OSCE Master©

For

General Surgery

- 18 High yield Topics for History Taking in GS.
- All possible Examination stations in GS.
- Descussion about the Mini-OSCE.

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History Stations

History Of Breast lump

► Patient profile:
1. Name.
2. Age.
3. Marital status.
4. Occupation.
5. Living Place.
6. Residency.
7. Blood Group.

► Admission: date and time. And how (via ER, Referral …)

► C.C: chief complain and the duration.

► HOPI:

• Specific Questions about the history of the lump:

1. When did you notice the lump?
2. How did you notice the lump?
3. What was the size of the lump when it was first noticed?
4. Has the lump changed since it was first noticed?
5. Does the lump ever disappear?
6. Have you ever had a similar lumps before?
7. Have you ever had a lump in the same site before?
8. What do you think the cause of this lump?

► HOPI:

• Specific Questions about the lump itself:

1. How big is the lump?
2. Where do you feel the lump?
3. Can you identify its shape?
4. Can you tell me if its mobile or not?
5. Other lumps in the other breast? Now or even in the past?
6. Do you feel pain in it?
7. Is there any skin changes over the lump? Any ulceration? Skin thickening "Peudo' Orange"?

► HOPI:

• Specific Questions about the Nipple:

1. Did you notice any of the following changes in the nipples:
   - Discoloration.
   - destruction (change in its shape).
   - displacement (change in its site).
   - discharge (if yes, ask about: color, amount, consistency, spontaneous or self induce, from the nipple itself or beside it?, contralatral nipple?)
   - deviation (change in projection).
   - depression (retraction = inversion).
   - deplication.

► HOPI:

• Specific Questions about the Areola:

1. Have you noticed any changes in the areola?
   - color?
   - shape?
   - discharge?
   - ulcers?

► Menstrual Hx:

1. Age of menarche?
2. If menopause, age of menopause?
3. Do you have children? How many?
4. When did you have your first child?
5. Did you breast feed your children? For how long?
6. Frequency of the MP? Amount of blood? And length of it? Regular or not? And the LMP?
7. Are you on hormone replacement therapy?
8. Do you take OCPs?
9. Do you have babies that you nurse these days?
10. Are you pregnant?
11. Are you planning to have more children?
12. Does the size of the lump change with the MP?

► Symptoms of cancer and metastasis:

1. fever? Anorexia? Weight loss?
2. Bone pain? Generalized weakness?
3. Abdominal distension? Jaundice?
4. Cough? SOB?
5. Headache? Dizziness? Vertigo?

► Past Medical and Surgical History:

1. Have you had a breast CA or benign tumors in the past?
2. Do you have any other medical problems?
3. Have you ever had any surgeries before?
4. Do you take any drugs?
5. Do you have allergy to any type of drugs?
6. Have you been exposed to any source of radiation?
7. Have you ever had a mammogram before?
8. Have you had any trauma recently?

► Family Hx:

1. Do you have a family Hx of breast tumors?
2. FHx of uterine or ovarian tumors?
3. FHx of other tumors?
4. Same complaint in your 1st and 2nd degree relatives?
5. Family Hx of other illnesses?

► Social Hx:

1. Do you smoke?
2. Do you drink alcohol?
3. How many Kgs do you weigh?
4. Do you eat a high fat diet?

Descussions

► Investigations you want to do?

1. Tripe assessment:
   - History + PE
   - U/S and Mammography
   - FNA + core biopsy
2. CT scan, Bone scan, LFT, CXR
3. Genes: BRCA1 and BRCA2

► **DDx ?**

1. **Painful lump:**
   - **Fibroadenosis.**
   - **periductal mastitis.**
   - **Abscess: lactational and non-lactational.**
   - **Inflammatory CA.**

2. **Painless:**
   - **CA.**
   - **Cyst.**
   - **Fibroadenoma.**
   - **Fibrocystic change.**
   - **Fat necrosis.**

Benign lesions

- Fibroadenoma
- Papilloma
- Mastitis
- Sclerosing adenosis
- Ductal adenoma
- Ductal hyperplasia
- Phyllodes tumor (benign)
- Phyllodes tumor (borderline)

Malignant lesions

- Ductal carcinoma in situ
- Invasive ductal carcinoma with a predominant intraductal components
- Invasive ductal carcinoma

► **Risk factors for breast CA?**

TABLE 1. RISK FACTORS FOR BREAST CANCER IN WOMEN

- Advanced age
- First-degree relative with breast cancer
- Genetic predisposition: BRCA1 or BRCA2 gene
- Early menarche
- Late menopause
- Nulliparity
- First full-term pregnancy after age 30
- Personal history of breast, ovarian, or endometrial cancer
- Obesity/increased BMI
- High breast-tissue density
- Long-term or high-dose estrogen replacement therapy
- Prior radiation to breast area, as in treatment for Hodgkin's disease

BMI = body mass index.
Source: National Institutes of Health.

Table 1. Risk Factors for Breast Cancer

Nonmodifiable	Modifiable
• Female gender	• Not having children (slight risk increase)
• Age (>45 y)	• Oral contraceptives (slight risk increase)
• Genetic changes (mutations, *BRCA*)	• Depo-Provera (slight risk increase)
• Family history of breast cancer	• Hormone therapy after menopause (risk increase after 2 y of use)
• Personal history of breast cancer	• Breastfeeding (slight risk reduction)
• Race and ethnicity (White > African > Asian)	• Alcohol consumption (risk increase)
• Dense breast tissue	• Obesity (risk increase)
• Certain benign breast conditions[a]	• Physical exercise (risk reduction)
• Lobular carcinoma in situ (LCIS)	
• Menstrual periods (early menarche, late menopause)	
• Previous chest radiation	
• Diethylstilbestrol exposure	

[a] *Proliferative lesions with or without atypia.*
BRCA: *breast cancer susceptibility gene. Source: References 1, 2.*

► **Benign vs Malignant lump?**

Malignant lump:	Benign lump:
Hard consistency	Smooth, rubbery
Painless (pain in 1/100)	Often painful
Irregular edge	Well-defined
Fixation to skin or chest wall	Easily moves under skin
Can cause dimpling of the skin	Skin dimpling unlikely
May have unilateral, bloody nipple discharge	May have green/yellow coloured nipple discharge
Can have nipple retraction	No nipple retraction

Table 1: Clinical findings along with the patient's history, indicate towards either benign conditions or malignancy. The next stages of the Triple Assessment should be to confirm your suspicion.

History Of Nipple Discharge

► Patient profile:
1. Name.
2. Age.
3. Marital status.
4. Occupation.
5. Living Place.
6. Residency.
7. Blood Group.

► Admission: date and time. And how (via ER, Referral …)

► C.C: chief complain and the duration.

► HOPI:

• Specific Questions about the nipple discharge itself:

1. When did you notice the discharge?
2. How did you notice the discharge?
3. Has the discharge changed since it was first noticed?
4. Does the discharge ever disappear?
5. Have you ever had a similar discharge before?
6. Is the discharge unilateral or bilateral ?

► HOPI: questions about the discharge:
- color?
- amount?
- consistency?
- spontaneous or self induce?
- from the nipple itself or beside it?
- Unilateral or bilateral?

► HOPI:

• Specific Questions about the Nipple:

1. Did you notice any of the following changes in the nipples:
   - Discoloration.
   - destruction (change in its shape).
   - displacement (change in its site).
   - deviation (change in projection).
   - depression (retraction = inversion).
   - deplication.

► Possible Causes:
1. Pregnancy.
2. Lactation.
3. Puberty.
4. Menstruation.
5. Malignancy.
6. Prolactinoma.
7. Hyperprolactenemia/ Hypothyroidsim.

► Possible Causes:

• Pregnancy.
1. last menstrual period?
2. use of contraceptives?
3. nausea or vomiting?
4. increased in weight?

• Lactation:
recent delivery?
Lactating?

• Puberty.
• Menstruation.
• Malignancy.:
1. Lumps in the breast or axilla?
2. anorexia?
3. weight loss?
4. nausea?
5. generalized weakness?

• Prolactinoma:
1. headache?
2. blurring of vision?
3. milky discharge?

• Hyperprolactenemia/ Hypothyroidsim.:
1. milky discharge?
2. amneorrhea?
3. headache? Blurring of vision?
4. weight gain?
5. cold intolerance?
6. constipation?
7. sleep disturbances?

► Symptoms of cancer and metastasis:

1. fever? Anorexia? Weight loss?
2. Bone pain? Generalized weakness?
3. Abdominal distension? Jaundice?
4. Cough? SOB?
5. Headache? Dizziness? Vertigo?
6. Any skin changes?

► Drug Hx:

1. Antidepressents?
2. Antihypertensives?
3. Anxiolytics?
4. OCPs?

► Past Medical and Surgical History:

1. Have you had a breast CA or benign tumors in the past?
2. Do you have any other medical problems?
3. Have you ever had any surgeries before?
4. Do you take any drugs?
5. Do you have allergy to any type of drugs?
6. Have you been exposed to any source of radiation?
7. Have you ever had a mammogram before?
8. Have you had any trauma recently?

► Social Hx:

1. Do you smoke?
2. Do you drink alcohol?
3. How many Kgs do you weigh?
4. Do you eat a high fat diet?

► Family Hx:

1. Do you have a family Hx of breast tumors?
2. FHx of uterine or ovarian tumors?
3. FHx of other tumors?
4. Same complaint in your 1st and 2nd degree relatives?
5. Family Hx of other illnesses?

► Investigations you want to do?

1. swab.
2. FNA.
3. Mamography.
4. CT scan of the head.
5. TFTs
6. B-hCG.

Malignant VS Benign

Nipple discharge	Bilateral	Unilateral
	Multiductal	Uniductal
	Milky	Bloody, Clear, or Colored
		Spontaneous
		Persistent

History Of breast pain (Mastalgia)

► Patient profile:
1. Name.
2. Age.
3. Marital status.
4. Occupation.
5. Living Place.
6. Residency.
7. Blood Group.

► Admission: date and time. And how (via ER, Referral …)

► C.C: chief complain and the duration.

► HOPI:

• Specific Questions about the history of the pain:

• SOCRATES:

1. site of the pain.
2. Onset. (gradual vs intermittent).
3. nature of the pain.
4. radiation of the pain.
5. associated symptoms (nausea, vomiting, sleep disturbances).
6. timing of the pain.
7. exacerbating and relieving factors.
8. Severity out of 10.
9. What do you think of this pain

► HOPI: the pain could be due to (lump, infection, related to the menstrual period, trauma):

1. do you feel any lump?
2. have you noticed any skin changes?
3. skin discoloration?
4. skin hotness?
5. nipple discharge or changes?
6. relation of pain to periods?
7. last menstrual period?
8. pregnancy or lactation?
9. fever, fatigue, anorexia, weight loss ?
10. Hx of trauma?
11. pain in other places?
12. pain related to activity?

► HOPI:

If there is any lump or nipple discharge, then you have to analyze it.

► **Family Hx:**

1. **Do you have a family Hx of breast tumors?**
2. **FHx of uterine or ovarian tumors?**
3. **FHx of other tumors?**
4. **Same complaint in your 1st and 2nd degree relatives?**
5. **Family Hx of other illnesses?**

► **Social Hx:**

1. **Do you smoke?**
2. **Do you drink alcohol?**
3. **How many Kgs do you weigh?**
4. **Do you eat a high fat diet?**

► **Past Medical and Surgical History:**

1. **Have you had a breast CA or benign tumors in the past?**
2. **Do you have any other medical problems?**
3. **Have you ever had any surgeries before?**
4. **Do you take any drugs?**
5. **Do you have allergy to any type of drugs?**
6. **Have you been exposed to any source of radiation?**
7. **Have you ever had a mammogram before?**
8. **Have you had any trauma recently?**

► **Investigations:**

1. labs: CBC, B-hCG, Prolactine, TFTs.
2. imaging: CXR, US, Mammography, FNA.

Mastalgia: Etiology

- Differential Diagnosis:
  - Cyclic
    - Cyclic mastalgia
    - Fibrocystic disease
  - Non-cyclic
    - Large pendulous breasts
    - Diet, lifestyle
    - Mastitis
    - Hormone replacement therapy
    - Ductal ectasia
    - Inflammatory breast cancer
  - Extramammary (non-breast) pain

History Of Anorectal pain

▶ Patient profile:
1. Name.
2. Age.
3. Marital status.
4. Occupation.
5. Living Place.
6. Residency.
7. Blood Group.

