In the name of Allah
The most gracious, The most merciful

# CASES IN SURGERY

**Short cases, Long cases & OSPE**

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## EXAMINATION OF ULCER

**A. Greetings, introduction and permission:**

আসসালামুয়ালাইকুম। আমি এমবিবিএস পরিক্ষার্থী/৫ম বর্ষের একজন ছাত্র/ছাত্রী। আমি আপনার কিছু পরিক্ষা করবো, আপনার কোন সমস্যা হবে না।

**B. History, exposure and inspection:**

1. আপনার কি সমস্যা?

   Answer: রোগী বলবে ওমুক জায়গায় ঘা/আলসার হয়েছে।
2. **Exposure:** If patient is female- 'Sir, I need female attendent (and screening if in private part) for examination of the patient.'
3. এটা কিভাবে শুরু হয়েছে?
   - Spontaneous
   - Traumatic
4. কতোদিন ধরে?
   - Acute
   - Chronic
5. এখানে কোন ব্যাথা আছে?
6. শরীরের অন্য কোথাও আছে কি না?
7. আপনার আর কোন রোগ আছে কি না যেমন- DM(Diabetic foot), HTN, TB, any disease affecting nervous system ( স্নায়ুতন্রের কোন রোগ আছে কি না?)
8. আপনি ধূমপান করেন কি না? [Risk factor for Buerger's disease]
9. **Inspection:** Ulcer এবং তার চারপাশে ভালোভাবে দেখে নেব। যা যা লক্ষ্য করবো-

**Site, Size & Shape, Number, Edge, Margin, Floor, Discharge, surrounding skin**

a. **Site:**

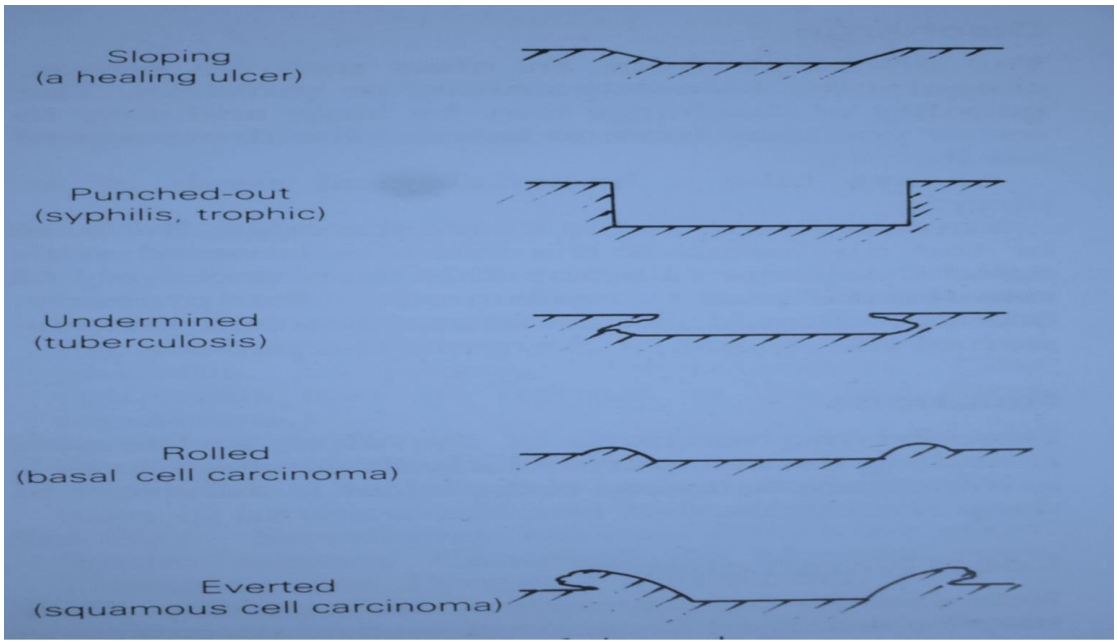
**Traumatic:** Any where
**Venous:** Leg; just above the medial malleolus

**Arterial:** Tip of the toes and fingers, around the ankle, dorsum of the foot
**Neurogenic/ perforating:** Over sole, at pressure point
**Diabetic:** Foot; any where
**Epithelioma:** Lip, tongue, cheek, penis, anus, palm etc
**Rodent ulcer:** Upper half of face
**Malignant melanoma:** Anywhere, in female – lower leg, in male – front or back of the trunk, sole, palm, beneath nail.
**Tuberculous:** Neck, axilla, groin
**Syphilitic:** Genitalia, mouth, vulva, anal region.

b. **Size & Shape:** Size important to know to determine time required for ulcer to heal.

**Tuberculous ulcer:** Oval (coalescence: irregular crescentic border)
**Syphilitic ulcer:** Circular / semilunar, unite to form a serpiginous ulcer
**Varicose ulcer:** Vertically oval
**Carcinomatous ulcer:** Irregular in shape and size

c. **Number:** Tubercular, varicose, syphilitic ulcer may be more than one in number.
d. **Edge:**
    a) **Undermined:** Ulcer spreads in & destroys subcutaneous tissue faster than destroying the skin. Overhanging skin is thin, friable, reddish blue, & unhealthy. E.g. Tuberculosis
    **b) Punched out:** Edge drops down at right angle to the skin surface as if was cut out with a punch. Do not tend to spread to the surrounding tissue. E.g. Gummatous ulcer/ deep trophic ulcer
    c) **Sloping**: In healing traumatic / venous ulcer. Healing ulcer →sloping edge→reddish purple in color & consist of new healthy epithelium
    d) **Raised:** Develops in invasive cellular disease and becomes necrotic atthe centre.**e.g.** Rodent ulcer
    **e) Rolled out (Everted):**
        - ✓ Feature of SC/ ulcerated adenocarcinoma
        - ✓ Caused by fast growing cellular disease →growing portion heaps up & spills over the normal skin→ produce everted edge




**e. Floor:**

**Red granulation tissue:** Healthy & healing
**Pale & smooth granulation tissue:** Slow healing ulcer
**Wash-leather slough – pale, yellowish, greyish :** Gummatous ulcer (TB)
**Penetrate down to bone:** Trophic ulcer
**Black mass at floor:** Malignant melanomas

