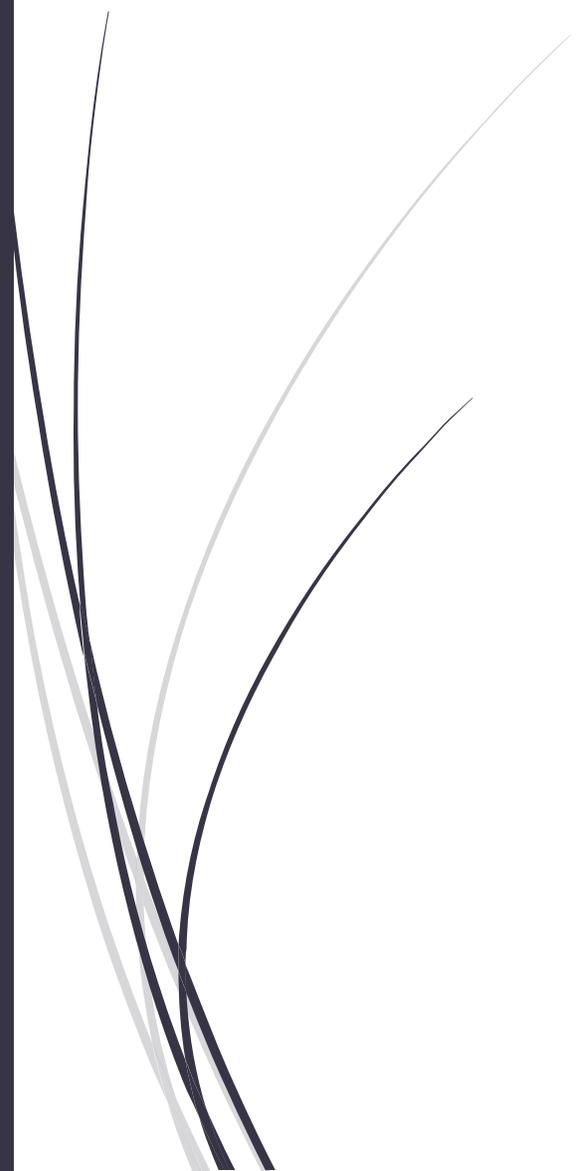


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**PRAY**

**FOR**   
**GAZA**



# Abroach to Abdominal mass

Done by:

Mostafa Al-lahalieh

Daif-allah Al- Nawawi

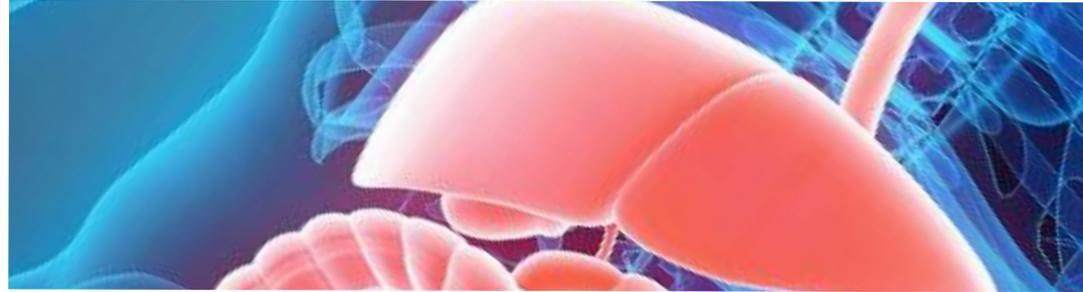
Sarra smadi

Amneh Azzam

Asma'a Al-sha'rat

Joud Al-zaqaibeh

Yazan odeh



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# Objectives :

- 1- Definition + history taking
- 2- Classification of abdominal masses
- 3-Physical examination
- 4- Investigations
- 5- Treatment

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# Objectives :

## 1- Definition

**An abdominal mass is an abnormal growth (enlargement) in the abdominal area . It causes visible localized swelling and may change the shape of the abdomen.**

**It could present as :Swelling, lump, Bloating etc..**

# History taking

- Patient profile:

- name
- age
- gender
- marital status
- occupation
- address
- route of admission

- Constitutional symptoms:

- Weight loss
- Anorexia
- Fatigue
- Sweating
- Nausea/vomiting

- Associated symptoms:

- Systemic overview:

- **Chief complaint**

(what brought you to the hospital?)

- **HISTORY OF PRESENTING ILLNESS:**

- Site?
- when was it first noticed?
- changes in size or position?
- - mobile or fixed?
- -tender?
- -punctum ? squeezes out?
- -soft ,hard , firm?
- rate of growth? (masses that grow faster are more likely to be malignant).
- if it is always there or does it come and go?
- Painful ,painless? do SOCRATES

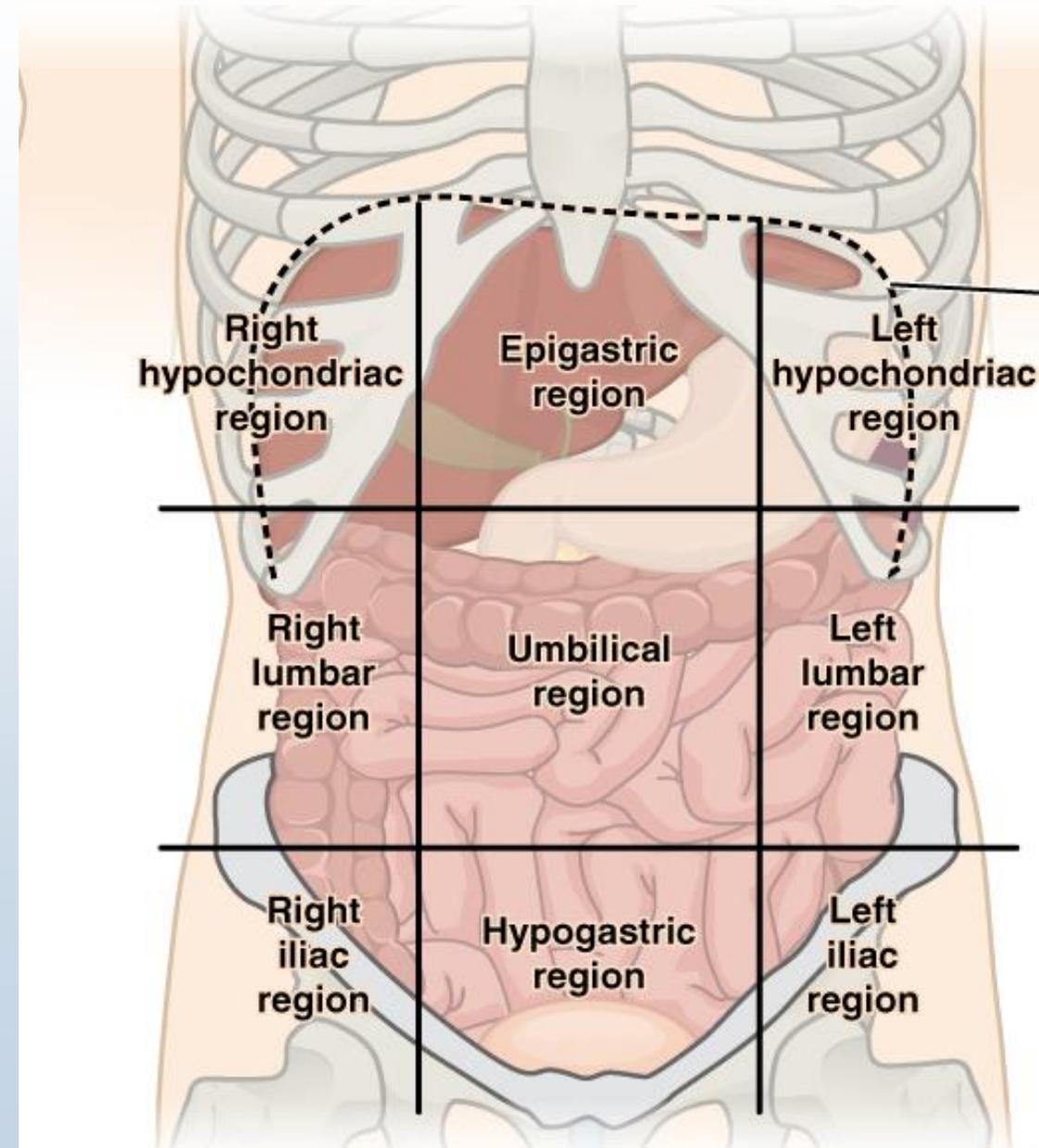
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**Objectives :**

