OSCE Master©

For

Internal Medicine

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

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History Stations

History Of Chest 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 Chest pain:
(SOCRATES)

1. Site.
2. Onset and progression.
3. Character (nature, intermittent or continuous).
4. Radiation.
5. Associated symptoms.
6. Timing (Duration) and at which time is mostly pronounced.
7. Exacerbating and relieving factors (fasting, food, drugs , excertion…).
8. Severity (out of 10, interference with sleep).

► Differentials: remember, the pain could be:
1. Cardiac.
2. Respiratory.
3. GIT.
4. Constitutional symptoms (*fever, rigors, night sweats, weight loss, loss of appetite, rashes, joint pain*).
5. Musculo-skeletal, nervous, or psychogenic.

► Cardiac symptoms:
-Dysponea,
-Orthopnoea,
-P.N.Dysponea,
-Palpitations,
-Dizziness,
-*sweating,*
-*anxiety,*
-*oedema*

► Respiratory symptoms:
-Cough,
-Sputum,
-Wheezing,
-Dysponea,
-Hoarseness.

► Gastrointestinal Symptoms:
1. General (nausea or vomiting, haematemesis, dysphagia, odynophagia, regurgitation Indigestion, dyspepsia, flatulence, abdominal destision).
2. Altered bowel habit, constipation or diarrhea

And ask about symptoms of Hyper and hypo-thyroids.

► Constitutional symptoms, for malignancies: (*fever, rigors, night sweats, weight loss, loss of appetite, rashes, joint pain*).

► Genitourinary symptoms:
1- Frequency of urine.
2- Hesitancy.
3- Color of Urine.
4- Menstruations Dates.
5- Previous pregnancy & their complications.
6- Breast symptoms.
7- Impotence.

► Musculo-skeletal:
- Muscle Pain.
- Recent Trauma or accidents.

► **Past Medical and Surgical History:**

- **Previous similar attacks!**

1. **Any surgeries.**
2. **Heart problems.**
3. **Peripheral vascular diseases.**
4. **Malignancies.**
5. **History of PUD.**
6. **hospital admissions.**
7. **History of DM, HTN, Hyperlipidemia, previous stenting, respiratory infections.**

► **Drug history: (*anticoagulants, GTN, Antacids*).**

►**Family History: same complaints, cancers,GERD, IHD, HTN, DM, Thyroid diseases, stroke, young deaths.**

► **Social History: (Alcohol, Occupation, smoking, sexual history (use of Viagra), travel history, accommodation.**

► Differential Diagnosis:

• Cardiac •angina •* acute coronary syndrome •dysrhythmia •pericarditis •* tamponade •myocarditis •* aortic dissection •endocarditis	• Pulmonary •pneumonia •*pneumothorax •pulmonary embolism •pulmonary hypertension •lung cancer •increased work, ie with asthma, can cause chest wall fatigue	• Gastrointestinal •GERD •peptic ulcer disease •perforated viscus •esophageal rupture •esophageal spasm •cholecystitis •hepatitis
• MSK/neuro •costochondritis •intercostal strain •arthritis •rib fracture •herpes zoster •C,3,4,5 from diaphragm - can be referred as shoulder pain •viral pleuritis	• Psychological •anxiety •panic •depression	

► **Investigations:**

• **Blood tests:**
- complete blood count.
- Electrolyte and urea
- Liver function test
- Serum Amylase
- Cryo Reactive Protein (CRP)
- Erythrocyte Sedimentation Rate (ESR)
- Warfarin levels and clotting profile
- Arterial blood gas (ABG)
- Blood sugar level

• **Urine test**
- Creatinine.

• **X-rays**
- Chest x-ray
- Barium swallow

• **Scans**
- CT-scan
- MRI
- CTPA

History Of 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 abdominal pain:

(SOCRATES)

1. Site.
2. Onset and progression.
3. Character (nature, intermittent or continuous).
4. Radiation.
5. Associated symptoms.
6. Timing (Duration) and at which time is mostly pronounced.
7. Exacerbating and relieving factors (fasting, food, drugs …).
8. Severity (out of 10, interference with sleep).

► Differentials: remember, the pain could be:
1. Gastrointestinal.
2. Urological.
3. Gynaecological.
4. Cardio-respiratory (by radiation).
5. Constitutional symptoms (*fever, rigors, night sweats, weight loss, loss of appetite, rashes, joint pain*).
6. Musculo-skeletal.
7. Psychotic.

► Gastrointestinal Symptoms:

1. General (*nausea or vomiting, haematemesis, dysphagia, odynophagia, regurgitation Indigestion, dyspepsia, flatulence, abdominal destision*).
2. Altered bowel habit, constipation or diarrhea:(*frequency, colour, volume, mucous, steatorrhoea, what was normal*).

► Genitourinary symptoms:
1- Frequency of urine.
2- Hesitancy.
3- Color of Urine.
4- Menstruations Dates.
5- Previous pregnancy & their complications.
6- Breast symptoms.
7- Impotence.

► Cardiac and respiratory symptoms:
-Cough,
-Sputum,
-Wheezing,
-Dysponea,
-Chest Pain,
-Hoarseness
-Chest Pain,
-Orthopnoea,
-P.N.Dysponea,
-Palpitations,
-Dizziness,

► Constitutional symptoms, for malignancies: (*fever, rigors, night sweats, weight loss, loss of appetite, rashes, joint pain*).

► Musculo-skeletal:
- Muscle Pain.
- Recent Trauma or accidents.

► Past Medical and Surgical History:
• Previous similar attacks!
1. Any surgeries.
2. Heart problems.
3. Peripheral vascular diseases.
4. Prolonged constipation.
5. Malignancies.
6. History of PUD.
7. hospital admissions.
8. History of FMF.

► Drug history: (*anticoagulants*)

►Family History: same complaints, cancers, ulcers, cardiac problems, FMF.

► Social History: (Alcohol, Occupation, smoking, sexual history, travel history.

DDx	Colicky	Continuous
Epigastric	Biliary	Peptic ulcer or pacreatitis or AAA
Periumbilicial	Elderly + weight loss = Colonic Cancer Young + diarrhoea/constipation + bloating = IBS	Peritonitis from perforated viscus, mesenteric ischaemia, peritonitis, appendicitis
Suprapubic	Altered bowel = colorectal cancer/IBD/IBS	
Pelvic		Young woman = PID/ovarian cyst/torsion

➤ Investigations:

• Blood tests:
- Full blood count (also called complete blood count in North America)
- Electrolyte and urea
- Liver function test
- Serum Amylase
- Cryo Reactive Protein (CRP)
- Erythrocyte Sedimentation Rate (ESR)
- Warfarin levels and clotting profile
- Arterial blood gas (ABG)
- Blood sugar level

• Urine test
- Urine Dip stix for infection, blood in urine test,
- Urine pregnancy test

• Stool test
- Faecal occult blood test (FOBT) for bowel cancer,
- stool microscopy for parasites
- Helicobacter pylori antigen test

• X-rays
- Plain abdominal film
- Chest x-ray
- IVU
- Barium swallow

• Scans
- Ultrasound scans
- CT-scan
- MRI
- CTPA
- Bone scan
- Radionuclide scan

• Endoscopy or Camera tests
- Colonoscopy
- Sigmoidoscopy
- ERCP
- MRCP
- Laparoscopy
- Cystoscopy
- Hysterescopy

History Of Cough

► 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 Cough itself:

1. Duration (how long?).
2. Onset (sudden or gradual).
3. Progression? Increased or diminished? Becoming worse recently?
4. Is it variable? Diurnal? Is there any aggravating or relieving factors?
5. severity? Interfere with work, daily life, sleep?
6. Timing ? At what time it is mostly pronounced? And what you were doing at the time of onset?
7. Do you ever wake up at night coughing?
8. Do you get the cough on lying flat? How many pillows do you sleep on?
9. Any aggravating or relieving factors?

► HOPI: Productive or not? If sputum, then you should analyze:
1. color of sputum?
2. amount of sputum?
3. taste or smell?
4. solid material in it?
5. consistency?
6. blood clots or streaks in it?

► HOPI: If Hemoptysis (blood) is present, then you should analyze:
1. Make sure that he is coughing blood (not vomiting blood), and it is not oral in origin.
2. color of blood?
3. clots?
4. mixed, streaks, droplets?
5. quantity?
6. other sites with bleeding?

► Differentials: remember, the cause of cough could be:
1. Malignancy.
2. Cardiac causes.
3. GI/causes.
4. Respiratory and DVT.
5. Renal
6. atopy.
7. post-nasal drip.
8. sinusitis.
9. systemic illness (important): Sarcoidosis, SLE, Scleroderma.

► Malignancy.
1. Weight loss.
2. Hemoptysis.
3. loss of appetite.
4. hoarseness of voice.
5. fatigue.
6. generalized weakness.
7. fevers.
8. SOB.
9. wheezes.

► Cardiac cause:
1. SOB.
2. Dyspnea/Orthopnea.
3. Chest pain.
4. PNDs.
5. known heart problems.
6. ankle swelling.
7. palpitations.

► GI causes:
1. Dysphagia.
2. odenophagia.
3. regurgitation.
4. heart burn.
5. excessive salivation.
6. sleep disturbances.
7. cough related to meals.
8. foreign body aspiration.

► respiratory causes and DVT:
1. Leg pain.
2. Leg redness.
3. Leg hotness.
4. Chest pain.
5. SOB.
6. risk factors for DVT: travel, OCPs, pregnancy...etc.

► Renal causes (Wegner's, Goodpasture's):
1. Hematuria.
2. frothy urine.
3. dysuria.
4. hemoptysis.
5. chest pain.

► Atopy:
1. eczema/asthma.
2. skin rashes.
3. hay fever
4. conjunctivitis.
5. allergy.

► Postnasal drip:
1. wheezes.
2. SOB.
3. Burning sensation in throat.
4. runny nose.
5. broken cracking voice.
6. bad breath.
7. constant clearing of the throat.

► Sinusitis:
1. tooth ache.
2. facial pain.
3. purulent nasal secretions.

► Sarcoidosis:
1. Fever.
2. Anorexia.
3. arthralgias.
4. dyspnea on exertion.
5. chest pain.
6. hemoptysis.
7. erythema nodosum.
8. skin rashes.
9. ocular problems.
10. cardiac manefistations.
11. facial nerve palsy.
12. palpable lymph nodes.
13. parotid gland enlargement.
14. patchy hair loss.
15. dry mouth.
16. abdominal distension (hepatomegaly).

► Scleroderma:
1. Thickening or tightening of the skin.
2. digital ulcerations.
3. hair loss.
4. skin pigmentation.
5. pruritus.
6. raynaud's.
7. Telengectasias.
8. GERD+Dysphagia.
9. bloating + constipation.
10. SOB, Chest pain.
11. arthralgias myalgias, parasthesias.
12. palpitations.
13. dry mouth/eyes.
14. hoarseness.
15. facial pain.
16. headache.
17. fatigue + weight loss.

► SLE:
1. afatigue.
2. fever.
3. arthralgia.
4. weight loss.
5. malar rash (photosensitive).
6. myalgia.
7. seizures.
8. mood instability.
9. urinary problems.
10. nausea, dyspepsia.
11. oral ulcers.
12. raynauds.
13. SOB.