**f. Discharge:** Quality, color, smell
**g. Surrounding skin***:* Color, texture, scar, visible vein, hair distribution

**C. Palpation:**

a. **Temperature of the surrounding skin:** Dorsum of the hand দিয়ে Normal-surrounding skin of ulcer - Normal; এই sequence এ temperature দেখবো।
b. **Tenderness:** Gloves দুই হাতে পড়ে নিবো এবং রোগির মুখের দিকে তাকিয়ে ulcer এর margin এ press করবো।
c. **Edge and margin** আঙ্গুল দিয়ে palpate করবো।
d. **Base:** look for induration. Floor এ index finger দিয়ে চাপ দিয়ে induration feel করবো।

**Benign chronic ulcer:** Slight induration
**Malignant ulcer:** Marked induration

e. **Bleeds on touch:** Index finger এ দেখবো কোন রক্ত লেগে আছে কি না। Bleeds on touch present in: Malignant ulcer

f. **Mobility or fixity:** Index and thumb দিয়ে দুই পাশের margin ধরে দুই direction এ নাড়ানোর চেষ্টা করবো।

Mobile: Benign ulcer
Fixed ulcer: Malignant ulcer

**g. Examination of lymph nodes: Only in diseased side.**

a) **Acute inflamed ulcers:** Regional lymph nodes enlarged, tender (acute lymphadenitis) → Nodes soften to form abscess
b) **Tuberculous ulcer:** Lymph nodes enlarged, matted, & slightly tender.
c) **Hunterian chancre**: Regional lymph node are discrete, firm, shotty.
d) **Malignant ulcer:** Nodes are stony hard & fixed to neighboring structure in late stages

**h. Examination for vascular insufficiency:** Bilaterally peripheral pulse palpate **করে দেখবো।**

a) **When ulcer is on the lower part of the leg:** Search for varicose veins in upper part of leg /thigh
b) **If no varicose vein/ cause undetermined:** Must examine condition of arteries proximal to ulcer.
c) **Atherosclerosis, Buerger's disease & Raynaud's Disease**: May be cause of ulcer due to poor circulation

**i. Examination for nerve lesion: একটা তুলা নিয়ে** (Fine touch) and **একটা পিন নিয়ে** dermatome **অনুযায়ী** distal to proximally bilaterally sensation **দেখবো।**

**Trophic ulcers:** Repeated trauma to an insensitive part of the patients body →indicates some neurological disturbance in the form of tabes dorsalis/ transverse myelitis/peripheral neuritis.
Seen in the sole (weight bearing zone).

j. **Movement of joint:** Ulcer কোন জয়েন্ট এর উপর থাকে তাহলে ওই জয়েন্টের একটিভ এবং প্যাসিভ মুভমেন্ট দেখতে হবে।

k. **Thanks giving:** "আপনাকে ধন্যবাদ" বলে কাপড় ঠিক করে দিবো।

**Description: For example:**

There is an ulcer in dorsum of left leg measuring about 4cmX5cm which is circular in shape with slopping edge, floor is covered with red granulate tissue, discharge is serous. Surrounding skin is soft and free from congestion.

Temperature of affected part and surrounding skin is raised/normal. Ulcer is non tender, margin is well defined and swollen. Base is not indurated and does not bleed on touch. The ulcer is mobile and not fixed with underlying structure. Surrounding skin sensation is normal, no motor deficit and pulsation present. Regional lymph nodes are not palpable.

So, this may be a non specific healing ulcer.

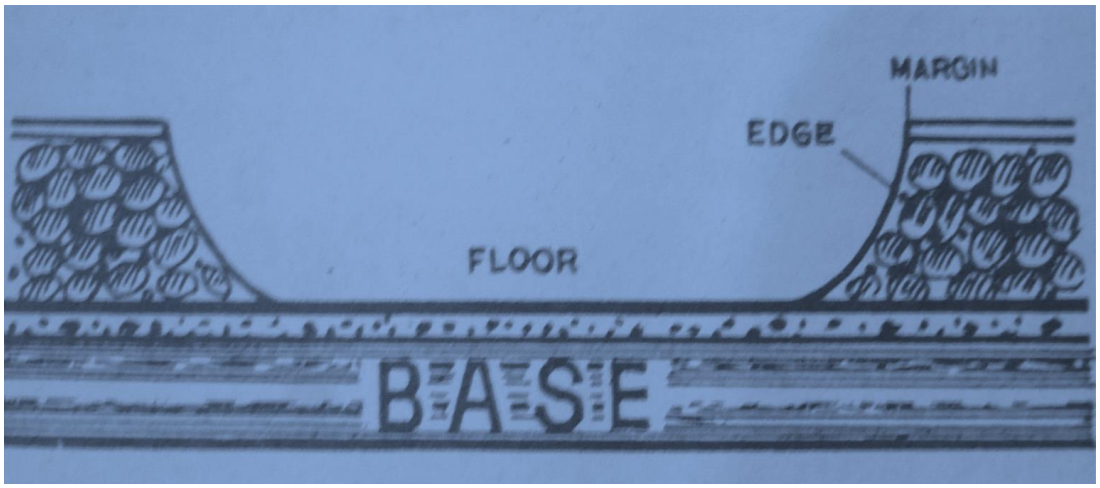
## CROSS QUESTIONS

**Definition:**

Breech in continuity of surface epithelium due to sloughing out of inflammatory necrotic tissue.

**[Lecture of MMC]**

**Parts of an ulcer:**




**Margin:** The junction between normal epithelium and the ulcer.
**Edge**: The area between the margin and the floor. Five common types found in surgical practice
**Floor**: Exposed surface of the ulcer.
**Base:** On which the ulcer rests. It is better felt than seen.
**Classification:**
**Clinically:** 3 types

1. Spreading ulcer
2. Healing ulcer
3. Chronic/callous ulcer

**Spreading ulcer:**

- ✓ Surrounding skin is inflamed
- ✓ Floor is covered with profuse and offensive slough without any granulation tissue
- ✓ Draining lymph nodes are enlarged, tender
- ✓ This is painful ulcer

**Healing ulcer:**

- ✓ Floor is covered by healthy granulation tissue
- ✓ Edge is reddish with granulation

- ✓ Margin is bluish with growing epithelium
- ✓ Discharge is slight and serous

**Chronic ulcer:**

- ✓ Floor is covered with pale granulation tissue
- ✓ Base, edge, surrounding skin is indurated
- ✓ No tendency of healing e.g. gummatous ulcer

**Pathological classification:** 3 types

1. Non specific ulcer
2. Specific ulcer
3. Malignant ulcer

**Non-specific ulcer:** This can be further classified as

- ✓ Traumatic e.g. dental ulcer
- ✓ Arterial e.g. Buerger's disease
- ✓ Venous e.g. varicose ulcer
- ✓ Neurogenic / Trophic e.g. bed sore
- ✓ Ulcer associated with malnutrition
- ✓ Ulcer associated with gout, rheumatoid arthritis, Diabetes

