Physical Examination

GI + Renal

For any examination, always start with:

1- RIPE-WIPE
2- COA (conscious, oriented, alert). This is important for the GI examination, as it could be a sign of hepatic insufficiency.
3- Check if the patient is in pain/distress. This is cardinal, especially for patients who present with acute abdomen.
4- Vital signs

Exposure: From the xiphisternum to the mid-thigh, but for social and cultural purposes, it was adjusted to the symphysis pubis.

Position: Supine with a 15° head elevation. You need to put one or two pillows under his head to relax his abdominal wall muscles during the examination. You can use extra pillows to support a patient with dyspnea.

Let's start with the general examination!

The physical examination starts as soon as the patient walks in, hence, you will have to examine the patient for the following points:

- BMI (height and weight). If obese, check whether it's truncal or generalized.
- Cachexia
- Presence of pain
- Check if the patient is in tachypnea
- Breath odor. Example: fetor hepaticus, a mousy odor of dimethyl sulphide, which occurs during portosystemic shunting, with or without encephalopathy. Other smells include: melaena, uremia, ketones or alcohol.
- Check his mental state for: drowsiness, confusion and disorientation.

For the physical examination, start in a systematic way from the face, neck, hands and all the way to the chest.

Let's start now with the examination of the face.

Now, check his face for:

- Jaundice, in sclera
- Pallor, in conjunctiva (sign for anemia)
- Bilateral parotid swelling, which occurs due to sialoadenosis, is a feature of chronic alcohol misuse.
- Check his lips for peripheral cyanosis, and his tongue for central cyanosis

Speaking of the tongue, you should look for the following:

- Angular stomatitis
- Glossitis
- Aphthous ulcers, which are most commonly caused by stress + IBD
- Beefy tongue

Most of these are caused by iron deficiency anemia, Vitamin B12 and folate deficiency.

DON'T FORGET TO COMMENT ON HIS ORAL HYGIENE.

Now, let's move on to the neck:

- Check the lymph nodes, especially the left supraclavicular lymph node for Troisier's sign, as its swelling could indicate the presence of a gastric tumor, pancreatic tumor or Hodgkin's lymphoma.

Now, let's move on to the examination of the hands:

Check for the following:

- Clubbing
- Koilonychia, which is a sign of iron deficiency anemia
- Leuconychia (white nails), caused by hypoalbuminemia
- Muehrcke's lines
- Lindsay's nails
- Palmar erythema, caused by excess estrogen
- Dupuytren's contracture of the palmar fascia, which is linked with alcohol-related chronic liver disease.
- Tremors, especially asterixis or flapping tremor, as its presence usually indicates hepatic encephalopathy.
- Scars

Let's move on now to the examination of the chest, where you'll be looking for:

- Scars and deformities
- Spider angioma, also known as spider naevus
- Scratch marks on chest
- Gynecomastia

Now, let's start with the abdominal examination of the GI + Renal systems.

As we all know, any physical examination is comprised of 4 fundamental techniques:

- Inspection
- Palpation
- Percussion
- Auscultation

➢ Inspection:

From the foot of the bed:

- Look at his respiratory pattern of breathing (usually dighragmatic)
- Check if his abdomen moves with respiration. (If it doesn't, this is a sign of peritonitis).
- Look at his contour: scaphoid, flat or distended. A person's normal contour is usually flat or slightly scaphoid. If his contour is distended, check for the 5F's: fat, fluid, feces, flatus, fetus.
- Check his umbilicus, whether its inverted, central or everted. The umbilicus is usually inverted, but it could be central in some people. However, an everted umbilicus usually comes with an Umbilical hernia, ascites, tumor or Sister Mary Joseph nodule. (The umbilicus could also be sunken; this is usually seen in obese people).
- Symmetry

Now, from the right side of the patient, look for:

- Laparotomy
- Scars, these include:

Scar	Why is it Present
Mercedes Benz	Liver Transplant
McBurney's	Appendectomy
Kocher's	Cholecystectomy / Liver Surgery
Pfannenstiel	Cesarean Section