► **Past Medical and Surgical History:**
• **Previous similar attacks!**
1. **Any surgeries.**
2. **Heart problems.**
3. **Thyroid diseases.**
4. **Asthma.**
5. **Malignancies.**
6. **GERD.**
7. **hospital admissions.**
8. **Recent or recurrent upper RTI (pneumonia, acute bronchitis).**

► **Drug history: aspirin, steroids, adenosine, beta-blockers, NSAIDs, ACEI, If the patient is sensitive to any smell or drugs?**
• **Inhalers?!!**

►**Family History: same complaints, cancers, DM, HTN, IHD, Asthma, thyroid diseases, hematological, COPD, Lung fibrosis, pulmonary embolism.**

► **Lab Investigations:**
-CBC
-electrolytes
-BUN
-sCr
-arterial blood gases
-Auto-antibodies.

► **Diagnostic Imaging:**
-Chest X-ray
-pulmonary function tests
-CT (spiral if PE suspected)
-V/Q scan
-ECG
-echo

► **Social History: (Alcohol, Occupation, smoking, travel history, Pets, type of accomidation).**

Variable	Risk of cancer		
	Low	Intermediate	High
Diameter of nodule (cm)	<1.5	1.5-2.2	≥2.3
Age (years)	<45	45-60	>60
Smoking status	Never smoked	Current smoker (≤20 cigarettes/day)	Current smoker (>20 cigarettes/day)
Smoking-cessation status	Quit ≥7 years ago or never smoked	Quit <7 years ago	Never quit
Characteristics of nodule margins	Smooth	Scalloped	Corona radiata or spiculated

	Asthma	COPD
Age at onset	At any age (usually <40 years)	Usually >40 years
Smoking history	Possible	Usually >10 pack-years
Cough at exacerbation	Usually between 2 and 6 am	Gradual increase
Sputum production	Infrequent	Common
Allergy(eczema or allergic rhinitis)	Common	Infrequent
Airway inflammation		
Main portion	Large airways	Small airways
Pathophysiology	Basement-membrane thickening	Fibrosis of small airways
	Increased airway smooth muscle	Destruction of alveolar walls
Bronchial biopsies	Th2-dominant T cells	Th1-dominant T cells and type1 CTL
	Eosinophils, activated mast cells	Neutrophils and Mφ
Reversibility (peak flow results)	Normalize with time	May improve, but do not normalize
Family history	Common	Uncommon

CTL, cytotoxic T cell; Mφ, macrophage.

History Of Shortness of Breath

► 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 SOB itself:

1. Duration (how long?).
2. Onset (sudden or gradual).
3. Progression? Increased or diminished? Becoming worse recently?
4. Is it variable? Diurnal? Is there any aggravating or relieving factors?
5. severity? Interfere with work, daily life, sleep?
6. Timing ? At what time it is mostly pronounced? And what you were doing at the time of onset?
7. Do you ever wake up at night feeling short of breath (paroxysmal nocturnal dyspnea)?
8. Do you get short of breath on lying flat? How many pillows do you sleep on? (Orthopnea).
9. How far can you walk before you become short of breath?
10. Is it exertional dyspnea? (just with exertion).

► Differentials: remember, the dyspnea could be: respiratory, cardiac, musculo-skeletal, metabolic, hematologic, neuromuscular, or psychogenic.

► start with the Constitutional symptoms,: (*fever, rigors, night sweats, weight loss, loss of appetite, rashes, joint pain*).

► respiratory symptoms:
-Cough,
-Sputum,
-Wheezing,
-episodes of Apnea?
-Chest Pain,
-Hoarseness ,
-Foreign bodies?!!
-Neck mass?!
-recent upper or lower respiratory tract infections?
-history of Asthma?!!
-snoring?
-Irritability/ personality change? (the last 3 things for OSA).

► MSS, Hematology and metabolic symptoms:
-recent trauma or accidents.
-muscle pain.
-heat/cold intolerance?
-Tremor?
-Heart burn?
-polydepsia/polyurea/blurred vision?
-parasthesia?
-dry skin?
-constipation/diharrea?
-tachycardia?

► CVS symptoms:
-Palpitations,
-Ankle swelling,
-Dizziness,
-Rest pain,
-Edema,
-Temperature,
-Color changes of hands,

► Drug history: aspirin, steroids, adenosine, beta-blockers, NSAIDs. If the patient is sensitive to any smell or drugs?
• Inhalers?!!

►Family History: same complaints, cancers, DM, HTN, IHD, Asthma, thyroid diseases, hematological, COPD, Lung fibrosis, pulmonary embolism.

► Past Medical and Surgical History:
• Previous similar attacks!
1. Any surgeries.
2. Heart problems.
3. Thyroid diseases.
4. Asthma.
5. Malignancies.
6. GERD.
7. hospital admissions.
8. Recent or recurrent upper RTI (pneumonia, acute bronchitis).

► Social History: (Alcohol, Occupation, smoking, travel history, Pets, type of accomidation).

Table 1. Common Causes Of Dyspnea.

Upper Airway
Foreign body
Allergic reaction
Mass
Airway stenosis
Tracheomalacia

Lung/Lower Airway
Pneumonia
Pneumothorax
Pleural effusion
Pulmonary embolism
Pulmonary hypertension
Interstitial lung disease
Adult respiratory distress syndrome
Chronic obstructive pulmonary disease
Asthma
Mass

Cardiac
Myocardial ischemia
Congestive heart failure
Pericardial effusion
Valvular disease
Arrhythmia

Metabolic/Hematologic
Thyrotoxicosis
Abnormal hemoglobins (CO or methemoglobin)
Anemia
Disorders of phosphate, potassium, or calcium
Sepsis/Fever
Acidosis

Neuromuscular
Guillain-Barré
Myasthenia gravis
Myopathy
Neuropathy

Psychogenic
Panic disorder
Hyperventilation
Deconditioning

Other
Massive ascites
Drug withdrawal

► **Lab Investigations:**

-CBC
-electrolytes
-BUN
-sCr
-arterial blood gases

► **Diagnostic Imaging:**

-Chest X-ray
-pulmonary function tests
-CT (spiral if PE suspected)
-V/Q scan
-ECG
-echo

History Of Weight Loss

► 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 weight loss itself:
- Duration.
- Documented or not? And how much kg?
- Course? Progressive or what?
- Intentional weight loss?
- Diet and calorie intake?
- Change in appetite?
- Physical activity?

► Causes of weight loss include:
1. GI causes.
2. Cardio-respiratory.
3. Infectious: TB.
4. Constitutional (Malignancy).
5. Metabolic: Hyperthyroid, DM.

► GI causes:
- Malnutrition, dyspepsia, Indigestion, Heartburn.
- Change in bowel habit?
- Blood in stool or melena?
- Difficulty swallowing?
- Nausea and vomiting?
- Abdominal pain?

► Cardio-respiratory:
- Palpitations?
- SOB/ Orthopnea/ PNDs?

► Infectious (TB):
- Fever or chills?
- Night sweats?
- Palpable lumps anywhere?

► Constitutional symptoms (Malignancy):
- Energy level?
- Fatigue?
- Fevers?

► Metabolic (DM, Hyperthyroid):
- Polyurea?
- Polydypsia?
- Mood?
- Heat intolerance?
- Lack of interest in life/ sleep disturbances?
- Tremor?

► Past medical, surgical, and drug history:
- Any drugs or herbal medications?
- PMHx: history of DM or thyroid problems?
- Any surgeries before?
- PMHx of HTN?

► Family History:
- Family history of thyroid problems?
- Family Hx of depression?
- Family Hx of Malignancy?
- If female: Menstrual cycle history? Heavy or frequent menses?

► Social History:
1. Diet?
2. Exercise?
3. smoking?
4. drug abuse?
5. alcohol abuse?

Q1: what is the most likely etiology of this patient's weight loss?

1) Thyrotoxicosis.

2) Drug abuse.

3) Pheochromocytoma.

4) Depression.

Q2: Blood work up that you would like to obtain in this patient?

1) CBC.

2) Thyroid function test.

3) LFT.

4) Urine VMA metanephrine.

5) Urine Drug Screen.

History Of Thyroid disease case

► 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 hypothyroid state itself:

1. onset of symptoms?
2. duration?
3. progression?
4. Associated masses in the neck? Else where?
5. lethargy?
6. Mental slowness?
7. insomnia?
8. Impaired concentration?
9. cold intolerance and dry skin?
10. Decreased appetite?
11. Weight gain?
12. constipation?
13. arthralgia, myalgia?
14. Menstrual abnormalitis? (Oligomenorrhea, menorraghea).
15. Loss of libido?
16. Bradycardia?
17. Irritation of the eye? Blurred vision? Photophobia? Bulging of the eyes?
18. tremor?
19. Skin rashes?
20. Dry hair and hair thinning?
21. Ankle swelling?
22. Weakness and fatigue?
23. Facial appearance?

► HOPI:

• Specific Questions about the hyperthyroid state itself:

1. onset of symptoms?
2. duration?
3. progression?
4. Associated masses in the neck? Else where?
5. hyperactivity?
6. irritability?
7. insomnia?
8. Impaired concentration?
9. Heat intolerance and sweating?
10. Increased appetite?
11. Weight loss?
12. Diarrhea? Steatorrhea?
13. Polyuria?
14. Menstrual abnormalitis? (Oligomenorrhea).
15. Loss of libido?
16. Palpitation?
17. Irritation of the eye? Blurred vision? Photophobia? Bulging of the eyes?
18. tremor?
19. Skin rashes?
20. alopecia?
21. Ankle swelling?
22. Weakness and fatigue?
23. Bone fractures?
24. Emotional liability ?

► Past medical and surgical history:
1. Previous similar attacks.
2. Known thyroid diseases? Or previous thyroid diseases? Thyrodictomy?
3. DM, HTN, malignancies, neck swellings? Recenrt infections?

► Drug history: any drugs? Iodine? Irradiation?

►Family History: same complaints, cancers,thyroid diseases, HTN, DM, hashimoto or any autoimmune diseases?

► Social History: (Alcohol, Occupation "radiation exposure", smoking, sexual history, travel history, tattos.

Table 2. Causes of Hyperthyroidism

Most Common Causes	Rare Causes
• Graves' disease • Toxic multinodular goiter (also known as *toxic nodular struma*) • Independent or solitary toxic adenoma • Thyroiditis or inflammation of the thyroid gland	• TSH-secreting pituitary adenoma • Struma ovarii or goiter of the ovary (predominance or entire presence of matured thyroid cells in the ovary) • Metastatic differentiated thyroid cancer • Metastatic tumors within the thyroid gland

THS: thyroid-stimulating hormone.

Table 18.22
Causes of hypothyroidism

PRIMARY

Congenital
Agenesis
Ectopic thyroid remnants

Defects of hormone synthesis
Iodine deficiency
Dyshormonogenesis
Antithyroid drugs
Other drugs (e.g. lithium, amiodarone, interferon)

Autoimmune
Atrophic thyroiditis
Hashimoto's thyroiditis
Postpartum thyroiditis

Infective
Post-subacute thyroiditis

Post-surgery

Post-irradiation
Radioactive iodine therapy
External neck irradiation

Infiltration
Tumour

SECONDARY

Hypopituitarism
Isolated TSH deficiency

Peripheral resistance to thyroid hormone

▶ Investigations:

1. TSH levels.
2. Free T4 and T3.
3. Total T4 and T3.
4. TBG levels.
5. Radioactive iodine uptake and thyroid scan.
6. Thyroid antibodies (Thyroid Peroxidase Antibodies (TPOAb) / Antithyroid Peroxidase Antibodies, Antithyroid Microsomal Antibodies / Antimicrosomal Antibodies)
7. Biopsy.