**2- Classification of  
abdominal masses**

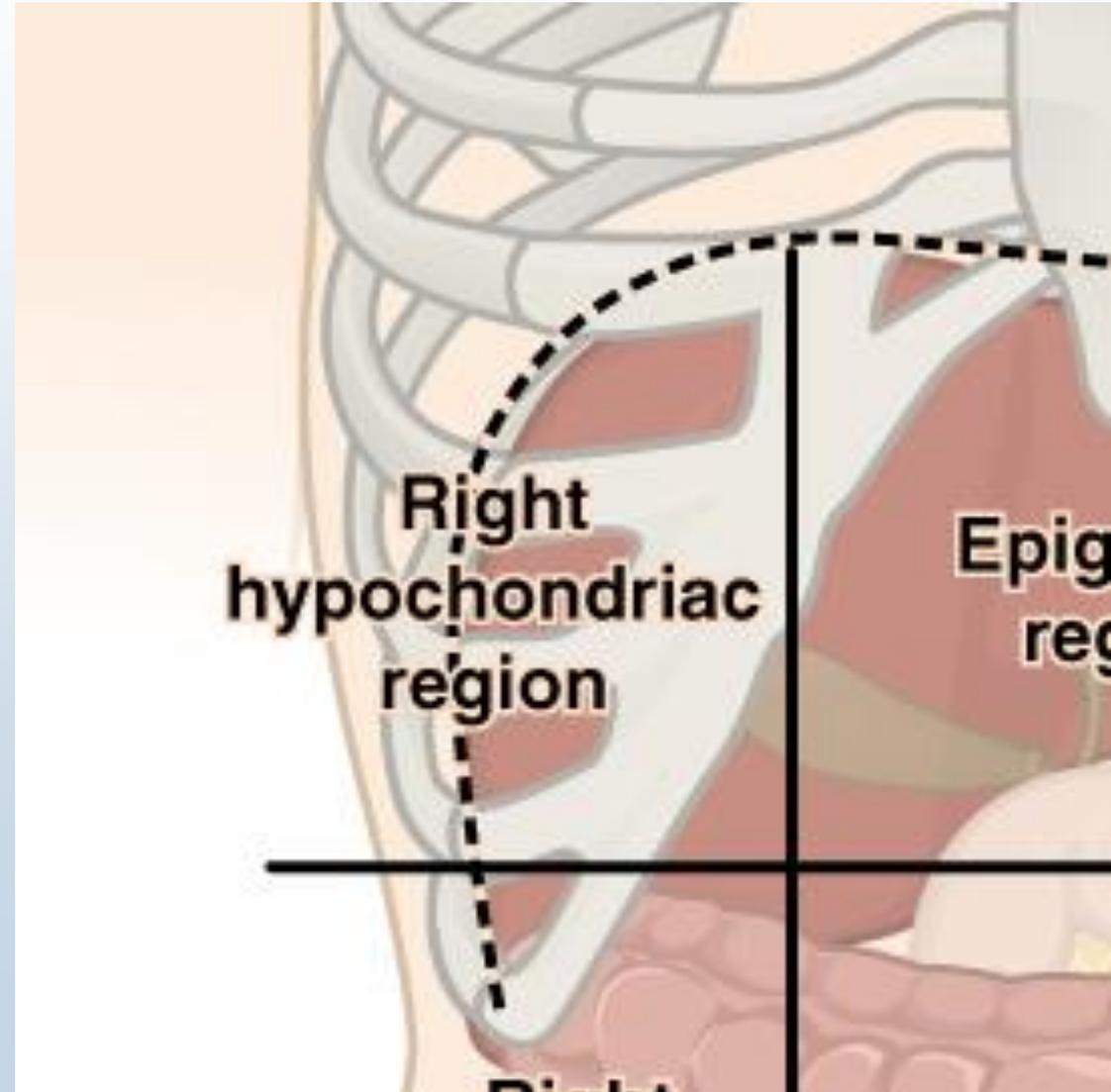
A series of overlapping, curved lines in shades of grey and black originate from the left side of the slide and sweep upwards and to the right, creating a dynamic, abstract graphic element.