**Specific ulcer:**

- ✓ Tuberculous
- ✓ Syphilitic
- ✓ Actinomycosis

**Malignant ulcer**:

- ✓ Epithelioma
- ✓ Marjolin's ulcer

**Stage of an ulcer:**

1. **Stage of extension/spreading/sloughing:**
   **Edge:** Sharply defined, thickened and inflamed
   **Floor:** Covered with exudate and slough
   **Discharge:** Often purulent and blood stained
   **Base:** Indurated and fixed
2. **Stage of transition/preparation for healing:**
   **Floor:** Becomes clear. Small, reddish areas of granulation tissue appear which link up ultimately to cover the whole surface.
   **Discharge:** Becomes serous
   **Base**: Induration diminishing
3. **Stage of repair:** May show signs of healing or characteristics of callous ulcer.
   **Signs of healing:**
   **Edge:** Shelving
   **Discharge:** Merely serous if surface is kept at rest
   **Floor:** Smooth and even red granulation tissue covered by single layer of epithelium. Granulation tissue transforms into fibrous tissue which gradually contracts to form scar.
   **Base:** Free from fixity.
   **Surrounding skin:** Soft, flexible and free from congestion.

**Signs of indolent or callous ulcer:**

**Edge:** Thickened, oedematous, indurated and often discoloured.
**Floor:** Covered with pale unhealthy granulation tissue.
**Base:** Indurated
**Surrounding skin:** Oedematous and indurated

**Investigations:**

1. Discharge for c/s (Wound swab for C/S if discharge is not present)
2. Incision and biopsy (If >2cm) or excision & biopsy (If <2cm)
3. Local x-ray
4. FNAC from the lymph node (if any)
5. Blood – CBC, sugar
6. Chest x-ray, USG of abdomen (for staging)

**Principle of management of an ulcer:**

**A.** Determine the etiology
**B.** Treatment of aetiology
**C.** Identify and correction of co-morbid factor
**D. Treatment of local ulcer:**
    1. Accurate assessment of ulcer
    2. Adequate drainage & desloughing
    3. **Proper broad spectrum antibiotic**: According to c/s
    **4.** Proper dressing (ideal dressing):
        - ✓ Soft
        - ✓ Absorbent
        - ✓ Non-adherent
        - ✓ Non-allergic
        - ✓ Maintain high humidity
        - ✓ Permit gaseous exchange but not micro organism
        - ✓ Avoid antiseptic in dressing as –impair capillary circulation and toxic to granulation tissue.

**Slough:** Necrotic tissue often after the ulcer center is called slough.

**Scab:** Slough and small amount of discharge may dry and form scab.

**Eschar:** A layer of dead tissue may become dehydrated and form a dark brown or black eschar. E.g. after burn or ischemic necrosis.
**Necrosis:** Spectrum of morphologic change that follow cell death in living tissue, largely resulting from progressive degradative action on lethally injured cell.

**Signs of chronic ischemia:**

1. Thinning of skin
2. Loss of hair distribution
3. Loss of subcutaneous fat
4. Shininess of skin
5. Tropic changes – brittle nail

6. Minor ulceration – heel, medial malleolus, ball of foot, toes.

**Signs of pregangrene:**

1. Rest pain
2. Color changes
3. Hyperesthesia
4. Ulceration (may or may not)

**Signs of gangrene:**

1. Color change (pale → bluish purple →black)
2. Loss of temperature
3. Loss of sensation
4. Loss of pulsation
5. Loss of function

## SURGICAL JAUNDICE (OBSTRUCTIVE JAUNDICE)

**Definition:**

Jaundice due to mechanical obstruction to the biliary tree, usually in the common bile duct which can be corrected surgically.

**[Lecture of MMC]**

**Causes:**

**A. In the lumen:**
   1. Stone
   2. Round worm

**B. In the wall:**
   1. Stricture:
      - ✓ Post-operative
      - ✓ Sclerosing cholangitis
      - ✓ Congenital atresia
   2. Cholangiocarcinoma

**C. Outside the wall:**
   1. Periampullary carcinoma
   2. Ca of head of pancreas

**Common causes:**

- ✓ Choledocholitiasis
- ✓ Periampullary carcinoma
- ✓ Ca of head of pancreas

**[Lecture of MMC]**

**Common Bile Duct Stones:**

**Primary**:

- ✓ Formed in bile duct itself

- ✓ Brown pigment stones

**Secondary**: Formed in gallbladder and enters CBD (Cholesterol stones).

**Surgical approach to case of jaundice:**

**A. First identify the type of jaundice:** Haemolytic, hepatocellular or obstructive

**Haemolytic:**
- ✓ Usually at young age
- ✓ Mild jaundice
- ✓ Anaemia = +
- ✓ Organomegaly= Hepatosplenomegaly

**Hepatocellular:**
- ✓ Mild to severe jaundice
- ✓ Fever
- ✓ Pain in right hypochondrium

**Obstructive:**
- ✓ Severe jaundice
- ✓ May be associated with pain and fever

**B. Locate the site of obstruction:**

**1. Stone of CBD:** *[Painless intermittent jaundice é fever]*
- ✓ Painful
- ✓ Fever
- ✓ **Intermittent jaundice:** When obstructs jaundice present. But when pressure of bile increases, multifaceted stone rotate and bile passes by causing disappearance of jaundice.

**2. Ca of head pancreas and cholangiocarcinoma:** *[Painless progressive jaundice]*
- ✓ Painless
- ✓ **Progressive jaundice:** As tumour enlarges and causes increasing pressure effect causing progressively increasing jaundice.

**3. Periampullary Ca:** *[Painless fluctuating jaundice]*
- ✓ Painless
- ✓ **Fluctuating jaundice:** As the mass increases more rapidly than angiogenesis, there is necrosis of growing part. So, jaundice reduces but doesn't touch the baseline. When mass grows again, jaundice increases.

**[Lecture of MMC]**

**Management:**

**A. Symptoms:**

**1. Pain:**
- ✓ In right hypochondrium
- ✓ Colicky in nature
- ✓ Radiating to inferior angle of scapula or tip of righr shoulder
- ✓ Aggravated by fatty foods and relieved by medication
- ✓ Associated with nausea and occasional vomiting.