History Of patient with DM or DM follow-up

► 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.

► Taking Hx from a diabetic patient can be divided into several parts:
1. Specific and general symptoms of DM.
2. Diet and Exercise.
3. Risk Factors.
4. Complications of DM and its medications.
5. if newly diagnosed, then ask about symptoms of possible Diagnoses.

► HOPI:
• Specific Questions about the Symptoms of DM itself:

1. Polyuria: Duration, Frequency (day and night), volume of urine, fluid intake?, transient (diuretics, migraine, ..), urine color, painful urination?.

2. Polydepsia: how much fluid do you drink?, excessive thirst.

3. General symptoms: weight loss, fatigue, increased rate of infections, dehydration, genital or oral thrush.

► HOPI:
• If the patient is already diabetic:
1. type of diabetes?
2. since when?
3. age at diagnosis?
4. mode of presentation? Symptoms or DKA or HONKC?

► HOPI: TTT, Diet and exercise:
• If the patient is already diabetic:
1. Oral agents (dose, frequency and type).
2. Insulin (dose, administration, frequency and type).
3. compliance with treatment (can be checked with symptoms as well).
4. Diet? (consistency, number of meals, size of the meal).
5. exercise (Regular?, frequency per week).
6. self monitoring of glucose levels.

► HOPI: Risk Factors:
1. BMI (Height and weight).
2. Family Hx.
3. Polycystic Ovarian Syndrome?
4. Dyslipidemia.
5. Pancreatic problems.
6. Other autoimmune diseases (Thyroid).
7. Life style.
8. Gestational DM.

► HOPI: DM complications:
1. Local.
2. Metabolic.
3. Long-Term complications (Neuropathy, Nephropathy, Retinopathy, CVS, cerebrovascular, Immunity).

► HOPI: DM complications:
▫ . Local Complications:
1. Skin necrosis (in insulin users).
2. skin infections.
3. lipidystrophy.

► HOPI: DM complications:
◘ . ◘ Metabolic: DKA, HNKC and Hypoglycemia.

1. DKA: Plyuria, plydepsia, weakness, fatigue, nausea, vomiting, abd pin, decrease appetite, weight loss, missed insulin dose (non-compliance), Increased sugar intake, Confusion, Coma, Hx of infections, Hx of major stress, SOB.

2. HONKC: same as DKA but with type 2, and with higher glucose readings and no ketones on labs.

3. Hypoglycemia: shakiness, anxiety, palpitations, sweating, pallor, numbness, hunger, nausea, vomiting, fatigue, lethargy, slurred speech, confusion, dizziness, cause? (increased insulin?, missed diet?, fasting?), seizures, coma, nervousness, blurred vision.

► To assess the compliance with medications:
1. Last time you checked your blood sugar?
2. Last reading?
3. range of readings?
4. last HbA1c?
5. if symptomatic now?

► Past medical and surgical history:
1. Previous similar attacks.
2. Known thyroid diseases? Or previous thyroid diseases? Other autoimmune diseases?
3. HTN, malignancies, neck swellings? Recenrt infections?

► Drug history: DM drugs and dosese, steroids?

►Family History: same complaints, cancers,thyroid diseases, HTN, DM, hashimoto or any autoimmune diseases?

► HOPI: DM complications:
◘ Chronic Complications:
1. Neuropathy: limbs pain, parasthesias, cranial nerves involvement, erectile dysfunction, early satiety, urinary incontinence, urine retention.

2. Nephropathy: edema, oluguria, HTN, frothy urine, hematuria.

3. Retinopathy: vision problems, previous laser therapy, cataracts.

4. Cardiovascular: angina, claudication, SOB, Impotence, ankle swelling.

5. Cerebrovascular: strokes, vertigo, gait abnormalities,

6. Immunity: Increasing rate of infections, genital thrush, foot ulcers, delay healing.

7. GIT (Gastroparesis): Diahrrea, GERD, Heart burn, bloating, Indigestion.

► <u>If the patient only has polyuria, the possible causes are:</u>
1. symptoms of hyperthyroidism: palpitations, high blood pressure, heat intolerance, weight loss, increased appetite, tremor, diarrhea, oligomenorrhea, nervousness.

2. hyperparathyroidism: bone pain, loin pain, hematuria, abd. Pain, polyuria, constipation, depression.

3. Diabetes insipidus: large urine volume, nocturia, polydepsia, dehydration, headache.

4. Diet: excessive caffeine, excessive alcohol.

► Social History: (Alcohol, smoking, sexual history, Diet and exercise).

► **Investigations:**
1. **FBS.**
2. **HbA1c.**
3. **CBC.**
4. **Urinalysis.**
5. **KFTs, Microalbuminuria.**

Other tests:
1. **Fundoscopy.**

If newly diagnosed:
the same as above in addition to:
TFTs, electrolytes …

DKA vs HHS

• Common	• Uncommon
• Type 1	• Type 2
• Precipitated by infection	• More severe illness
• Ketoacidosis	• Not ketoacidotic
• Short prodromal sympts	• Longer prodromal sympts
• Mortality 5-10%	• Mortality 40-60%
• Age 20-29	• Age 57-70

Acute Complications of DM

- Somogyi effect
  - Drop in blood sugar causes stimulation of body's glucose counter regulation measures
    - Nocturnal hypoglycemia
      - Nightmares
      - Morning headache
    - Glucagon, cortisol, GH, and epinephrine
      - Gluconeogenesis
      - glycogenolysis
    - **Result is rebound am hyperglycemia**
    - **Too much insulin!!!** Many will want to over treat.
- Dawn phenomenon
  - Morning hyperglycemia due to decreased available insulin
    - No nocturnal hypoglycemia
    - Nocturnal elevation of GH
      - Hyperglycemia by decreasing peripheral tissue glucose uptake
      - Faster insulin clearance

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SOMOgyi = **SO MO**ch insulin

Dawn = **Down** insulin

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 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.
10. Aggravating and relieving factors?
11. alternating diarrhea and constipation?

► 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).
6. Polyuria, Polydepsia, and polypgagia: If DM.

► 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).

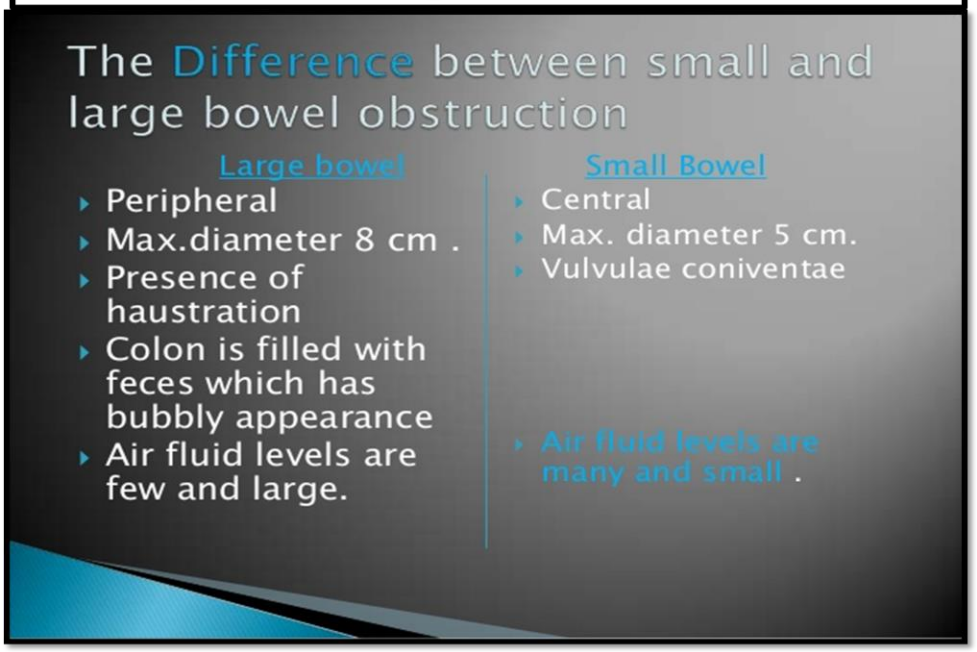
►what Investigations you want to do? Mention 2 labs and 2 Imaging studies.

1. labs: CBC, Electrolytes, TFT, PTH, FBS, HbA1c.

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

High	Distal small bowel	Colonic
•Pain is rapid	•Pain: central and colicky	•? Preexisting change in bowel habit
•Vomiting copious and contains bile jejunal content	•Vomitus is feculunt	•Colicky in the lower abdomin
•Abdominal distension is limited or localized	•Distension is severe	•Vomiting is late
•Rapid dehydration	•Visible peristalsis	•Distension prominent
	•May continue to pass flatus and feacus before absolute constipation	•Cecum ? distended

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 LGIB

► 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:

▫ How you have noticed the blood? In toilet, on toilet papers …?

1. Onset of bleeding (acute "ischemic, angiodysplasia, meckel's" vs chronic "polyps, CA, IBD, Piles").
2. Number of episodes "frequency" (this is important for resuscitation).
3. Duration for each episode.
4. Course (Progression).
5. Exacerbating and relieving factors (related to defecation? And how "before, after, with?, fasting, food, drugs …).
6. Nature: fresh (red) blood?, occult blood?, clots?, black blood?
7. Color? Black, Brown, Maroon, Bright?
8. Painful or painless? And pain relation to defecation?
9. Tensmus?
10. Bleeding form other sites? "systemic illness or drug induced".

► Associated Symptoms:

1. Anaemia/hypovolumea > ask about > (*dizziness, shortness of breath, palpitations*).
2. Systemic > ask about > (*rashes, ulcers, joint pain, eyes*).
3. Constitutional symptoms > ask about > (*fever, rigors, night sweats, weight loss, loss of appetite*).

► GIT symptoms:

1. Abdominal pain or distension (peptic ulcer, gastric cancer) .
2. Change in bowel habit (liver disease)
3. vomiting (red blood points to Mallory Weiss and esophageal varices, while coffee ground vomiting may indicate peptic ulcer or gastric cancer).
4. Jaundice
5. Dysphagia, odynophagia, heart burn, regurgitation (esophagitis, esophageal cancer, or gastric cancer).

► 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 .

► 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).

► LGI bleeding DDx:

1. Anal lesions (hemorrhoids, fissures), rectal trauma, proctitis.
2. Colitis: ulcerative colitis, Crohn's disease, infectious colitis, ischemic colitis, radiation colitis.
3. Colonic polyps, colonic carcinoma.
4. Less common: angiodysplasia (vascular ectasia), diverticulosis, intussusception, solitary ulcer, blood dyscrasias, vasculitis, connective tissue disease, neurofibroma, amylodosis.
5. anticoagulation

► Investigations:

• Labs:

1. complete blood cell (CBC)
2. serum electrolytes levels (eg, sequential multiple analysis 7 [SMA7]).
3. coagulation profile, including activated partial thromboplastin time (aPTT), prothrombin time (PT), manual platelet count, and bleeding time.

• Diagnostic investigations:

1. Upper GI endoscopy.
2. Colonoscopy.
3. GI Barium Radiography.
4. Arteriography.
5. CT scan.
6. TRBC (Tagged red blood cell) scanning.

