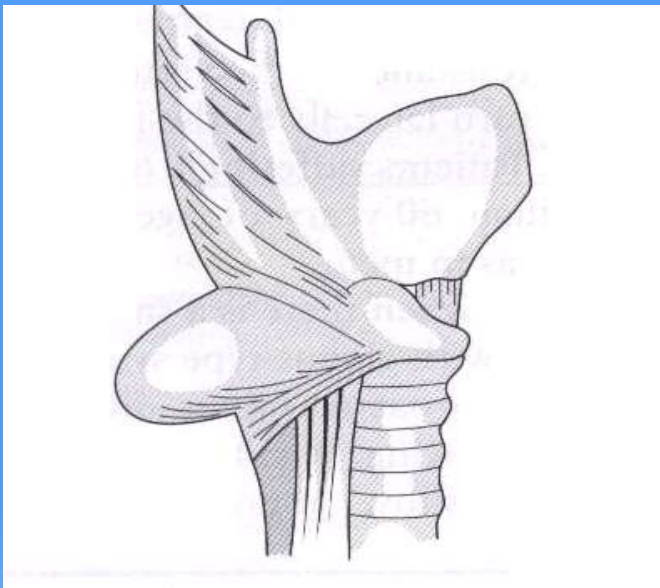


# NECK LESIONS

Posterior triangle

cystic

pharyngeal pouch



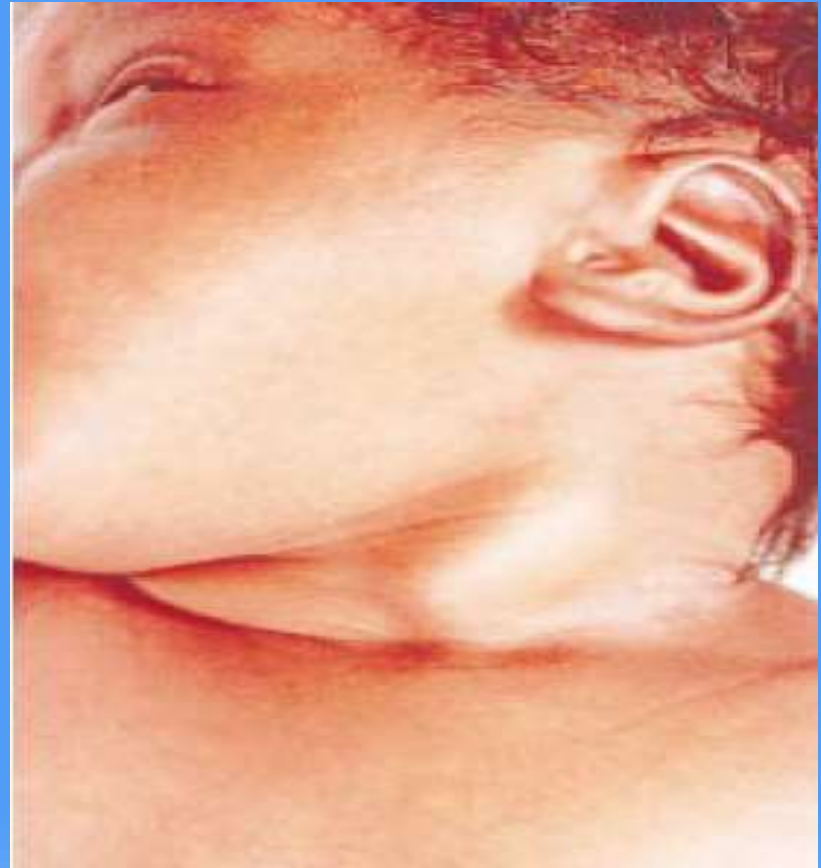


# NECK LESIONS

## Posterior triangle

**solid**

SCM muscle tumor  
( SternoCleidoMastoid muscle  
tumor )





# NECK LESIONS

## Lymphadenopathy

### 1-Infective:

#### a- bacterial

dental, tonsil, face, scalp infections

T.B.(tuberculosis)

syphilis

cat scratch

Lyme disease

herpetic stomatitis

infectious mononucleosis

HIV infection

toxoplasmosis

mucocutaneous LN syndrome

(Kawasaki disease)



#### b- Viral

#### c-Parasitic

#### d- Possible infection

# NECK LESIONS

## Lymphadenopathy

1-Infective:

Viral

HIV infection



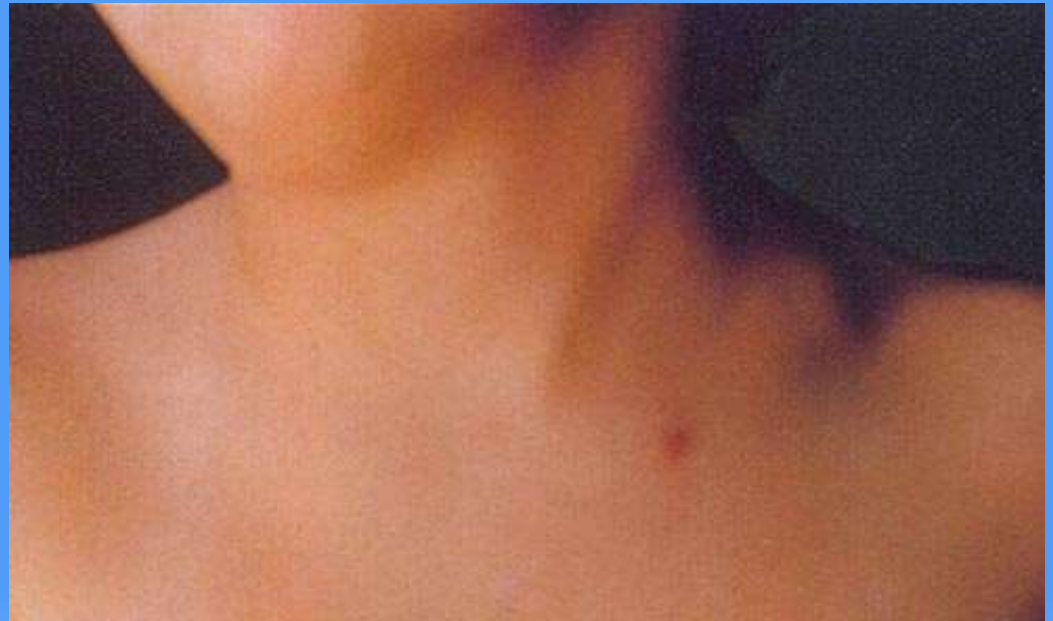
# NECK LESIONS

## Lymphadenopathy

1-Infective:

bacterial

cat scratch



# NECK LESIONS

## Lymphadenopathy

### 1-Infective:

bacterial

T.B ( tuberculosis )



# NECK LESIONS

## Lymphadenopathy

### 1-Infective:

bacterial

submandibular

lymphadenitis



# Neck Lesions

- ▶ In children viral infection of parotid salivary gland leads to swelling of the glands and the swelling extends down to the upper neck.
- ▶ Not move with swallowing, and associated with fever .