**2. Fever:** Intermittent fever with chills and rigor if cholangitis develops.

**3. Jaundice:**
- ✓ Intermittent (If due to stone)/ Progressive (If due to Ca of head pancreas)/ Fluctuating (Periampullary Ca)

- ✓ Generalized itching, more in trunks and extremities
- ✓ Dark coloured urine
- ✓ Pale offensive bulky stool which float on water (In the pan)

**B. On GE:**

Anaemia: May be present in malignancy
**Jaundice (**See in symptoms)
Temperature: May be raised in cholangitis
**Skin condition:** Scratch mark over chest and abdomen
Dehydration: Present
Lymph node: Palpable in malignancy

**Per abdomen:**

Tenderness in right hypochondrium
Lump in epigastrium: Ca head of pancreas
Gall bladder:
Palpable: Ca head of pancreas
Impalpable: Choledocholithiasis
Liver: May be enlarged in malignancy
Ascites: Present in malignancy
DRE: Pelvic deposition may be present in Ca of head of pancreas

**Investigations:**
**Specific:**

**A. USG of HBS and pancreas:**
**Findings:** Dilated CBD proximal to obstruction

**B. Liver function tests:**

1. **Serum bilirubin:** Total, conjugated and unconjugated bilirubin
   - ✓ Increased direct bilirubin (Suggests obstructive type)
2. ALP: Elevated > 10 times normal is strongly suggestive of obstruction
3. Gamma-glutamyl transferase: Simultaneous elevation confirms obstruction (increases up to 40 fold)

**Sources of gamma-glutamyl transferase:**

- ➢ Hepatocyte
- ➢ Bile duct epithelium
- ➢ Reticuloendothelial system
- ➢ Placenta
- ➢ Testes and ovary

4. **Prothrombin time with INR** (International Normalized Ratio): Vitamin K is fat soluble vitamin, absorption of which requires presence of bile salts in intestine which is absent in patients with obstructive jaundice due to obstruction. So, reduced absorption of vit K dependent clotting factor leads to prolonged PT.
5. **SGPT and SGOT:** Normal or slightly raised

**C. Ba-meal X-ray:** To see Ca head of pancreas.

- ✓ Widening of C curve
- ✓ Duodenul appearance inverted three sign

- ✓ Irregular filling defect of duodenum: Rose thorn pattern

D. **Endoscopic retrograde cholangiopancreatography (ERCP):** When USG shows dilated extrahepatic biliary tree but cause is unknown.
E. **Magnetic resonance cholangiopancreatography (MRCP)**
F. **CT scan of abdomen:** More specific in detecting the level of obstruction and the cause of obstruction than ultrasound.
G. **PTC (**Percutaneous transhepatic cholangiopancreatography): When USG shows dilated intrahepatic biliary tree but cause is unknown.

**Routine:**

1. CBC
2. Urine RME
3. RBS
4. S. Creatinine
5. S. calcium
6. CXR
7. ECG
8. HBs Ag

**Treatment:**

**A. Preoperative preparation in a case with obstructive jaundice:**

**Metabolic problems in a patient with obstructive jaundice:**

1. Malnutrition
2. Increased incidence of infection: Because static bile is highly infective
3. Bleeding tendency due to deficit of vitamin K
4. **Renal problems:** Increased chance of renal failure in postoperative period (hepatorenal syndrome).

**Causes:**

- ✓ Gram-negative endotoxemia (Most common cause)
- ✓ Decreased intravascular volume
- ✓ Kidneys are more sensitive to ischemia
- ✓ Bile salt deposition in the renal tubules
- ✓ Anemia
- ✓ Diminished carbohydrate reserve
- ✓ Dehydration

Preoperative preparation involves correction of the above metabolic abnormalities to reduce the development of postoperative complications.

**1. Nutritional improvement:**

- ✓ High CHO intake
- ✓ Oral glucose
- ✓ In unable to take then IV glucose

**2. Correction of coagulopathy:**

- ✓ In. Vit K (Konakion) IM daily for 3 days.
- ✓ If PT with INR not corrected then repeat the schedule
- ✓ If still not corrected, administer fresh frozen plasma (15mg/kg)

3. **Prevention and control of infection:** 3rd generation cephalosporin+Metronidazole
4. **Correction of dehydration and maintenance of renal function:**

- ✓ Plenty of fluids by mouth.

- ✓ On day of operation, IV fluid is to be started from morning.
- ✓ Continuous catheterization
- ✓ In case of inadequate urine output frusemide or mannitol may be administered.
- ✓ Avoid nephrotoxic drugs

**B. Surgery:**

- ✓ **Choledocholitiasis:** Cholecystectomy with choledocholithotomy with T-tube insertion (Must be said accordingly maintaining the serial)
- ✓ **Periampullary carcinoma and Ca of head of pancreas:** Whipple's procedure

**[Lecture of MMC+Rajamahendran-1st-126-132+Bedside clinics in surgery-2nd-136-150]**

**What structures will you remove in Whipple's operation?**

Whipple's pancreaticoduodenectomy involves excision of following structures:

1. Whole of duodenum up to 10 cm of proximal jejunum
2. Head and neck of pancreas including uncinate process
3. Distal 40–50% of stomach
4. Lower end of common bile duct (CbD)
5. Gallbladder
6. Pericholedochal, periduodenal and peripancreatic lymph nodes.

**[Bedside clinics in surgery-2nd-136]**

**ERCP:** Gold Standard for CBD Stone Removal

**Other uses:**

1. Stenting for inoperable tumors
2. Endoscopic basketting and stone retrieval
3. Biopsy
4. Preoperative bile drainage
5. Sphincter of Oddi dysfunction: sphincterotomy.

**Complications of ERCP:**

1. Acute pancreatitis (5%)
2. Duodenal perforation
3. Hemorrhage
4. Infection
5. Stent migration

**Why PT is important and inj. Vit K is given?**

Liver is the main site for synthesis of all coagulation proteins. Abnormalities of these factors can be determined by measuring prothrombin time (PT)—which measures the rate of conversion of prothrombin to thrombin, which requires vitamin K dependent clotting factors (factor 2, 7, 9, 10).

Vitamin K is fat soluble vitamin, absorption of which requires presence of bile salts in intestine which is absent in patients with obstructive jaundice due to obstruction.

So, prothrombin time is prolonged—hence, injection of vitamin K should normalize the prothrombin time in obstructive jaundice.

**Mirrizi Syndrome:**

It refers to the obstruction or stricture of the common hepatic duct as result of extrinsic compression by a gallstone in the Hartmann's pouch.