History Of UGIB

► 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:

1. Anaemia/hypovolumea > ask about > (*dizziness, shortness of breath, palpitations*).
2. Systemic > ask about > (*rashes, ulcers, joint pain, eyes*).
3. Constitutional symptoms > ask about > (*fever, rigors, night sweats, weight loss, loss of appetite*).

► GIT symptoms:

1. Abdominal pain or distension (peptic ulcer, gastric cancer) .
2. Change in bowel habit (liver disease)
3. vomiting (red blood points to Mallory Weiss and esophageal varices, while coffee ground vomiting may indicate peptic ulcer or gastric cancer).
4. Jaundice
5. Dysphagia, odynophagia, heart burn, regurgitation (esophagitis, esophageal cancer, or gastric cancer).
6. Heart Burn.
7. Try to differentiate between hematemesis, hemoptysis, bleeding from the oral cavity!

► 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 .

► 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).

► Causes of UGI bleeding:

1. Common: peptic ulcer, gastropathy (alcohol, aspirin, NSAIDs, stress), esophagitis, gastro-esophageal varices, malignancy, Mallory-Weiss tear (mucosal tear at gastro-esophageal junction due to retching), marginal ulcer of gastrojejunostomy
2. Menetrier's disease (hypertrophic gastropathy), aortoenteric fistula, Dieulafoy's disease, Osler-Weber-Rendu syndrome, AV malformation, Zollinger-Ellison syndrome, hemorrhagic gastritis, radiation.
3. Anticoagulation, drugs.

► Investigations:

• Labs:

1. Complete Blood Count.
2. Coagulation tests (PT, PTT, INR), platelet count, etc
3. Esophagogastroduodenoscopy (EGD)

• 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

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.
2. Duration.
3. Course (Progression).
4. Exacerbating and relieving factors (fasting, food, drugs …).
5. Nature:

a. fluctuating - carcinoma of ampulla of Vater
b. fluctuating but increases with stress – Dubin Johnson syndrome
c. prolonged attacks – cholestasis
d. mild-moderate – Laennec's cirrhosis

6. Previous episodes of jaundice.

► Constitutional symptoms:
1. Fever: (Malignancy, cholangitis, cholelithiasis, rapid hemolysis, hepatic abscess, hepatitis, sickle cell anaemia).
2. Chills: (cholangitis, cholecystitis, cholelithiasis, rapid hemolyisi, hepatic abscess, sickle cell anaemia).
3. Weight loss: (carcinoma, cholestasis, Laennec's cirrhosis, primary biliary cirrhosis, icteric phase of hepatitis).
4. Anorexia (pancreatic cancer, cholestasis, Laennec's cirrhosis, hepatic abscess, hepatitis).
5. Joint pain: (hepatitis, sickle cell anaemia).
6. Sweating: (hepatic abscess).
7. Weakness (pancreatic cancer, Laennec's cirrhosis, primary biliary cirrhosis, severe hemolysis).
8. Malaise (hepatitis).

► To determine the cause of Jaundice whither it is (Prehepatic, hepatic or posthepatic):

1. Color of urine and stool:
   - if both normal > prehepatic.
   - if dark urine and normal stool > hepatic.
   - if dark urine and pale stool and itching > posthepatic or obstructive.
2. Bleeding tendencies > for cirrohsis (bruises, petechiae, purpura, epistaxis, hematemesis, haemoptysis, melaena).

► CVS and Respiratory symptoms:
1. Cough (hepatitis)
2. Sore throat/pharyngitis (hepatitis)
3. Shortness of breaths (G6PD, heart failure, acquired haemolytic anaemia, severe hemolysis in sickle cell anaemia)
4. Palpitations (acquired haemolytic anaemia)
5. Chest pain (sickle cell anaemia, heart failure)

► GI symptoms:
1. Abdominal pain: (SOCRATES > To know the cause of this pain).
2. Nausea (pancreatic cancer, cholelithiasis, cholestasis, pancreatitis).
3. Vomiting (pancreatic cancer, cholelithiasis, acute pancreatitis).
4. hematemesis (primary biliary cirrhosis, hepatic abscess, hepatitis)
5. Dyspepsia/abdominal discomfort after taking fatty food (cholelithiasis)
6. Steatorrhoea (pancreatic cancer, primary biliary cirrhosis).
7. Diarrhoea (Laennec's cirrhosis, primary biliary cirrhosis).
8. Constipation.
9. Dysphagia.
10. Abdominal destinsion.

► CNS and MSS symptoms:
1. Headache (rapid hemolysis in acquired haemolytic anaemia, hepatitis).
2. Myalgia (hepatitis, severe hemolysis in sickle cell anaemia)
3. Photophobia (hepatitis)
4. Paraesthesia (hypocalcemia in severe acute pancreatitis)
5. Tetany (hypocalcemia in severe acute pancreatitis)
6. Bone pain/osteomalacia (sickle cell anaemia, primary biliary cirrhosis).

► Past medical and surgical history:
1. Previous similar attacks.
2. Any liver diseases (hepatitis, malignancy …).
3. Pancreatic or billiary diseases (malignancy, gallstones, MRCP, ERCP …).
4. DM, HTN, sickle cell disease, Malaria, asthma, stroke, MI, Rheumatoid arthritis, epilepsy …).
5. Any billiary, hepatic or pancreatic surgeries? Other surgeries?
6. If female ask about the menstrual cycle (irregular in cirrhosis).

► Risk factors (travel abroad, blood transfusions, tattoos, IV drug use, needle sharing)

Family History

1. **Jaundice**
2. **Cancer – liver, gallbladder**
3. **Medical conditions – hepatitis, gallstones, liver/pancreatic diseases.**
4. **Hereditary spherocytosis.**
5. **Contact with jaundiced patients.**

Gilbert Syndrome.

► **Drug history (statins, paracetamol, anti-TB, sodium valproate, antibiotics, steroids, OCP isoniazed, rifampicin).**

► **Social History: (Alcohol, Occupation "health care workers", smoking, sexual history, travel history, tattos.**

► INVESTIGATIONS:

• Lab:

1. Serum direct and indirect bilirubin
2. LFT
3. Urine bilirubin and urobilinogen
4. CBC
5. Electrolytes
6. Peripheral blood film
7. Coomb's test
8. Hemoglobin electrophoresis
9. Hepatitis B surface antigen screen IgM, Hep.C IgG.
10. Autoimmune screen
    a. ANF
    b. anti-smooth muscles
    c. anti-LKM Ab
11. Liver biopsy
12. Foecal occult blood test – Carcinoma of ampulla of Vater
13. Urinalysis – proteinuria, pyuria, hematuria (Weil's diseases of severe leptospirosis)

• Imaging:

1. Ultrasound
2. ERCP/MRCP
3. CT scan
4. Cholangiography
5. Cholecystogram
6. HIDA (hydroxy iminodiacetic acid) scan

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

History Of Joint 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 Joint pain:
(SOCRATES)

1. Site.
2. Onset and progression.
3. Character (nature, intermittent or constant).
4. Radiation (other joints involved).
5. Associated symptoms (especially morning stiffness).
6. Timing (Duration) and at which time is mostly pronounced.
7. Exacerbating and relieving factors (food, drugs , exertion…).
8. Severity (out of 10, interference with daily activities).

► Differentials: remember, the pain could be due to:
1. Rheumatoid Arthritis.
2. Osteoarthritis
3. Gout.
4. Septic arthritis.
5. SLE.
6. Ankylosing spondylitis.
7. Reactive arthritis.
8. Polymyositis.
9. Behcet's Disease.

►Rheumatoid Arthritis:
-Morning Stiffness (1 hour).
- predominant involvement of small joints of hand, feet and wrist.
- multiple joints and symmetrical.
- Fatigue, Malaise and depression (before joints pain).
- low grade fever.
- Family history is important here.
- Extra-articular manifestations: Raynaud's, Rash, eye symptoms, Neuropathy

►Osteoarthritis:
-Morning Stiffness (<30 min).
- gradual and deep pain, increased with activity and decreased with rest.
- oligo or poly.
- usually no constitutional symptoms.
- loss of function or stability.
- affects DIP joints, while in RA PIP joints and MCP.

►Septic Arthritis:
-mono/oligo.
- previous inflammatory arthritis, immunosuppression are risk factors.
- fever, chills, redness and swelling. (absence of fever doesn't rule out).
- STD (GC arthritis).

► Gout:
- The worst pain ever
-Severe pain after sleeping few hours.
-- site: usually the big toe and single joint.
- fever and chills
- Erythema and swelling
-Increased with: starvation, dehydration, purine containing foods, alcohol intake, stress.
-Ask about Renal stones
-Renal impairment
-Drugs: Aspirin, diuretics .

►SLE:
-More Females.
- Diagnostic criteria: (at least 4 out of 11, with confirmatory tests): (Mnemonic: MD. SOAP N' HAIR):
Malar rash, Descoid rash, serositis (pluritis or pericarditis), Oral ulcers, Arthritis (2 or more joints with swelling and effusion), Photosensitivity, Neurologic (sizures or psychosis), Hematologic (Leukopenia, thrombocytopenia, hemolytic anemia), ANA +ve, Immunologic (+ve anti-smith, anti-dsDNA, or anti-phospholipid), Renal disorders (Lupus nephritis).

-- you have to make a complete review of systems, in addition ask about pregnancy and other autoimmune disorders, and drug Hx for drug induced lupus (Hydralazine, Phynitoin, Isoniazide, Pyrazinamide).

►Behcet's Disease:
-5 criteria:
recurrent Painful oral ulcers (>3 times / year): should be always present. With 2 of the following 4:
• Genital ulcers.
• Defined eye lesions: ant. And post, uveitis.
• Defined skin lesions: erythema nodosum, papulopustular lesions.
• Positive Pethargy test: skin injury by needle prick results in papules or pustules if positive (very specific but not very useful).

-- ask about: Arthritis (esp. sacroilitis), thrombosis and DVT, IgA nephropathy, strokes.
- the course of the disease is somehow similar to SLE rather than RA, because it comes and goes in attacks.

►Ankylosing Spondylitis:
-Sacral backache (symmetrical sacroilitis): the most common symptom.
-- more than 3 months, gradual.
- prolonged early morning stiffness.
- relieved by exercise and worsened by rest!
- unilateral ant. Uveitis, fatigue, wt. loss.
- Aortic valve insufficiency: Dyspnea, orthopnea, PNDs, angina, syncope).

►Reactive Arthritis:
-Nongonococcal urethritis (Reiter syndrome): (Chlamydia ureaplasma).
-- conjunctivitis.
- Arthrities that occurs after diarrhea (Campylobacter).
- Asymetrical involvement of sacroiliac joints.
- painless oral ulcers.
- skin lesions (circinate balanitis).

►Scleroderma:
-Raynaud Phenomena and skin thickening.
- esophageal dysmotility.
- pulmonary fibrosis: i.e. SOB.
- Renal involvement: ARF.
- CREST (Limitied systemic sclerosis): Calcinosis (DIP joints), Raynaud's Ph., Esophageal dysmotility, Sclerodactyly, Telangectasias.

►Migratory Arthritis: seen after years of Lyme disease, and seen with Rheumatic fever.
-Lyme: Tick bite, skin manifestations then after years migratory arthritis.
- Rheumatic fever: 2 major criteria or 1 major and 2 minor:
Major: Carditis, Poly arthritis, Chorea, Erythema Marginatum, Subc. Nodules.
Minor: Fever, arthralgia, Elevated ESR or CRP, Prolonged PR interval.
In Rheumatic fever, ask about Prior Hx of Pharyngitis or upper resp. infection within 2 months.