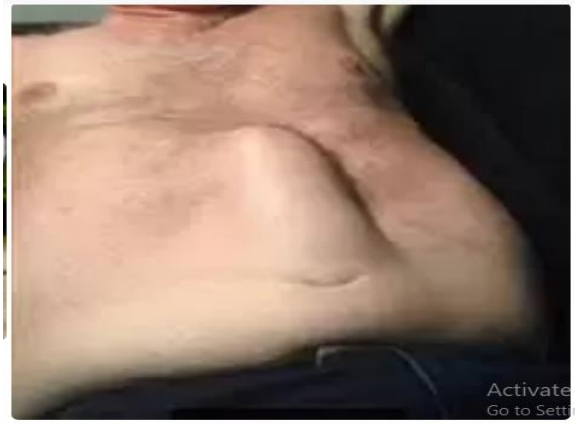
- Surgical stomas
- Striae (normally absent)
- Scratch marks
- Skin lesion, like warts or hemangiomas.
- Dilated veins: which could be present as a result of portal hypertension, such as caput medusae, or they could be tortuous dilated veins caused by inferior vena cava obstruction.
- Masses
- Pulsations (normally, there should be no visible pulsation, but in cases like aortic aneurysms, pulses are visible).
- Visible peristalsis. (Normally it shouldn't be present)
- Bruises: Cullen's sign or Grey Turner's sign. These indicate intra-abdominal or retroperitoneal bleeding. Cullen's sign is located at the Periumbilical area, and Grey Turner's sign is located at the flanks.
- Normal hair distribution
- Sister Mary Joseph nodules, which are red nodules that appear on the umbilicus. These nodules are signs of intra-abdominal or pelvic malignancies. They can be examined both via inspection and palpation

(Check last page to easily memorize all of these)

Cough impulse: It is a visible bulging of a hernia in the abdomen when a person coughs. In the physical examination, tell the patient to tilt his head to the left and cough, you'll only see a mass moving if he has hernia, otherwise, you should comment saying: no cough impulse.

Divarication of Rectus Abdominis: Separation of the rectus abdominis muscles at the midline, causing a bulge especially when the muscles contract. This bulge appears on examination when you tell the patient to lift his head smoothly and steadily.

This is what it looks like



Normally, the bulge isn't present, so comment saying:

No divarication of rectus abdominis muscles.

- Palpation:

Before any palpation, make sure you warm your hands, ask the patient if there are any painful/tender areas and maintain eye to eye contact throughout the examination.

In the examination, if the bed is low, make sure to sit on a chair or kneel beside the bed before palpating, and make sure to palpate in a circular motion.

The abdomen is divided anatomically by surgeons into 9 regions.

- First start by superficially palpating those 9 regions. (It is better if you start the palpation process from the right iliac fossa).

Comment: No tenderness, no palpable masses and no guarding.

- Then press deeply on those 9 regions.

Comment: No deep masses and no tenderness

(Then ask to test for rebound tenderness, which is not required anymore and they will tell you to skip it, but you still have to mention it.)

Now, examine these 4 signs:

1- Murphy's sign: As the patient takes a deep breath in, gently palpate the right upper quadrant. If it evokes pain and causes cessation of breath, this is a sign for acute cholecystitis.
2- Rovsing's sign: This is a sign of acute appendicitis, in which palpation in the left iliac fossa produces pain in the right iliac fossa.
3- Obturator sign: Ask the patient to flex their thigh against your hand, and then tell to internally rotate his hips by externally rotating his ankles. You will try to put some pressure against this maneuver. If he's in pain doing this maneuver, then this is a sign of acute appendicitis.
4- Iliopsoas sign: Ask the patient to flex his knee against your hand, if he's in pain, that's a sign of acute appendicitis. Then, tell the patient to lie on one side of the bed and extend his hip. If he's in pain doing this maneuver, then this is another sign of acute appendicitis.

Normally, these signs have to be negative.

Now, we'll move on to a process called Organomegaly, which is the abnormal enlargement of an organ. We'll be examining it for the liver, spleen and kidneys.

- Liver. We will examine what we call the Liver Span, which is the vertical height of the liver. To measure this vertical height, you need to locate the lower border of the liver and the upper border of the liver, and measure the distance between them. There are 2 approaches to reach the lower border of the liver:
  1- Tell the patient to **inspire**, and press deep from the right iliac fossa, and go upwards until you reach the lower border of the liver, or
  2- Upon Inspiration, percuss the right iliac fossa, which is normally resonant upon percussion, and ascend gradually until you reach the liver, which is dull upon percussion. This marks the lower border of the liver.

Tell the patient to mark that point with his finger.

Now, to reach the upper border of the liver, tell the patient to **exhale**, and start by percussing the right lung, which is normally resonant, and go down until you witness a dull percussion. This marks the upper border of the liver.

Using a measuring tape, measure the distance between the lower and upper border of the liver. It should be somewhere between 8-12 cm.

Important note: In the exam, they will ask you to describe how the liver feels like upon palpation, your answer should be: The liver is of normal size with smooth surfaces and well-defined edges.

- Spleen: It is located in the left hypochondriac region, protected by ribs 9-11 on the left side. The spleen is normally impalpable, but in order to feel it, it has to be 3 times its original size, which happens in conditions that cause splenomegaly.