We can classify the abdominal masses according to the SITE



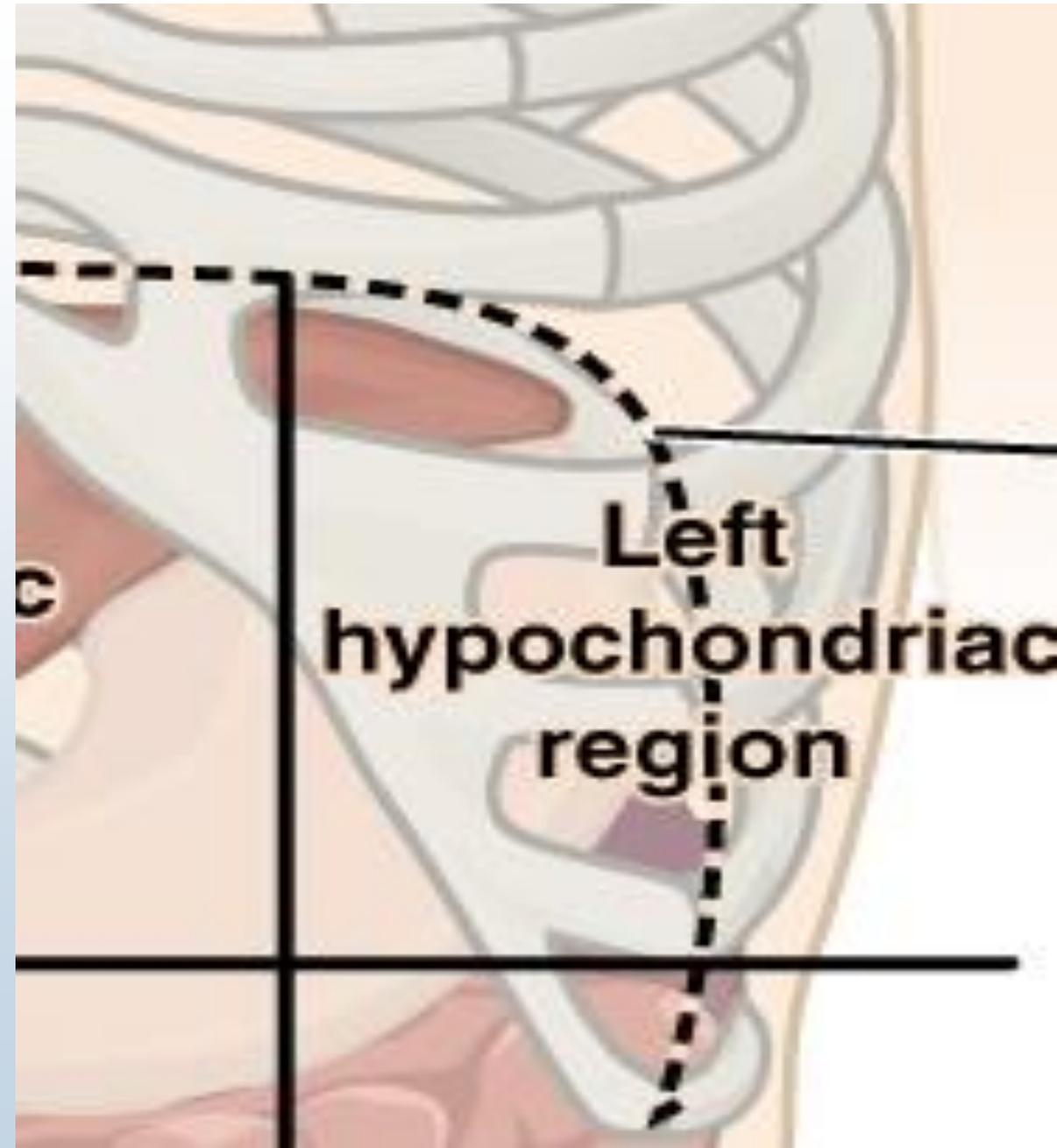
# Right hypochondriac region

- - **Hepatomegaly** (infective, neoplastic, cirrhotic, metabolic, drugs and toxins)
- - **Gallbladder enlargement** (cystic duct obstruction, common bile duct obstruction)
- - **Gastric carcinoma**
- - **Right subphrenic abscess** (accumulation of the fluid between diaphragm and liver)
- - **Subhepatic abscess**