►Sjogren Syndrome: Keratoconjuctivitis (eye itching), Dysphagia, and parotid enlargement.

► Cardiac symptoms:
-Dysponea,
-Orthopnoea,
-P.N.Dysponea,
-Palpitations,
-Dizziness,
-*sweating,*
-*anxiety,*
-*oedema*

► Respiratory symptoms:
-Cough,
-Sputum,
-Wheezing,
-Dysponea,
-Hoarseness.

► Gastrointestinal Symptoms:
1. General (nausea or vomiting, haematemesis, dysphagia, odynophagia, regurgitation Indigestion, dyspepsia, flatulence, abdominal destision).
2. Altered bowel habit, constipation or diarrhea
And ask about symptoms of Hyper and hypo-thyroids.

► Constitutional symptoms: (*fever, rigors, night sweats, weight loss, loss of appetite, rashes, joint pain*).

► Genitourinary symptoms:
1- Frequency of urine.
2- Hesitancy.
3- Color of Urine.
4- Menstruations Dates.
5- Previous pregnancy & their complications.
6- Breast symptoms.
7- Impotence.

► Musculo-skeletal:
- Muscle Pain.
- Recent Trauma or accidents.

► Drug history: Aspirin, Hydralazine, Anti-TB drugs .. etc

►Family History: same complaints, Autoimmune diseases, RA.

► Past Medical and Surgical History:
• Previous similar attacks!
1. autoimmune diseases.
2. DM, HTN
3. Hx of RA.
4. Previous Infections.
5. Trauma.

► Social History: (Alcohol, Occupation, smoking, sexual history, travel history, accommodation.

Descussions

► Investigations:

1. Gout: Light microscopy for crystals, Blood test for uric acid levels, X-Ray: soft tissue swelling and punched out erosions.
2. RA: RF (15% seronegative), ESR, CBC, LFT, KFT. X-Ray.
3. Osteoarthritis: ESR and CRP (usually not elevated as in RA), RF (usually negative), CBC, Synovial fluid analysis, X-Ray (osteophytes and unequal joint spaces).
4. Septic Arthritis: synovial fluid analysis (gram stain an culture), blood culture, ESR, CRP, X-Ray is not useful, U/S in children.
5. SLE: ANA, Anti dsDNA, complements C3 and C4 are low, clinically by the criteria, Urine analysis and KFT, Albumin, CBC, ESR, CRP, RF.
6. Ankylosing Spndylitis: Clinically, X-Ray (Sacroilitis and fusion of the sacroiliac joint), HLA-B27, CBC, ESR and CRP.
7. Reactive Arthritis: X-Ray, seronegative, GU infection (nongonococcal), GI infection mostly Campylobacter, ESR, CRP, CBC.
8. Behect's Disease: no specific tests (clinical diagnosis), but you may order RF, ESR, CRP, X-Ray to rule out other causes. And autoimmune workup.
9. Scleroderma: ANA +ve, CXR, KFT and urine analysis, clinically especially Raynaud's Ph.
10. Sjogren's: Schirmer's test (decreased tear production), Rose Bengal stain (corneal ulceration). ANA +ve.
11. Rheumatic fever: Throat swab for anti-streptococcal antigen, ECG, and the criteria.

► Treatments:

1. Gout: Acute: NSAIDs, Steroids, Colchicine.
   Chronic: Allopurinol, if not tolerated then Febuxostat.
2. RA: NSAIDs, COX-2 inhibitors, Aspirin, DMARDs (MTX, TNF receptor inhibitors such as Infleximab, Hydroxychloroquine, Sulfasalazine).
3. Osteoarthritis: no treatment, only NSAIDs and Acetaminophen.
4. Septic Arthritis: Nongonococcal: Vancomycin with aminoglycoside or 3rd gen. cephalosporin. If gonococcal:c Ceftriaxone is the DOC.
5. SLE: NSAIDs for Arthritis, Corticosteroid cream for rashes, cytotoxic drugs for severe symptoms (Azathioprine and cyclophosphamide). Advice to wear protective clothes, sunglasses and put sunscreen.
6. Ankylosing Spndylitis: NSAIDs, physical therapy and exercise. Infliximab (a TNF blocker) for axial disease.
7. Reactive Arthritis: if chlamydial >> Tetracycline for 3 weeks, otherwise treat as AS.
8. Behect's Disease: for ulcersc >> topical steroids, for ocular manefistations >> Azathioprine, for arthritis >> prednisone or NSAIDs.
9. Scleroderma: NO CURE, but for skin lesions >> D-penicillamine, for Raynaud's Ph, >> CCB (Nefidipine), for HTN >> ACEI.
10. Sjogren's: No cure. Symptomatic Rx include artificial tears.
11. Rheumatic fever: treat group A streptococci to prevent spread of Rheumatologic strains. Aspirin, steroids or NSAIDs as antiinflammation. Penicillin prophylaxis: for at least 10 years if with carditis and residual heart disease and then life long. For 10 years until age 25 if carditis without resdual hert disease. For 5 years if no carditis until age 18-21. use Penicillin G benthazine, if allergic >> Erythromycine.

► **Criteria:**

1. **For Rheumatic fever: 2 major criteria or 1 major and 2 minor:**
   Major: Carditis, Poly arthritis, Chorea, Erythema Marginatum, Subc. Nodules.
   Minor: Fever, arthralgia, Elevated ESR or CRP, Prolonged PR interval.

2. **for SLE: (at least 4 out of 11, with confirmatory tests):**
   (Mnemonic: MD. SOAP N' HAIR):
   Malar rash, Descoid rash, serositis (pluritis or pericarditis), Oral ulcers, Arthritis (2 or more joints with swelling and effusion), Photosensitivity, Neurologic (sizures or psychosis), Hematologic (Leukopenia, thrombocytopenia, hemolytic anemia), ANA +ve, Immunologic (+ve anti-smith, anti-dsDNA, or anti-phospholipid), Renal disorders (Lupus nephritis).

3. **For RA: 4 of the following:**
   morning stiffness > 1 h for 6 weeks.
   Swelling of wrists, MCPs, PIPs for 6 weeks.
   Swelling of 3 joints for 3 weeks.
   Symmetric joint swelling for 6 weeks.
   RF +ve or ant-CCP
   CRP or ESR

► **Physical Examination:**

1. RA: Ulnar deviation, deformities and sublaxation: Boutonniere, Swan-Neck, Z-Deformity of the thumb, Piano sign, symmetrical joint swelling, fixed flexion due to extensor tendon rupture.

► **Sarcoidosis >> causes bilateral ant. Uveitis**
► **AS >> Unilateral ant. Uveitis**

► **Osteoarthritis >> DIP, morning stiff. < 30 min**
► **RA >> PIP/MCP joints, Morning stiff. > 1 h**

History Of Lower Limbs Swelling

▶ 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 swelling itself:

1. Site (unilateral or bilateral?, in which part?).
2. Onset (chronic vs acute) and progression (fluctuate, come and go, increase or decrease?).
5. Associated symptoms :
(pain,
redness or skin changes,
numbness,
pain on walking certain distance? How much the distance?
Claudication? Rest pain?,
ulceration?,
Hotness?,
6. Exacerbating and relieving factors (fasting, food, drinks, drugs …).

▶ if it is unilateral leg swelling:

•Constitutional symptoms:
Fever and chills, lymph node swelling, know malignancies (may occur if cellulites infection spreads, exclude lymphatic obstruction).

•Exclude Pulmonary emboli:
Breathlessness, chest pain, hemoptysis, and syncope

•Exclude Trauma.

•Exclude Arthritis and Baker's cyst:
Joint pain, morning stiffness, joint deformity, and skin nodules. If the swelling was sudden, ruptured Baker's cyst is a differential, therefore ask about history of behind knee swelling, and knee joint stiffness.

► If it is Bilateral leg swelling:
•Exclude heart failure:
Abdominal distention, jaundice, fatigue, anorexia, breathlessness (orthopnea and PND), chest pain, palpitation, syncope, coughing of pink foamy mucous .

•Exclude Hypoproteinemia (nephrotic syndrome, liver cirrhosis, and kwashiorkor):
1) Nephrotic: Swelling elsewhere (face), foamy or cloudy urine, oliguria, hematuria, weight gain due to fluid retention, and also the already asked (fatigue and anorexia) goes with this differential.

2) Liver cirrhosis: Jaundice, itching, easy bruising, and the already asked symptoms (fatigue and anorexia). Also, VOMITING BLOOD may indicate esophageal varices. Confusion, poor memory & concentration, fainting and coma may indicate hepatic encephalopathy.

3) Kwashiorkor: muscle wasting, skin pigment loss, abdominal bloating or swelling, nail & hair weakness (brittle), and the already asked (fatigue and weight loss). Don't forget to ask about nutrition.

•Exclude myxoedema (hypothyroidism):
Weight gain, anorexia, cold intolerance, weakness, dry skin, slow thinking, hoarseness of voice, bradycardia, facial appearance, and constipation.

•Constitutional symptoms :
Ask about fever and chills just in case.

•Exclude the rare possibility of Bilateral DVT:
Ask about pulmonary emboli, trauma, and risk factors of DVT (mainly immobilization and pregnancy).

► Past Medical and Surgical History:
• Previous similar attacks!
1. Any surgeries.
2. Heart problems.
3. Peripheral vascular diseases.
4. Varicose Veins.
5. Thyroid diseases.
6. Malignancies.
7. Lung diseases (it may causes right side heart faliure).
8. hospital admissions.
9. incompliance for prescribed durgs.
10. Kidney diseases.

► Drug history: (*vasodilators, beta-blockers, NSAIDs,* prednisone, steroids, CCB, clonidine, hormone replacment therapy)

►Family History: same complaints, cancers, ulcers, cardiac problems, renal problems, DVT, PE, liver diseases, DM, HTN, Varicose veins, thyroid diseases, lung diseases.

► Social History: (Alcohol, Occupation, smoking, long travel history).

► Investigations:
-A full blood examination;
-erythrocyte sedimentation rate;
-levels of serum creatinine, urea and electrolytes;
-liver function tests and
-levels of plasma proteins and albumin are measured.

-An electrocardiograph and chest X-ray are performed.
-Urinalysis for blood and protein is performed.
-Abdominal ultrasound scan or computed axial tomography is required to define organomegaly or tumour mass.

-If venous disease is suspected, a Doppler study of the deep veins is performed to detect patency.
-Venography demonstrates the deep veins, the extent of stenosis or obstruction, and the presence of collateral circulation.

-Lymphangiography may be attempted when venous and other diseases have been excluded.
-It may fail to demonstrate any lymphatics, or may show a reduced number of lymphatics, lymphatic dilatation proximal to obstruction, lymphatic valve incompetence, or lymph node disease.

