OSCE TEAM
MED434

جامعة الملك سعود
King Saud University

ABDOMINAL EXAMINATION

Color index

Important

Further explanation

Editing link

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Imp. points Before starting the examination:

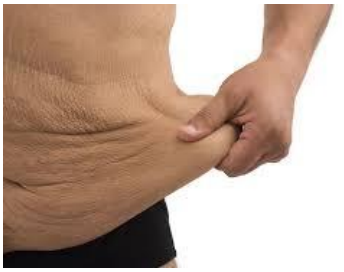
- **Confirm patient's details (name,DOB)**
- **Explain the examination**
- **Do WIPE:**
  - ✓ Wash your hands
  - ✓ Introduce yourself

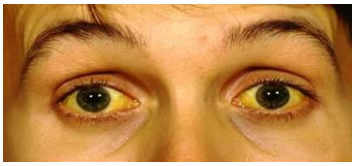
Ask for Permission\ensure Privacy\Position the patient flat with his head resting on a single pillow (15–20°) (to relax the abdominal muscles & facilitates palpation) and arms by his side. > if this didn't work and the pt still not relaxed ask him to flex their hips to 45° and their knees to 90° and place an extra pillow behind their head.

- ✓ Expose the patient from the nipple to symphysis pubis)

➢ **Remember: always examine the patient from the right side**

❖ GENERAL INSPECTION:





➢ ABC²:

✓ **Appearance**: Patient is (young, middle aged or old) and looks well.

✓ **Body built:** He looks normal, thin, obese. Look for folds of loose skin (suggest recent weight loss)

✓ **Connections:** Around the bed I can't see any medications, feeding tubes, stoma bags /drains

✓ **Color:** Check if he looks pale or jaundiced (**REMEMBER**: jaundice is the only condition causing yellow sclerae. Other causes of yellow discoloration of the skin for example: carotenaemia, doesn't.

❖Hands:

➢ NAILS

✓ **Leuconychia**

the nail beds opacify sometimes leaving only a rim of pink nail bed at the top of the nail. (thumb & index are most often involved)

The cause: hypoalbuminaemia due e.g. chronic liver disease.

✓ **Clubbing:**

Causes related to GI: cirrhosis, IBD and celiac.

➢ PALMS

✓ **Palmar erythema**

Reddening of the palms of the thenar and hypothenar eminences.

The cause: chronic liver disease. Could be normal in Women.

Other causes: thyrotoxicosis, rheumatoid arthritis, polycythaemia.

✓ **Dupuytren's contracture:**

A permanent flexion of a finger (most commonly the ring finger) caused by a visible and palpable thickening and contraction of the palmar fascia.

✓ **HEPATIC FLAP (ASTERIXIS):**

Jerky, irregular flexion–extension movement at the wrist and metacarpophalangeal joints.

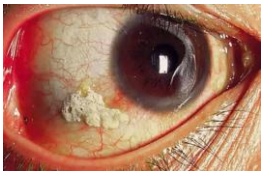
The cause: hepatic encephalopathy

How to test? Ask the patient to stretch out their hands in front of them with the hands dorsiflexed at the wrists and fingers outstretched and separated for 15 seconds.

❖ Arms:

Palpate the axillae for enlarged lymph nodes.

❖ EYES:

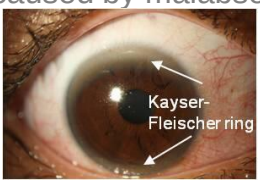


- ✓ Jaundice
- ✓ anaemia (pale conjunctiva)
- ✓ Bitot's spots:

yellow keratinised areas on the sclera due to Vit.A deficiency caused by malabsorption.

- ✓ Kayser-Fleischer rings: (wilson's disease)

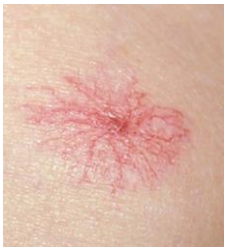
brownish-green rings occurring at the periphery of the cornea.