**Charcot's triad:** CBD stone causing cholangitis.

1. Intermittent Pain
2. Intermittent Fever
3. Intermittent Jaundice

**Reynolds pentad:**

It includes charcots + septic shock+ mental status changes:
**Most common organisms:** E. coli, Klebsiella, S. faecalis, bacteroides
**First investigation of choice:** USG
**Definitive investigation:** ERCP (gold standard for gallstones in CBD)
**Best noninvasive investigation:** MRCP.

**What is double duct sign?**

In ERCP or MRCP or other imaging if both the bile duct and the pancreatic duct show dilatation with constriction of both the ducts in the region of head of pancreas it is called double duct sign.

**Found in:**

- ✓ Periampullary carcinoma
- ✓ Carcinoma of head of pancreas
- ✓ Chronic pancreatitis

**Missed or Retained or residual bile duct stones:**

Stones in the bile duct detected within two years following cholecystectomy are defined as retained stones.

**Rx:**

1. **If T tube present:**
   - ✓ Flushing with heparinized saline
   - ✓ Dissolution with **methyl tertbutyl ether**
   - ✓ Percutaneous stone extraction via T-tube tract after 4 to 6 weeks **(Burhenne technique)**
2. **If T tube absent:** ERCP stone removal.

**Recurrent bile duct stones:**

Stones which form within the bile duct 2 years after initial operation are grouped as recurrent bile duct stones. Most common due to nonabsorbable suture materials, clips get internalized and get covered with calcium bilirubinate to form brown pigment stones

**Rx:**

- ✓ ERCP: 1st approach
- ✓ If duct dilated >2 cm: Choledochoduodenostomy or transduodenal sphincteroplasty.

**[Bedside clinics in surgery-2nd-149+ Rajamahendran-1st-141]**

**Post operative management of a patient with T-tube:**

1. Measure the amount of bile daily in a sterile container connected with long vertical limb.
2. **Observe for:**
   - ✓ Jaundice: Increasing or not
   - ✓ Temperature: Increasing or not
   - ✓ Dressing is soaked with bile or not
   - ✓ Tenderness in the hypochondrium
3. On 7th day: Clamp the t-tube.
   7th POD: Clamping for 2 hours
   8th POD: Clamping for 4 hours
   9th POD: Clamping for 8 hours
   10th POD: Clamping for 24 hours
4. On 11th day: T-tube cholangiogram should be done
5. If T-tube cholangiogram is normal then remove the t-tube on 12th or 13th day.

**What investigation will you do before removal of a T-tube?**

T-tube cholangiogram

**When will you remove it?**

If T-tube cholangiogram on 11th day is normal then remove the t-tube on 12th or 13th day.

**How will you remove T-tube?**

By slow and sustained traction

**Name the clinical conditions where this appliance is used.**

1. Choledocholithiasis
2. Palpable stone/ worm in CBD
3. Dilated CBD
4. Raised alkaline phosphatase
5. Cholelithiasis with jaundice or recent H/O jaundice

**What is your next step of action?**

Removal of tube by slow & sustained traction.

**Why not intra-operative?**

If it is intra-operative, there would shadows of instruments.

**When T-tube is removed?**

- ✓ No stone
- ✓ Normal flow of bile into duodenum

**Which dye is used?**

- ✓ Biligrafin
- ✓ Hypaque

**In which route?**

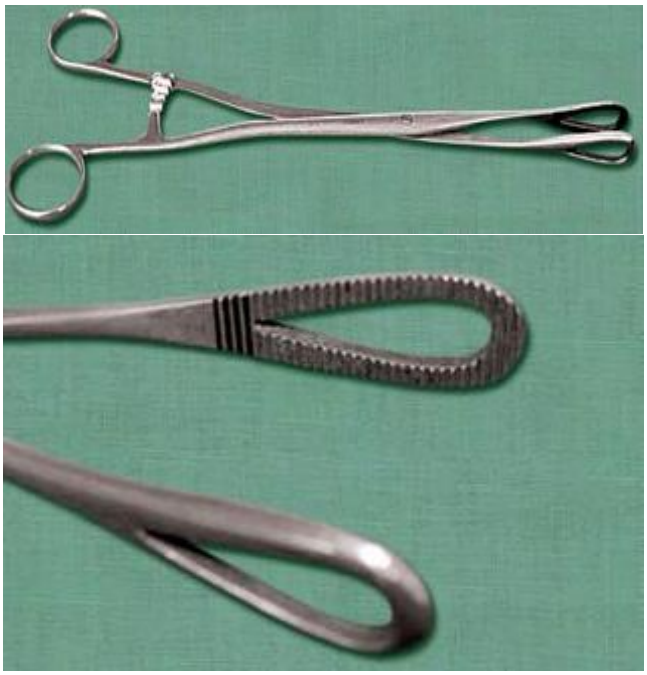
Through T-tube

**Why clamping is required?**

To alter the pathway of bile from T-tube to duodenum.

## Surgery OSPE

SWAB HOLDING FORCEPS:



**Identifying points:**

1. The instrument is provided with finger bows and a pair of long shaft.
2. Shaft has a rachet, a joint and a pair of blades.
3. Blades are oval, fenestrated and provided with serrations on the inner aspect.

This instrument may be straight or curved.

**Uses:**

1. Cleansing the skin with swab dipped in antiseptic solution during all operations.
2. To hold the ceacum during appendicectomy.
3. To hold the fundus of gall bladder during cholecystectomy.

**Sterilization:** By autoclaving

**Write down the principle of this method of sterilization.**

1. In high pressure in a close chamber the boiling temperature of water can be raised in a predictable manner such as 121$^{o}$ C in 15mm of Hg pressure.
2. The vapor of high temperature with its greater penetrability and power of releasing latent heat, kills al the microorganism including spores.

**[Answer kit provided by DU]**

**What is the dreadful/life threatening complications if these are not properly sterilized before operation?**

Clostridial infection

**[Answer kit provided by DU]**

TOWEL CLIPS:

**Identifying points:**

This is provided with finger bows, a rachet, a pair of shaft and two sharp hooks.

**Uses:**

1. Used for fixing the draping sheets.
2. Used for fixing the diathermy cables, suction tubes, laparoscopic camera cables.
3. May be used as a tongue holding forceps.

**Sterilization:** By autoclaving

**What are the possible hazards of its use?**

Injury to skin, sucker tube or diathermy if accidentally clipped by it.