VERY COMMON IN CHILDREN  
( MUMPS VIRAL INFECTION )



# NECK LESIONS

## Lymphadenopathy

1-Infective:

Possible infection

mucocutaneous LN syndrome  
(Kawasaki disease)



# NECK LESIONS

## 2-Neoplastic

**primary** Hodgkin disease

Non- Hodgkin disease

Leukemia (lymphocytic )

**secondary** ca. oral, salivary, nasopharyngeal

malignant melanoma

other mesenchymal tumors



# NECK LESIONS

2-Neoplastic

primary

Hodgkin disease



# NECK LESIONS

2-Neoplastic

primary

Non-Hodgkin disease



# NECK LESIONS

2-Neoplastic

secondary  
metastases



# NECK LESIONS

## 3- Miscellaneous

sarcoidosis

drugs

C.T. diseases

( connective Tissue ) diseases

▶ Thank you

GOOD LUCK

**Alnoor University College**

**Dental 3<sup>rd</sup> year- L. 15**

**General Surgery**



# **Chest injury & Thoracic injury**

**Dr. Adil Tawfeeq Mohammed**

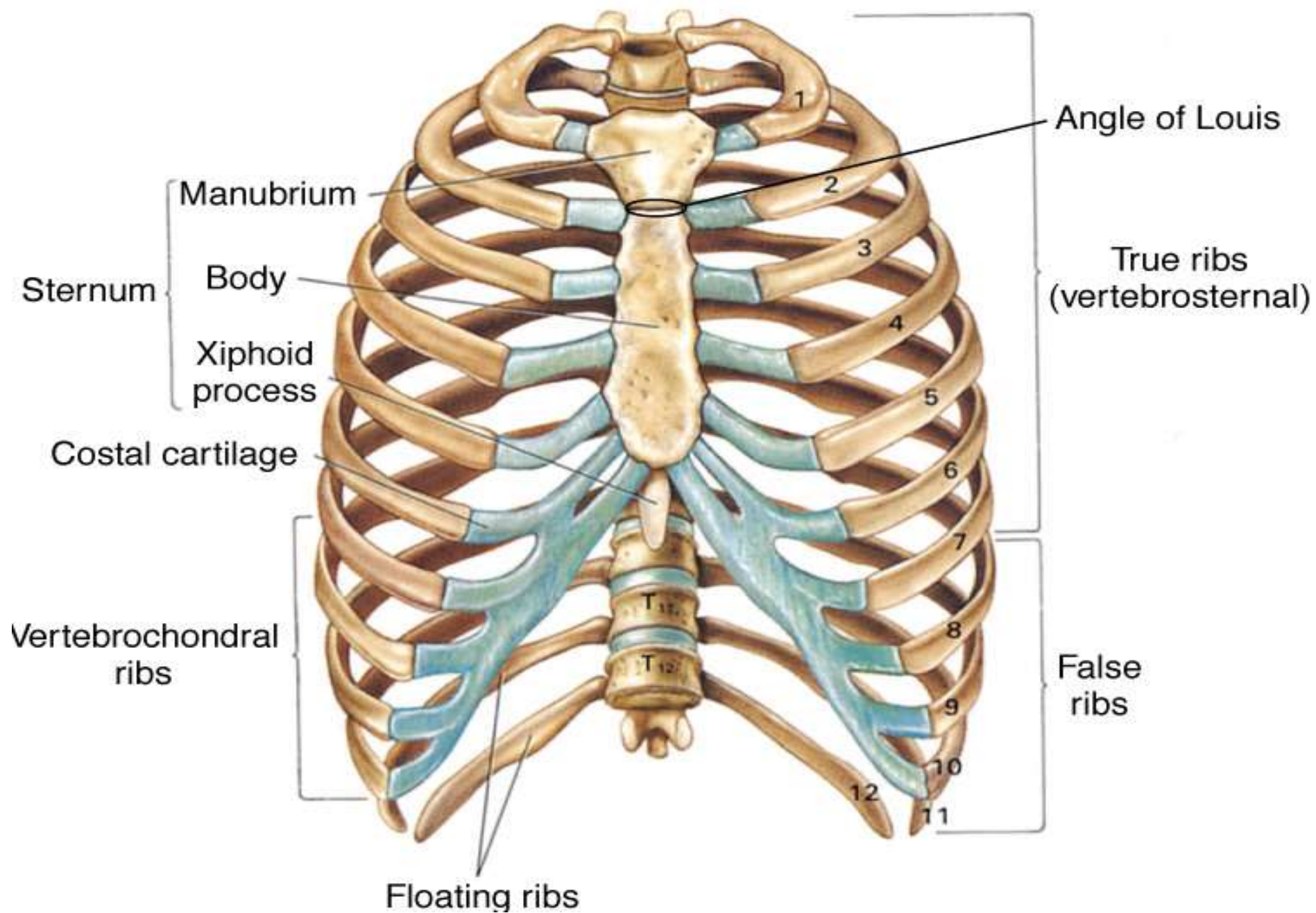
# Introduction

The chest contain the active parts of the most important systems in the body (the respiratory and circulatory systems ). Severe trauma to the chest and or its contents is vital. 28% of all traumatic death are due to chest injury. chest injury in war time are more common than civil.

# Introduction

- Chest injuries may result from:
  - RTA ( road traffic accident )
  - Falls
  - Gunshot wounds
  - Crush injuries
  - Stab wounds





# Types of chest injury

- Penetrating trauma

- Gunshot.
- Stab wounds

- Blunt trauma

- Deceleration( RTA and Falling from height )
- Compression
- Trauma by blunt object

# Assess of the patients with chest injury

- Identify signs and symptoms
  - Airway
  - Breathing
  - Circulation

# Signs & symptoms of chest injury

- Shock
- Cyanosis
- Dyspnoea
- Hemoptysis
- Chest wall contusion
- Flail chest
- Open wounds
- Distended neck veins
- Tracheal deviation
- Subcutaneous emphysema

# Chest wall injuries

- Rib fractures
- Flail chest
- Open pneumothorax

# Rib fractures

- Most common thoracic injury
- Most commonly 5th to 9th ribs
- Localised pain, tenderness, crepitus
- CXR to exclude other injuries
- Analgesia. Avoid taping
- Upper ribs, clavicle or scapula fracture: suspect vascular injury
- Fractures of 8th to 12th ribs can damage underlying abdominal solid organs:
  - Liver
  - Spleen
  - Kidneys