In order to palpate the spleen: tell the patient to take a deep breath, press gently on the right iliac fossa, and ascend diagonally until you reach the left hypochondriac region. If it's still not palpable, tell the patient to rest on his right side, tell him to take a deep breath and palpate behind the ribs.

Comment: Impalpable spleen (which is completely normal).

- Kidneys: They are usually impalpable, but in some cases, the right kidney could be palpable.

There are 3 maneuvers to palpate the kidneys:

1- Bimanual Palpation of the Kidney: Place your left hand under the patient's back in the loin area (flank), and place your right hand on the abdomen, below the right costal margin. Ask the patient to inhale, and as he inhales, press your hands together, as if you're sandwiching the kidney between your hands.

Repeat the examination on the opposite side.

Comment: On bimanual examination, the kidneys were not palpable.

2- Ballotment Maneuver: Place your left hand behind the patient's loin under the 12th rib, and place your right hand anteriorly on the right upper quadrant. Using your left hand, give a quick gentle tap. This tap should displace the kidney anteriorly. With your right hand, try to feel the kidney as it rebounds or moves against your hand.

Don't forget to repeat the maneuver on the opposite side as well.

Comment: Ballotment was negative bilaterally.

3- Renal angle tenderness:
   - Make sure the patient is sitting at 90°
   - Warm your hands and ask if he's in pain
   - Using the ulnar edge of your hand, form a fist and strike the costovertebral angle on both sides.

In this test, sharp pain or tenderness on striking indicate Pyelonephritis.

Comment: No renal angle tenderness bilaterally.

- Percussion:

As we all know, the abdomen is divided into 9 distinct parts. Percuss all of these 9 regions, and comment saying: Normal tympanic percussion note all over the abdomen.

Then, ask to test for bladder and ascites.

To test for an enlarged Bladder: percuss over the midline from a resonant area, moving inferiorly to identify where the percussion note becomes dull. This marks the area for the enlarged bladder.

If the bladder is normal, we comment saying: no bladder dullness.

Test for ascites:

1- Percuss the midline, with your hand horizontally, until you feel the highest tympanic note, which is usually below the umbilicus, then place your hand vertically (so that your fingers are pointing to the neck) and percuss to the sides until you reach a point of dullness (flanks).

Then, you tell the patient to twist to his left side, wait for 2 more minutes and percuss again. If it's dull, this indicates the presence of a tumor. If it is resonant, then the ascites fluid has shifted.

Normally, we comment: No shifting dullness

2- Transmitted thrill:
   - Ask the patient to place the edge of his hand on the midline of his abdomen.
   - Place the palm of your left hand against the left side of the patient's abdomen.
   - Using your right hand, flick a finger in his right abdomen.
   - If you feel a ripple against your left hand, a fluid thrill is present.

Comment: no fluid thrill

- Auscultation:

There are five places to auscultate in this physical examination:

1- Iliocecal junction. Location: Inferior and lateral (to the right) of the umbilicus. Listen to it for 2 full minutes to make sure that the bowel sounds are absent.

Comment: normal bowel sounds every 5-10 seconds.

2- Aortic Bruits (above the umbilicus)
3- Right Renal Bruits
4- Left Renal Bruits

Note: to hear the renal bruits, you should go 2-3cm above and lateral to the umbilicus.

Comment: No bruits.

5- Liver

Comment: no friction rub.

After that, mention that you want to auscultate for succussion splash, which is normally skipped during the OSCE.

Finally, end your exam by saying: I want to examine the patient for lower limb edema, sacral edema, pulmonary edema, JVP, PR, inguinal lymph nodes and if the patient is a male, ask to check his genitalia for testicular atrophy.

Tips: Inspection, as one of the doctors said, is more than likely going to come in the OSCE final examination. To easily memorize the inspection part from the right side of the patient bed, remember it in this way:

- 5S's:
  1- Scars
  2- Stoma
  3- Striae
  4- Scratch marks
  5- Skin lesions
- 4 visible parts:
  1- Veins
  2- Masses
  3- Pulsations
  4- Peristalsis

With the remaining being bruises, normal hair distribution, Sister Mary Joseph nodules and laparotomy.

In the exam, you might be asked for stigmata of chronic liver disease upon inspection and you'll have to cover the following points:

- For the hands, mention: Palmar erythema, Leuconychia, Clubbing and Dupuytren's contracture.
- For the chest: Gynecomastia and spider naevus
- For the face: Check for bilateral parotid swelling

The stigmata of liver failure include:

Asterixis, ascites, fetor hepaticus, jaundice, altered mental state and late neurological features.