❖ MOUTH > NECK > CHEST:

Before starting examining the mouth, look for inflamed red areas at the corners of the mouth (**Angular stomatitis** due to **iron/B12 deficiency) >** assess the general state of the teeth (**GERD** may cause some **dental erosion**) > check the tongue for **glossitis** due to **Iron, B12 or folate deficiency** > **oral ulcers** (could be due to **chron's** or **celiac**) > if there was any notable smell in the breath e.g **fetor hepaticus**.

Now go to the neck, Palpate the cervical lymph nodes esp. the left supraclavicular.
Virchow's node: a hard and enlarged left supraclavicular node considered a sign of metastatic abdominal malignancy (e.g. **gastric carcinoma**).
Then examine the chest for **Spider naevi & gynaecomastia** (may be unilateral or bilateral; could be a sign of **chronic liver disease** or drugs).

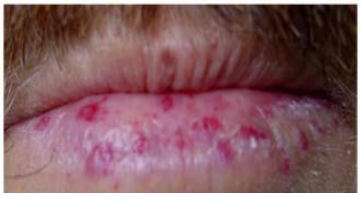


Spider naevi:
Their usual distribution is in the upper part of the body esp. areas drained by the superior vena cava, So they are found on the arms, neck and chest wall.
-attributed to excessive estrogen, So could occur in pregnancy, but may also occur in case of liver diseases, because the liver normally inactivates estrogen (e.g. cirrhosis or viral hepatitis).

➢ Things you might notice on the SKIN:

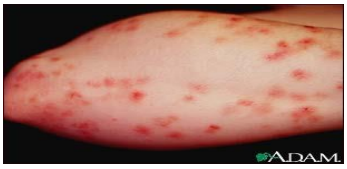
✓ Telangiectasias:

The cause: Hereditary haemorrhagic telangiectasia.
Relation to GI: when present in the GI, it may cause bleeding.
Other manifestations: Nasopharyngeal bleeding, high output HF.



✓ Dermatitis herpetiformis:

Pruritic vesicles esp. on knees, buttocks, elbows
The cause: Celiac disease.

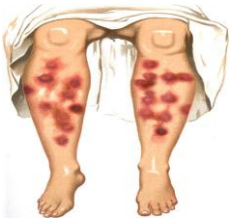


✓ Bronze Skin pigmentation:

The cause: Haemochromatosis.
Relation to GI: Hepatomegaly, cirrhosis

✓ Signs of Inflammatory bowel disease:

- Erythema nodosum: nodular, erythematous eruption that is usually limited to the extensor aspects of the lower legs
- Clubbing
- Mouth ulcers



✓ Acanthosis nigricans:

Brown to black skin papillomas (usually axillae)
could be due to gastric Carcinoma, although it's also Seen in Acromegaly, DM.

✓ Anaemia:

Inspect the hand for pallor.
Causes related to GI: blood loss due to GI bleeding, malabsorption causing folate or B12 deficiency.

➢ Bruises & petechiae:

The cause: decrease clotting factors synthesis due to either:
-Hepatocellular damage or obstructive jaundice > No bile > No fat absorption > No vit.K absorption (fat-soluble vit.) > No clotting factors 2,7,9 and 10.
-Also Chronic excessive alcohol consumption & splenomegaly from portal HTN may cause petechiae.

➢ Scratch marks:

due to a biliary disease causing a retention of a substance (unknown) that is normally excreted in the bile. Seen in obstructive or cholestatic jaundice and primary biliary cirrhosis.

EXAMINATION OF THE ABDOMEN

➢ Things to elect during abdominal examination:

- **Guarding**:

resistance to palpation due to contraction of the abdominal muscles. it's voluntary and could be overcomed by reassurance & gentleness.

- **Rigidity:**

constant involuntary reflex contraction of the abdominal muscles (they are rigid as a wall).

- **Rebound tenderness:**

Press your hand firmly & steadily on the patient's abdomen for a minute or two, and then release suddenly > if the patient felt a sudden stab of pain upon removal then this is positive.

- **Mass:**

Any mass should be examined for the following **Site** (which quadrant), **Size** & **shape**, **Surface** (regular or irregular), **hard** or **soft**? **Mobile** or **not**? Does it **move with inspiration**? **pulsatile** or **not**?