## Flail chest

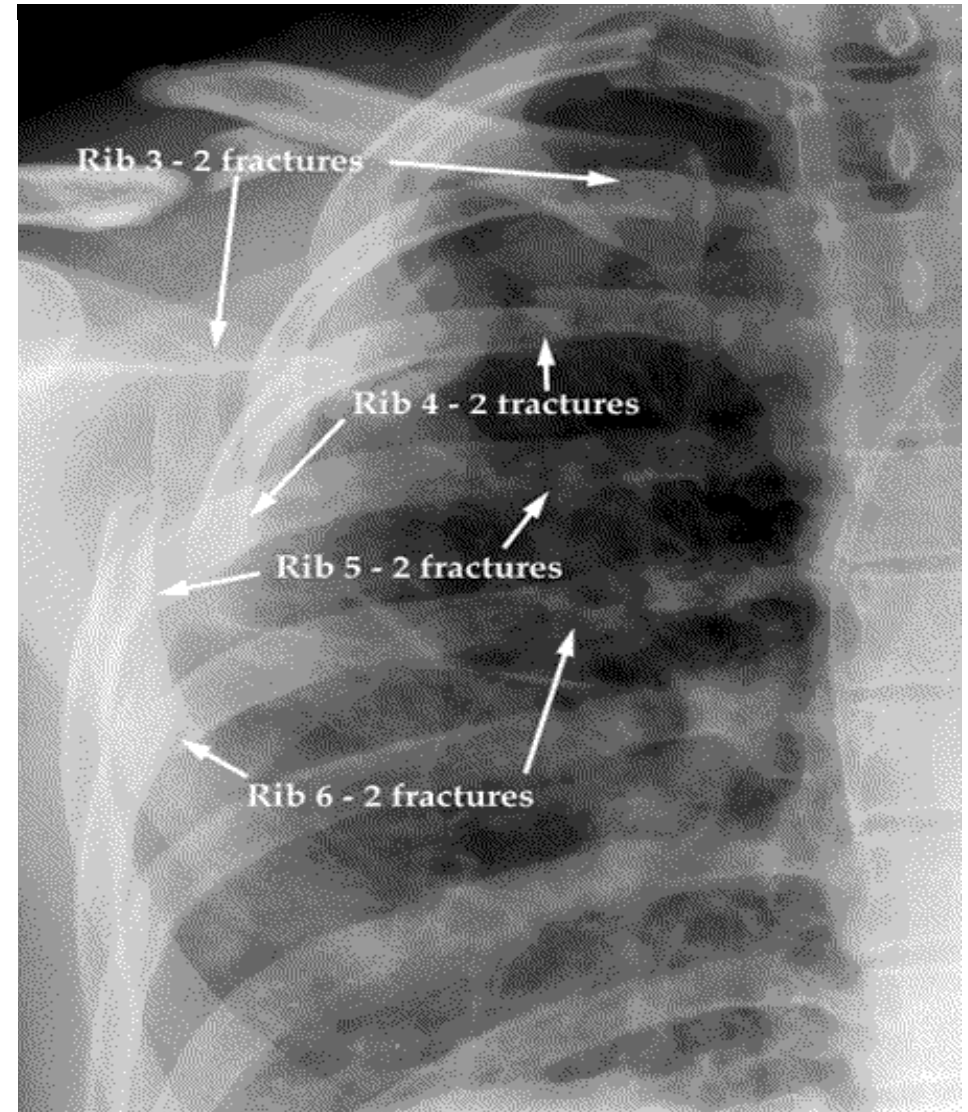
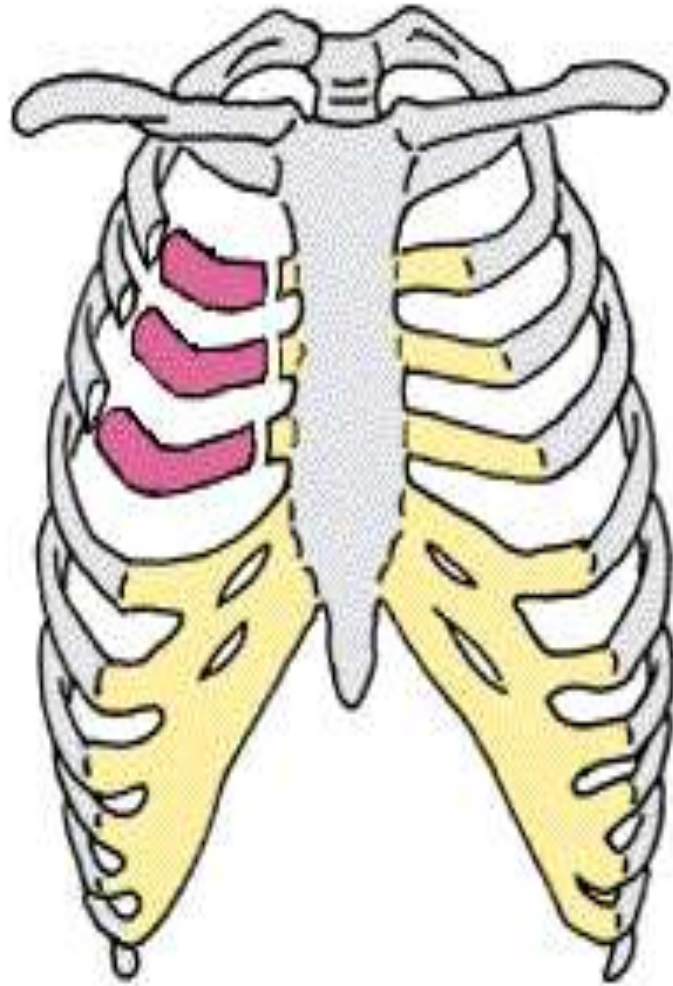
- Multiple rib fractures produce a mobile fragment which moves paradoxically with respiration
- Usually diagnosed clinically, and proved by X-ray.
- Rx: ABC

Analgesia

In severe cases intercostal nerve block may be needed.



# Flail Chest





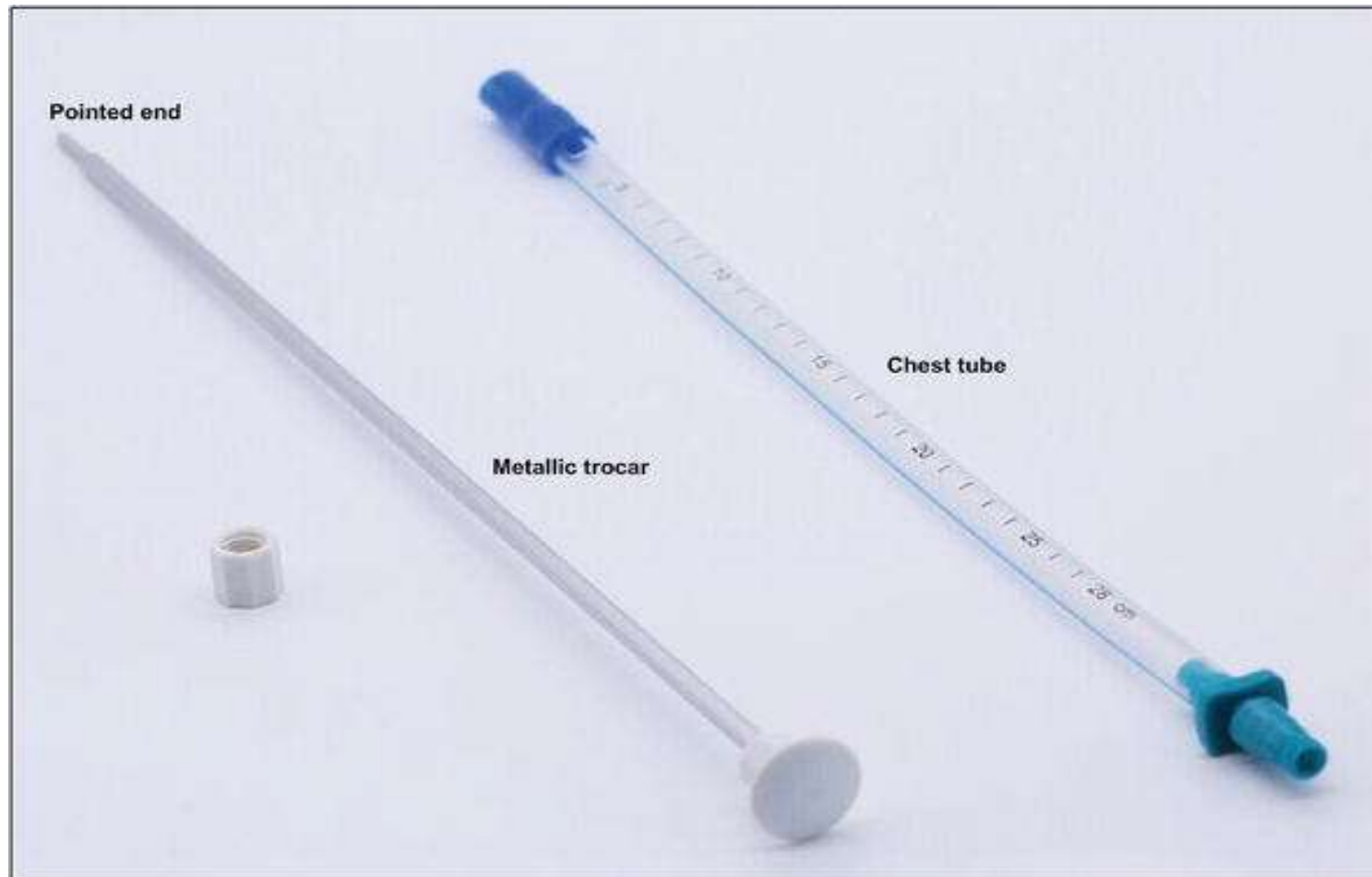
# Pneumothorax

- Air in the pleural cavity
- Blunt or penetrating injury that disrupts the parietal or visceral pleura
- Usually unilateral