▶ Admission: date and time. And how (via ER, Referral ...)

▶ C.C: chief complain and the duration.

History of presenting illness :

1. SOCRATES
2. Onset , duration
3.progression
4. Relation to defecation (before , after , during)
5. Does pain make you avoid defecation
6. Pain free intervals / continuous
7. Recurrent previous episodes
8. Diarrhea / constipation , consistency
9. Bleeding per rectum
10. Tenesmus
11. Fecal incontinence
12. Mucus discharge , itching
13. Rectal bleeding (if +ve analyze it)
14 . swelling , masses in the perineum , Hx of previous piles .
15. lower abd. Pain , mouth or perineum ulcers (crohn's)
16. recent trauma , anal sex , recent colonoscopy .
17. Chronic diseases (DM , HIV)
18. weight loss , fatigue , loss of appetite , night sweats , fever (malignancy).

▶ Review of Systems:
1. Change in bowel habits.
2. Change in urinary habits.
3. Change in stool color.
4. Cough and SOB.

▶Social Hx:
1. Alcohol.
2. Smocking.
3. Diet.
4. IV drug abuse.

Past medical and surgical Hx. :
- chronic diseases (DM , HTN , Cancers...)
- previous surgeries
- previous procedures (endoscopy , biopsies)
- previous similar attacks
- previous hospital admissions

▶Drug Hx:
1. Azathioprine.
2. Trimethoprime-Sulfamethoxazole.
3. immunosuppressive agents.

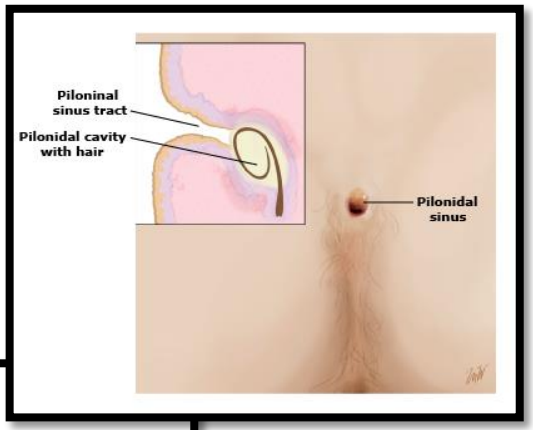
▶Family Hx:
1. FHx of PUD.
2. FHx of Triglecrydemia.
3. FHx of Cardiovascular diseases.
4. FHx of autoimmune diseases.
5. FHx of hypercalcemia.

Investigations :

-CBC
- Proctoscopy
-Segmoidoscopy
- endo anal US
- abdominal , pevic CT /MRI

DDx. :

- fissures
- perianal hematoma /abscess
- hemorroids (thrombosed)
- PNS
- trauma
- anorectal Ca
-Rectal ulcer



pilonidal sinus

A pilonidal sinus is an abnormality in the natal cleft area just above the buttocks. Loose hairs fall off the neck or back and collect in the natal cleft. The hairs can cause small holes to form in the skin or can get into existing holes – called pilonidal sinus.

As the hairs carry infection, the holes can become infected. This causes a pilonidal abscess to form or a discharge that is released through a tunnel (sinus) out onto the skin. Almost all patients present with either recurrent pain or a recurrent pus-like discharge from just above the buttocks.The condition usually affects young adults, occurring in 1 in 100 young men and 1 in 400 women.

Cause

There is some disagreement about what causes pilonidal cysts. Most pilonidal cysts appear to be caused by loose hairs that penetrate the skin. Friction and pressure – skin rubbing against skin, tight clothing, long periods of sitting, bicycling or similar factors – force the hair down into skin. Responding to the hair as a foreign substance, the body creates a cyst around the hair.

Locations of pilonidal sinuses :

- natal cleft
- axilla
- umblicus
- interdigital

History Of Bleeding per rectum

▶ Patient profile:
1. Name.
2. Age.
3. Marital status.
4. Occupation.
5. Living Place.
6. Residency.
7. Blood Group.

▶ Admission: date and time. And how (via ER, Referral …)

▶ C.C: chief complain and the duration.

Differential diagnosis :

- malignancy
- diverticular diseases
- IBD
- bleeding disorders
- local anal/rectal conditions
- angiodysplasia

History of presenting illness :

1. Duration ,onset
2. Frequency
3. How it was noticed
4. Timing / its relation to defecation
5. Bleeding without defecation
6. Is it with every bowel motion
7. Amount
8. Character (mixed with stool ,separate , on toilet papers , streaks on surface of stool)
9. Color of blood , color of stool
10. Clots
11. Mucus , itching
12. Pain (during or after defecation)
13. tenesmus (feeling of incomplete evacuation)
14. (if female patient) bloody stool occur only with menstruation (rectal endometriosis)
15. Stool consistency (diarrhea , constipation ..)
16. Previous similar episodes

Malignancy :

-fever
- chills/rigors
- weight loss
- loss of appetite
-fatigue
- night sweats
- FHx.or personal Hx. Of colon Ca , polyps
- poor fiber diet
- shape , color of stool
- bouts of jaundice (mets.)

IBD (crohn's + UC):

-alternating diarrhea and constipation
- cramping abd. Pain
- fever
- eye problems
- joint problems
- mouth , anal ulcers
- weight loss
- skin rash , ulceration

Diverticulosis :

-known case of case of diverticular disease .
- change in bowel habit
- left sided abd. Pain that is relieved by passing stool or flatus .

Anal conditions :

- visible masses , ulcers .
- anal pain
- anal discharge
- recent trauma , anal sex

- recent trauma
- recent iatrogenic causes (colonoscopy , segmoidoscopy)

Bleeding disorders :

- known bleeding disorder ?
- bleeding from other sites
- easy bruising
- drugs (heparin , warfarin)

GIT system review :

- constipation , diarrhea , soiling
- nausea , vomiting , hematemesis
- abd pain , distention
- any masses or lumps in the perenium
- Hx. Of hemorrhoids , fissures
- hx of discharge, sth. Goes out during defecation
- tenesmus
- liver diseases , jaundice

Don't forget to Check the volume status of the patient by asking the following :

- lethargy
- SOB
- tachycardia , palpitations
- dizziness

► Review of Systems:
1. Change in bowel habits.
2. Change in urinary habits.
3. Change in stool color.
4. Cough and SOB.

►Social Hx:
1. Alcohol.
2. Smocking.
3. Diet.
4. IV drug abuse.

Past medical and surgical Hx. :
- chronic diseases (DM , HTN , Cancers…)
- previous surgeries
- previous procedures (endoscopy , biopsies)
- previous similar attacks
- previous hospital admissions

►Drug Hx:
1. Azathioprine.
2. Trimethoprime-Sulfamethoxazole.
3. immunosuppressive agents.

►Family Hx:
1. FHx of PUD.
2. FHx of Triglecrydemia.
3. FHx of Cardiovascular diseases.
4. FHx of autoimmune diseases.
5. FHx of hypercalcemia.

Investigations :
- CBC
- Colonoscopy segmoidoscopy
- Barium enema
- angiography
-T99 labelled RBCs scanning
- stool Ax. , culture .
- abdominal CT, MRI

Features differentiating between ulcerative colitis and Crohn disease

	Ulcerative colitis	Crohn disease
Clinical features		
Haematochezia	Common	Less common
Passage of mucus or pus	Common	Rare
Small-bowel disease	No (except backwash ileitis)	Yes
Can affect upper-gastrointestinal tract	No	Yes
Abdominal mass	Rare	Sometimes in right lower quadrant
Extraintestinal manifestations	Common	Common
Small-bowel obstruction	Rarely	Common
Colonic obstruction	Rarely	Common
Fistulas and perianal disease	No*	Common
Biochemical features		
Antineutrophil cytoplasmic antibodies	Common	Less common
Anti-saccharomyces cerevisiae antibodies	Rarely	Common
Pathological features		
Transmural mucosal inflammation	No	Yes
Distorted crypt architecture	Yes	Yes
Cryptitis and crypt abscesses	Yes	Yes
Granulomas	No¶	Yes (seen in 25 to 40 percent of mucosal biopsies)
Fissures and skip lesions	Rarely	Common

History Of Constipation

► Patient profile:
1. Name.
2. Age.
3. Marital status.
4. Occupation.
5. Living Place.
6. Residency.
7. Blood Group.

► Admission: date and time. And how (via ER, Referral …)

► C.C: chief complain and the duration.

► HOPI:

• Specific Questions about the Constipation itself:

1. Ask the patient what does he mean by constipation? (Decrease frequency of defecation or hard defecation).
2. Onset (acute vs gradual).
3. Duration.
4. Character of stool.
5. Mucus or blood in it. (if blood analyze it: amount, clots, mixed or on the surface …).
6. frequency of defecation (and ask about number of bowel motion in normal states).
7. Tenesmus.
8. only stools or flatus as well (Obstibation).
9. painful or painless.

► Differential Diagnoses:
1. Intestinal Obstruction (small vs large bowel).
2. malignancy.
3. bedridden.
4. periAnal pain.
5. medical causes (hypercalcemia, hypothyroidism …).
6. life style (low fiber diet).
7. Paralytic ileus.

► Intestinal Obstruction (small vs large bowel):
1. Abdominal distension.
2. Abdominal pain.
3. vomiting.
4. increased bowel sounds.

► malignancy:
1. Anorexia.
2. Weight loss.
3. pallor.
4. Generalized weakness.

► bedridden:
1. immobile patient.
2. recent operation.
3. decreased oral intake of fluids.

► periAnal pain:
1. pain with defecation.
2. fearing of defecation due to pain.
3. blood on toilet papers.

► medical causes (hypercalcemia, hypothyroidism …):
1. symptoms of hypothyroidism: cold intolerance, weight gain, loss of appetite, facial puffiness, neck swelling.
2. Symptoms of DM or hypercalcemia: polyuria, polydepsia, polyphagia, if patient is taking calcium, low back pain.

► life style (low fiber diet).:
1. low fiber diet.
2. sedentary life style.
3. excersise.

► Paralytic ileus:
1. pain killers.
2. recent surgeries.

► Review of systems:
1. SOB.
2. Jaundice.
3. low back pain.
4. headache.
5. urinary colic (stones in case of hypercalcemia).

► Drug history:
1. Calcium.
2. pain killers (morphine).
3. Antidiarrheal.

► Past medical and surgical history:
1. Previous similar attacks.
2. Malignancy, PUD.
3. Thyroid disease, parathyroid disease.
4. Recent or past surgeries.
5. Hx of recurrent stones.

► Family History:
1. family history of malignancy.
2. FHx of thyroid or parathyroid disease.
3. FHx of PUD.

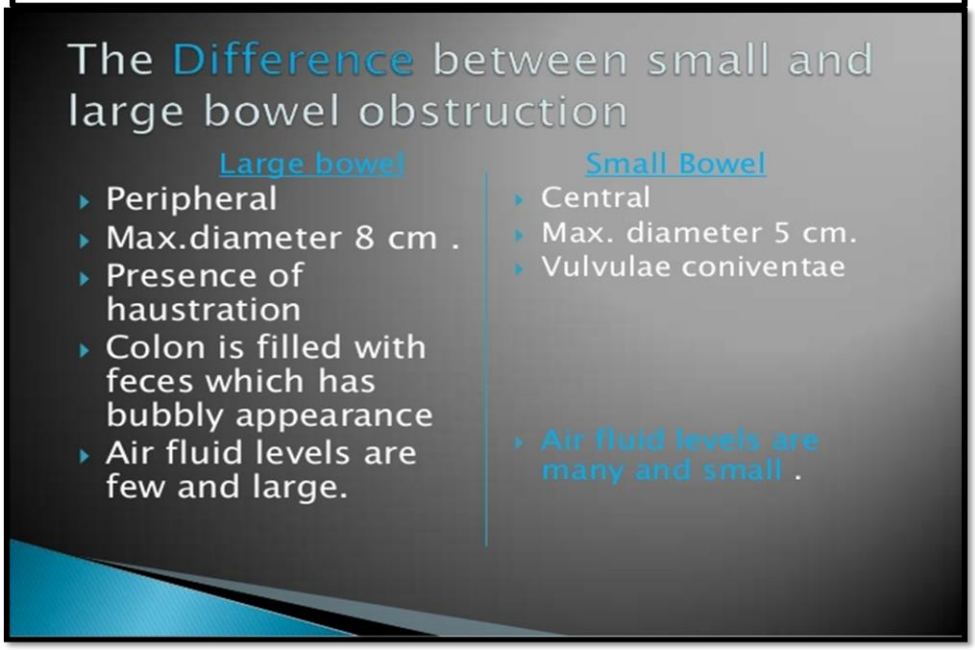
► Social History: (Alcohol, smoking, Diet, excersise).