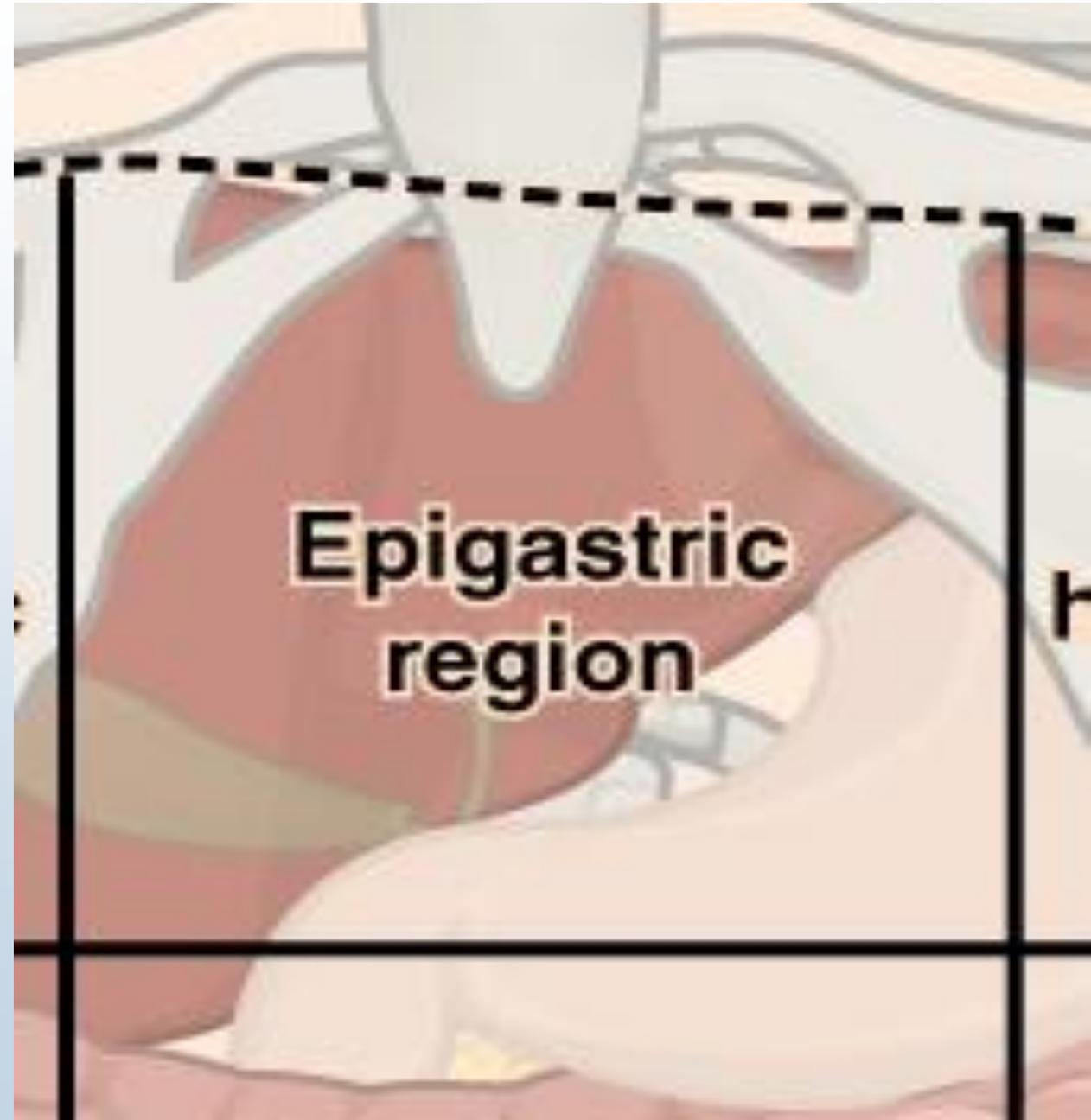
# left hypochondriac region

- Splenomegaly (infective, blood disease, metabolic, circulatory, neoplastic)
- Gastric carcinoma
- Pancreatic enlargement
- Left subphrenic abscess



# Epigastric region

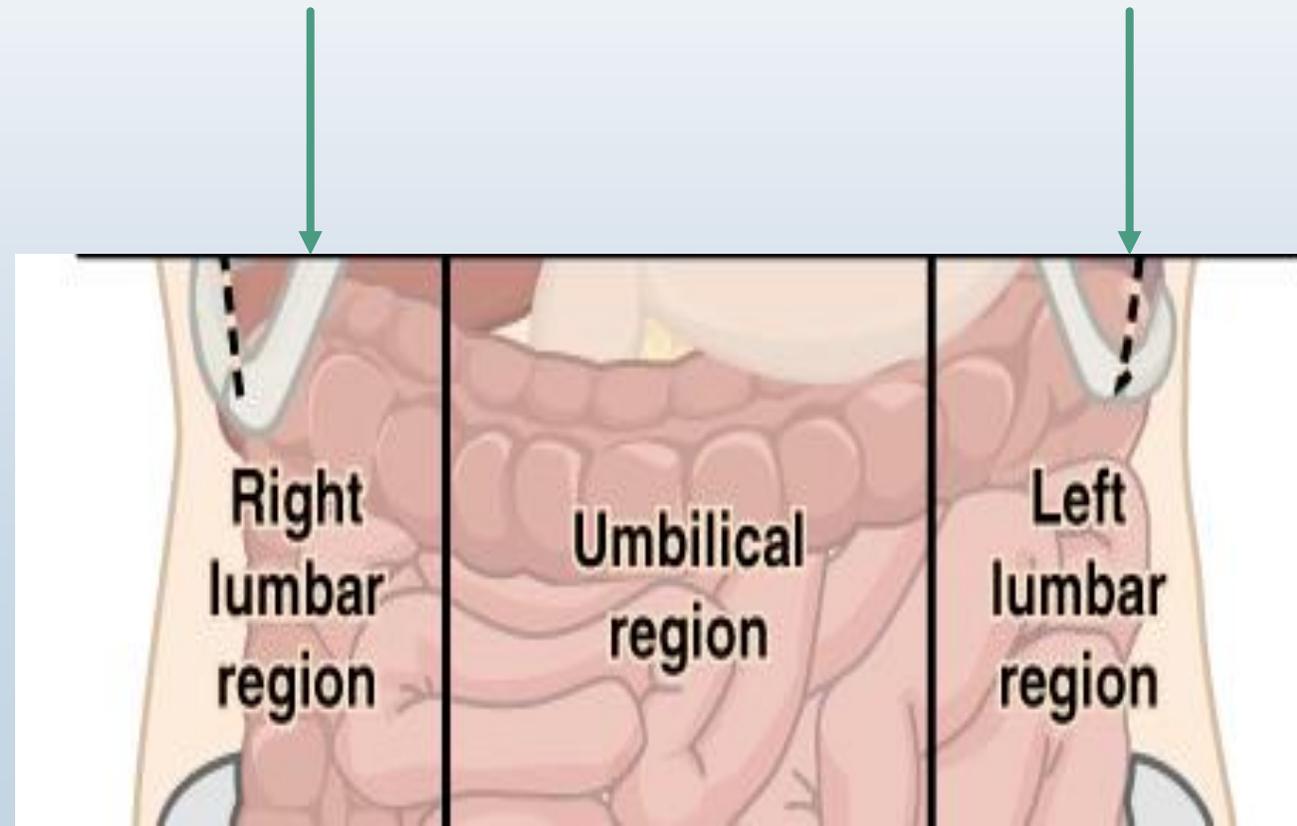
- **Hepatomegaly**
- **Gastric carcinoma**
- **Pancreatic enlargement**
- **Abdominal Aortic Aneurysm (AAA)**
- **Colon cancer**
- **Mesenteric cyst**



# Rt & Left lumbar region

**Enlargement of kidney  
(malignancy, hydronephrosis,  
pyonephrosis, cystic disease)**

- **Adrenal tumors, Adrenal cyst**



# Umbilical Region

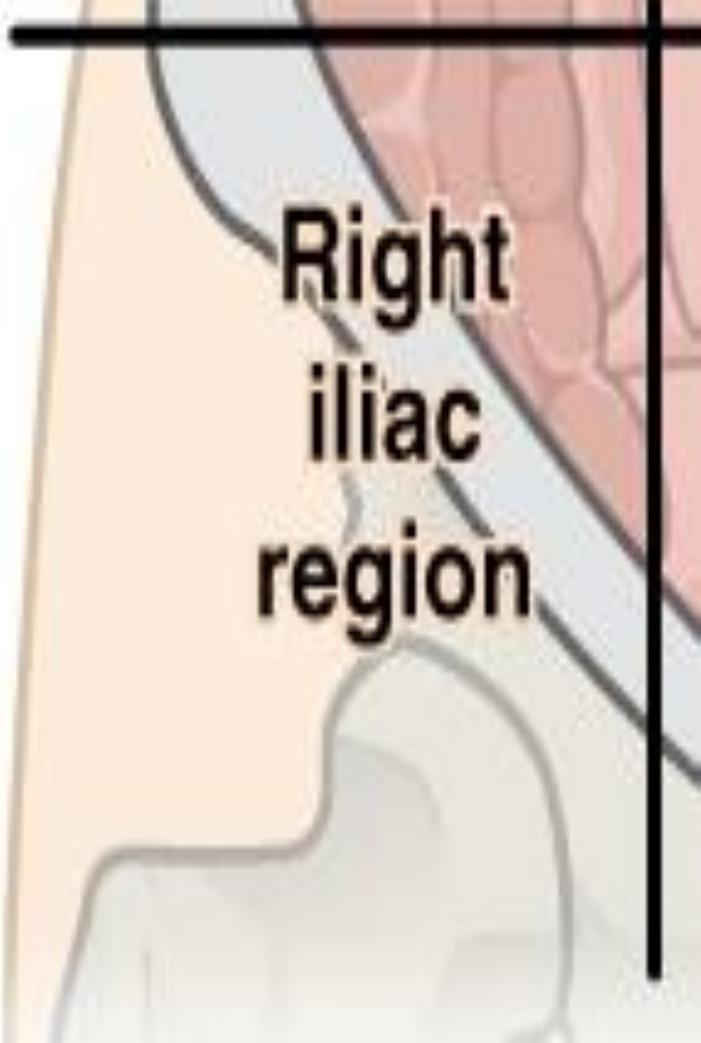
- **Abdominal Aortic Aneurysm (AAA)**
- **Volvulus**
- **Hernia**
- **Intestinal neoplasm**