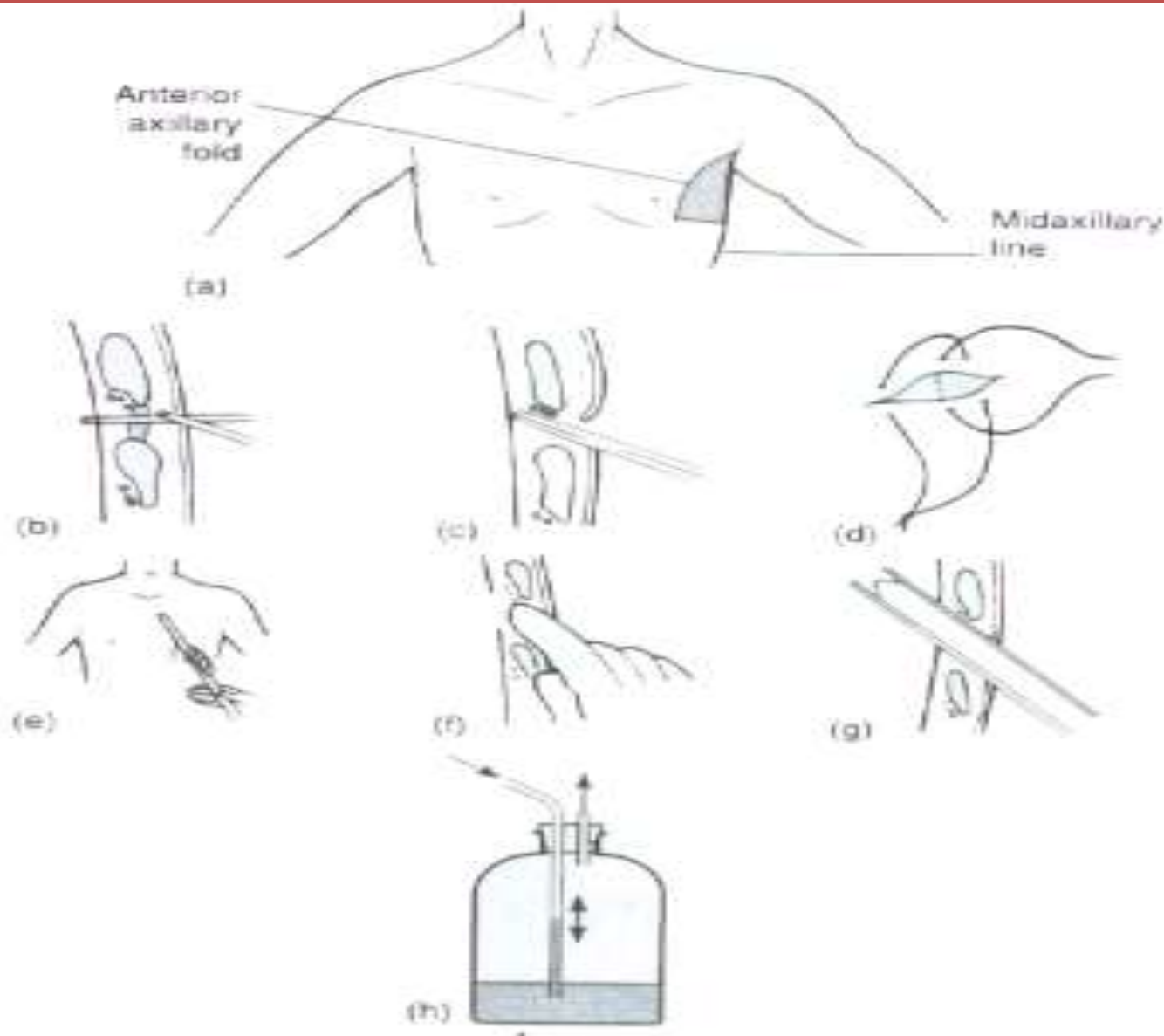
## Signs of unilateral pneumothorax:-

- Reduced or absent movement of that side of chest
- Reduced or absent breathing sounds
- High resonant to percussion
- Confirmed by CXR
- Rx: chest drain

# Chest tube with trocar



# Chest tube application for Pneumothorax

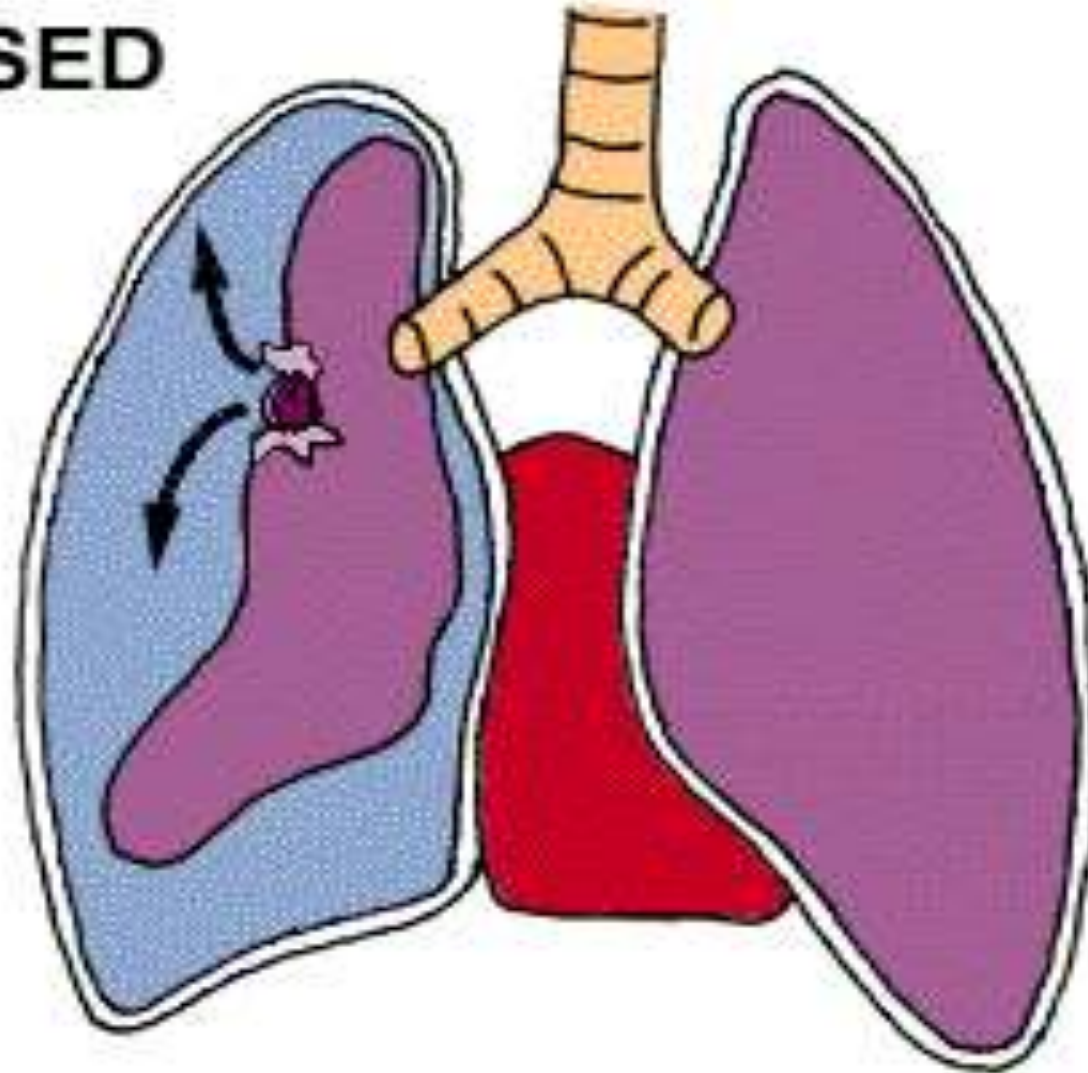


# Chest tube in the right pleural space



# Pneumothorax (closed)

**CLOSED**



# Tension pneumothorax

- Air enters pleural space and cannot escape
- P/C: chest pain, dyspnoea
- Dx: - respiratory distress
  - tracheal deviation (away)
  - absence of breath sounds
  - distended neck veins
  - hypotension