►what Investigations you want to do?
Mention 2 labs and 2 Imaging studies.

1. labs: CBC, Electrolytes, TFT, PTH.

2. Imaging studies: Plain abd Xray, Colonoscopy, Barium enema.

X-Ray findings in SBO vs LBO



History Of Diarrhea

► Patient profile:
1. Name.
2. Age.
3. Marital status.
4. Occupation.
5. Living Place.
6. Residency.
7. Blood Group.

► Admission: date and time. And how (via ER, Referral …)

► C.C: chief complain and the duration.

► HOPI:

• Specific Questions about the Diarrhea itself:

1. Ask the patient what does he mean by Diarrhea? (increase frequency of defecation or loose stools).
2. Onset (acute vs gradual).
3. Duration.
4. Character of stool.
5. Mucus or blood in it. (if blood analyze it: amount, clots, mixed or on the surface …).
6. frequency of defecation (and ask about number of bowel motion in normal states).
7. Tenesmus.
8. painful or painless (abdomen).

► Differential Diagnoses:
1. IBD (Crohn's, UC).
2. Infectious Diarrhea.
3. Traveler's diarrhea.
4. Drug induced.
5. hyperthyroidism.
6. Osmotic diarrhea.

► IBD:
1. Abdominal pain.
2. Oral ulcers.
3. bloody diarrhea.
4. Joint pain.
5. eye problems.
6. abdominal distension.
7. anal pain.
9. tenesmus.

► Infectious:
1. Bloody diarrhea.
2. Immunocompromised patient.

► Traveler's Diarrhea:
1. Hx of recent travel.
2. Immunizations Hx.
3. Watery diarrhea.

► Drug induced:
1. Recent infections and antibiotic use?
2. laxatives.
3. fluids overload.
4. Thyroxine.

► Hyperthyroidism:
1. Heat intolerance.
2. tremors.
3. neck swelling.
4. sweating.
5. sleep disturbances.

►H. Pylori:
1. heart burn.
2. vomiting.
3. regurgitation.
4. Hx of ulcers.
5. Hematimesis.

► Review of systems:
1. SOB.
2. Jaundice.
3. low back pain.
4. headache.
5. urinary changes.
6. new food ingestion.
7. eating outside (at a restaurant).

► Past medical and surgical history:
1. Previous similar attacks.
2. Malignancy, PUD.
3. Thyroid disease, parathyroid disease.
4. Recent or past surgeries.

► Social History: (Alcohol, smoking, Diet, excersise).

► Drug history:
1. Thyroxine.
2. Antibiotics.
3. laxatives.
4. Antiacids (PPI).

► Family History:
1. family history of malignancy.
2. FHx of thyroid or parathyroid disease.
3. FHx of PUD.
4. FHx of IBD or any autoimmune disease.

►what Investigations you want to do? Mention 2 labs and 2 Imaging studies.

1. labs: CBC, Electrolytes, TFT, PTH, ANA, ANCA., anti-tissue trans-glutaminase antibodies.

2. Imaging studies: Plain abd Xray, Colonoscopy, Barium enema, small intestinal biopsy, upper GI endoscopy.

	Crohn Disease	Ulcerative Colitis
Common Site:	Terminal ileum	Rectum
Distribution:	Mouth to Anus	Rectum -> colon "back-wash" ileitis
Spread:	Discontinuous	Continuous
Gross feature:	1-Focla aphthous ulcer with interverning normal mucosa. 2-Linear fissures. 3-Cobblestone appearance. 4-Thickened bowel wall 5-Creeping fat.	Extensive ulceration Pseudopolyps
Micro:	Noncaseating granulomas	Crypt abscesses
Inflammation:	Transmural	Limited to mucosa & sub-mucosa
Complications:	1-Strictures 2-String sign on barium studies 3-Abscesses 4-Sinus tracts 5-Obstruction 6-Fistulas	Toxic megacolon
Extraintestinal manifestations:	Uncommon	Common.e.g;arthritis, spondylitis, primary sclerosing cholangitis,erythema nodosum,pyoderma gangrenosum.
Cancer Risk:	Slightly 1-3%	5-25%

History Of Dysphagia

▶ Patient profile:
1. Name.
2. Age.
3. Marital status.
4. Occupation.
5. Living Place.
6. Residency.
7. Blood Group.

▶ Admission: date and time. And how (via ER, Referral …)

▶ C.C: chief complain and the duration.

History of presenting illness :

1. **For solids/ liquids / both**
2. **Which type of food, and which help in easing the problem**
3. **Level of stuck**
4. **Pain (odenophagia)**
5. **Intermittent /all the time**
6. **Progression over time**
7. **Has food ever gone down the wrong way**
8. **Previous similar attacks**

Differential diagnosis :

- PUD -malignancy -CREST -Myasthenia Gravis
-GERD -pharyngeal pouch -plummer Vinson syndrome -esophagitis
-Chagas disease
- ask about risk factors and complications .

PUD :

- indigestion
- heartburn
- regurgitation
- abd. Pain

Malignancy :

- early statiety
- fever , weight loss , loss of appetite , fatigue .
-hematemesis , melena

GERD , Pharyngeal pouch :

- heartburn
- hoarseness of voice
- post nasal drip
- when drinking → gurgle

Complications :

- chest pain / cough / hemoptysis / SOB
- wheezes /breathing sounds
- fever
- hoarsness of voice
-halitosis
- aspiration of food
- sore throat

Plummer Vinson synd.

-on iron tablet
Hx. Of iron def. anemia
- glossitis

(triad of dysphagia + glossitis + iron def. anemia)

Esophagitis

-Hx of chronic diseases like DM , HIV , cancer , or on steroids (candida)
- drug Hx.

CREST synd

-dysphagia
- skin tightness
- raynaud
- finger tip ulceration
- telangectasia
- sclerodactylel

Myasthenia Gravis

. at the end of day become worse , more fatigue
.ptosis/ diplopia

Chagas disease

Hx of recent foreign travel

Risk factors and other association :

-Hx .of neck masses , goiter , lumps , L.N
-Hx of radiation
-Hx. Of NG tube , trauma , previous surgeries , previous Hx. Of corrosives ingestion .
- drug Hx.
- Hx. Of cardiac problems , palpitations , L.V enlargement .
- Hx. Of CVA , DM .

► Review of Systems:
1. Change in bowel habits.
2. Change in urinary habits.
3. Change in stool color.
4. Cough and SOB.

► Social Hx:
1. Alcohol.
2. Smocking.
3. Diet.
4. IV drug abuse.

Past medical and surgical Hx. :
- chronic diseases (DM , HTN , Cancers…)
- previous surgeries
- previous procedures (endoscopy , biopsies)
- previous similar attacks
- previous hospital admissions

► Drug Hx:
1. Azathioprine.
2. Trimethoprime-Sulfamethoxazole.
3. immunosuppressive agents.

► Family Hx:
1. FHx of PUD.
2. FHx of Triglecrydemia.
3. FHx of Cardiovascular diseases.
4. FHx of autoimmune diseases.
5. FHx of hypercalcemia.

Investigations :
- CBC
-Barrium swallow
-Upper endoscopy
-Biopsy
- CT /MRI
-H. pylori investigations (stool antigen ..)

Esophageal Cancer :

- risk factors
- types
- Barrett esophagus
- signs and symptoms
- management

Two most common forms of esophageal cancer are named for the type of cells that become malignant

Squamous cell carcinoma forms in squamous cells, the thin, flat cells lining the esophagus. This cancer is most often found in the upper and middle part of the esophagus

Adenocarcinoma begins in glandular (secretory) cells. Glandular cells in the lining of the esophagus produce and release fluids such as mucus. Adenocarcinomas usually form in the lower part of the esophagus, near the stomach.

History of Hematemesis (Vomiting blood)

► Patient profile:
1. Name.
2. Age.
3. Marital status.
4. Occupation.
5. Living Place.
6. Residency.
7. Blood Group.

► Admission: date and time. And how (via ER, Referral …)

► C.C: chief complain and the duration.

► HOPI:

• Specific Questions about the bleeding itself:

1. Onset of bleeding (acute vs chronic).
2. Number of episodes "frequency" (this is important for resuscitation).
3. Duration for each episode.
4. Course (Progression).
5. Exacerbating and relieving factors (fasting, food, drugs …).
6. Nature: fresh (red) blood?, occult blood?, clots?, black blood? Coffee ground? Associated Melena?
7. Color? Black, Brown, Maroon, Bright?
8. Painful or painless? Associated with dysphagia?
9. Bleeding form other sites, nose, ear, lips, gums? "systemic illness or drug induced".

► Associated Symptoms (to assess the severity):

1. Anaemia/hypovolumea > ask about > (*dizziness, shortness of breath, palpitations*).

► DDx:

► Gastritis/ PUD:
1. Heart burn.
2. dysphagia.
3. Indigestion.
4. Epigastric pain that is related to food.
5. Regurgitation.

► Mallory weiss tear:
1. forceful vomiting.
2. alcoholic.

► bleeding esophegeal varices:
1. stigmata of chronic liver disease: jaundice, abdominal destension, excoriation marks, clubbing, SOB, headache, RUQ pain.
2. alcohol.

► malignancy:
1. weight loss.
2. anorexia.
3. fever.
4. Generalized weakness.

► Rapid review of systems:

Renal symptoms, Cardiac and respiratory symptoms, neurological sysmptoms.

► **Past medical and surgical history:**

1. Previous similar attacks.
2. Chronic liver diseases, Malignancy, PUD, Heart diseases.
3. DM, HTN. Bleeding tendencies.
4. History of trauma.
5. Chronic renal failure.
6. Known blood disorders.
7. If female ask about the menstrual cycle .
8. Previous surgeries.

► **Family History:**

1. family history of the same complain.
2. family history of malignancy.
3. family history of bleeding disorders.

► **Drug history (Warfarin, Heparin, Aspirin, NSAIDs, Iron supplementation).**

► **Social History: (Alcohol, smoking, sexual history).**

► **Investigations:**

• **Labs:**

1. Complete Blood Count.
2. Coagulation tests (PT, PTT, INR), platelet count, etc
3. LFTs, KFTs.
4. H. Pylori antigen test, urea breath test.

• **Diagnostic tests :**

◘ **Upper GI endoscopy!**

1. Colonoscopy
2. Sigmoidoscopy
3. Abdominal x-ray
4. Abdominal CT scan
5. Capsule endoscopy
6. Small bowel enteroscopy
7. Abdominal MRI scan
8. Bleeding scan (tagged red blood cell scan)
9. Angiography

Complications of Peptic Ulcers

- Hemorrhage
  - Blood vessels damaged as ulcer erodes into the muscles of stomach or duodenal wall
  - Coffee ground vomitus or occult blood in tarry stools
- Perforation
  - An ulcer can erode through the entire wall
  - Bacteria and partially digested fool spill into peritoneum=peritonitis
- Narrowing and obstruction (pyloric)
  - Swelling and scarring can cause obstruction of food leaving stomach=repeated vomiting

History Of Jaundice

► Patient profile:
1. Name.
2. Age.
3. Marital status.
4. Occupation.
5. Living Place.
6. Residency.
7. Blood Group.

► Admission: date and time. And how (via ER, Referral …)

► C.C: chief complain and the duration.

► HOPI:

• Specific Questions about the Jaundice itself:

1. Onset of Jaundice (acute vs chronic).
2. Previous similar episodes.
3. Duration (since when).
4. how the patient noticed the jaundice?
5. Course (Progression) On/Off?.

► The Differential diagnoses of Jaundice in the surgical context should include:
1. Obstructive Jaundice.
2. Cholangitis.
3. Malignancy (Pancreatic head tumor).
4. Liver disease and complications.
5. Hepatitis.
6. Primary liver or biliary malignancy.