# Right iliac fossa

## Appendix mass / abscess

- Psoas abscess
- Ovarian tumor / cyst
- Colon tumor
- Undescended testis
- Iliac lymphadenopathy

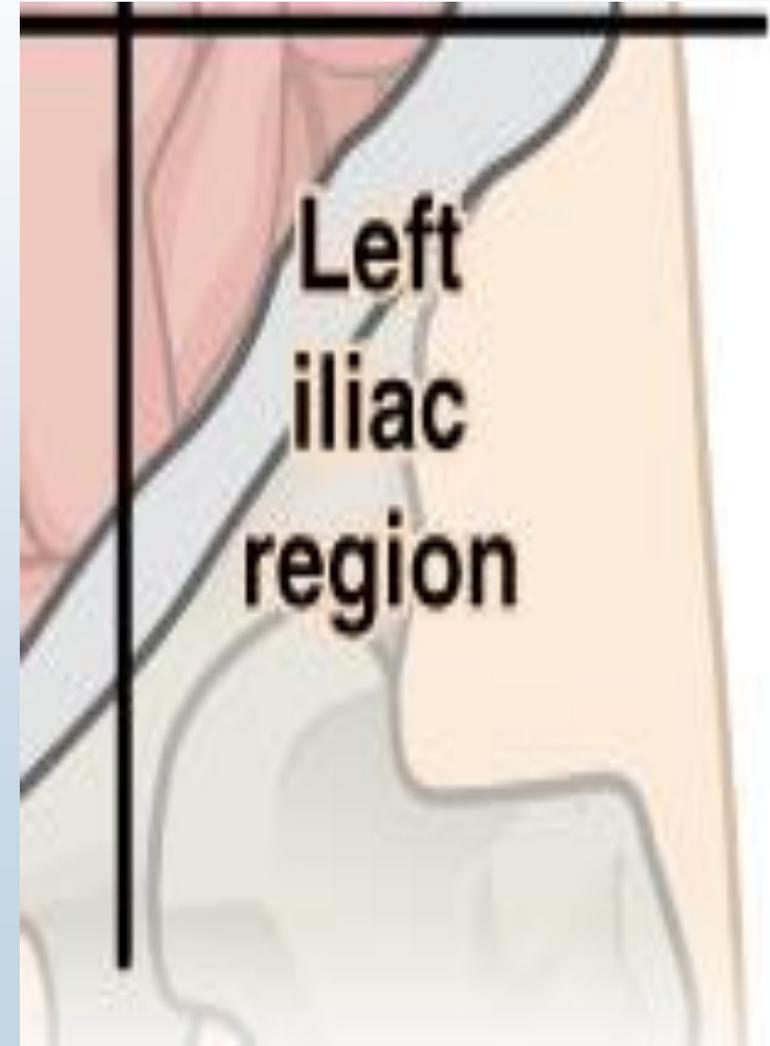


Right  
iliac  
region

The diagram shows a cross-section of the right iliac region. A horizontal black line is drawn across the top, and a vertical black line is on the right side. The area is shaded in light orange and pink, with a greyish area at the bottom. The text 'Right iliac region' is written in bold black font in the center.

# left iliac fossa

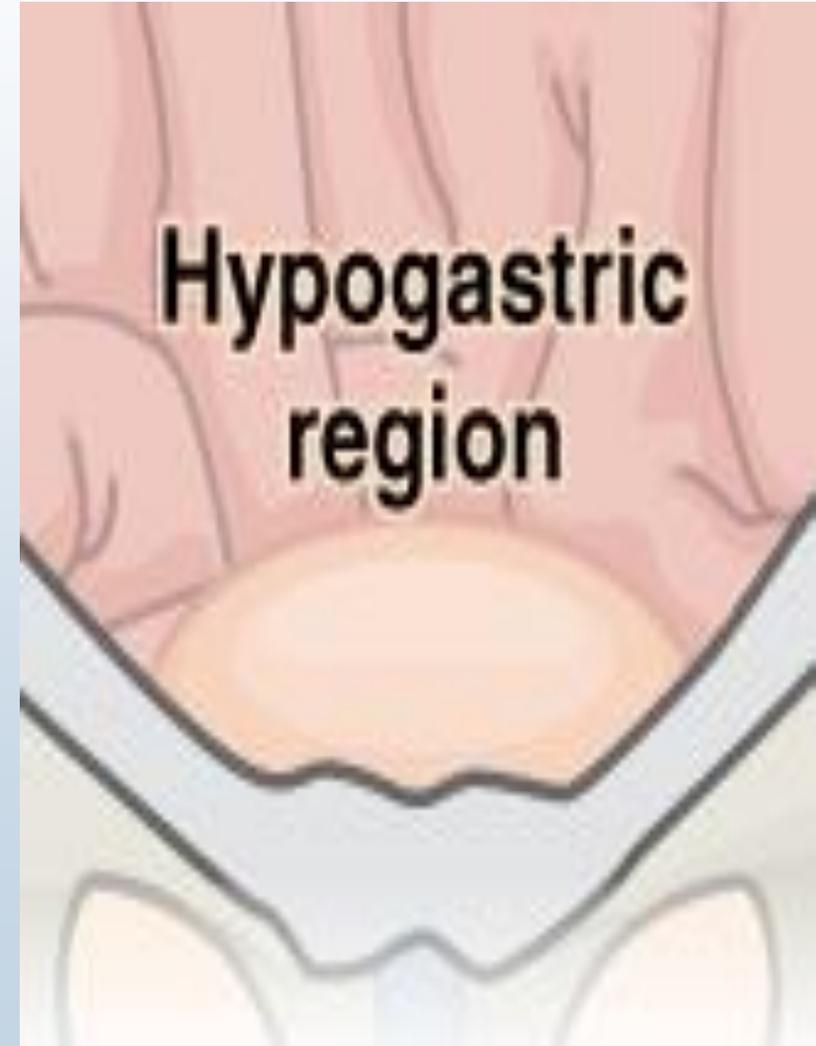
- Sigmoid diverticulitis
- Psoas abscess
- Ovarian tumor / cysts
- Sigmoid tumor
- Undescended testis
- Iliac lymphadenopathy