**Can you reuse it after boiling? Justify your answer.**

**No,** because for destruction f spores it must be autoclaved.

BARD PARKER'S HANDLE:

**Identifying points:**

A flat stainless steel instrument with one end narrower with a slot on either side for attaching the scalpel blade.

**Use:** With attached blade, is used for surgical incision.

**Sterilization:** By autoclaving

SURGICAL BLADE**:**

**Sterilization:** Supplied in presterilized pack.

**What are the common numbered blades with use?**

15= excision of sebaceous cyst
11= Drainage of abscess
10= Skin incision

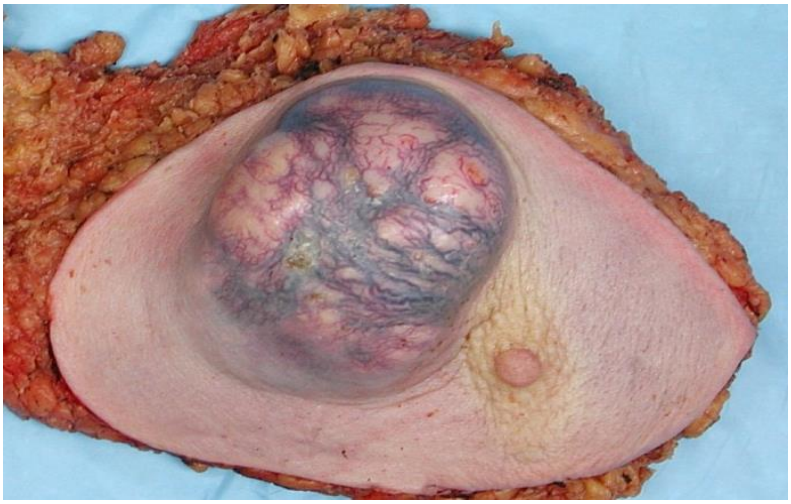
**What are the uses of BP handle and blade?**

1. Used to make skin incisions for any operation.
2. Used for incision and drainage of an abscess.

**Sterilization:** By Lysol (Chemical)

****When Bard Parker's Handle and surgical blade is attached together, we call it 'Bard Parker's Handle with detachable blade'.**

Carcinoma breast



**What is this specimen?**

Resected specimen of CA breast.

**Description of picture**

1. Retraction of the nipple

2. Wrinkling of the skin of the areola
3. Undersurface shows a grayish white lump occupying the upper region of breast
4. Cut surface of the lump shows excess fibrous tissue.

**What operation was done?**

Simple mastectomy.

**How this patient may have presented with?**

Breast lump (painful or painless) nipple discharge, skin ulceration, axillary swelling, and features of distant metastasis.

**What are the treatment modalities of this patient?**

1. Surgery
2. Chemotherapy
3. Hormone therapy
4. Radiotherapy

**[Bedside Clinics in Surgery, Makhan Lal 2nd Page 198 to 210]**

IV CANNULA:

IV canula size 18G, 20G, 22G, 24G
**Parts:** Trocer, canula
**3 I-V fluids used routinely:** Normal saline, Ringer's lactate solution, 5% DNS.
**Use:**

1. IV medication
2. Infusion
3. Transfusion
4. Blood drawing

**Common sites where it is introduced:**

1. Cephalic vein
2. Basilic vein
3. Median cubital vein

**Complications may arise from it:**

1. Thrombophlebitis
2. Extravasation of fluids
3. Air embolism
4. Double puncture of vein
5. Bleeding

**Commonly used sizes in ward:**

**Adult:** 20G or 18G
**Child:** 22G
**Infant:** 24G

**Colours according to size:**

Yellow= 24G
Blue= 22G
Pink= 20G
Green= 18G
Grey= 16G
Brown=14G

**If vein isn't found what will you do?**

Venesection

**What are the methods of venous access?**

1. Venepuncture
2. Venesection
3. Venous catheterization

## INFUSION SET:

**Identifying points:**

1. No filter
2. Tube and needle are narrower

**Identify the different parts.**

1. Nozzle

2. Drip chamber
3. Tube
4. Flow regulator
5. Connecting tube
6. Needle

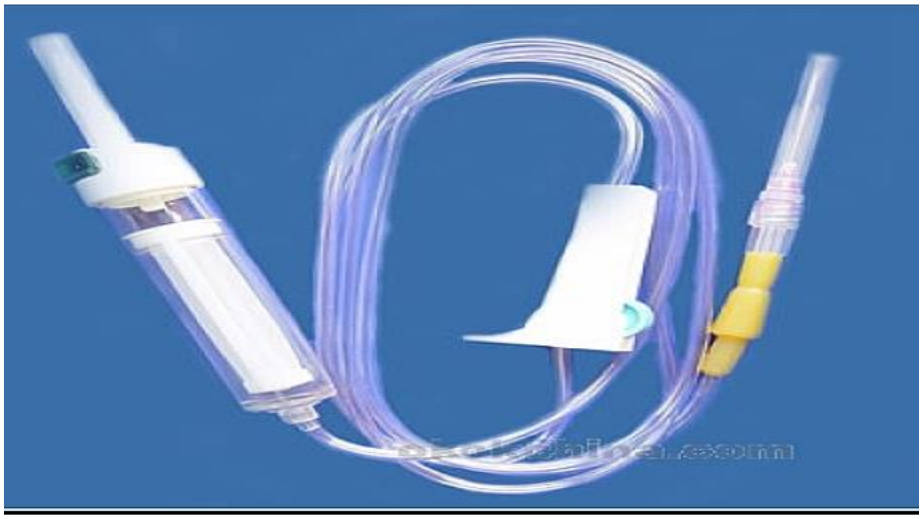
**How it is sterilized?**

EO/gamma ray

**Complication of using this appliance:**

1. Air embolism
2. Thrombophlebitis
3. Volume overload
4. Transmission of infection

**Transfusion set:**



**Identifying points:**

1. Double chamber with filter present
2. Needle is wider bored

**Use:** Transfusion- blood, PCV, plasma

**Functions of filter:**

- ✓ Stored blood contains blood clots and particles that are potentially fatal to the recipient. A standard filter **removes these clots and particles**.
- ✓ If blood/blood components are not filtered the clots and particles will be infused into the patient. This can cause pulmonary complications and death.