-How to differentiate an intra abdominal mass from mass in the abdominal wall?
Ask the patient to fold the arms across the upper chest and sit halfway up. An intra-abdominal mass disappears or decreases in size, but one within the layers of the abdominal wall will remain unchanged.

- **BOWL:**

-Patient with enlarged sigmoid colon due to retained faeces may be felt in the left iliac fossa. faeces can be indented (depressed) by the examiner's finger.
-Carcinoma of the cecum could be felt as mass in the right iliac fossa before it causes any symptoms (because of the large diameter of the cecum). When present, it doesn't move with respiration.
-Enlarged rectum containing impacted stool may be felt above the symphysis pubis.

- **Succussion splash:**

A splashing noise due to excessive fluid retained in an obstructed stomach.
-to elicit the sound In a case of suspected gastric outlet obstruction; grasp both hips with your hands > place your stethoscope close to the epigastrium > shake the patient vigorously from side to side.

- **Full bladder:**

An empty bladder is impalpable. In case of Urinary retention, the full bladder may be palpable above the pubic symphysis and may reach as high as the umbilicus. It's typically regular, smooth, firm and oval-shaped.

- **AORTA:**

Normal Aortic pulsation may be felt in the epigastrium esp. in a thin person.
-To examine the aortic pulse place two fingers parallel to each other on the outermost palpable margins of the pulse and notice the their movement with systole:

✓ Upward movement = pulsatile
✓ Outward movement (away from each other) = expansile (suggestive of AAA).

EXAMINATION OF THE ABDOMEN

- **Murphy's Sign:**

Positive in **Cholycystitis.**
Place your palpating hand just below the costal margin, approximately mid-clavicularly (this is just above the gallbladder) > Then ask the pt to breath in.
-A positive Murphy's sign is when the patient stops breathing in due to pain that is caused by the diaphragm pushing the inflamed gallbladder into the palpating hand.

- **Rovsing's sign:**

In **Acute appendicitis**, palpation in the left iliac fossa produces pain in the right iliac fossa.

- **Diffuse tenderness with increased tympany:**

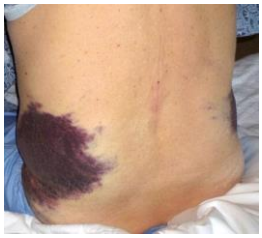
IBS vs small bowel obstruction.

- **Psoas sign:**

Pain with lifting extended right leg against resistance.
Postive in Retrocecal appendicitis or other retroperitoneal irritation (abscess of Crohn disease, pancreatitis, pyelonephritis).

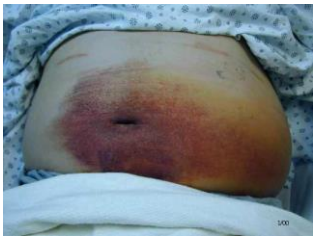
- **Grey Turner's sign:**

bruising & blue discoloration of the flanks
due to retroperitoneal hemorrhage. Seen in **Pancreatitis**
(the pancreatic enzymes eat the blood vessels)



- **Culln's signs:**

Superficial edema and bruising in
the subcutaneous fatty tissue around the umbilicus.
Seen in **Pancreatitis**



- **Adlers sign:**

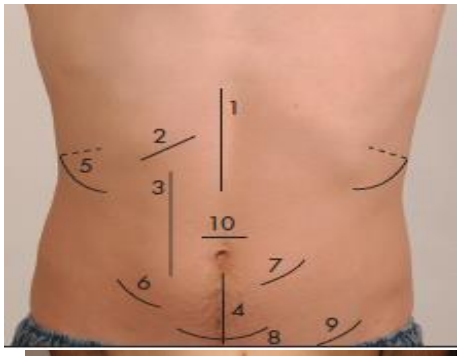
To differentiate between appendicitis and tuboovarian pathology in RLQ pain.
Find point of maximal tenderness while the patient is supine. Have them roll onto left side. If pain shifts towards center then may be tubo-ovarian.