► Obstructive Jaundice:
1. Pale stool.
2. Dark urine.
3. Itching.
4. yellow sclera.

► Cholangitis:
1. Fever.
2. RUQ pain.
3. Chills.

► Pancreatic head cancer:
1. Anorexia.
2. Weight loss.
3. Fatigue.
4. Bloating.
5. Steatorrhea.
6. Diarrhea.

► Liver disease Complications (Colon cancer with liver mets):
1. Change in Bowel habits (Constipation).
2. Nausea/Vomiting/Abd distention.
3. Melena/Hematimesis/Bleeding per Rectum.

► Review of Systems:
1. Confusion, Headache.
2. Shortness of breath.
3. Lower limb swelling.
4. generalized weakness.

► Past medical and surgical history:
1. Gallbladder stones.
2. Hx of Pancreatitis.
3. Biliary surgeries.
4. Previous similar complaints.
5. Any previous surgeries.

► Drug History:
1. Paracetamol.
2. Sulpha drugs.
3. OCPs.

► **Family History:**
1. Family Hx of hepatitis, Liver disease, Jaundice, Hemolytic Disease, Malignancies.

► **Social History:**
1. Hx of IV drug abuse.
2. Travel Hx.
3. Sexual Hx.
4. Alcohol/Smocking.
5. Blood transfusions.
6. Skin tattos.
7. Prior Hepatitis Immunizations.
8. Contact with jaundiced patients.

► **What investigations you want to order? Mention 2 labs and 2 imaging studies.**
1. Labs: CBC, Blirubin, Hepatitis Serology, LFTs.
2. Imaging: RUQ Ultrasound, CT abdomen.
3. Invasive: Colonoscopy, Liver biopsy.

Ranson's Prognostic Criteria

NON-GALLSTONE PANCREATITIS	GALLSTONE PANCREATITIS
At Admission	
Age >55 yr	Age >70 yr
White blood cells >16,000/mm^3	>18,000/mm^3
Blood glucose >200 mg/dL	>220 mg/dL
Serum lactate dehydrogenase >350 IU/L	>400 IU/L
Serum aspartate aminotransferase >250 IU/L	>250 IU/L
During Initial 48 hr	
Hematocrit decrease of >10 %	>10%
Blood urea nitrogen increase of >5 mg/dL	>2 mg/dL
Serum calcium <8 mg/dL	<8 mg/dL
Arterial po_2 <60 mm Hg	NA
Serum base deficit >4 mEq/L	>5 mEq/L
Fluid sequestration >6 L	>4 L

Sleisenger and Fordtran's Gastrointestinal and Liver Disease ninth edition

History Of Epigastric Abdominal Pain

► Patient profile:
1. Name.
2. Age.
3. Marital status.
4. Occupation.
5. Living Place.
6. Residency.
7. Blood Group.

► Admission: date and time. And how (via ER, Referral …)

► C.C: chief complain and the duration.

► HOPI:

• Specific Questions about the Epigastric Pain itself:

1. SOCRATES: Site, Onset, Character, Radiation, Associated symptoms, Timing of the pain, Exacerbating and relieving factors, severity out of 10.
2. Previous Similar attacks (Frequency).

► Differential Diagnoses of epigastric abdominal pain:
1. PUD.
2. Pancreatitis.
3. MI.
4. Malignancy.

► PUD:
1. Epigastric pain that is exacerbated by eating (gastric ulcer), or relieved by eating (Dudenal ulcer).
2. Dyspepsia.
3. Indigestion.
4. Heart burn.
5. Dysphagia.

► Pancreatitis:
1. Jaundice.
2. pain relieved by leaning forward.
3. nausea and vomiting.
4. pain radiation to the back.
5. Fever.
6. RUQ abdominal pain.

► Malignancy:
1. early satiety.
2. Weight loss.
3. Anorexia.
4. Generalized weakness.

► MI:
1. Chest pain.
2. SOB.
3. Diaphoresis.
4. Pain exacerbated by exertion.

► Past medical Hx and surgical Hx:
1. Previous similar episodes.
2. hospital admissions.
3. previous surgeries (Cholycystectomy).
4. Recent ERCP.
5. Hyperlipidimia.
6. DM, HTN.
7. Mumps.
8. Hx of trauma.

► Drug Hx:
1. Azathioprine.
2. Trimethoprime-Sulfamethoxazole.
3. immunosuppressive agents.

► Family Hx:
1. FHx of PUD.
2. FHx of Triglecrydemia.
3. FHx of Cardiovascular diseases.
4. FHx of autoimmune diseases.
5. FHx of hypercalcemia.

► Social Hx:
1. Alcohol.
2. Smocking.
3. Diet.
4. IV drug abuse.

► Review of Systems:
1. Change in bowel habits.
2. Change in urinary habits.
3. Change in stool color.
4. Cough and SOB.

► **Investigations you want to order?**
Mention 2 labs and 2 imaging studies.
1. Labs: CBC, H. Pylori antigen test, Urea breath test, Bilirubin, LFTs.
2. Imaging: US, CT, Upper endoscopy.

Ranson's criteria

At admission or diagnosis
- Age over 55 years
- White blood count over 16,000/cu mm
- Blood glucose over 200 mg/dl
- Serum Lactic dehydrogenase (LDH) over 350 U/l
- Serum glutamic oxaloacetic transaminase (AST) over 250 U/l

During initial 48 h
- Hematocrit fall greater than 10% points
- Blood Urea nitrogen rise more than 5 mg/dl
- Arterial Po_2 below 60 mm Hg
- Serum calcium below 8 mg/dl
- Base deficit >4 meq/l
- Estimated fluid sequestration more than 6000 ml

History Of RIF Pain

► Patient profile:
1. Name.
2. Age.
3. Marital status.
4. Occupation.
5. Living Place.
6. Residency.
7. Blood Group.

► Admission: date and time. And how (via ER, Referral …)

► C.C: chief complain and the duration.

► HOPI:

• Specific Questions about the RIF Pain itself:

1. SOCRATES: Site, Onset, Character, Radiation, Associated symptoms, Timing of the pain, Exacerbating and relieving factors, severity out of 10.
2. Previous Similar attacks (Frequency).
3. Where did you first notice the pain?

► Differential Diagnoses of Right Iliac Fossa pain:
1. Appendicitis.
2. Perforated Peptic ulcer.
3. Cecal Carcinoma.
4. Crohn's disease.
5. Urologic cause (uretric colic).
6. mesentric adenitis.
7. midcyclic pain.

► Appendicitis:
1. Anorexia.
2. Fever.
3. pain increased with certain movements, and decreased in a certain position.
4. shifted pain.
5. Vomiting.

►Perforated Peptic ulcer:
1. Heart Burn.
2. Epigastric pain.
3. Indigestion.
4. pain in relation to food.

► Cecal Carcinoma:
1. Pallor.
2. SOB.
3. Palpable mass in the RIF.
4. Fatigue.
5. wieght loss.

► Crohn's disease:
1. Change in bowel habits.
2. blood with stool.
3. back pain.
4. Joint pain.
5. oral ulcers.

► Urologic cause (uretric colic):
1. urine color.
2. blood in urine.
3. pain on urination.
4. any change in urinary habits.

► mesentric adenitis:
1. Hx of URTI.
2. lumps in the groin.
3. fever.

► midcyclic pain:
1. vaginal bleeding.
2. menstrual cycle irregularities.
3. pain related to the menstrual cycle.
4. vaginal discharge.

► Past medical Hx and surgical Hx:
1. Previous similar episodes.
2. hospital admissions.
3. previous surgeries.
4. Hx of trauma.
5. Hx of PUD.
6. Drug Hx.
7. Rapid Review of systems.

► Family Hx:
1. FHx of PUD.
2. FHx of Malignancy.
3. FHx of autoimmune diseases.
4. FHx of Renal stones.

► Social Hx:
1. Alcohol.
2. Smocking.
3. Diet.
4. Sexual Hx.
5. Contraception (IUCD).

► Investigations you want to order? Mention 2 labs and 2 imaging studies.
1. Labs: CBC, H. Pylori antigen test, Urea breath test, ANA, ANCA, Urinalysis, B-hCG.

2. Imaging: Plain abdominal X-Ray, US, CT, Colonoscopy.

Bowel Obstruction

Comparison of clinical aspects

Proximal small bowel	Distal small bowel	Large bowel
Severe vomiting	Moderate vomiting	Late vomiting
Less distension	Central distension	Early distension , pronounced
Colicky pain	Central abdominal pain	Less pain
Constipation late	Varies in appearance	Constipation is early feature
Severe dehydration	Moderate	Less dehydration

History Of Leg Pain

► Patient profile:
1. Name.
2. Age.
3. Marital status.
4. Occupation.
5. Living Place.
6. Residency.
7. Blood Group.

► Admission: date and time. And how (via ER, Referral …)

► C.C: chief complain and the duration.

► HOPI:

• Specific Questions about the leg Pain itself:

1. SOCRATES: Site, Onset, Character, Radiation, Associated symptoms, Timing of the pain, Exacerbating and relieving factors, severity out of 10.
2. Previous Similar attacks (Frequency).
3. Constant or intermittent?
4. Unilateral or bilateral?
5. Previous episodes?
6. does the pain interfere with your daily activities?

► Differential Diagnoses of leg pain:
1. Vascular causes.
2. DVT.
3. Joints / Bacher's cyst.
4. Bones + MSS.
5. Neurological.

► Joints:
1. Joint swelling.
2. stiffness.
3. limitation of movement.
4. any deformities.

► Bones + MSS:
1. Hx of RA / Gout.
2. Bone pain.
3. any muscle atrophy?
4. weakness?
5. back ache?
6. Hx of trauma?
7. Hx of fractures?

► Neurological:
1. Fecal incontinence?
2. urinary incontinence?
3. blurring of vision / dizziness?
4. inability to remember?
5. tremors.
6. falling down?

► Vascular causes:
1. Skin discoloration.
2. change in color: redness, palor, cyanosis, white.
3. hotness / coldness.
4. paralysis.
5. parasthesia.
6. claudication pain: distance before onset of pain, change in this distance.
7. rest pain.
8. ulceration.
9. impotence.

► DVT:
1. swelling.
2. redness.
3. fever / malaise.
4. hotness / itching.
5. prolonged bed rest.
6. Immobalization.
7. Long travel / OCPs.
8. Recent surgeries.
9. Pregnancy.

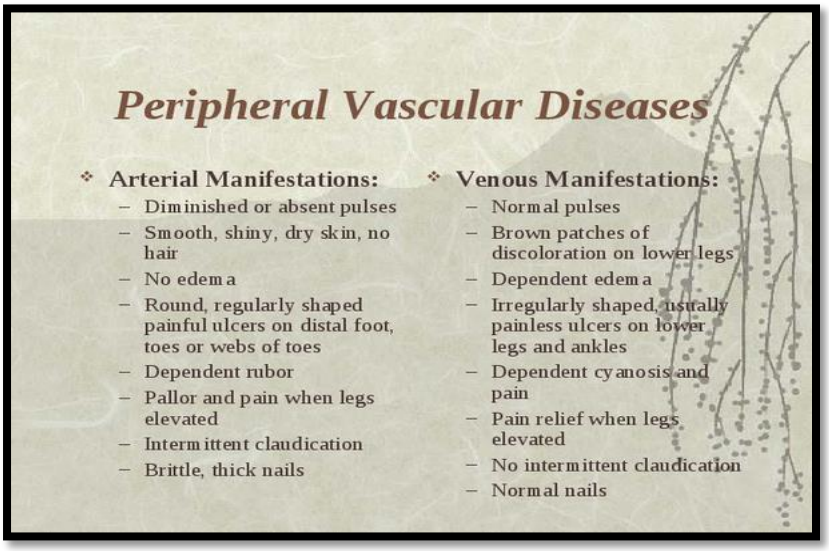
►Past medical Hx and surgical Hx:
1. Previous similar episodes.
2. hospital admissions.
3. previous surgeries.
4. Recent ERCP.
5. Hyperlipidimia.
6. DM, HTN.
7. Insect bites.
8. Hx of trauma.
9. CRF. Any cardiovascular disease.