Table 1. Differential Diagnosis Of The Swollen Extremity Categorized By Physiologic Mechanisms

Physiologic Mechanism	Associated Condition
Increased plasma volume	*Generalized body swelling*[141] Heart failure Renal failure Nephrotic syndrome[142] Cirrhosis/ liver failure[143] Cor pulmonale/COPD[144] Medications (see Table 2) Pregnancy Premenstrual edema[145] Secondary aldosteronism[146]
Increased capillary hydrostatic pressure	*Systemic venous pressure (generalized body swelling)* Restrictive cardiomyopathy Constrictive pericarditis[147] Tricuspid valvular disease *Regional venous pressure (often unilateral)* Superior vena cava syndrome Inferior vena cava/iliac vein compression syndrome[148] Pelvic masses (ovarian cancer, prostate cancer, uterine fibromas, retroperitoneal fibrosis)[149, 150, 151] Deep venous thrombosis[152] Superficial thrombophlebitis Trauma (hematoma, ruptured gastrocnemius, or Achilles tendon)[153] Chronic venous insufficiency[154] Compartment syndrome[155] Popliteal (Baker's) cyst[156] Reflex sympathetic dystrophy (RSD)[157] Pseudoaneurysm[158]
Decreased plasma oncotic pressure	*Reduced albumin synthesis (generalized or bilateral lower extremity swelling)* Malnutrition (e.g. kwashiorkor) Malabsorption Cirrhosis/ liver failure *Albumin loss (generalized or bilateral lower extremity swelling)* Preeclampsia[159] Glomerulonephritis Malabsorption Burns[160] Inflammatory bowel disease (IBD)
Increased capillary permeability	*Generalized, bilateral, or unilateral extremity swelling* Allergic reactions (hives, serum sickness, angioedema) Infection (cellulitis, osteomyelitis, abscess, septic arthritis) Vasculitis (erythema nodosum)[161] Inflammatory (burns, arthritis, sprain) Interleukin 2 therapy[162]
Lymphatic obstruction	*Bilateral or unilateral extremity swelling* Iatrogenic (postsurgical or radiation)[163, 164] Nodal enlargement due to malignancy (especially prostate cancer and lymphoma) Filariasis[165] Primary lymphedema[166]
Other	*Generalized or bilateral extremity swelling* Idiopathic edema[167] Hypothyroidism/pretibial myxedema[168] Lipidema[169]

Train yourself!! :)

☐ **Topics To practice on your own:**

1. **Palpitations (Think of: Arrythmias, HTN, Hyperthyroid, Anxeity, Caffien).**
2. **High blood pressure follow up (think of primary vs secondary causes: Pheocromocytoma, Renal disease, hyperthyroid, hyperPT, CHF)**
3. **Vomiting (Think of GI causes, Central Causes, Pregnancy, self induced).**

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?

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).

Palpation

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.

Palpation

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.

Palpation

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

Auscultation
Percussion

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

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)

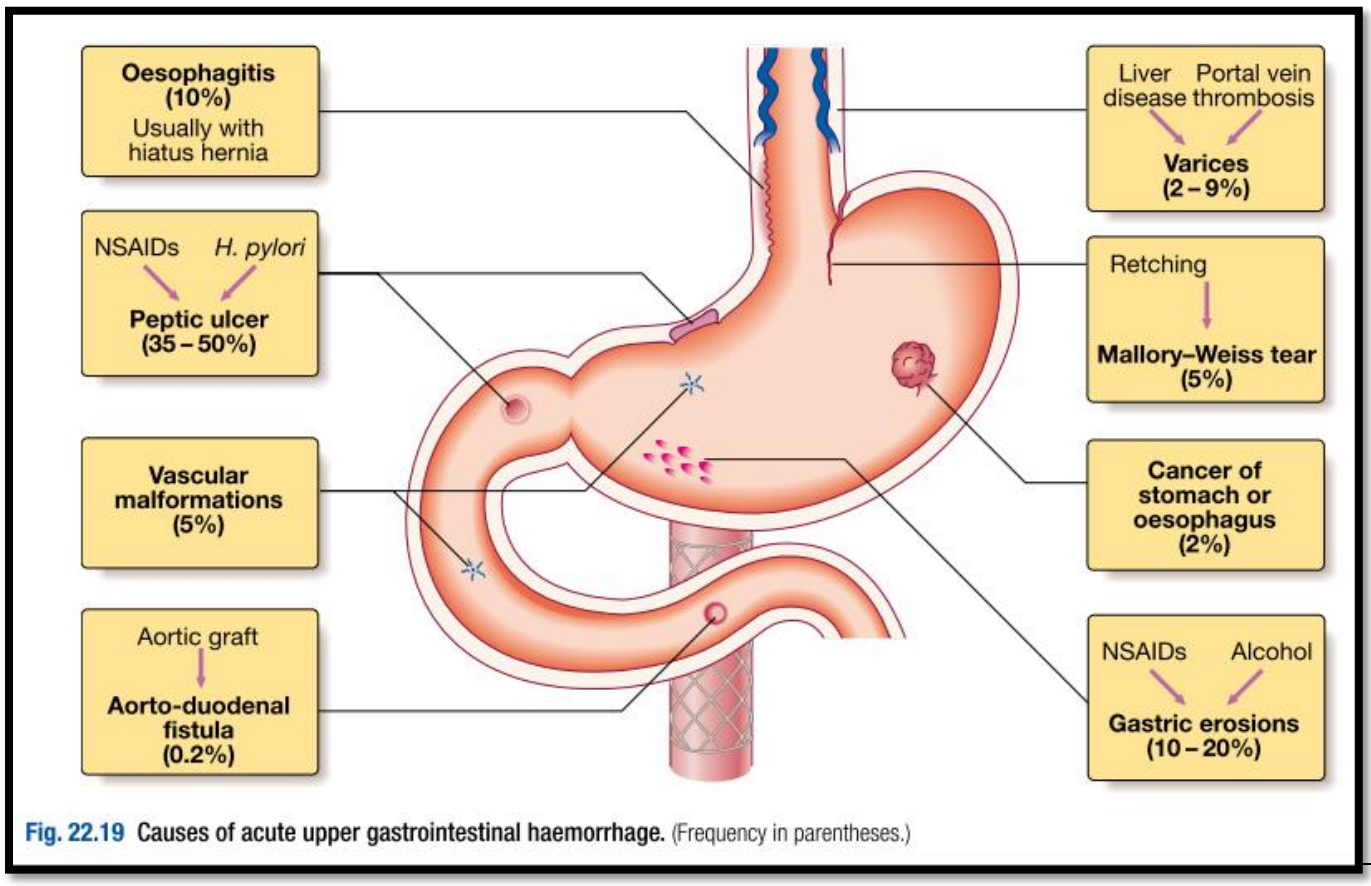


Fig. 22.19 Causes of acute upper gastrointestinal haemorrhage. (Frequency in parentheses.)

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

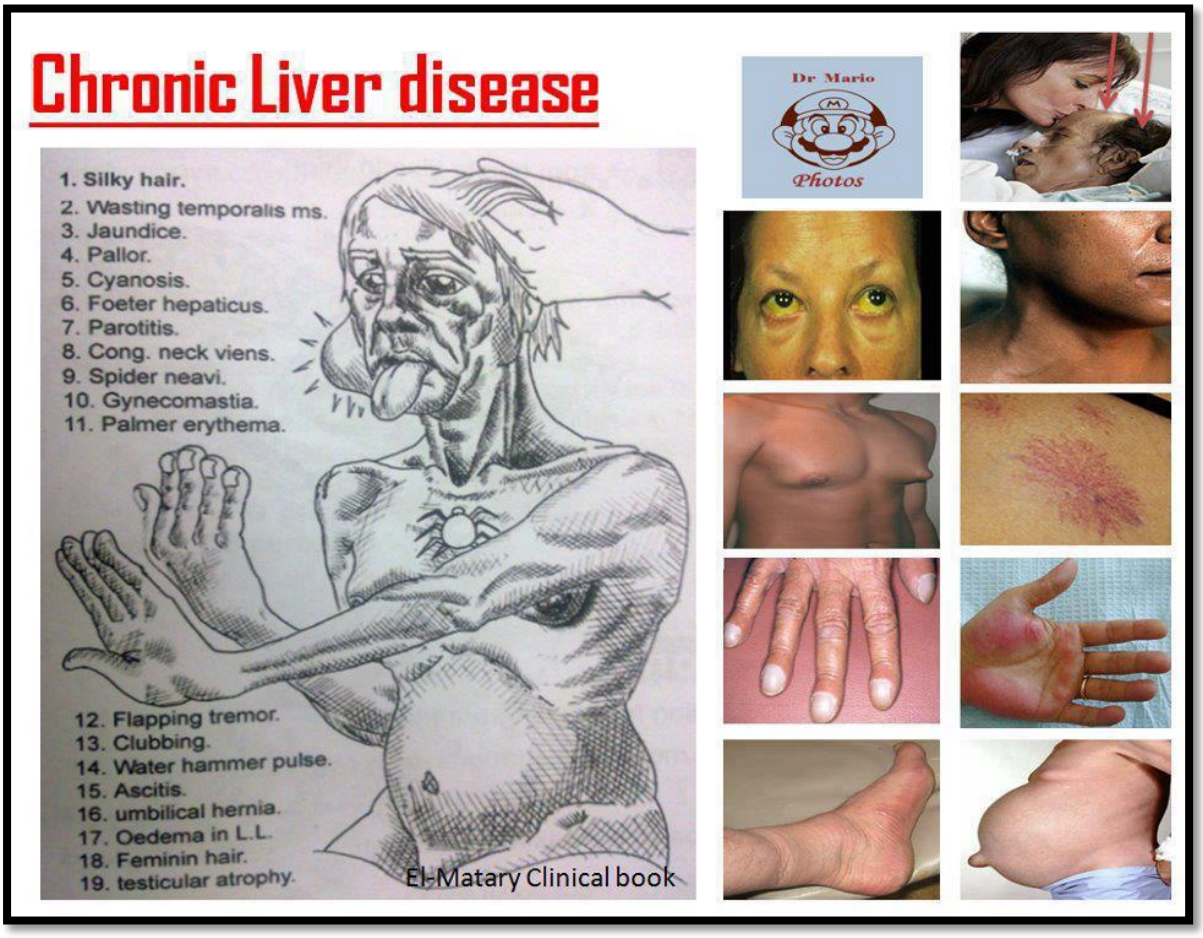
- Primary biliary cirrhosis
- Primary sclerosing cholangitis
- Alcohol
- Drugs
- Cystic fibrosis
- Severe bacterial infections
- Hepatic infiltrations (lymphoma, granuloma, amyloid, metastases)
- Pregnancy (p. 975)
- Inherited cholestatic liver disease, e.g. benign recurrent intrahepatic cholestasis
- 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
1. Silky hair.
2. Wasting temporalis ms.
3. Jaundice.
4. Pallor.
5. Cyanosis.
6. Foeter hepaticus.
7. Parotitis.
8. Cong. neck viens.
9. Spider neavi.
10. Gynecomastia.
11. Palmer erythema.
12. Flapping tremor.
13. Clubbing.
14. Water hammer pulse.
15. Ascitis.
16. umbilical hernia.
17. Oedema in L.L.
18. Feminin hair.
19. testicular atrophy.
El-Matary Clinical book
Dr Mario
Photos

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

Percussion

Auscultation

► **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).