**Advantages of double chamber:**

**Dribbling chamber:** Drop counting

**Filtation chamber:** Removes clots and particles

**How many drops make 1ml?**

15 drops

**Indication of blood transfusion:**

1. Acute blood loss
2. Perioperative anaemia
3. Symptomatic chronic anaemia
4. Severe burn
5. ITP
6. Haemolytic disease of newborn

**Contraindication:**

1. CCF
2. Pulmonary oedema

**Diseases that can be transmitted through blood transfusion:**

1. Hepatitis B,C
2. AIDS
3. Syphilis

**Other complications:**

1. **Anphylactic reaction:** Fever, shivering, rigor, respiratory distress
2. Fluid overload
3. Incompatibility reaction

**Name the anti coagulants used for blood transfusion**.

Citrate phosphate dextrose (CPD) anticoagulant

**1** bag contains 350cc blood.

Can be stored upto 21 days

When 3 units blood is given, inj. Ca gluconate is to be given.

**Three important steps of its use:**

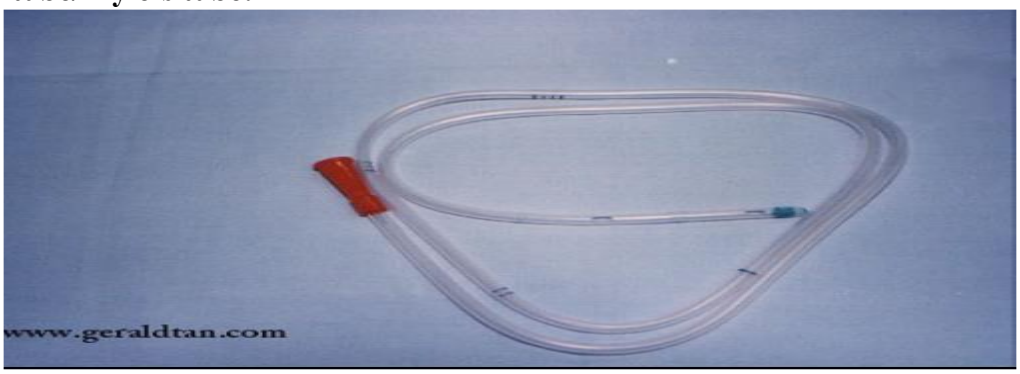
1. Identification of vein and asepsis by chlorhexidin
2. Make the set air free
3. Connection of the set with IV channel

**Name some blood products:**

1. Packed red cell
2. FFP
3. Platelet concentrate
4. Cryoprecipitate
5. Factor VIII, IX

**Sterilization:** EO/ Gamma radiation

## NG tube/ Ryle's tube:



**Identifying points:**

1. Long tube
2. Tip is blind and contain radio opaque beads
3. Has multiple eyes
4. Has markings to detect tip

**What is indicated by markings?**

Position of the tub from upper incisor teeth-

1st marking, 40cm= Indicates cardiac end
2nd marking, 50cm= Indicates body of the stomach
3rd marking, 60cm= Indicates pylorus

**Mention 5 clinical conditions where it is used.**

1. Perforation of gas containing hollow viscus
2. Intestinal obstruction
3. Before major abdominal surgery
4. Unconscious patient
5. NG feeding
6. Abdominal trauma

**Sterilization:** By Gama Radiation , Ethelyne oxide

**Equipment needed for NG?**

1. NG tube
2. Gloves
3. Xylocaine jelly 2%
4. 50 CC syringe
5. Stethoscope

**How will confirm it in your stomach?**

1. Stomach content will come through tube
2. **Auscultating over epigastrium:** Put some air in to the stomach through 50cc syringe and listen gurgling sound with stethoscope
3. Plain X-ray abdomen

**How will you realize that NG tube is gone through respiratory tract?**

1. Vigorous coughing (If patient is conscious)
2. Bubbling when end of NG tube is put in water

**What is 1st marking mean?**

1st marking mean the tip is at the cardiac end.

**List its complications.**

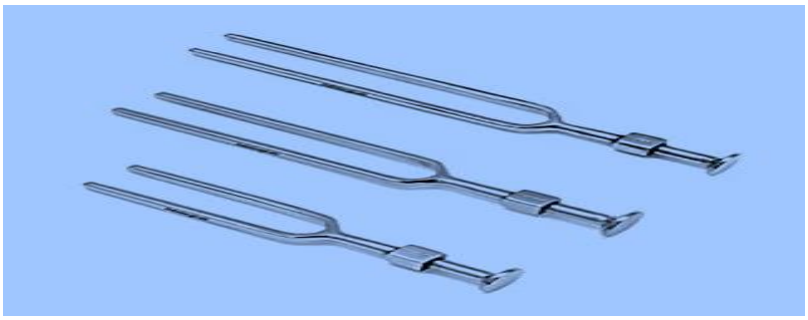
1. Introduction into trachea
2. Bending and obstruction
3. Trauma to nasopharynx
4. Perforation of stomach (In case of corrosive poisoning)
5. Infection and diarrhoea
6. Electrolyte imbalance
7. Respiratory aspiration
8. Pharyngitis

**Can it be reused?**

Yes, but should not do so due to aesthetic cause and infection transmission.

**ENT OSPE**

## Tuning fork



**Write the name of supplied instrument?**

Tuning fork

**What are the frequencies of it?**

128 Hz, 256 Hz, 512 Hz, 1024 Hz.

**Which one is commonest?**

512 Hz

**Which type of test is done by it?**

1. Rinne test
2. Weber test
3. Absolute Bone Conduction (ABC) test
4. Schwabach's test
5. Bing test
6. Gelle's test

**How will you measure quantitative type of hearing loss?**

Pure tone audiometry (PTA)

**Write the interpretation of Rinne test in conductive type of deafness.**

Bone conduction is greater than air conduction

**[Dhingra 7th page 24 & Lecture of MMC]**

**Tonsil:**

**Identify the specimen in the given picture**.

Picture showing resected specimen of tonsil.

**What are the cardinal sign of chronic tonsillitis?**

1. Tonsils are enlarged or fibrotic
2. inflamed or congested anterior faucal pillar
3. Inspissated pus may come out on pressing anterior pillar
4. Non-tender bilateral palpable enlarged jugulo-digastric lymph node.

**What are the indications of tonsillectomy?**

**Absolute:**

1. Recurrent infections of throat.
2. Peritonsillar abscess.
3. Tonsillitis which causes febrile seizures.
4. Hypertrophy of tonsils causing
   - ✓ Airway obstruction (sleep apnoea),
   - ✓ Difficulty in deglutition and
   - ✓ Interference with speech.
5. Suspicion of malignancy.