# Tension pneumothorax

- **Surgical emergency**
- Rx: emergency decompression before CXR
- Either large bore cannula in 2nd ICS, or insert chest tube
- CXR to confirm site of insertion

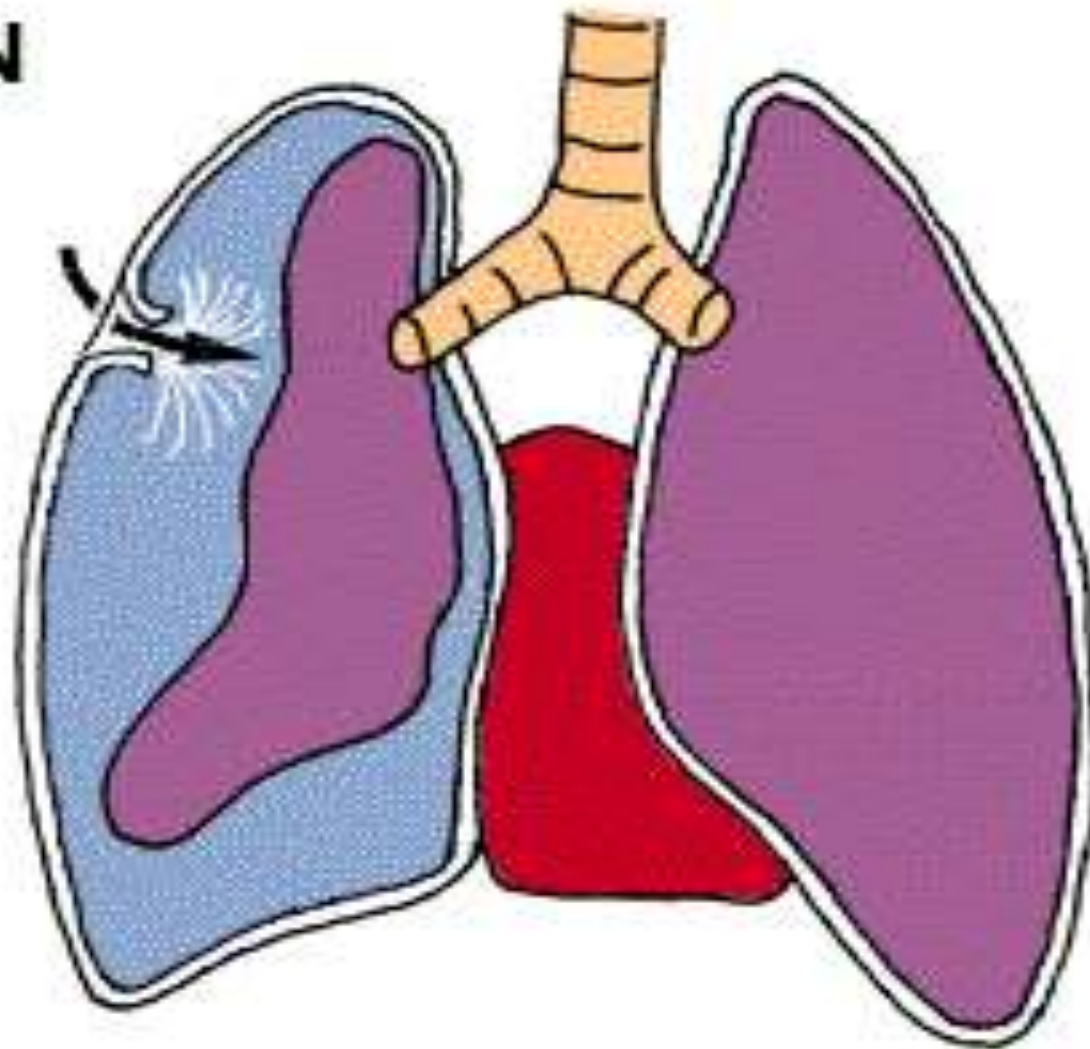
# Open pneumothorax

- Defect in chest wall provides a direct communication between the pleural space and the environment
- Lung collapse and paroxysmal shifting of mediastinum with each respiratory effort  $\pm$  tension pneumothorax
- “Sucking chest wound”
- Rx:
- ABCs...closure of wound...
- Chest drain



# Open Pneumothorax

**OPEN**

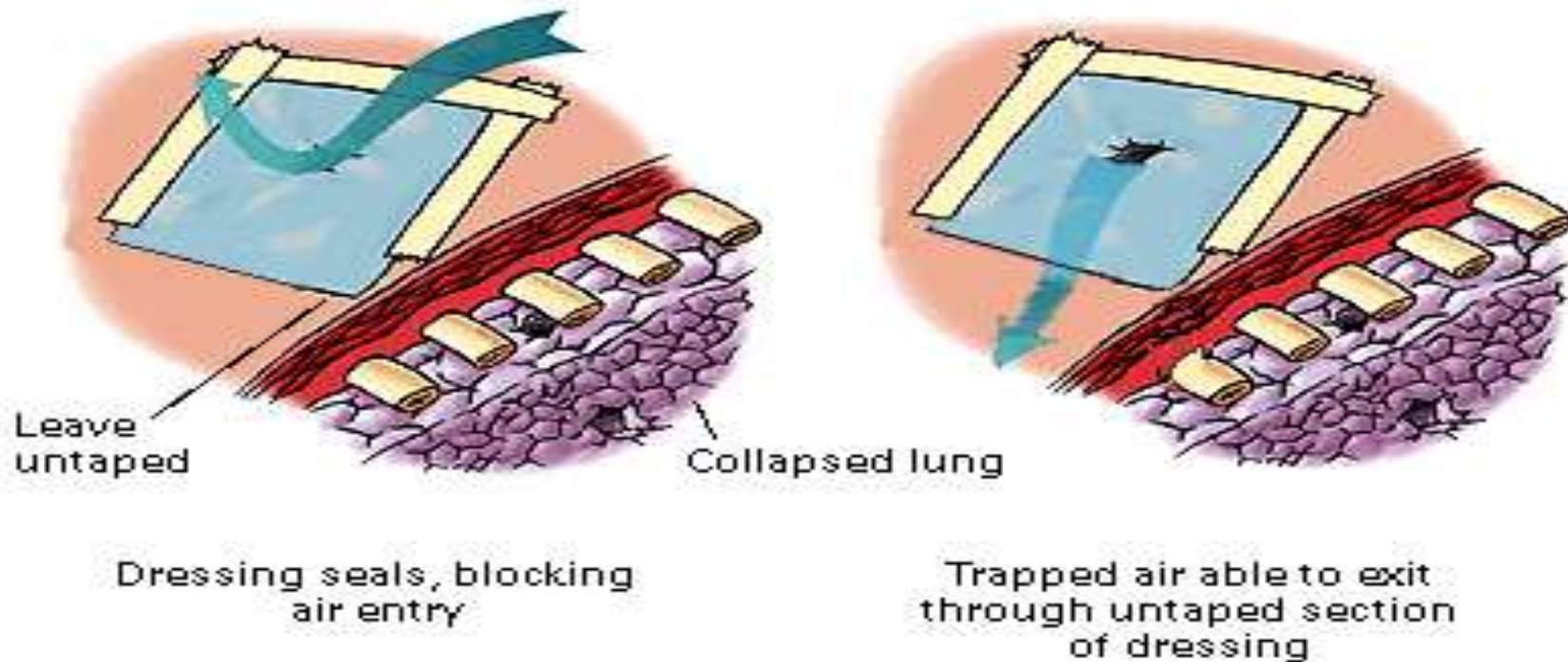


# Open Pneumothorax

## Wound Dressing for an Open Pneumothorax

Inspiration

Expiration



# Haemothorax

- Blunt or penetrating trauma
- Requires rapid decompression and fluid resuscitation
- May require surgical intervention
- Clinically: hypovolaemia, absence of breath sounds, dullness to percussion.
- CXR showing obliteration of costo-phrenic angle, Tracheal shifting to the other side.