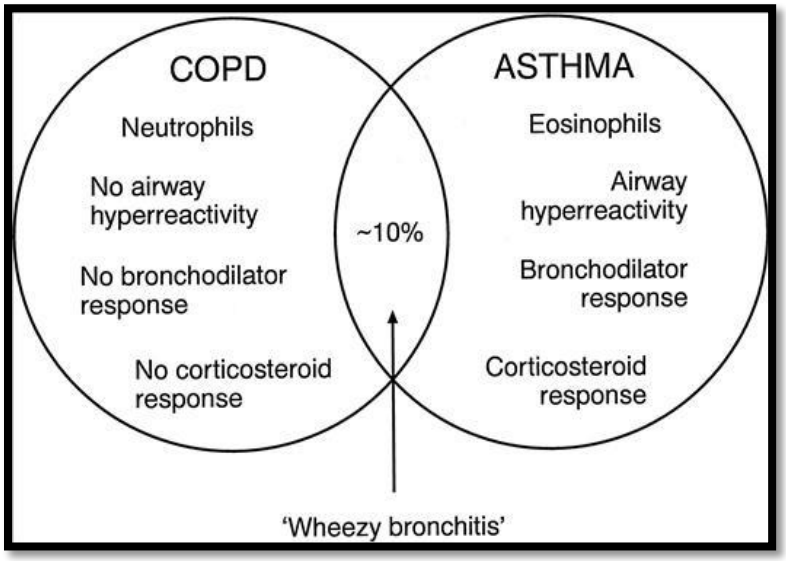
► Percussion: lung Apices, over the clavicles, and 4-5 areas on the chest and the axilla. (compare each side with the other). comment if there is any dullness, or hyperresonance).

► 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:

Q1: what is the differences between Asthma and COPD?
Q2: what is the presentation of Pancost tumor?
Q3: what is the difference between bronchial and vesicular breathing?
Q4: Causes of pleural effusion?
Q5: Causes of Asterixis?

In addition: COPD >> sputum
Asthma >> usually Dry
COPD >> more associated with smoking
Asthma >> not always
COPD >> Progressive
Asthma >> intermittent



Pancoast Tumor presentation:
Aside from cancer general symptoms such as malaise, fever, weight loss and fatigue, Pancoast tumour can include a complete Horner's syndrome in severe cases: miosis (constriction of the pupils), anhidrosis (lack of sweating), ptosis (drooping of the eyelid) and enophthalmos (sunken eyeball).

In progressive cases, the brachial plexus is also affected,
causing pain and weakness in the muscles of the arm and hand (thoracic outlet syndrome). The tumour can also compress the recurrent laryngeal nerve and from this a hoarse voice and bovine cough may occur.

In superior vena cava syndrome, obstruction of the superior vena cava by a tumour (mass effect) causes facial swelling cyanosis and dilatation of the veins of the head and neck.

Vesicular Breath Sounds. Vesicular breath sounds are relatively low-pitched soft sounds. They have been described as whispering or rustling in nature. The inspiratory phase is longer in duration than the expiratory phase. There is no pause between inspiration and expiration. This sound is heard over the majority of the lung periphery except over the right apex anteriorly.

Vesicular sounds are thought to be generated by turbulent air flow in the lobar and segmental bronchi. It has been theorized that the turbulent flow generates vibration in these anatomical structures, resulting in the production of sound.

Bronchial Breath Sounds. Bronchial breath sounds are loud and generally of higher pitch. The expiratory phase is longer than the inspiratory phase, with a short pause between phases. This sound is often described as similar to the sound generated by blowing through a tube. It is normally heard over the upper portion of the sternum, or the manubrium.

This sound is thought to be generated by turbulent air vibrating in the trachea and right and left mainstem bronchi. This vibration ultimately produces an audible sound that can be heard when using a stethoscope.

Causes of Pleural Effusions

Transudative Diseases	Exudative Diseases
Congestive heart failure	Infection
Cirrhosis	Pancreatitis, Esophageal rupture, Intraabdominal abscess
Peritoneal dialysis	Collagen vascular diseases
Nephrotic syndrome	Pulmonary emboli & infarction
Superior vena cava obstruction	Neoplasm
Myxedema	Dressler's syndrome
Pulmonary emboli & infarction	Meig's syndrome
	Sarcoidosis
	Trauma and post-surgical
	Asbestosis
	Uremic pleuritis
	Drug reactions
	Hemothorax & Chylothorax

► **Cuases of Asterixis:**
-Respiratory failure/CO2 retention.
-liver failure.
-Renal Failure.
-hypoK+, HypoMg++, Hypoglycemia.
-wilson's disease.
-Drugs: Barbiturates, Phynitoin, Sodium Valproate ..
-CNS haemorrhages.

Pericardium exam

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 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 or dressings or masks? ..).

Inspection

9. Inspection (from foot of the bed): move with respiration? , visible pulsations? , any deformity (pectus cavitum or pectus craniuatum)? , any scars? , change in color of the skin? , spider naevi? , visible veins? , visible masses or swellings? , symmetrical? , nipples?! , Peripheral Odema?

►After this step you have to mention that you should take the vital signs (Temp., BP, Pulse Rate, and respiratory rate).

Palpation

10. Palpation of the pericardium: (Don't forget to warm your hands).

A- general impression of the pericardium >> just try to feel the apex beat, if not palpable >> then ask the patient to tilt on his left side >> if not palpable yet >> feel the contralateral side (dextrocardia), and if there is any masses or tenderness too.

B- If you felt the apex beat >> try to assess if there is any delay between the beats and the pulse in the carotids or in the hands.

and the important step here, after you felt the apex beat >> you have to localize it >> fix your right hand on the apex beat >> localize the sterna angle using your left hand (this indicates the 2^{nd} intercostals space) >> count to reach the 5^{th} intercostals space using your left hand too >> localize the mid line (middle of the clavicle).

Remember: the apex beat is the most inferior and most lateral beats or pulse that could be felt.

C- Palpate for heaves and thrills >>

Palpation

Auscultation

using your lateral aspect of your hand, you can feel the heaves on parasternal edges.
using your 4th fingers >> you can feel the thrills on parasternal edges.

D- Check if the trachea is shifted or not >> use your middle 3 fingers (mediastinal shifting).

11. NO need for percussion in the examination of the pericardium > mention this.

12. The Auscultation of the pericardium:
A- using the diaphragm, start at the apex beat (mitral area, you have to say this while examination), then proceed to tricuspid, pulmonic, then aortic valve.

B- while you are on the Aortic valve, turn to use the bill (you have to say that too) >> auscultate the aortic valve, the pulmonic, the tricuspid then the mitral.

C- now you have to Auscultate the areas for murmer radiation:
*** ask the patient to tilt on his left side and then put the stethoscope >> after that ask the patient to take a deep breath, leave and then hold >> this maneuver for Mitral Regurge.**
*** then ask the patient to lean forward, put your stethoscope on the aortic valve area, and then ask the patient to take a deep breath, leave and then hold >> this maneuver for aortic regurge.**
*** the murmur of Aortic stenosis radiates to the carotids.**
***With tricuspid regurgitation, the murmur is heard along the left or right sternal border and may radiate to the epigastrium.**

after finishing auscultation >> you have to summarise your findings: you should say (if the case is simulated patient) >> normal S1 and S2, no added sounds, no splitting, and no murmurs.

► 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:

Q1: let's assume this patient has Aortic Rugurge, what signs and symptoms you will be able to find?
Q2: Let's assume this patient has Tricuspid regurge, what signs and symptoms you will be able to find?
Q3: mention 3 causes of Aortic Regurge?
Q4: could you tell me what are the grades of the murmurs?
Q5: what is the definition of apex beat?
Q6: what is the difference between the Heave and the Thrill?
and so on …

in the 1st two questions >> you have to mention all signs and symptoms you know including

the type of the murmur! And you might be asked "where do you best hear this murmur?", so save them well ☺
these questions are not specific for this station and not the only questions! But they are the most common to be asked ☺ so study everything about the HEART!

I will provide some data below to help in studying, especially the murmurs:

► Grades of the murmurs:

Murmurs can be graded on a scale of 1 – 6:

Grade	Description	Thrill
1	Very faint, can only be heard with stethoscope under optimal conditions	No
2	Only heard with stethoscope, but easily audible	No
3	Still only heard through the stethoscope, but loud	No
4	Similar to Grade 3, but also palpable	**YES**
5	Louder than grade 4, and palpable thrill	**YES**
6	Audible without the use of a stethoscope, and palpable thrill	**YES**

► What is the difference between heaves and thrills?

A thrill - is a palpable murmur

A heave - is the result of LVH (Left ventricular hypertrophy) and feels like something pushing

Murmur	Type	Where Heard	Radiates	Symptoms	Associations	Info	Causes
Aortic stenosis	Ejection systolic	2nd right intercostal space, left sternal edge	Carotids	Hypotension, cold peripheries, left ventricular enlargement, **dyspnoea, angina, syncope, sudden death,** slow rising carotid pulse, **can cause an aortic thrill** *See table at bottom of page for more info*	Ejection click, Heaving apex beat, JVP – slow rising with plateau	More clinically severe than mitral regurg. **The stenosis can be very severe, even when no murmur is present** (or the murmur is very quiet). **Can be caused by a** congenital defect of the valve **(where it only has two cusps),** or by **calcification of a normal three cusp valve.** Can also be caused by rheumatic heart disease, and rarely, a large atheroma when there is **severe hypercholesterolemia.**	**Rheumatic fever, congenital, calcification (related to age), connective tissue disorders**
Mitral Regurgitation	Pan-systolic	Apex	Axilla	Often caused by **left ventricular dilatation** – thus the **apex beat is displaced,** and signs of heart failure may be present, also AF.	Atrial fibrillation	**Generally quieter, and longer duration than aortic stenosis.** The second heart sound may be absent. The murmur is generally uniform and lasts the whole of systole. The sound is likely to be **low pitched,** and thus, best heard with the bell, but you should listen with the diaphragm as well. Easier to hear if patient rolls onto their left hand side.	**Rheumatic heart disease, Infective endocarditis, atrial fibrillation, cardiomyopathy, ischaemic heart disease, MI, congenital, Connective tissue disorders**
Mitral Prolapse	Late-systolic	Apex	Axilla		Mid-systolic click	Similar to mitral regurg. However, the murmur will **first be audible half way through systole** (not at the start), and will be **preceded by the characteristic click of a prolapsing valve.**	**Hypertrophic cardiomyopathy**
Aortic regurgitation	Early diastolic	Left sternal edge, 4th IC space	?	JVP – this may be **fast rising and fast falling** – **'water-hammer pulse',** displaced apex beat, nailbed pulsations, collapsing pulse, **head nodding in time with heartbeat, Corrigan's sign** – prominent carotid pulsation, **BP higher in legs than in arms**	Sometimes S3 – when there is associated LV hypertrophy	It will often initially sound high pitched, then will die away. **Best heard with the patient sat upright in bed at the** left sternal angle, **with the patient holding their breath at the end of full expiration.** This brings the valve closest to the stethoscope. Best heard with the bell	**Rheumatic heart disease, dissection of aorta, hypertension, Connective tissue disorders, congenital**
Mitral stenosis	Mid-diastolic	Mitral area		Often associated with **AF.**	Opening snap	It is **rare to hear this anywhere other than the mitral area.** It can be heard better if you get the patient to lie on their left hand side as this brings the valve closer to the stethoscope	**Rheumatic Fever, Calcification** *(Age related),* Congenital, endocarditis, connective tissue disorders

► **Remember: Austin Flint Murmur >> presents with Aortic Regurgitation.**

► **Symptoms and Signs of tricuspid Regurge:**

Symptoms

Symptoms are generally those of right-sided heart failure, such as ascites, hepatomegaly,edema and jugular venous distension Vague upper abdominal discomfort (from a congested liver), and fatigue (due to diminished cardiac output) can all be present to some degree.

Signs

On examination, the jugular venous pressure is usually elevated, and 'CV' waves can be seen.