EXAMINATION OF THE ABDOMEN

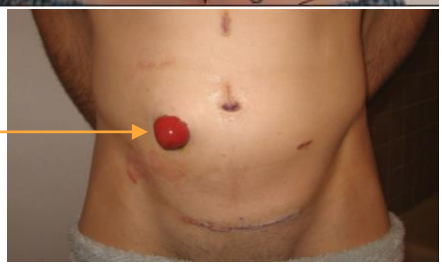
❖ INSPECTION:

-Does the pt appear well? Does he have cachexia, pallor or jaundice?
-if you saw a bulge or mass then mentions its location, shape and weather it moves with respiration or coughing or not.
-Does he have scars, stoma or fistula? Striae?
-Assess the abdomen for any asymmetry or distension? Does it move normally with respiration? Are there Prominent veins on the surface? Visible pulsations or peristalsis?

✓**Scars**: Location of the scar could give you a hint about the type of surgery: see the numbers on the pic.
1.Laparotomy.
2.Kocher's > Choleocystectomy.
5. Nephrectomy
6. Gridiron > Appendectomy.
9. Inguinal hernia repair.



✓**Stoma:** an artificial opening in the abdominal wall created in order to divert the flow of faeces and/or urine.



✓**Abdominal distention:**
-**Generalized**: 5Fs:Fat, Fluid (ascites), flatus (gaseous distension due to bowel obstruction), faeces, filthy big tumor (e.g. ovarian tumor or hydatid cyst).
-**Localized:** enlargement of one organ e.g. hepatomegaly,…..
✓**Stria:** common cause are ascites and recent weight gain + pregnancy and Cushing.
✓**Pulsations** seen in the epigastrum suggest an abdominal aortic aneurysm or could be normal in thin people.
✓**Visible peristalsis:**
Suggests an intestinal obstruction. In pyloric obstruction notice a slow wave that moves passing across the upper abdomen (from left to right). Obstruction of the distal small bowl causes a similar movements in a ladder pattern in the center of the abdomen.
✓ **Prominent veins:**
-in superior vena cava obstruction the flow in the vein will be towards the head.
-in portal HTN "caput Medusae" it will be towards the legs.
How to determine the direction of the blood flow?
use one finger to occlude a prominent vain **below the umbilicus** > put a second finger next to it > push the blood away using the second finger > then Remove it; if the vein refills quickly this mean that the flow is occurring towards the occluding finger.

❖ PALPATION:

Before starting the palpation:

✓make sure that your hands are warm.
✓Sit so that your forearm is horizontal at the level of the anterior abdominal wall, and your eyes are 50 cm above this level.
✓you eyes should be on the patient's face through out the examination for the signs of discomfort.
✓Ask if the patient has pain or tenderness anywhere before you begin and examine this area last!

START with **superficial palpation** by gently resting one hand on the patient's abdomen and pressing lightly > starting from the right iliac fossa and moving
In an anticlockwise direction to reach left iliac fossa (but don't forget to palpate the periumbilical rejoin). Look for masses or signs of discomfort on the patient's face (i.e. tenderness).

Deep palpation:

repeat the same process but with pressing more firmly and deeply

➢ The liver:

place your right hand transversely & flat at the right iliac fossa and parallel to the right costal margin. Ask the patient to take a deep breath. If grossly enlarged, its lower edge will move downwards and bump against the radial side of your index finger. If nothing felt repeat the process until you reach the right costal margin.
-if it did hit you hand then try to assess if it was hard or soft, tender or non-tender, regular or irregular and pulsatile or not?
-**Normally: its upper border at 6th intercostal space in the midclavicular line & its lower border may be felt just below the right costal margin.**

➢ The spleen:

Enlarged spleen may extend into the right iliac fossa. A normal spleen is not palpable.
place your right hand at the right iliac fossa and ask the patient to take a deep breath, move up toward the left costal margin (the tip of the left 10th rib).
-If nothing is felt try to feel it by lifting the lower ribs forwards with your left hand and asking the patient to take a deep breath or asking the patient to roll onto his right side.
-Splenomegaly becomes detectable only if the spleen is 2-½ times enlarged.

➢ The kidney:

Examine both kidneys by placing your left hand behind the patient's loin between the 12th rib and the iliac crest > lift the loin and kidney forwards > place your right hand anteriorly just below the right costal margin > feel any masses between the two hands as the patient breath.
Normal kidneys are usually impalpable.