► Drug Hx:
1. any drugs?
2. any allergy to any type of drugs?

► Social Hx:
1. smoking.
2. Alcohol.
3. Occupation.
4. diet and exercise.

► Family Hx:
1. Cardiovascular diseases?
2. Rheumatoid diseases?
3. malignancies?
4. hematologic diseases?
5. neurological diseases?
6. DM, HTN?

► Investigations you want to order?
Mention 2 labs and 2 imaging studies.
1. Labs: CBC, KFTs, Uric acid, ANA, RF.
2. Imaging: Duplex, Doppler US, Angigram, CT, X-Ray.



Comparison of characteristics of Arterial & Venous Disorders

	Arterial Disease	Venous Disease
Skin	cool or cold, hairless, dry, shiny, pallor on elevation, rubor on dangling	warm, though, thickened, mottled, pigmented areas
Pain	sharp, stabbing, worsens w/ activity and walking, lowering feet may relieve pain	aching, cramping, activity and walking sometimes help, elevating the feet relieves pain
Ulcers	severely painful, pale, gray base, found on heel, toes, dorsum of foot	moderately painful, pink base, found on medial aspect of the ankle
Pulse	often absent or diminished	usually present
Edema	infrequent	frequent, esp. at the end of the day and in areas of ulceration

History Of Neck lump

► Patient profile:
1. Name.
2. Age.
3. Marital status.
4. Occupation.
5. Living Place.
6. Residency.
7. Blood Group.

► Admission: date and time. And how (via ER, Referral …)

► C.C: chief complain and the duration.

► HOPI:

• Specific Questions about the history of the lump:

1. When did you notice the lump?
2. How did you notice the lump?
3. What was the size of the lump when it was first noticed?
4. Has the lump changed since it was first noticed?
5. Does the lump ever disappear?
6. Have you ever had a similar lumps before?
7. Have you ever had a lump in the same site before?
8. What do you think the cause of this lump?

► HOPI:

• Specific Questions about the lump itself:

1. How big is the lump?
2. Where do you feel the lump?
3. Can you identify its shape?
4. Can you tell me if its mobile or not?
5. Other lumps in the neck? Now or even in the past?
6. Do you feel pain in it?
7. Is there any skin changes over the lump? Any ulceration?

► HOPI:

• Compressive symptoms:

1. Dysphagia.
2. Dyspnea.
3. Hoarseness of the voice.
4. wheezing / Stridor.
5. limitation of the neck movements.

► **DDx of neck lump:**

► **Lymph node enlargement:**
1. recent Hx of URTI.
2. Hemoptysis.
3. night sweats.
4. fever.
5. Cough.
6. sore throat.

► **malignancy:**
1. fever.
2. weight loss.
3. anorexia.
4. fatigue.

► **Pharyngeal pouch:**
1. increase in lump size after eating.
2. chocking when lying down.

► **salivary gland:**
1. painful mass after eating.
2. during mastication.

► **Infectious cause:**
1. insect bites.
2. exposure to pets/cats.

► **subclavian artery aneurysm:**
1. is it pulsatile ?
2. dizziness.
3. headache.
4. upper limb numbness.
5. neck pain.

► **trauma: hematoma.**

► **thyroid gland mass:**
1. ask about symptoms of hypo and hyperthyroidism: Heat/Cold intolerance, Weight loss/gain, loss/increased appetite, tremor/slowness, increased/decreased sleep, diarrhea/constipation.

► **Past Medical and Surgical History:**
1. Have you had any similar lumps in the past?
2. Do you have lumps anywhere else in your body?
3. Do you have any other medical problems?
4. Have you ever had any surgeries before?
5. Do you take any drugs?
6. Do you have allergy to any type of drugs?
7. Have you been exposed to any source of radiation?
8. Have you had any trauma recently?
9. Have you had any contact with ill patients recently?

► **Family Hx:**
1. Do you have a family Hx of thyroid disease?
2. FHx of any type of tumors?
3. Same complaint in your 1st and 2nd degree relatives?
4. Family Hx of other illnesses?

► **Social Hx:**
1. Do you smoke?
2. Do you drink alcohol?
3. Where do you live? (Iodine deficient areas).

► **what Investigations you want to order? Mention 2 labs and 2 imaging modalities.**

1. **labs: CBC, TFT, Thyroid antibodies.**
2. **Imaging: US, CT, CXR, barium swallow, laryngeoscopy.**
3. **Invasive: biopsy (FNA, core biopsy, excisional biopsy).**

Ultrasound Parameters of Malignancy in Thyroid Nodules

Benign	Malignant
Iso- or hyperechoic	Hypoechoic
Macro calcifications	Microcalcifications
Regular border	Border irregularity
No infiltrative margins	Infiltrative margins
Absent of abnormal cervical lymph nodes	Abnormal cervical lymph nodes
Periphery nodular vascularity	Increased intranodular vascularity

History Of Ulcer

► Patient profile:
1. Name.
2. Age.
3. Marital status.
4. Occupation.
5. Living Place.
6. Residency.
7. Blood Group.

► Admission: date and time. And how (via ER, Referral …)

► C.C: chief complain and the duration.

► HOPI:

• Specific Questions about the history of the ulcer:

1. When did you notice the Ulcer?
2. What draws your attention to the ulcer?
3. What was the size of the ulcer when it was first noticed?
4. Has the ulcer changed since it was first noticed?
5. Does the ulcer ever disappear?
6. Have you ever had similar ulcers before?
7. Have you ever had an ulcer in the same site before?
8. Do you have any similar ulcers elsewhere?
9. Progression ? Fast increase in size ?
10. Is it associated with pain?
11. How does the ulcer disturbs you?

► HOPI:

• Specific Questions about the ulcer itself:

1. Is it associated with pain ?
2. Is it associated with discharge ?
3. itching?
4. redness or swelling ?
5. skin discoloration?

► Review of systems:
1. Cardiac: SOB, Chest pain.
2. Respiratory: Cough, night sweats.
3. GI: change in bowel habits, abdominal pain, vomiting.
4. MSS: joint pain, weakness, sun burn, long sun exposure.
5. Constitutional symptoms: Fever, weight loss, anorexia.

► Causes of ulcer:

► Trauma:
1. have you had any trauma?
2. have you had any surgeries?
3. heating injury?
4. liquid injury?
5. Insect bite?

► Diabetes:
1. do you have DM?
2. is it well controlled?
3. do you wear fit shoes?

► PVD:
1. do you complain of leg pain while walking?
2. do you have varicose viens?
3. have you ever had IHD ?
4. do you have HTN?
5. hair loss on the limbs?
6. have you ever had DVT before?

► Infection (Cellulitis):
1. Fever.
2. Pain.
3. Redness and hotness.
4. Enlarged lymph nodes.

► **Past Medical and Surgical History:**

1. Have you had any similar ulcers in the past?
2. Do you have ulcers anywhere else in your body?
3. Do you have any other medical problems (HTN/DM/IHD)?
4. Have you ever had any surgeries before (Amputation)?
5. Do you take any drugs?
6. Do you have allergy to any type of drugs?
7. Have you had any trauma recently?
8. Have you been immobilized recently (Bed sores)?

► **Social Hx:**

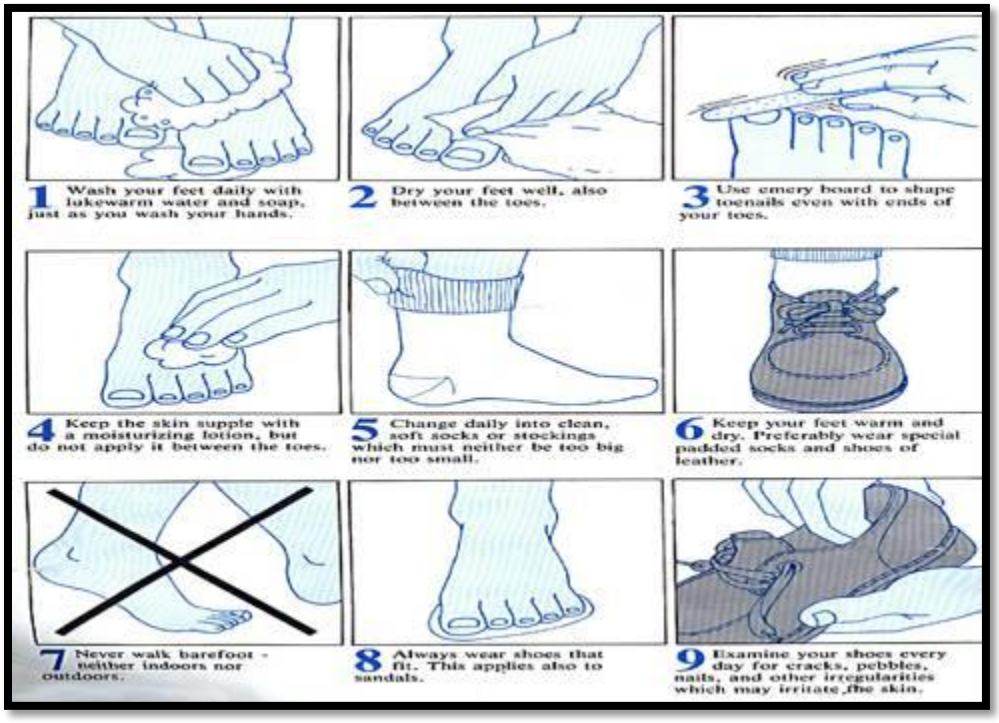
1. Do you smoke?
2. Do you drink alcohol?
3. Where do you live?
4. Occupation?

► **Family Hx:**

1. Do you have a family Hx of PVD?
2. FHx of IBD?
3. FHx of skin malignancy?
4. Family Hx of other illnesses?

► **what Investigations you want to order? Mention 2 labs and 2 imaging modalities.**

1. labs: CBC, KFTs, Swab an culture., blood sugar.
2. Imaging: US, CT, X-Ray, Doppler US, Ankle-brachial index., angiogram.
3. Invasive: biopsy.



Train yourself!! :)

◘ Topics to practice on your own:

1. **History Of neck pain (think of: Cervical rib, pharyngeal abscess, trauma, rheumatoid disease, cervical disc, neck mass).**

2. **History of Fecal incontinence (Think of: Pelvic surgery, anal sex, explosive diarrhea, neurological problem).**

3. **History of Axillary swelling (Think of: Lymph node infection, lymph node metastasis, breast CA, sebaceous cyst, lipoma).**

Examination

Stations

Abdominal Examination Station

Introduction

1. Introduce yourself.
2. Ask for permission.
3. Ask for a chaperon.
4. Ensure the privacy.
5. Explain to the patient what you want to do.
6. Proper exposure? (From the nipples to mid thighs).
7. Position of the patient? It should be flat.
8. General observation of the patient (looks well? , conscious? , oriented? , breath comfortably? , not in pain? , not pale, jaundiced or cyanosed? , if there is any IV lines, dressings, masks or drains? ..).

Inspection

9. Inspection (from the foot of the bed):
move with respiration? ,
visible pulsations? ,
any deformity (scoliosis or kyphoscoliosis)? ,
any scars? ,
change in color of the skin? ,
caput medusa? ,
dilated visible veins? ,
visible masses or swellings? ,
Distended abdomen or full flanks? ,
symmetrical? ,
umbilicus (central and inverted)?! ,
striae? (sign of weight loss) ,
Stomas? ,
gynecomastia and spider neavi in liver disease? ,
Peripheral Odema?

- **Cough reflex:** ask the patient to cough and look at the umbilicus and the groin, this is called cough reflex used to examin hernias, and ask the patient to stand so the hernia may be expelled.

Palpation

Palpation

Palpation

Palpation

►After this step you have to mention that you should take the vital signs (Temp., BP, Pulse Rate, and respiratory rate). You also have to say that you want to do an examination of the hands (signs of liver failure: jaundice, clubbing, dupetryn contracture, thenar and hypothenar wasting, flapping tremor, palmar erythema, leukonychia..), and also the mouth and eyes (ulcers, cyanosis, haydration status (pink tounge and sunken eyes), jaundice, conjunctiva palor .. etc).