**Relative:**

1. Diphtheria carriers, who do not respond to antibiotics.
2. Streptococcal carriers, who may be the source of infection to others.
3. Chronic tonsillitis with bad taste or halitosis which is unresponsive to medical treatment.
4. Recurrent streptococcal tonsillitis in a patient with valvular heart disease.

**Write treatment of acute tonsillitis**.

1. Bed rest, soft diet, more fluid intake, warm saline gurgling, vitamin C
2. Analgesics (aspirin or paracetamol)
3. Antibiotic: Penicillin (Drug of choice, for 7–10 days)

**[Dhingra 7th page 292, 487 & Lecture of MMC]**

## Chronic retropharyngeal abscess:


**Describe the x-ray.**

- ✓ Plain X-ray soft tissue neck lateral view showing increased pre-vertebral soft tissue shadow extending from the base of the skull to the root of the neck
- ✓ Carries pf cervical spine also present

**What is your diagnosis?**

Chronic retropharyngeal abscess.

**What are the clinical presentations of it?**

1. Patient may complain of discomfort in throat.
2. Dysphagia is not marked.
3. Posterior pharyngeal wall shows a fluctuant swelling
4. Neck may show tuberculous lymph nodes

**Write down its aetiology?**

It is tubercular in nature in most of the case

**Treatment**

1. Incision and drainage
2. Anti TB: In cases of tubercular abscess

**[Dhingra 7th page 301 & Lecture of MMC]**

**EYE OSPE**

Universal eye speculum

**Name the photograph supplied?**

Universal eye speculum

**Mention its functions/ Where it use?**

1. Removal of corneal foreign body
2. Removal of conjunctival foreign body
3. Pterygium excision
4. Strabismus surgery
5. Enucleation, Evisceration

**Why it is called universal?**

Because it can be used for both eyes.

**Write advantages of its use.**

1. Wide exposure of eyeball
2. Can be used for both eyes (hence it is called universal)
3. Can be used in all ages.

**Write disadvantage of its use**.

Can't be used for intra-ocular surgeries

**What are the contraindications of using it?**

1. Intra-ocular operations
2. Corneal ulceration, perforation.

**How it is sterilized?** By autoclaving.

**[Lecture of MMC]**

Universal eye speculum

**Name the photograph supplied?**

Universal eye speculum

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xxx

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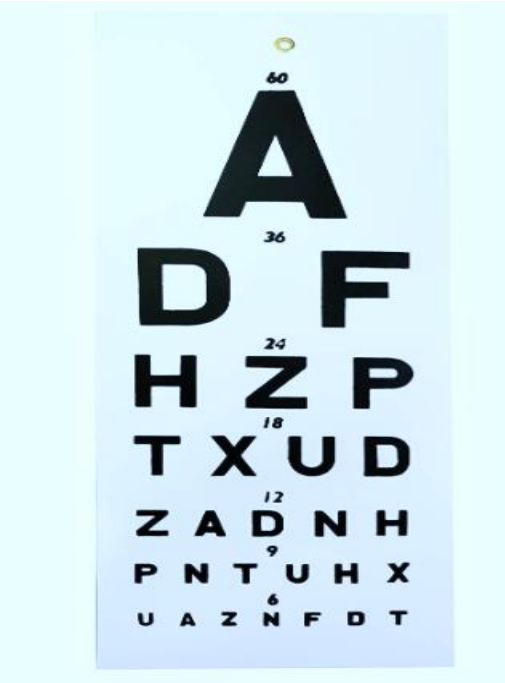
**How it is sterilized?** By autoclaving.

**[Lecture of MMC]**

## Snellen's chart




**Write the name of the device shown in picture**

Snellen's distant vision chart

**What are the uses of it?**

To detect visual acuity of eye (distant vision).

**What is the proper distance between the patient and the vision chart?**

6 meter/20 feet

**Why 6 meters?**

Because rays are almost parallel at this distance

**Mention its identifying lines**

1. 6/60 – 1st line
2. 6/36 - 2nd line
3. 6/24 - 3rd line
4. 6/18 - 4th line
5. 6/12 - 5th line
6. 6/9 - 6th line
7. 6/6 - 7th line

**Mention the methods of use**

1. Patient is advised to sit at a distance of 6 meter from the Snellen's chart and is asked to close his/her one eye with palm of the hand. Now patient asked to read from top line to downward.
2. If the patient cannot read the first line (visual acuity is less than 6/60), then the patient is brought nearer to the chart at a distance of 5, 4, 3, 2, 1 meters then vision is recorded as 5/60, 4/60, 3/60, 2/60, 1/60 respectively.

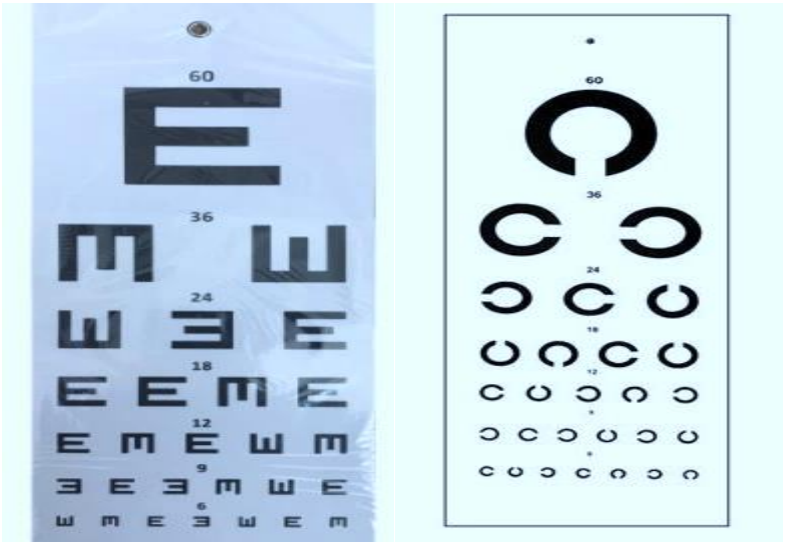
**If cannot read, then what to do?**

1. Finger counting (FC)
2. Hand movement
3. Perception of light (PL)
4. Projection of rays (PR)

**Procedure of recording distance vision/Conditions needed for recording distance vision**

1. Distant vision chart known as Snellen's distant vision chart
2. Well illuminated room
3. Distance between patient and vision chart is 6 meter/20 feet (as accommodation is at rest at this distant)
4. Each eye (right or left) should be tested separately

**Snellen's distance vision chart for illiterate**



**[Basic Ophthalmology, Prof. Shamsul haque 2nd P- 29-30 & Lecture of MMC]**