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# Hypogastric (suprapubic) Region

- **Distended bladder**
- **Uterine fibroma**
- **Ovarian tumor / cysts**



# Physical examination

- ❑ **Introduction, permission ,privacy ,Good lighting, warm surroundings**
- ❑ **General inspection of the pt:** general appearance, pain?, thin, well nourished or obese
- ❑ **Position:** supine on the examining table or bed
  - The **head and knees** should be supported with small pillows or folded sheets for comfort and to relax the abdominal wall musculature.
  - The **arms** should be at the sides (not folded behind the head, as this tenses the abdominal wall)
  - Use extra pillows to support a patient with kyphosis or breathlessness
- ❑ **Exposure:** is from the xiphisternum to the symphysis pubis
- ❑ **The examination sequence:**
  - 1) **Inspection**
  - 2) **Palpation**
  - 3) **Percussion**
  - 4) **Auscultation**

# Inspection of the abdomen

❖ We begin **at the end of the bed** comment on

## 1) **Contour** of the abdomen :

- Normally the abdomen is **Flat** or **slightly scaphoid**
- **scaphoid** (like a spoon) – esophageal CA as a result of severe weight loss.
- If the abdomen was **distended** or swollen it might be:

### ➤ Generalized distention :

6 F's ( Fetus (pregnancy), Fat (obesity), Flatus (gas) ,Fluid (ascites), Feces (obstruction), fatal growths (tumors))

➤ Or Localized distention: gross organ enlargement or a mass

- If mass is suspected, it should be inspected from several angles.
- The mass could be **abdominal wall mass** or intra-abdominal mass
  - To differentiate between **abdominal wall mass & intra-abdominal mass** ask patient to hold his head unsupported off the examining table or raise his feet off the table this tenses the abdominal wall musculature

If it is an **abdominal wall mass** → become more prominent

if it is an **intra-abdominal mass** → become less prominent

# Inspection – Cont.

- 2) The **symmetry of the abdomen** and presence of bulges
- 3) Abdominal **movement with respiration**  
if abdomen not move with respiration – catastrophic sign – indicated **peritonitis / perforated viscus**
- 4) The **umbilicus** – it is in the center and inverted, it might be:
  - ▶ **Everted** → hernia, tumor, ascites
  - ▶ Deep than normal (**sunken**) → obesity

# Inspection – Cont.

- ❖ Then , from **the right side** of the patient :
- ❑ **Skin:** scars or striae ( loss weight , pregnant afterbirth, corticosteroid, adrenal tumor )

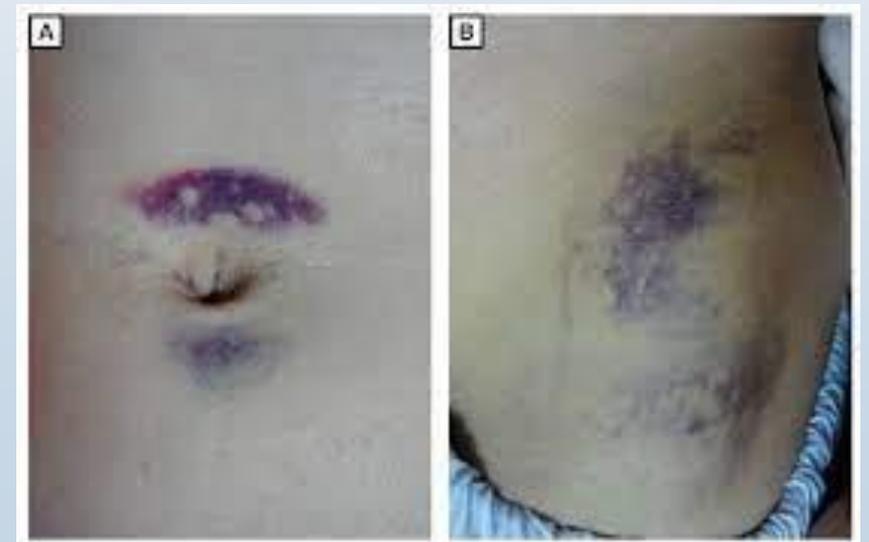


**Striae**

## Discoloration of the abdominal wall skin

- ➔ Note: haemorrhagic pancreatitis → bleeding into the falciform ligament → bruising/ ecchymosis around the umbilicus

( A: **Cullen's sign**) or in the loins ( B: **Grey turner's sign**)



# Inspection – Cont.

- ❑ **Hair Distribution** → **suprapubic hair** normal in **males** but if seen on **female** suspect adrenal tumors.
- ❑ **Dilated veins on the abdominal wall** → collateral veins, caput medusa (radiating tortuous veins around the umbilicus and this reflects Portal Hypertension).
- ❑ **pulsations**
- ❑ **Hernial orifices** : Better on standing, Ask him to cough.
  - ➔ **Note** : if an inguinal hernia becomes irreducible ( the contents of the **hernia** are unable to return to their original cavity) and tense there may be no cough impulses.
  - ➔ Differential diagnosis would include: lymph node, groin mass or an abdominal mass.



Caput medusae

# Palpation

- Ensure your hands are warm and clean
- Ask patients if there was any pain and start away from it

## 1) Superficial palpation:

with the **fingertips**.

This will demonstrate:

- **crepitus** of the abdominal wall, a sign of gas or fluid within the subcutaneous tissues.
- **Irregularities** of the abdominal wall (such as lipomas or hernias)

## 2) Deep palpation :

If abdominal mass:

Is it an **enlarged abdominal organ** or **separate from the solid organs?**

### **Enlarged abdominal organ**

Palpation of enlarged organ **Liver , spleen , kidneys , urinary bladder**

# Palpation

## If the mass is separate from the solid organs

Is it within anterior abdominal wall or within abdominal cavity?

### Abdominal wall mass

- If attached to the **deep fascia** - less mobile
- If arising within the **muscle layer** - fixed and remain unchanged in size

### Intra-abdominal mass

- If **deep to the abdominal wall** (i.e. within the **peritoneal cavity** or behind the peritoneum) - impalpable or less prominent
- If intraperitoneal **in contact with the diaphragm** will move on respiration (i.e. swellings arising from liver, gall bladder, spleen, stomach, kidneys and suprarenals).
- If **retroperitoneal** masses are usually fixed.