10. now, you have to proceed with "Palpation of the abdomen":
Before starting, you have to warm your hands, then ask the patient if there is any pain and in which areas, if so, examine them the last!
Start from the right iliac fossa, clock wise, and don't forget to maintain eye contact with the patient!
You are doing palpation to check for: any masses (superficial and deep), any tenderness, any guarding or rigidity, any fluids accumulation, any enlargement of the internal organs, and the temperature.
There are 3 types of palpation:

A- Superficial palpation: here you are looking for any superficial masses or tenderness.
B- Deep palpation: here you have to tell the patient that you want to press deeper. You are looking here for any tenderness or deep masses.
Note: if there is abdominal guarding, you can overcome it by tact, or by flexion of the neck or the knees, so the abdominal muscles will be relaxed.
You can ask the patient to strain or to extend his neck, so you can differentiate between deep and superficial masses.

► Special signs to do:
Murphy's sign (Deep palpation in the right upper quadrent while the patient taking deep breath >> for cholecystitis)
Rovesing's sign (deep palpation in left iliac fossa illicit pain in right iliac fossa if positive, >> for appendicitis) (additional signs, just to mention: Psoas sign, Obturator sign).

C- Organomegaly: for the liver, spleen and kidneys.
for liver: start from the right iliac fossa, going upward, with deep press with each inspiration and moving up 2 cm after each press (say that you can't feel the edge of the liver).
It is possible to do the liver span at this stage! (by percussion).

For spleen: start from the right iliac fossa, and go diagonally as the same way for the liver.
The spleen should be enlarged as 3 times as its original size to be palpable.

For the kidney: use your both hands (bimanual method).

After finishing palpation you have to summarize! No masses, no tenderness, and no organomegaly.

How to differentiate between the kidney and the spleen by palpation: (A very common question!!)
1. kidney is BALOTTABLE, spleen is NOT
2. NOTCH ON ANTERIOR BORDER - palpable in spleen, not in kidney
3. Spleen enlarges diagonally towards RLQ, while the kidney enlarges inferiorly
4. Kidney can be resonant to percussion (d/t overlying bowel), spleen should be DULL
5. UPPER EDGE of spleen NOT palpable, upper edge of kidney is
6. SPLENIC RUB on auscultation (have patient breath in and out) and kidney it's not

Auscultation
Percussion

11. Percussion of the abdomen:
percuss all over the abdomen, the percussion note should be "Tympanic", and if you suspect ascitis you have to do shifting dullness and transmitting thrill.
You can do the liver span in this step!

12. now Auscultation:
inferior and lateral to the umbilicus, wait for 15-30 seconds, if you didn't hear anything, wait for 1 min, then 2 min >> you have to hear at least 1 time for bowel sounds.
You also have to auscultate for aortic bruits (above the umbilicus0, renal artery bruits (above and lateral to the umbilicus), iliac bruits (below and lateral to the umbilicus), and hepatic and splenic rub or bruits.
do "succession splash" if you suspect delayed gastric emptying! Place your hands on the pelvis ans shake the abdomen.
Here you have to summarize after finishing this (normal bowel sounds, no arterial bruits, and no rubs).

► NOTE: before finishing your exam, you should say: "I have to do DRE (digital rectal examination), and also examine the hernial orifices and the genitals, peripheral edema and lymph nodes".

By doing the previous steps, you have accomplished at least 20/25 marks Ensha'allah ☺

The rest of the marks will be on the discussion of the questions.
► some questions that have been discussed in this station include:
Q1: mention some causes of hepatomegaly/splenomegaly? Presented in Macleod's.
Q2: causes of abdominal distension? Mentioned in Macleod's!
Q3: Causes og UGIB/LGIB?
Q4: Causes of ascitis/diarrhea/constipation? In Macleod's
Q5: stigmata of chronic liver disease? In Macleod's
Q6: Causes of Jaundice? In Macleod's

NOTE: these are not the only questions to be asked! Expect anything ☺

Liver size
Large liver (hepatomegaly)
• Liver metastases • Multiple or large hepatic cysts • Cirrhosis Alcohol Haemochromatosis • Hepatic vein outflow obstruction • Infiltration Amyloid
Small liver
• Cirrhosis

Ascites

Causes	Associated clinical findings
Exudative (high protein)*	
Carcinoma	Weight loss ± hepatomegaly
Tuberculosis	Weight loss + fever
Transudative (low protein)	
Cirrhosis	Hepatomegaly Splenomegaly Spider naevi
Renal failure (including nephrotic syndrome)	Generalised oedema
Congestive heart failure	Peripheral oedema Elevated jugular venous pulse (JVP)

*See ascites (p. 936)

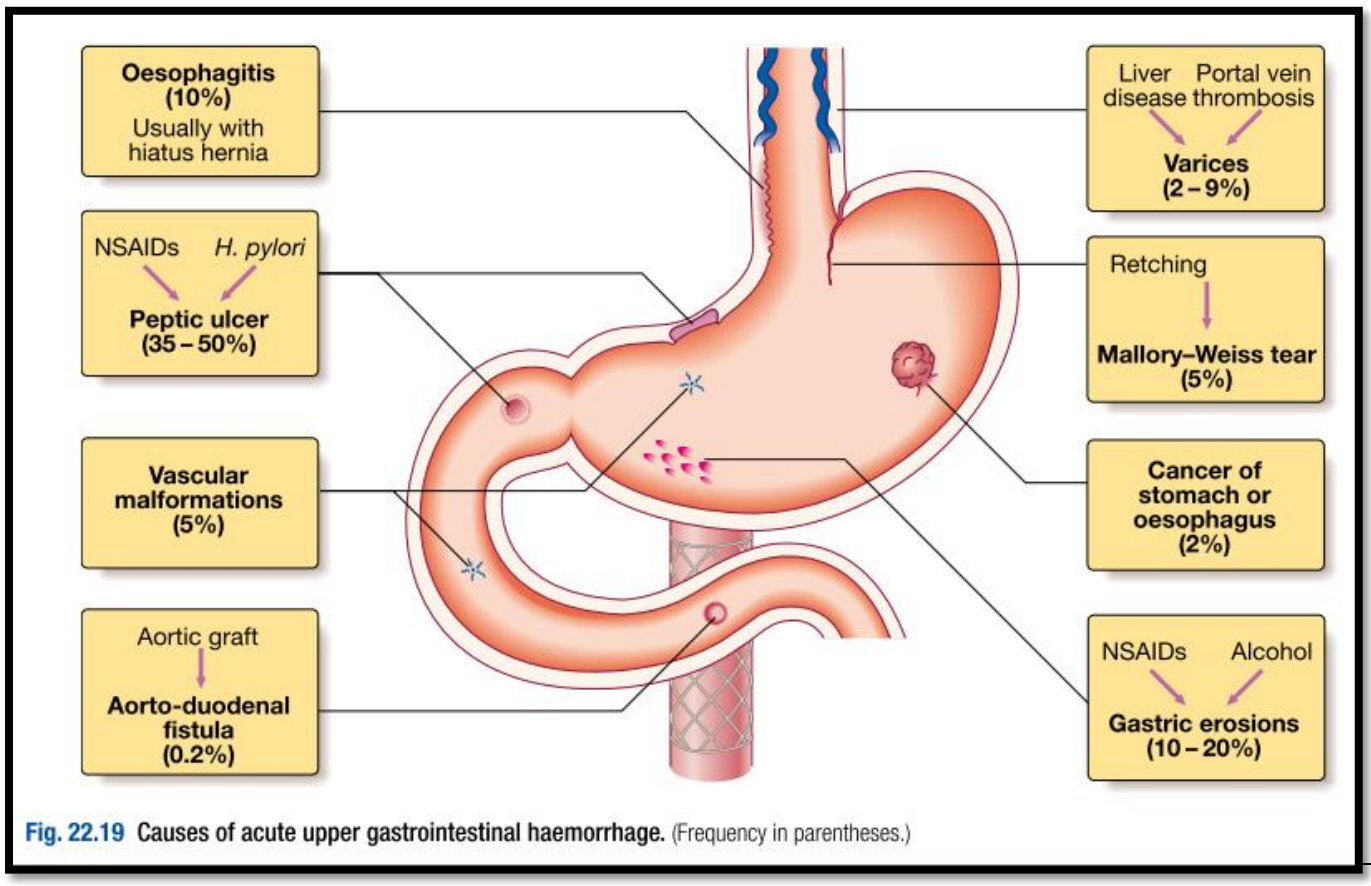


Fig. 22.19 Causes of acute upper gastrointestinal haemorrhage. (Frequency in parentheses.)

22.20 Causes of lower gastrointestinal bleeding

Severe acute

- Diverticular disease
- Angiodysplasia
- Ischaemia
- Meckel's diverticulum
- Inflammatory bowel disease (rarely)

Moderate, chronic/subacute

- Anal disease, e.g. fissure, haemorrhoids
- Inflammatory bowel disease
- Carcinoma
- Large polyps
- Angiodysplasia
- Radiation enteritis
- Solitary rectal ulcer

22.24 Causes of constipation

Gastrointestinal disorders

Dietary
- Lack of fibre and/or fluid intake

Motility
- Slow-transit constipation (p. 913)
- Irritable bowel syndrome
- Drugs (see below)
- Chronic intestinal pseudo-obstruction

Structural
- Colonic carcinoma
- Diverticular disease
- Hirschsprung's disease

Defecation
- Obstructed defecation (p. 913)
- Anorectal disease (Crohn's, fissures, haemorrhoids)

Non-gastrointestinal disorders

Drugs
- Opiates
- Anticholinergics
- Calcium antagonists
- Iron supplements
- Aluminium-containing antacids

Neurological
- Multiple sclerosis
- Spinal cord lesions
- Cerebrovascular accidents
- Parkinsonism

Metabolic/endocrine
- Diabetes mellitus
- Hypercalcaemia
- Hypothyroidism
- Pregnancy

Others
- Any serious illness with immobility, especially in the elderly
- Depression

22.21 Chronic or relapsing diarrhoea

	Colonic	Malabsorption	Small bowel
Clinical features	Blood and mucus in stool Cramping lower abdominal pain	Steatorrhoea Undigested food in the stool Weight loss and nutritional disturbances	Large-volume, watery stool Abdominal bloating Cramping mid-abdominal pain
Some causes	Inflammatory bowel disease Neoplasia Ischaemia Irritable bowel syndrome	Pancreatic Chronic pancreatitis Cancer of pancreas Cystic fibrosis Enteropathy Coeliac disease Tropical sprue Lymphoma Lymphangiectasia	VIPoma Drug-induced NSAIDs Aminosalicylates Selective serotonin re-uptake inhibitors (SSRIs)
Investigations	Colonoscopy with biopsies	Ultrasound, CT and MRCP Small bowel biopsy Barium follow-through	Stool volume Gut hormone profile Barium follow-through

23.9 Causes of cholestatic jaundice

Intrahepatic

- Primary biliary cirrhosis
- Primary sclerosing cholangitis
- Alcohol
- Drugs
- Cystic fibrosis
- Severe bacterial infections
- Hepatic infiltrations (lymphoma, granuloma, amyloid, metastases)
- Pregnancy (p. 975)
- Inherited cholestatic liver disease, e.g. benign recurrent intrahepatic cholestasis
- Chronic right heart failure