## Lung injury

- Pulmonary contusion
- Pneumothorax
- Haemothorax
- Parenchymal injury
- Trachea and bronchial injuries
- Pneumomediastinum

# Heart, Aorta & Diaphragm

- Blunt cardiac injury
  - contusion
- Cardiac tamponade
- Ruptured thoracic aorta
- Diaphragmatic rupture

The end

Thank **you**

# Blood transfusion



**Alnoor University**  
**3<sup>rd</sup> year medical dental students**  
**Lecture 16-G. Surgery**  
**By . Adil Tawfeeq**

The person who gives blood called the **DONOR**  
The person who receives blood called the **RECEPIANT**





# Blood transfusion

**Definition:-** A procedure in which a donated whole blood or parts of blood are provided to a patient's blood stream

**Apheresis:-** A procedure in which blood is collected, part of blood such as platelets or white blood cells is taken out, and the rest of blood is returned to the donor

# Blood transfusion in steps

1. The donor
2. The blood
3. The patient

Blood transfusion could be

a- Whole blood transfusion

b- Part of the blood content transfusion, such as red blood cells, platelets, plasma....

# Donor guidelines

1. The age must be 18-60 years
2. The body weight not less than 50Kg
3. The hemoglobin concentration must be:-
  - In female not less than 12.5g/dl (100ml)
  - In male not less than 13.5g/dl (100 ml)
4. The time between two donations must not be less than 120 days and not exceeds three times donation per year

5. The donor must be healthy and passes the usual medical laboratory tests, including virology tests (HIV, and hepatitis B and C)
6. The donor must not have tattoo recently
7. The donor must not have a history of travelling to a country with endemic diseases, like malaria

# Types of blood

1. Whole blood:-
  - a. Banked whole blood given after donation up to four weeks, used mainly to correct hypovolemia secondary to acute bleeding
  - b. Fresh whole blood, contains red cells, white cells, and platelets, given within 6 hours, used in severe traumatic hemorrhage
2. Packed RBCs, in cases of smaller volume of blood needed as in anemia
3. Platelets, indicated to treat or prevent bleeding in patients with thrombocytopenia or platelet function disorder
4. Fresh frozen plasma FFP, contains clotting factors, fibrinogen, and albumin, indicated for deficiency of coagulation factors in presence of active bleeding

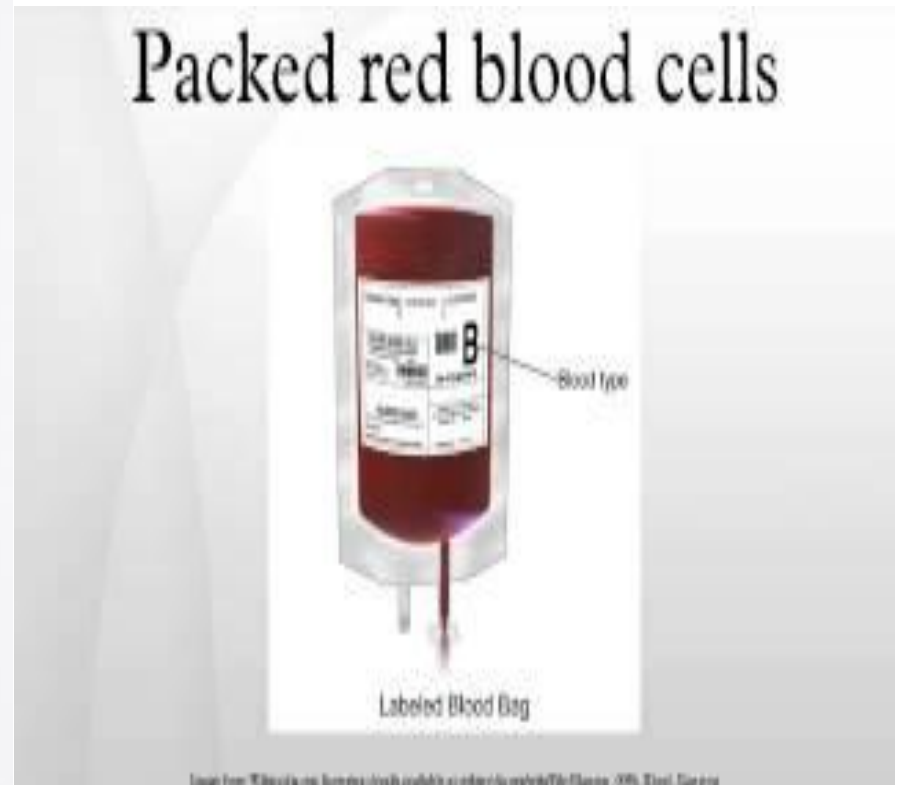
5. Purified protein fraction PPF, consists of albumin and globulin, used mainly as volume expander
6. Concentrated human albumin, used for the treatment of hypoalbuminaemia
7. Cryoprecipitate CPPT, contains clotting factors and fibrinogen
8. Factor VIII AHC (Antihemophilic concentrate), used in hemophilia
9. Dissociated human fibrinogen ( stored in dry form and when used mixed with distilled water, and given I.V. in case of DIC (Disseminated intravenous coagulopathy )

# Whole blood and human albumin

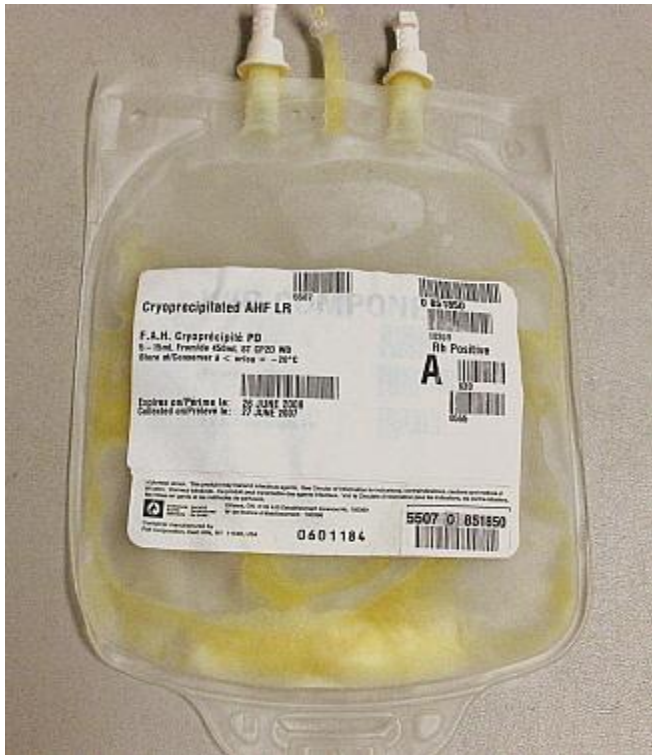




# Fresh frozen plasma and packed RBCs



# Cryoprecipitate and platelets



alamy

Image ID: 2H88X26  
www.alamy.com

# Routs of Blood transfusion

1. Intravenous I.V. blood transfusion
2. Intraperitoneal blood transfusion
3. Intramedullary blood transfusion

# Types of Blood transfusion

The blood transfusion, could be:-

- a. Isotransfusion:- The usual way of blood transfusion, from donor to patient
- b. Auto-transfusion:- blood is removed from donor (patient) and returned to his circulation at later time when needed as for example during the operation