➢ Percussion:

➢ liver span:

If you couldn't define the lower margin of the liver during palpation then start percussing from right iliac fossa along the mid-clavicular line up to the right costal margin until dullness is encountered > Mark this point "this defines the lower margin of the liver". To define the upper border start percussing from the right 3rd inter-costal space and along mid-clavicular until the sound become dull (as soon as you notice any dullness then this is enough, **you don't need to wait for the dullness to be very clear!** > this defines the upper border of the liver.

➢ The spleen

➢ Urinary bladder:

Percuss from the umbilicus down the midline, look for suprapubic dullness it could indicate an enlarged bladder or pelvic mass.

➢ ASCULTATION:

➢ Bowel sounds:

Place the diaphragm of the stethoscope just below the umbilicus.

-bowel sounds are called ***borborygmi***.

Normal: a soft gurgling character and occur only intermittently heard over all parts of the abdomen. Bowel sounds should be described as either **present** or **absent**.

Abnormal: e.g. a tinkling louder and higher-pitched sound indicates, bowel obstruction, loud gurgling sounds occur in diarrhoeal states and may be even heard without the stethoscope.

Absent: Complete absence of any bowel sounds over a 4-minute period indicates paralytic ileus.

➢ Bruits:

-Over the liver: Hepatocellular Carcinoma (HCC), Hemangioma.

-Aortic bruits: Auscultate just above the umbilicus > AAA

-Over renal arteries: On either sides of the midline 1cm above the umbilicus. If present > renal artery stenosis.

➢ Friction rubs:

A rough creaking or grating noise heard as the patient breathes, indicate an abnormality of the parietal and visceral peritoneum due to inflammation.

May be audible over the liver or spleen. It indicates tumors, abscess, infarcts but they are very non-specific.

➢ Venous hum:

A continuous, low-pitched, soft murmur that is heard between the xiphisternum and the umbilicus.

-indicates: portal hypertension.

To complete the examination: Tell the examiner that "I will conclude my examination by doing PR & External genitalia examination.

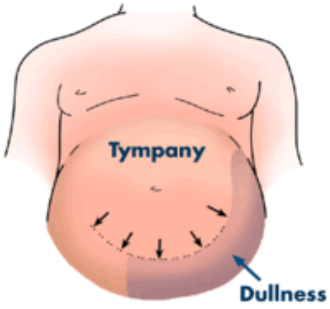
❖ ASCITES

▪ Bulging Flanks:

Observes whether the flanks are pushed outward.
Causes: Ascites or Obesity.

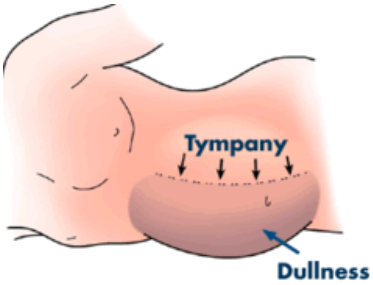
▪ Flank Dullness:

Percussion note is tympanic over the umbilicus and dull over the lateral abdomen and flank areas.
The tympany over the umbilicus occurs in ascites because bowel floats to the top of the abdominal fluid.



If (and only if) dullness is detected in the flanks, the sign of shifting dullness should be sought.

▪ Shifting Dullness:



Percuss across the abdomen as for flank dullness, with the point of transition from tympany to dullness noted > This point should be marked (usually by leaving a finger over the spot) > then the patient is rolled on his/her > Ideally 30 seconds to 1 minute should then pass so that fluid can move inside the abdominal cavity and then percussion is repeated over the marked point.
Positive test: When ascites is present, the area of dullness will shift to the dependent site.The area of tympany will shift toward the top (the area of dullness has changed to become resonant)

▪ Fluid thrill (Wave):

The patient or an assistant places one or both hands (ulnar surface of hand downward) in a wedge-like position into the patient's mid abdomen, applying with slight pressure > the examiner places the fingertips of one hand along one flank, and with the other hand firmly gives a sharp tap along the opposite flank.
Positive test: The examiner is able to detect "a shock wave" of fluid moving against the fingertips pressed along the flank, as the fluid is pushed from one side of the abdomen to the other by the force of the tap along the opposite flank.