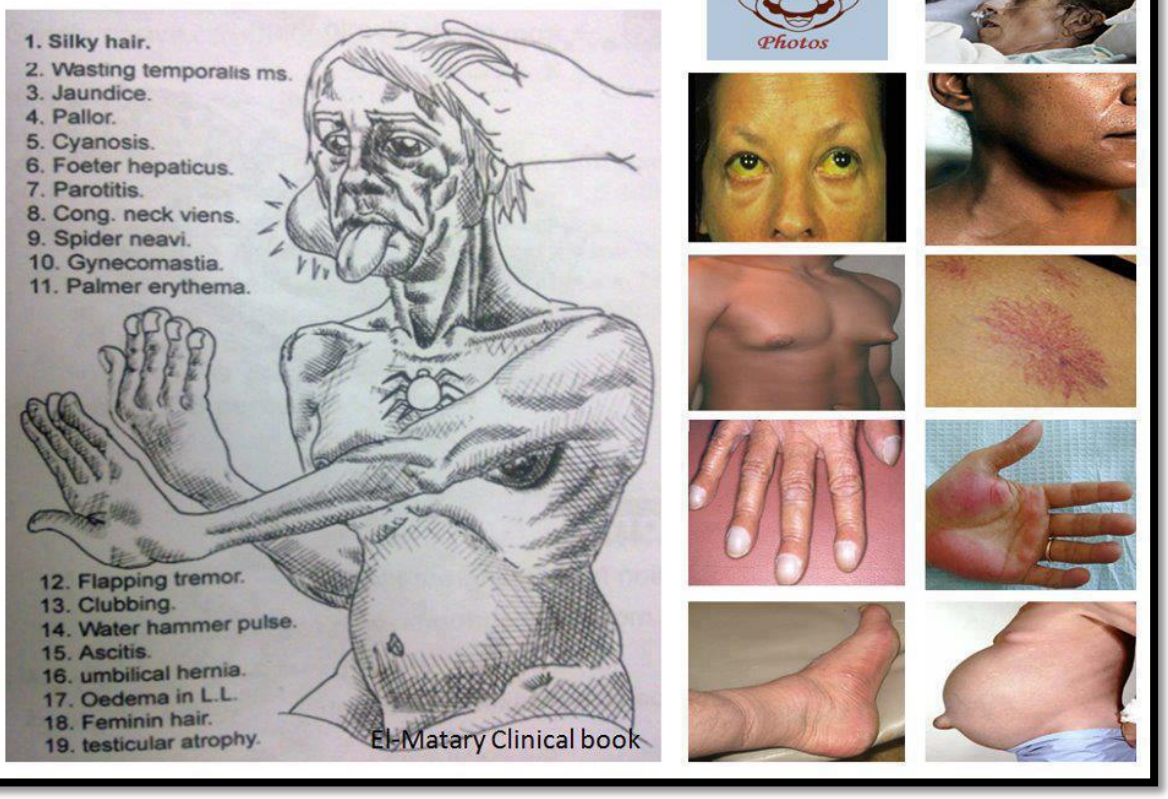
Extrahepatic

- Carcinoma
  - Ampullary
  - Pancreatic
  - Bile duct (cholangiocarcinoma)
  - Liver metastases
- Choledocholithiasis
- Parasitic infection
- Traumatic biliary strictures
- Chronic pancreatitis

Causes of splenomegaly

Infection	Viral	EBV, CMV, hepatitis
	Bacterial	SBE, miliary tuberculosis, *Salmonella*, *Brucella*
	Protozoal	Malaria, toxoplasmosis, leishmaniasis
Haemolytic	Congenital	Hereditary spherocytosis, hereditary elliptocytosis
		Sickle cell disease (infants), thalassaemia
		Pyruvate kinase deficiency, G6PD deficiency
	Acquired	AIHA (idiopathic or 2°)
Myeloproliferative & leukaemic		Myelofibrosis, CML, polycythaemia rubra vera
		Essential thrombocythaemia, acute leukaemias
Lymphoproliferative		CLL, hairy cell leukaemia, Waldenström's, SLVL, other NHL, Hodgkin's disease, ALL & lymphoblastic NHL
Autoimmune disorders & Storage disorders		Rheumatoid arthritis, SLE, hepatic cirrhosis
		Gaucher's disease, histiocytosis X
		Niemann–Pick disease
Miscellaneous		Metastatic cancer, cysts, amyloid, portal hypertension, portal vein thrombosis, tropical splenomegaly

Chronic Liver disease



Chest Examination Station

Introduction

1. Introduce yourself.

2. Ask for permission.

3. Ask for a chaperon.

4. Ensure the privacy.

5. Explain to the patient what you want to do.

6. Proper exposure? (From waist upward).

7. Position of the patient? It should be 45 degree.

8. General observation of the patient (looks well? , conscious? , oriented? , breath comfortably? , not in pain? , not pale, jaundiced or cyanosed? , if there is any IV lines, dressings, masks or drains? ..).

Inspection

9. Inspection (from the foot of the bed):
move with respiration? ,
Symmetrical? ,
Use of accessory respiratory muscles? ,
Hair distribuation? ,
visible pulsations? ,
any deformity (scoliosis or kyphoscoliosis, pectus craniatum or excavatum)? ,
any scars? ,
change in color of the skin? ,
spider naevi? ,
dilated visible veins? ,
visible masses or swellings? ,
Barrel chest? Pigeonchest? ,
Nipples? ,
striae? (sign of weight loss) ,
Stomas (tracheostomy)? ,
gynecomastia and spider neavi in liver disease? ,
Peripheral Odema?

►After this step you have to mention that you should take the vital signs (Temp., BP, Pulse Rate, and respiratory rate). You also have to say that you want to do an examination of the hands (Cyanosis, clubbing, palmer erythema, ...), and also the mouth and eyes.

Palpation

Auscultation

Percussion

► **Palpation:**

• do the examination of head and neck lymph nodes (they are 7 groups: supraclavicular, anterior, middle and posterior in the neck, submental, submandibular, postaricular and occipital).

• superfacial palpation: look for masses, subcutaneous emphysema, tenderness, apex beat.

• check for Tactile Vocal Fremitus, compare both sides each one with the other. (comment on any abnormality).

• Chest expansion (enclose the chest by both of your hands and make 2 skin folds, then ask the patient to take deep breath – it should move 3-5 cm). remember to do all things anteriorly and posteriorly. (comment if there is decrease or limitation).

• examination for tracheal deviation (use your middle 3 fingers).

► Percussion: lung Apices, over the clavicles, and 4-5 areas on the chest and the axilla. (compare each side with the other). comment if there is any dullness, or hyperresonance).

► Auscultation: auscultate the lungs on 7 areas. (comment if it is vesicular or bronchial breathing, and if there is decrease air entry).

► by doing these steps you have achieved at least 20/25 of this station. Now I will let you read some questions that have been asked in this station:

Signs and symptoms of pneumothorax

Dyspnea
Diminished or absent sounds of breathing on the affected side
Unilateral hyperresonance to percussion
Pleuratic pain
Tracheal deviation
Hypotension
Pulsus paradoxus
Elevated central venous pressure, superior vena cava syndrome
Increased pressure on ventilator
End-tidal CO_2 elevation, decreased PaO_2 and SpO_2 levels

Assessment	Massive hemothorax	Tension pneumothorax	Cardiac tamponade
Hx	Parenchymal : Blunt Another : penetrate	M/c : Blunt	M/c : Penetrate
Pulse	Rapid	Rapid	Rapid
Blood pressure	Low	Low	Low
Pulsus paradoxus	No	Yes	Possibly
Heart sounds	Audible	Audible	Muffled
Neck vein	Flat	Distended	Distended
Percussion	Dull	Hyperresonance	Normal
Trachea	Midline/deviated	Deviated	Midline
Chest symmetry	Normal/Asymmetry	Asymmetrical	Normal
Breath sounds	Absent/rhonchi/rales	Absent	Present
Investigation	Thoracentesis : if non massive should CXR	Thoracentesis	Fast

Thyroid Gland Exam

Introduction

1. **Wash hands (or wear gloves).**
2. **Introduce yourself.**
3. **Explain what you want to do and gain consent.**
4. **Ensure the privacy and ask for a chaperon.**
5. **Exposure should be from the shoulders upward.**
6. **General observation of the patient (looks well/ill/Anxious/Restless/irritable?, conscious?, oriented?, not in pain?, not in respiratory distress/tachypnic due to thyroid enlargement compressing the trachea?, sweaty?, wasted (weight loss)? Hair loss?**
7. **Say you need to take the vital signs. (Tchycardia and increased BP in hyperthyroid).**

Thyroid gland examination is of 2 parts:

Examination of the *thyroid status* and examination of the *thyroid as a mass.*

First, we start with the thyroid status:

Thyroid Status

8. **Hands:**
   a. Examine the pulse (tachy/bradycardia, Irregular irregularity may indicates AF, a complication of thyrotoxicosis).
   b. moisture (sweaty), palmar erythema, warmth.
   c. fine tremor.
   d. reflexes in the arm (exaggerated in hyper, slow in hypo).
9. **Eyes:**
   a. Lid retraction.
   b. lid lag (ask the patient to close and open his eyes once, and follow the lids movement, it will be slow).
   c. Exopthalmus (bulging of the eyes, the patient can look upward without wrinkles).
   d. opthalmoplegia.
   e. chemosis (redness of the eyes).
10. **Legs:**
    a. pretibial myxedema (red, thickened swelling above the lateral malleoli).
    b. reflexes in the legs.

Now, we start with the thyroid exam as a Mass:

11. **You start with Inspection, if there is swelling in the neck you have to comment on it regarding:**

Inspection

a. site of the swelling.
b. approximate size.
c. shape of it, if it can be assessed.
d. color of the overlying skin.
e. movement of it with swelling and tongue protrusion.
f. if there is any lumps or masses anywhere else.

Palpation

12. Now we move to Palpation: start anteriorly and then from behind the patient:
    a. *S*ize of the swelling or lump.
    b. *S*ite of the swelling and if it extends anywhere (to the mediastinum for example).
    c. *S*hape of the mass: symmetrical or not, spherical, oval, regular or irregular.
    d. *S*urface: smooth, rough, bosselated, irregular.
    e. *T*emperature.
    f. *T*enderness.
    g. *T*ranslucency (Transillumination).
    h. *T*hrill or pulsation.
    i. *F*luctuation.
    j. *M*obility/Fixation.
    k. *C*onsistency: stony hard, firm, rubbery, spongy, soft.
    l. if the trachea can be palpated, then assess it for any deviation.

4S , 4T , FMC

► Then posteriorly:
a. flex the head and examine the mass again.
b. examine the lymph nodes: submental, submandibular, anterior, middle and posterior cervical, and supraclavicular.

Percussion

13. Percussion:
    a. for extension of the mass into the chest (retrosternal extension).
    b. percussion over the mass itself (dull if fluid filled cysts or solid mass, resonant if gas filled cysts).

Auscultation

14. Auscultation: listen to the lump using the stethoscope for any possible bruits (a bruit may indicate AV fistula).

Descussions

1. **Investigations you want to do?**
   - **a. CBC**
   - **b. TSH, fT4**
   - **c. Autoantibodies (antimicrosomal, anti-peroxidase, and antithyroglobuline antibodies, anti-TSH antibodies).**
   - **d. Ultrasound.**
   - **e. FNA.**
   - **f. Radioactive Iodine.**
   - **g. CT or MRI (for mets and extension).**
   - **h. CXR**
   - **i. ECG**

	Midline	Lateral
Neoplastic	Thyroid Parathyroid Pharyngeal/Laryngeal	Most tumors (lymphoma, carotid…)
Congenital	Thyroglossal duct cyst Laryngocele	Cystic Hygroma Branchial cleft cyst
Infectious	Ludwig's Angina	Most infections (cat-scratch, mononucleosis, sialadenitis…)
Inflammatory	Submental reactive lymphadenopathy Thyroiditis	Most reactive lymphadenopathy

Table 1: Ultrasound findings associated with an increased risk of thyroid cancer.

Composition
Solid or predominantly solid (vs. cystic, predominantly cystic or mixed)

Echogenicity
Hypoechoic (vs. hyperechoic or isoechoic)

Shape and margin
Taller than wide on transverse view
Irregular margin (vs. well defined margin)

Internal characteristics
Calcifications
- Microcalcifications
- Coarse calcifications
- Disrupted peripheral or 'eggshell' calcifications

Increased central vascularity by colour-Doppler

Cervical lymphadenopathy

TABLE 2.3-4. Types of Thyroid Carcinoma

Type[a]	Characteristics	Prognosis
Papillary	Represents 75–80% of thyroid cancers. The female-to-male ratio is 3:1. Slow growing; found in thyroid hormone–producing cells.	Ninety percent of patients survive 10 years or more after diagnosis; the prognosis is worse in elderly patients or those with large tumors.
Follicular	Accounts for 17% of thyroid cancers; found in thyroid hormone–producing cells.	Ninety percent of patients survive 10 years or longer after diagnosis; the prognosis is worse in elderly patients or those with large tumors.
Medullary	Responsible for 6–8% of thyroid cancers; found in calcitonin-producing C cells; the prognosis is related to degree of vascular invasion.	Eighty percent of patients survive at least 10 years after surgery.
Anaplastic	Accounts for < 2% of thyroid cancers; rapidly enlarges and metastasizes.	Ten percent of patients survive for > 3 years.