# Technique of blood transfusion

1. Blood aspirated from a healthy donor, 500cc taken in a plastic bag containing anticoagulant liquid, then stored in the blood bank
2. Blood grouping and Rh, for patient and donor, plus cross matching (compatibility) done by
  - a. Long method which takes 1-2 hours (the best)
  - b. Short method which takes 5-15 minute (used in top emergency cases)
3. Blood group O –ve, could be given blindly for extreme emergency cases

4. Blood substitutes can be given Like (Dextran and Hemacele) until cross matching of the blood is ready
5. Before giving the blood:- Check name carefully, use sterile gloves and sets, and don't warm the blood
6. If blood warmed, give it within 1-2 hours rapidly

# Indication of blood transfusion

1. Replacement of blood loss due to:-

- Trauma
- Hemorrhagic conditions
- Major surgery with excessive blood loss

2. Improvement of oxygen carrying capacity, as in anemia, preoperative, debilitating diseases, sepsis

3. Replacement of clotting factors, serum protein, fibrinogen...

# Complications of blood transfusion

## 1. Hemolytic reaction, blood incompatibility

- There is intravascular destruction of RBCs leading to liberation of haem fraction from the haemoglobuline molecule and this will be deposited in the renal tubules leading to acute tubular necrosis and collapse of circulation and it may cause death
- The clinical picture:- Fever, rigor, chills, loin pain, hematuria and anuria

Treatment:

- Stop blood transfusion immediately
- Give large dose of mannitol to enhance diuresis
- I.V. fluid, and  $\text{NaHCO}_3$  for alkalization of urine



## Complications of blood transfusion

2. Allergic reaction, presented by itching and urticarial rash
  - Treated by antihistamine, and hydrocortisone
3. Pyrexia reaction due to pyrogens
4. Bacterial sepsis specially when the blood kept outside, for long time
5. Infections like malaria, HIV, and Hepatitis B & C viruses
6. Thrombophlebitis
7. Air embolism ( rare )

The end

Good luck

# **BURN**

Dr. Ghanem H Alsaffar

M.B.Ch.B CABS MRCS Ireland

**Burns** are severe skin damage that causes the affected skin cells to die

**Causes:** thermal, electrical, chemical

## **1. Thermal**

- Fire and hot liquids are the most common causes of burns
- Scalding is caused by hot liquids, scald injuries are most common in children under the age of five

## 2. Electrical

Electrical burns or injuries are classified as:

- High voltage (greater than or 1000 volts)
- low voltage (less than 1000 volts)
- Flash burns secondary to an electric arc
- Lightning may also result in electrical burns
- Electrical injuries primarily result in burns, they may also cause fractures or dislocations secondary to muscle contraction, rhabdomyolysis also may occur
- Contact with either low voltage or high voltage may produce cardiac arrhythmias or cardiac arrest

# Electrical burn



### 3. Chemical

- Most of which are either a strong base or a strong acid
- Most chemical burn deaths are secondary to ingestion
- Common agents include: sulfuric acid as found in toilet cleaners, sodium hypochlorite as found in bleach, and halogenated hydrocarbons as found in paint remover
- Chemical and electrical burns warrant immediate medical attention because they can affect the inside of the body, even if skin damage is minor

# Chemical burn





## 4. Radiation

- Radiation burns may be caused by protracted exposure to ultraviolet light, such as from the sun
- From ionizing radiation, such as from radiation therapy, X-rays or radioactive fallout
- Sun exposure is the most common cause of radiation burns and the most common cause of superficial burns overall, there is significant variation in how easily people sunburn based on their skin type
- Skin effects from ionizing radiation depend on the amount of exposure to the area, usually associated with hair loss

# Radiation burn



## **First-degree burn**

- First degree burns are a minor burns affect only the outer layer of the skin (epidermis), they cause minimal skin damage
- Signs of a first-degree burn include: minor inflammation, pain, redness and non blistering skin dry skin
- Since this burn affects the superficial layer of skin, the signs and symptoms disappear once the skin cells shed
- First-degree burns usually heal within 7 to 10 days without scarring
- Treatments for a first-degree burn include:  
  
soaking the wound in cool water for five minutes or longer, but without using ice, as this may make the damage worse, it is reasonable to manage first degree burns without dressing

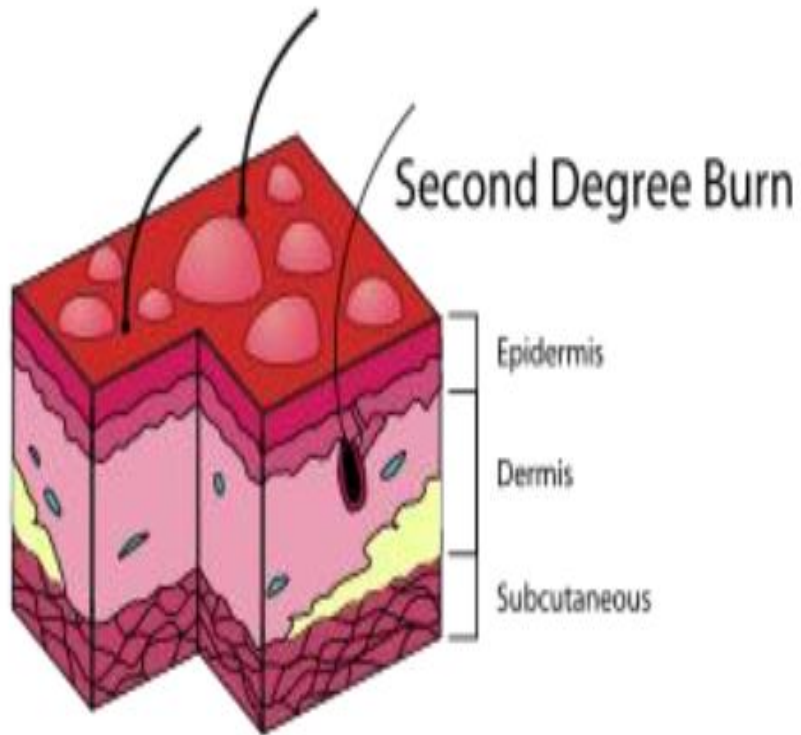
# First degree burn



## **Second degree burn**

- Second degree burn affects both epidermis and dermis of the skin
- This type of burn causes the skin to blister and become extremely red and sore, some blisters open, giving the burn a wet or weeping appearance, over time, thick, soft, scab-like tissue called fibrinous exudate may develop over the wound
- Most second-degree burns heal within two to three weeks without scarring, but some take longer than three weeks to heal, and often with pigment changes to the skin

# Second degree burn



Treatments for second-degree burn include:

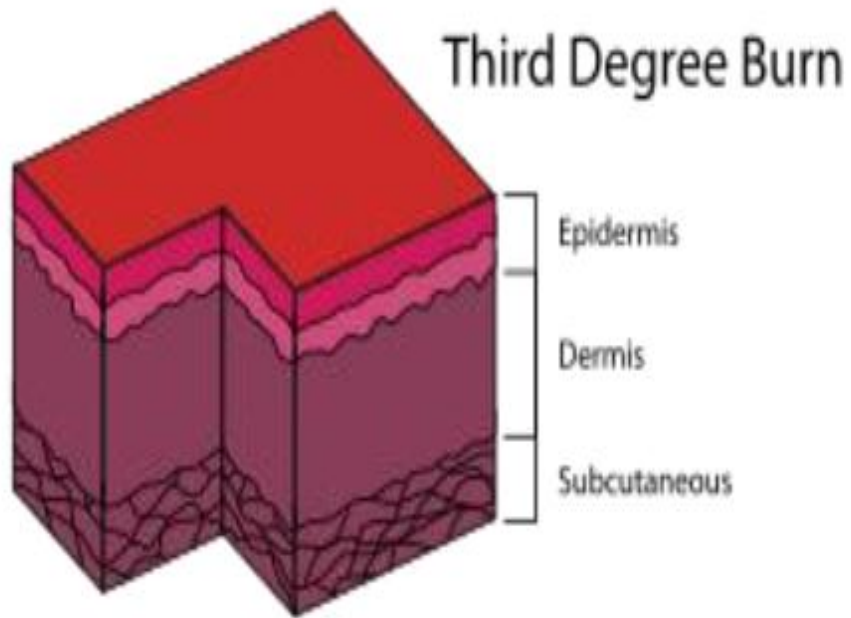
- Running the skin under cool water for 15 minutes or longer, may require cleaning with soap and water, followed by dressings
- For blisters, it is reasonable to leave them intact if small and drain them if large
- Applying antibiotic cream to blisters
- Need admission to hospital if the burn affects a widespread area, or affection of face, hands, feet, or groin

## **Third-degree burn**

- They cause the most damage, extending through every layer of skin to reach the fat under the skin
- Damage is so extensive that there may not be any pain because of nerve damage
- Depending on the cause, the symptoms include, waxy and white color, or dark brown color, raised and leathery texture
- Without surgery, these wounds heal with severe scarring and contracture
- Burns usually require surgical treatments, such as skin grafting



# Third degree burn



## **A fourth-degree burn**

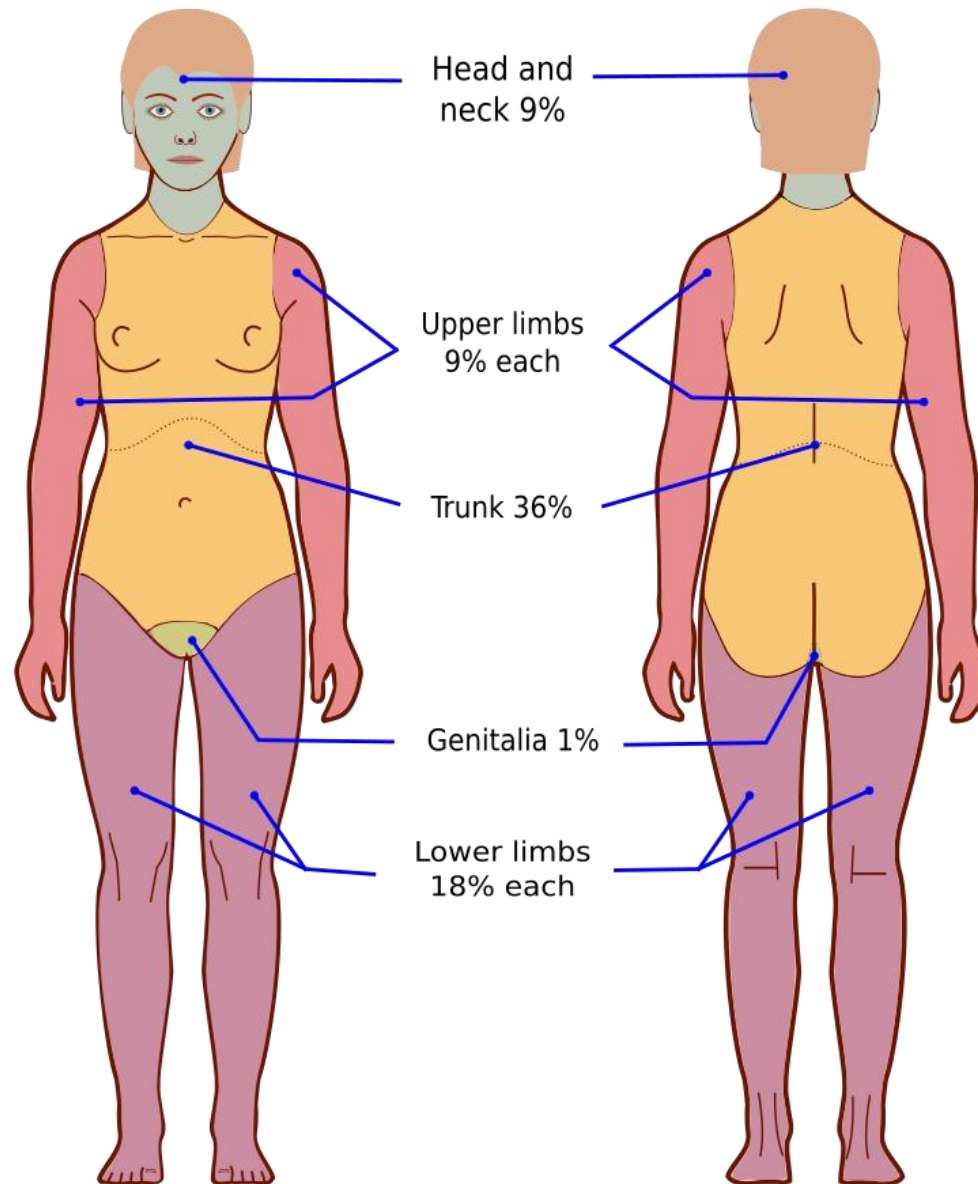
- Involves injury to deeper tissues, such as muscle, tendons, or bone
- The burn is often black and frequently leads to loss of the burned part

## Fourth degree burn



## Diagnosis

- The size of a burn is measured as a percentage of **total body surface area (TBSA)** affected by partial thickness or full thickness burns
- First-degree burns are not included in this estimation
- There are a number of methods to determine the TBSA, but the easiest is the **rule of nines**
- Head and neck 9%, upper limb 9%, lower limb 18%, trunk anterior 18%, trunk posterior 18%, and genitalia 1%
- In children with more than 10% TBSA burns, and adults with more than 15% TBSA burns, formal fluid resuscitation and monitoring should follow



# Pathophysiology

- At temperatures greater than 44 °C, proteins start breaking down, this results in cell and tissue damage
- There is failure of many normal skin functions to be performed, which include, protection from bacteria, body temperature regulation, and prevention of evaporation of the body's water, disruption of these functions can lead to infection, dehydration
- In large burns (over 30% of the total body surface area), there is a significant inflammatory response, this results increased leakage of fluid, this causes overall blood volume loss, poor blood flow to organs like the kidneys and gastrointestinal tract may result in kidney failure and stomach ulcers

## Complications

1. Infections, most common, pneumonia, cellulitis, urinary tract infections and respiratory infection
2. Anemia secondary to full thickness burns of greater than 10% TBSA
3. Electrical burns may lead to compartment syndrome or rhabdomyolysis due to muscle breakdown
4. Blood clotting in the deep veins of the legs, DVT
5. Keloids may form subsequent to a burn, particularly in those who are young and dark skinned, scarring may also result in a disturbance in body image
6. Systemic complication including immunosuppression, sepsis, tissue damage, and multiple organ failure

## Prognosis

- The prognosis is worse in those with large burns, those who are old, and those who have co-morbidities (e.g. heart disease, diabetes...)
- On average, of those admitted to hospital 4% die with the outcome for individuals dependent on the extent of the burn injury
- For example, admitted patients with burn areas less than 10% TBSA had a mortality rate of less than 1%, while admitted patients with over 90% TBSA had a mortality rate of 85%
- The main causes of death is systemic complications secondary to large inflammatory response, and multiple organ failure
- Systemic effects manifest with patients with burns of more than 25% TBSA or smaller proportions in children