# Determinants for any mass or lump

Mnemonic for lump/mass PE:

**6** Students & **3** Teachers went for **CAMPFIRE**

- ❑ **Site, Skin** (color, ulcerated or inflamed), **Shape Surface** (smooth, nodular, irregular), **Size, Scars**
- ❑ **Temperature, Tenderness, Transillumination**: a lump that transilluminates contains water, serum, lymph, plasma or highly refractile fat. Blood and tissues don't transilluminate
- ❑ **Consistency**
- ❑ **Attachment** and **Mobility**
  - **Bone: immobile.**
  - **Muscle: contraction reduces lump mobility.**
  - **Subcutaneous: skin can move over lump.**
  - **Skin: moves with skin..**
- ❑ **Pulsation, Fluctuation** (+ive in fluid filled masses)
- ❑ **Reducibility and Compressibility** :
- ❑ **Regional lymph nodes.**
- ❑ **Edge** :
  - **well defined regular** suggests **benign** mass
  - **well defined irregular** suggests **malignant** mass
  - **ill defined + diffuse** suggests **inflammatory** mass

# Percussion

- The **normal abdomen** on percussion is **tympanic**
- **Air-filled structure** → **tympanic** upon percussion
- Percussion is Useful to determining **organ size**, such as the liver which is dull.
- If **dullness** → may draw your attention to a **mass** that was missed on palpation or fluid

## ❖ Test for ascites :

### Shifting dullness

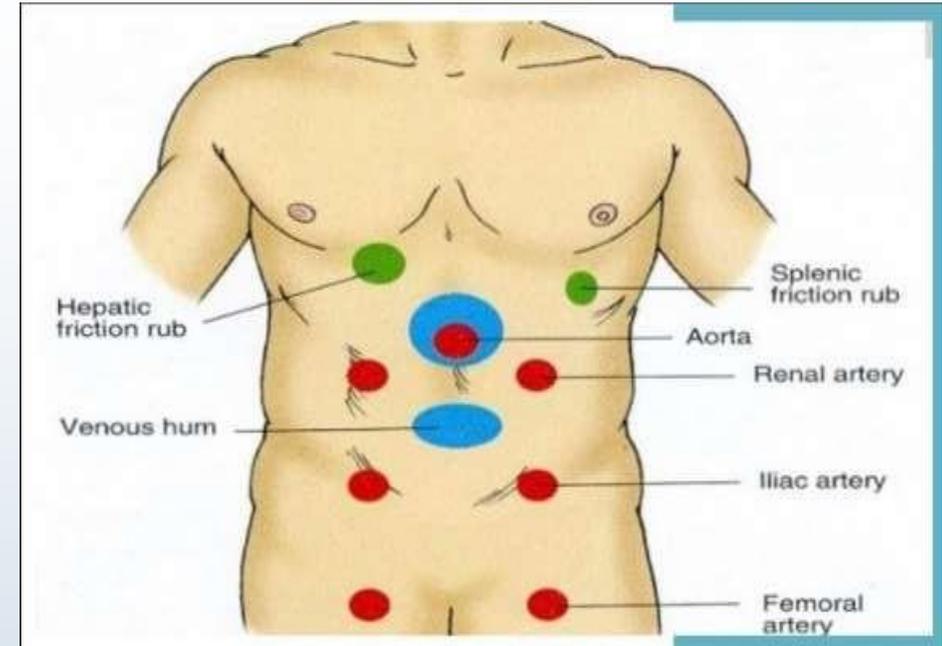
- ▶ With the patient supine, percuss from the midline out to the flanks. Note any change from resonant to dull.
- ▶ Keep your finger on the site of dullness in the flank and ask the patient to turn on to their opposite side.
- ▶ Pause for 10 seconds to allow any ascites to gravitate, then percuss again. If the area of dullness is now resonant, shifting dullness is present, indicating ascites.

### Fluid thrill

- ▶ Transmitted thrill Place the palm of your left hand flat against the left side of the patient's abdomen and flick a finger of your right hand against the right side of the abdomen.
- ▶ If **you feel a ripple against your left hand**, ask an assistant or the patient to place the edge of their hand on the midline of the abdomen. This prevents transmission of the impulse via the skin rather than through the ascites. If **you still feel a ripple against your left hand**, a fluid thrill is present (detected only in gross **ascites**).

# Auscultation

- ▶ **1) Listen to the bowel sounds**
  - **Normal bowel sounds** are **low-pitched** gurgles
  - **Absent/diminished bowel sounds** indicate an **ileus**
  - **High pitched** and "tinkling" sounds indicate bowel **obstruction**
- ▶ **2) Vascular sounds**
  - **Bruits ( aneurysm )** are wind or whistling sounds heard over **major arteries** (aorta, renal arteries and the iliac arteries).



# Objectives :

**4- Investigation** if the diagnosis of any abdominal mass remains unknown even after a comprehensive clinical history and physical examination

And they include *imaging studies & laboratory studies*

A- imaging studies

Abdominal CT scan

Abdominal ultrasound

Abdominal x-ray

Barium enema, Barium meal

Laparoscopy

Colonoscopy

MRI

EGD (esophagogastroduodenoscopy)

# Investigation

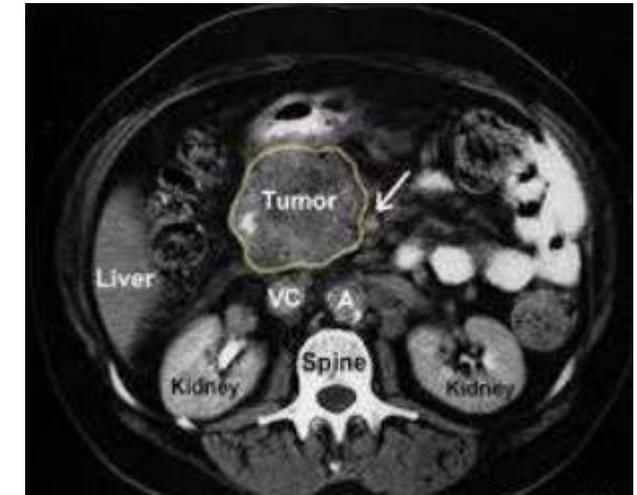
## Abdominal CT

It makes a detailed picture of the structures inside the abdomen.