C. Treatment

1. Papillary carcinoma
   a. Lobectomy with isthmusectomy
   b. Total thyroidectomy if tumor is >3 cm, tumor is bilateral, tumor is advanced, or distant metastases are present.
   c. Adjuvant treatment: TSH suppression therapy; radioiodine therapy for larger tumors
2. Follicular carcinoma—total thyroidectomy with postoperative iodine ablation
3. Medullary carcinoma—total thyroidectomy; radioiodine therapy usually unsuccessful
4. Anaplastic carcinoma—Chemotherapy and radiation may provide a modest improvement in survival.

Diabetic Foot Exam
vascular exam
Ulcer Examination

Introduction

15. Wash hands (or wear gloves).
16. Introduce yourself.
17. Explain what you want to do and gain consent.
18. Ensure the privacy and ask for a chaperon.
19. Exposure should be from the knees down.
20. General observation of the patient (looks well?, conscious?, oriented?, not in pain?, not in respiratory distress?, any leg or feet dressings?).
21. Say you need to take the vital signs.

Inspection

22. Now you can start examining the lower limbs: we start with inspection: compare both lower limbs by the mean of:
    1. Color: redness, pale, cyanosed.
    2. Hair distribution.
    3. Any deformities?
    4. Any scars?
    5. Amputations?
    6. Dilated veins?
    7. Black discoloration of the toes? (Gangrene, ischemia).
    8. Nail changes?
    9. Inspect the dorsal aspect and between the toes. Compare both legs and feet.

Inspection

23. If there is any ULCER you have to examine it for:
    1. Site (where it is located, … venous ulcers usually on the gaioter area, while arterial ulcers usually on the sides of the feet, but can be anywhere).
    2. Size (estimate it by inspection, be logical).
    3. Shape (circular, Oval, regular or irregular).
    4. Color (here you will be describing the "Floor" of the ulcer … remember the floor is what you can see … Red, yellow, black …).
    5. Discharge (comment if there is any discharge and its color … blood, pus or serous).
    6. Edge of the Ulcer (Sloping >> indicates healing venous ulcer, punched out >> indicates syphilitic, trophic, arterial ischemia or leprosy, undermined >> TB, Rolled >> basal cell CA "Rodent ulcer", Everted >> squamous cell CA).
    7. Margin: which is the skin just around the ulcer edge (pinkish may indicate healing).
    8. Surrounding skin: redness, necrosis …

Palpation

9. Depth: by millimeter. And measure the dimensions.
10. Feel the temperature around the ulcer.
11. Milking the ulcer for any discharge.
12. Base of the ulcer: feel the base by your fingers (any *tenderness*?, what are you feeling? Bone? Tendon? Soft tissue?)
13. Examine the edge again by palpation to see what type it is (if you can go underneath the skin).

Pulse

24. Feel both limbs temperature, examine inguinal lymph nodes.
25. Check for odema, If there is swelling, take the diameter, compare both legs.
26. Feel the pulses: Dorsalis pedis pulse (against the navecular bone, abscent in 2-3% in young healthy individuals), Tibialis posterior pulse (2 cm inferior and posterior to the medial malleolus), popliteal pulse (flex the leg at the knee and palpate it using both hands), femoral pulse (just below the mid-point of the inguinal ligament), Abdominal Aortic pulsation (in the abdomen.
27. Check for capillary refill: normally < 2 seconds, prolongation may suggest PVD.
28. Buerger's test: if the capillary refill is abnormal, then raise the leg of the patient to 45 degrees while he is in supine position, and wait for 30 seconds, if it become pale >> then this may indicate PVD (the normal is to stay pinkish), then ask the patient to sit on the side of the bed and hang his legs, if it becomes cyanosed before going back pinkish this may indicate PAD.
29. Check for radio-femoral delay: palpate the radial and femoral pulse ipsilaterally at the same time, you should feel the pulse ate the same time, any delay may indicate pathology like coarctation of the aorta.
30. Check the Ankle-Brachial index, which can predict the severity of the PAD (how: measurer the blood pressure at the brachial artery and at the ankle, a normal ankle-brachial index is 1.0 to 1.4 , 0.9 or less, 1.4 or higher is abnormal and means a higher chance of having narrowed arteries in other parts of the body. A value of 0.91 to 1.00 is considered borderline abnormal.

Sensations

Now say that you want to examine for the following things. If he says skip, then skip.

31. Now you have to examine the sensation:
1. Light touch sensation: use a wisp of cotton wool and gently touch, patient's eyes should be closed, start distally and go proximally, compare both lower limbs by asking the patient where he feels more.

Sensations

2. Pin-prick sensation: **the same as the previous one but use the sharp end of a neuro-tip.**

3. Vibration sensation: **tap the tuning fork and place it on the foot while the patient's eyes are closed and ask the patient if he can feel it, if yes >> tap it again and put it on the distal part of the great toe and ask him the same question, if he can't feel >> start going proximally with the same maneuver.**

Neuro

32. **Test for Proprioception:** **hold the distal part of the great toe, demonstrate movement of the toe upwards and downwards to the patient while watching, ask the patient to close his/her eyes and do a movement to a certain direction, and then ask him toward where you moved it.**
33. **Ankle jerk reflex:** **dorsiflex the foot and tap the Achilles tendon and observe the contraction in the calf (normal reflex).**
34. **Examine the gait of the patient:** **symmetry and balance.**

Descussion

1. **Investigations you want to do?**
   a. CBC: for Leukocytosis.
   b. random and fasting **blood sugar**, and HbA1c.
   c. X-Ray of the leg: Osteomylitis and gas gangrene.
   d. swab for culture.
   e. Doppler U/S.

2. **Management of DF?**
   1. Life style: well-fitting shoes, don't use very hot water, avoid close contact to heaters, good care for nails, don't walk bare foot, avoid tight socks.
   2. Good control of DM: compliance with medication, daily check and DM diet!
   3. If there is an Ulcer: local debridement of the necrotic tissue and if abscess >> incision and drainage. Cleaning and dry dressing every day or every other day.
   4. Antibiotics (if ulcer and infection): Ampicillin, Gentamicine,and Metronidazole.

Causes of leg ulcers	
Vascular	Venous
	Arterial
	Mixed
Neuropathic	Leprosy
	Tabes dorsalis
	Syringomyelia
Metabolic	Diabetes
	Gout
	Porphyria
Haematological	Sickle cell disease
	Cryoglobulinemia

Remember: if you have findings of venous and arterial ulcer then >> it's "Mixed ulcer"

Table 1. Wagner Ulcer Classification System

Grade	Lesion
1	Superficial diabetic ulcer
2	Ulcer extension involving ligament, tendon, joint capsule, or fascia with no abscess or osteomyelitis
3	Deep ulcer with abscess or osteomyelitis
4	Gangrene to portion of forefoot
5	Extensive gangrene of foot

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	Neuropathic foot ulcer	Ischaemic foot ulcer
Foot temperature	Warm	Cold
Colour	Pink foot	Blanching on elevation, red when dependent
Sensation	Reduced/absent sensation	Preserved sensation
Pain	Painless ulcer	Painful ulcer
Pulses	Well palpable pulses	Absent pulses
Callus	Present around ulcer	No callus
ABPI	> 0.9	< 0.9

*In the presence of a neuroischaemic ulcer there could be overlap of the above findings

Source: Br J Diabetes Vasc Dis © 2004 Sherbourne Gibbs, Ltd.

- **Causes of infections include:**
  1. **Staph. Aureus**
  2. **Staph Epidermidis**
  3. **Strep pyogens**
  4. **Pseudomonas**
  5. **E. coli**

TABLE 1. Differential Diagnosis of Lower Extremity Ulcers

	Venous	Arterial	Diabetic
History	• rapid onset • edema • trauma • thrombophlebitis (20%)	• slowly progressive • arteriosclerosis • claudication • age usually > 45 years • significant smoking history • hypertension • hyperlipidemia	• diabetes • peripheral neuropathy
Pain	• some pain • increases with dependency • decreases with elevation	• moderate to severe • intermittent claudication • decreases with dependency • increases with elevation (at night) or leg exercises	• neuropathy (not painful) • anesthesia • paresthesia
Location	• medial malleolus • ankle • lower calf • stocking distribution	• lateral malleolus • anterior tibia • toes, heels, bony prominences	• pressure sites • plantar surface • heels, bony prominences • metatarsal head
Appearance	• irregular border • base with granulation tissue • exudative • weeping	• well demarcated, punched out • pale or white base	• thin, undetermined border • black, gray, or yellow base
Surrounding skin	• brown pigmentation • hyperkeratotic borders • edema • mottling • stasis dermatitis	• dry eschar • pale, cyanotic • cool • thin • shiny • dependent rubor • hairless	• pale • reticular vascular pattern • palpable purpura • hemorrhagic vessels • callus around wound • bullae formation • Charcot's deformity • hammertoes
Vascular exam	• pulses may be normal • normal ABI (≥ 0.9) • abnormal findings on venous Doppler ultrasound	• pulses deceased to absent • low ABI (< 0.9) • pallor with elevation, rubor with dependency • delayed venous filling • delayed capillary refill	• pulses usually present • unreliable ABI • mixed neuropathic and vascular (usually arterial) disease

Data extracted from London and Donnelly. 2000[2]; Carr. 2008[3]; Choucair and Fivenson. 2001[4]; Tam and Moschella. 1991[5]; Abu-Own, et al. 1994[6]; Goldman and Fronek. 1989[7]; Ayello. 2005[8]; Dean. 2008[9]; Calianno and Holton. 2007[10]; Federman and Kravetz. 2007[11]; Hampton. 2000[12]; Hooi, et al. 2002[13]; Boulton. 2004[14]; Brem and Tomic-Canic. 2007.[15]

Lump examination (anywhere in the body)

Introduction

1. Introduce yourself.
2. Ask for permission.
3. Ask for a chaperon.
4. Ensure the privacy.
5. Explain to the patient what you want to do.
6. Proper exposure? (of the mass and the area of the possible lymphatic drainage).
7. General observation of the patient (looks well? , conscious? , oriented? , breath comfortably? , not in pain? , not pale, jaundiced or cyanosed? , if there is any IV lines, dressings, masks or drains? ..).

Inspection

► Inspection:

1. Location/position
2. Contour (regular or irregular)
3. Pulsation (aneurism or high blood flow)
4. Colour of skin (red, pigmented, etc)
5. Abnormalities in skin (peau d'orange)
6. Abnormal vessels
7. Number.
8. Size and shape.
9. Cough impulse: ask the patient to cough and observe if there is any change in size.
10. If the mass in the groin or scrotum, ask the patient to stand and observe any change in mass size.

Palpation

► Palpation:

Ask the patient if there is any tenderness.

1. Cough impulse.
2. Consistency (Soft, firm, hard, rubbery; uniform, varied, lobulated).
3. Emptying.
4. Fluctuation.
5. Position (measured from a landmark)
6. Surface (smooth, rough, irregular)

Palpation

7. Shape.
8. Size (tape measure)
9. Tenderness.
10. Temperature.
11. Thrill or pulsation.
12. Move (plane of attachment)
13. Skin Tethering (attempt to pick up a fold of skin over the swelling and compare with other side)

Palpation

14. Deeper structures (attempt to move the swelling in different planes relative to surrounding tissues)
15. Muscles and tendons (palpate the swelling whilst asking the patient to use the relevant muscle)
16. Specific Tests: Transillumination (if you suspect the mass is filled with clear fluid, eg a hydrocoele).

◘ Examine the regional lymph nodes. Mention that you want to do DRE (digital rectal exam) if the mass is pelvic or in the groin.

Auscultation
Percussion

► Percussion and Auscultation:

- **Percussion of the mass: to check if solid, cystic or stony hard.**
- **Auscultation (for bruits or bowel sounds)**

► Give 3 possible causes of the mass?

	INDIRECT	DIRECT
Reducibility	Reduce upwards, then laterally and backwards	Reduces upwards and straight backwards
How the bulge reappears after reduction	Reappears in the middle of inguinal region and then flows medially before turning down to the neck of scrotum	The bulge reappears exactly where it was before
Controlled by pressure over internal inguinal ring	Yes	No
Palpable defect	Defect not palpable as it is behind fibers of external oblique muscle	Defect maybe felt in abdominal wall above pubic tubercle
Recurrence	Uncommon	Common