The liver may be enlarged and is often pulsatile (the latter finding being virtually diagnostic of tricuspid insufficiency). Peripheral edema is often found. In severe cases, there may be ascites and even cirrhosis (so-called 'cardiac cirrhosis').

Tricuspid insufficiency may lead to the presence of a pansystolic heart murmur. Such a murmur is usually of low frequency and best heard low on the lower left sternal border (on the tricuspid area). It tends to increase with inspiration, and decrease with expiration and Valsalva maneuver.
However, the murmur may be inaudible reflecting the relatively low pressures in the right side of the heart. A third heart sound may also be present, also heard best with inspiration at the left lower sternal border. Parasternal heave may be felt along the left lower sternal border as well.

Atrial fibrillation is usually present.

► **Murmurs and certain Maneuvers:**

Inspiration: Inspiration leads to a decrease in the intrathoracic pressure with an increase in venous return to the right side of the heart. The murmurs generated from the right side of the heart increase in intensity with inspiration.

Expiration: Expiration has the opposite effect as inspiration. There is an increase in the intrathoracic pressure and a decrease in venous return to the right side of the heart. Blood in the lung is “forced” into the left heart. Hence, murmurs arising from the left side of the heart become more prominent with expiration.

Standing up: This causes a peripheral pooling of blood and a net decrease in venous return. Most murmurs are thus decreased in intensity upon standing, except that of hypertrophic obstructive cardiomyopathy (HOCM) and MVP, which become more prominent.

Squatting: Squatting causes an increase in the afterload and venous return (ie, preload). The net effect is an increase in intensity of all the murmurs, except those associated with MVP and HOCM, which become less prominent with squatting.

Straight leg raising: Passive straight leg raising increases venous return (ie, preload) and has an effect similar to brisk squatting. All murmurs increase in intensity except those of HOCM and MVP, which decrease in intensity with this maneuver.

Hand grip: Hand grip is a form of isometric exercise and increases the afterload, arterial pressure, LV volume, and LV pressure. The net effect of these changes is complex and variable. Murmurs of MR, AR, and VSD worsen with hand grip, while those of HOCM and MVP are less prominent.

Valsalva maneuver: Valsalva maneuver involves asking the patient to strain, which increases the intrathoracic pressure, thus causing a net decrease in preload. Most heart murmurs decrease in intensity with Valsalva, except those of HOCM and MVP, which are more prominent.

Amyl nitrate inhalation: Amyl nitrate is an arteriolar vasodilator and initially causes decreased afterload followed by reflex tachycardia. During the initial phase, because of reduced afterload, the murmurs of AR, MR, and VSD diminish, while those of AS are accentuated. Later on, during the tachycardic phase, the murmur of MS is accentuated.

► **The types of murmurs (systolic vs diastolic)**

◘ **Systolic murmurs**	◘ **Diastolic murmurs**
• **Aortic stenosis (AS)**	• **Aortic regurgitation (AR)**
• **Pulmonic stenosis (PS)**	• **Pulmonic regurgitation (PR)**
• **Mitral regurgitation (MR)**	• **Mitral stenosis (MS)**
• **Tricuspid regurgitation (TR)**	• **Tricuspid stenosis (TS)**
• **Mitral valve prolapse (MVP)**	◘ **Continuous murmurs**
• **Atrial septal defect (ASD)**	• **Patent ductus arteriosus**
• **Ventricular septal defect (VSD)**	• **Combination murmurs**

► **The Specific types of murmurs:**

Systolic	Diastolic
Systolic ejection murmurs - Aortic stenosis - Pulmonic stenosis - HOCM Pansystolic murmurs - Mitral/tricuspid regurgitation - Ventricular septal defect Late systolic murmur - Mitral valve prolapse	Early diastolic murmurs - Aortic regurgitation - Pulmonic regurgitation Mid/late diastolic murmur - Mitral stenosis - Tricuspid stenosis Other murmurs - ASD, VSD, PDA, other rare murmurs

Lower Limb exam

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? (The whole lower limbs bilaterally, but for privacy issues and the exam bilateral lower limb exposure to the knees).

7. Position of the patient? Flat at this point.

8. General observation of the patient (looks well? , conscious? , oriented? , breath comfortably (short of breath or chest pain may indicate PE after DVT)? , not in pain? , not pale, jaundiced or cyanosed (Liver Failure, Heart Failure)? , if there is any IV lines or dressings or masks? ..).

►After this step you have to mention that you should take the vital signs (Temp., BP, Pulse Rate, and respiratory rate).

Inspection

9. Inspection (from foot of the bed): Inspect both legs and compare them: if there are ulcers, Redness, apparent swelling, scars, hair distribution, dilated veins (leads to venous stasis which is a risk factor for DVT), pigmentation, lesions, masses, amputation and the nails
after this you have to say that you need to inspect the dorsum of the legs and feet for the same things. Say that you have to do this for the thighs as well.
Inspect between the toes.

Palpation

10. Palpation:
A- use the dorsum of your hands to feel the temperature of the legs bilaterally in the same time from the toes to the knees. Then ask the patient if there is any pain in his legs, if no pain then palpate for any tenderness each leg separately. After that you have to check the pulses (Dorsalis pedis, Tibialis posterior, and Popliteal).
Dordsalis pedis: on the dorsum of the foot lateral to the extensor hallucis longus, against the prominent part of the navicular bone (abscent in 2-3% of young healthy individuals).
Tibialis posterior: 2 cm posterior and inferior to the medial malleolus (never abscent in healthy).
check for odema by pressing against the tibial shaft for few seconds (bilaterally).

Palpation

Check capillary refill by pressing on one of the nails bilaterally (capillary refill should be less than 2 seconds)

• Homan's Sign: only mention this and say it is not used anymore because it has low specificity and may increase the risk of the thrombus to be dislodged, so increase the risk of PE. How it is done: with the leg extended at the knee joint, make a forceful dorsiflexion of the foot at the ankle, this may elicit a pain in the calf which may indicate DVT.

If there is any ulcer you have to examine it or at least mention that, if the Dr. tell you skip then skip, if not examine it by inspection (site, size, shape, depth, color, surrounding skin, any discharge and its color, and then palpation for tenderness and milking for discharge).

Palpation

B- The next step is to measure the diameter of the legs. First you have to choose a reference point. Here there are two methods: the first one is to localize the tibial tuberosity and using the tape to measure 10 down from the tibial tuberosity and then measuring the diameter at that point using the tape. Do the same thing bilaterally.
the second method: is to choose a refrrence point between the tibial tuberosity and the medial malleolus using the tape. Measure the distance between the tibial tuberosity after localizing it and the medial malleolus, then go 10 cm either from the top or from the bottom of the tape (preferrably from the top, i.e. tibial tuberosity) and measure the leg diameter at that point. Do the same bilaterally.
Keep in mind that a difference of 3 cm or more is significant.
Say you want to do the same for the thighs.

After that, you have to say: to complete my examination I have to examine the nerves (sensations and power mainly), and the range of motion (Rheumatological diseases).

Questions that might be asked in discussion:

1. **Mention some risk factors for DVT?**

Acquired	Genetic
• Surgery • Trauma • Immobilization • Obesity • Pregnancy • Nephrotic syndrome • Cancer • Oral contraception • Hormone-replacement therapy • Antiphospholipid antibody syndromes* • Hyperhomocysteinemia	• Factor V Leiden * • Prothrombin G20210A mutation* • Antithrombin deficiency* • Protein S deficiency* • Protein C deficiency * • Hyperhomocysteinemia*

2. **Risks of recurrent DVT?**
   Bed ridden, malignancy, antiphospholipid syndrome, and antithrombin protein S and C deficiencies.
3. **DDx of lower limb swelling?**
   Bilateral: Heart failure, Renal Failure, liver Failure, Drug induced (e.g. CCB), Bilateral DVT (Rare).
   Unilateral: DVT, insect bite, cellulitis, muscle injury, popliteal cyst.
4. **Well's score?**
   High probability: 3 or more
   moderate: 1 or 2
   low: 0

Symptom	Score
Active cancer (treatment ongoing or within previous 6 months or palliative)	1
Paralysis, paresis or recent plaster immobilization of the lower extremities	1
Recently bedridden > 3 days or major surgery within 4 weeks	1
Localized tenderness along the distribution of the deep venous system	1
Entire leg swollen	1
Calf swelling 3 cm > asymptomatic side (measured 10 cm below tibial tuberosity)	1
Pitting oedema confined to the symptomatic leg	1
Collateral superficial veins (non-varicose)	1
Alternative diagnosis as likely or greater than that of DVT	2

5. **Investigations?**
   Labs: CBC, Platelets, PT, PTT, LFT, KFT, D-dimer > 500 ng/ml (not specific, also elevated in infection, malignancy, arterial thrombosis, preeclampsia).
   imaging: Contrast venography (gold standard but invasive), Doppler ultrasound (if negative do D-dimer, if D-dimer positive repeat the Doppler)
6. **Admission?**
   If below the knee (but not popliteal), usually no need for admission. Only bed rest and NSAIDs. Except if there was a previous history of PE.
   if popliteal or above the knee you have to admit the patient and prevent dislodgment of the thrombus to prevent PE, and start treatment.

7. **Treatment?**
   Drugs: Anticoagulation: Heparin (for 5 days) concurrently with warfarin, until warfarin

works (in the first few days warfarin may cause thrombosis).
Anticoagulation is contraindicated in hemodynamically unstable patients: Intracerebral hemorrhage, Uncontrolled HTN, recent surgery, PUD, liver disease.
If the patient starts to bleed: stop warfarin for 3-4 days, if still bleeding give fresh frozen plasma rather than Vit. K cause it needs time to start working and may cause thrombosis.

Thrombolytic therapy: e.g. Streptokinase, only degrades pre-formed clot, don't prevent further clot formation, so you have to give with it anticoagulation.

Surgery: Thrombectomy: in patients where anticoagulation contraindicated.
IVC filter, especially in patients who failed medical therapy or have recurrent emboli.

Duration of treatment: at least 3 months.

8. **Prophylaxis: walking, compression stocking.**

9. **Most important complication? PE**
   diagnosed clinically with lab investigations (D-dimer), Ventilation-perfusion scan, Chest X-ray, ECG (S1Q3T3). Pulmonary angiography (gold standard).
   in chest X-Ray you see:

Table 8. Chest X-Ray Findings In Patients With Pulmonary Embolism.

Atelectasis
Parenchymal infiltrates
Elevated diaphragm (both unilateral and bilateral)
Enlarged hilum
Enlarged mediastinum
Cardiomegaly (in chronic PE)
Pleural effusion
Oligemia (Westermark's sign)
Prominent central pulmonary artery (Fleischner sign)
Pleural-based area of increased opacity (Hampton's hump)
Pulmonary edema

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:**

Thyroid as a Mass

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 <u>Palpation</u>: start anteriorly and then from behind the patient:
    a. Size of the swelling or lump.
    b. Site of the swelling and if it extends anywhere (to the mediastinum for example).
    c. Shape of the mass: symmetrical or not, spherical, oval, regular or irregular.
    d. Surface: smooth, rough, bosselated, irregular.
    e. Temperature.
    f. Tenderness.
    g. Translucency (Transillumination).
    h. Thrill or pulsation.
    i. Fluctuation.
    j. Mobility/Fixation.
    k. Consistency: 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. <u>Percussion</u>:
    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.