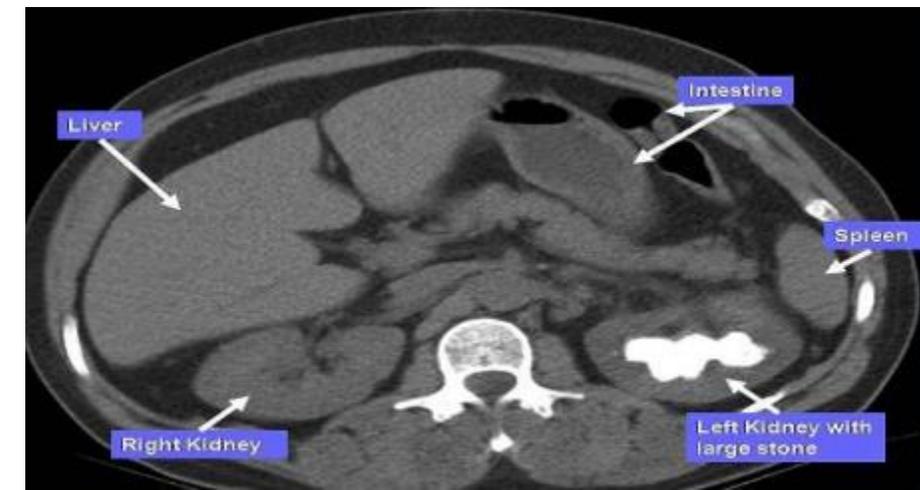
This test may help detect or diagnose:

- palpable abdominal mass
- kidney stones (to check for size and location of the stones)
- unexplained weight loss
- infections, such as appendicitis
- to check for intestinal obstruction
- inflammation of the intestines, such as Crohn's disease
- injuries following trauma
- recent cancer diagnosis
- blood clots

Pancreatic tumor



Nephrolithiasis



# Investigation

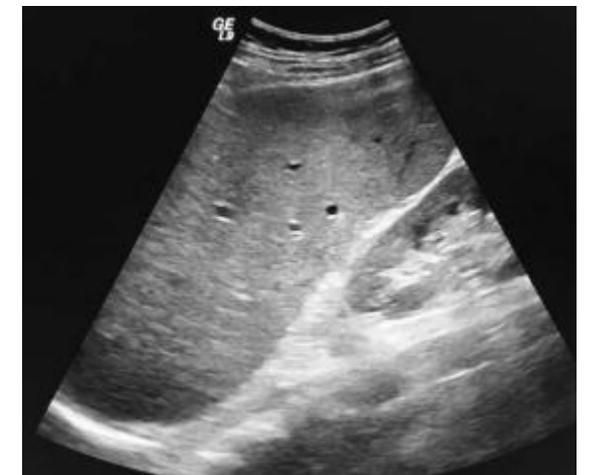
## Abdominal Ultrasound

- It uses high frequency sound waves to produce two-dimensional images of the body's soft tissues.
- Many possible conditions can be revealed by an abdominal ultrasound, some of these include:
  - Abdominal aortic aneurysm
  - Hydronephrosis
  - Gallstones
  - Hepatomegaly
  - Splenomegaly
  - Abnormal growths - tumors, cysts, abscesses, scar tissue and accessory organs. In particular, potentially malignant solid tumors can be distinguished from benign fluid-filled cysts.

## Gallstones



## Splenomegaly



# Investigation

## Abdominal X-ray

An abdominal X-ray can show the size, shape, and position of the liver, spleen, and kidneys. Look for stones in the gallbladder, kidneys, ureters, or bladder. Look for air outside of the bowel (intestines).

Subphrenic abscess



Uterine Fibromyoma



# Investigation

## Barium enema

- Is the study of the large bowel with double contrast (Barium and air).
- It is used to detect and diagnose:
  - Colon cancer, although it is used much less often than in the past.
  - Inflammatory bowel disease (IBD)
  - Large bowel obstruction / volvulus.
  - Diverticular disease

## Diverticulitis



## Colon cancer

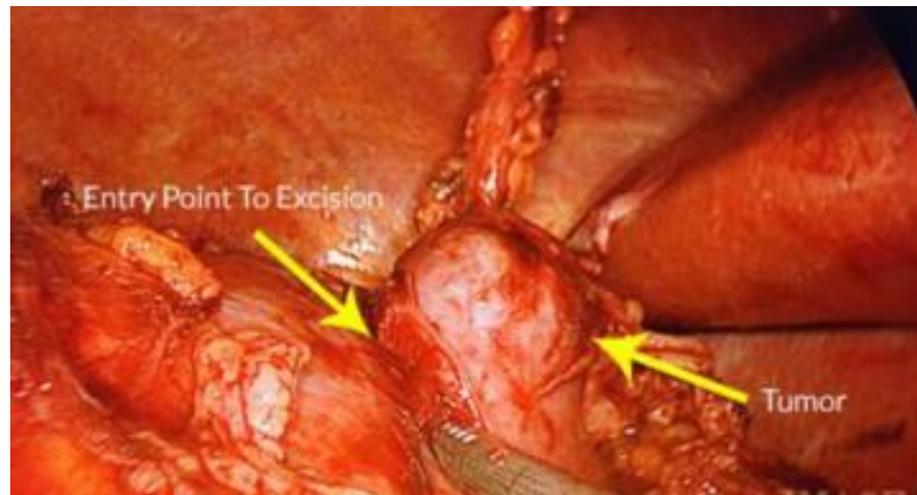


# Investigation

## Laparoscopy

- laparoscopy, is a surgical diagnostic procedure used to examine the organs inside the abdomen. It's a low-risk, minimally invasive procedure that requires only small incisions.
- Laparoscopy uses an instrument called a laparoscope to look at the abdominal organs.

### Kidney tumor



# Investigation

## Colonoscopy

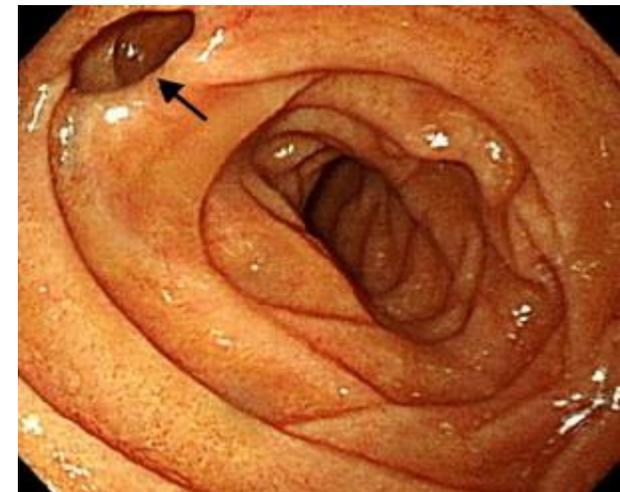
This test can help diagnose:

- Bowel obstruction
- Colon polyps
- Diverticulosis
- Inflammatory bowel disease Can also be used to:
- Determine the cause of blood, mucus, or pus in the stool
- Confirm findings of another test or x-rays
- Take a biopsy of a growth
- To screen for colorectal cancer

Polyps



Diverticulitis

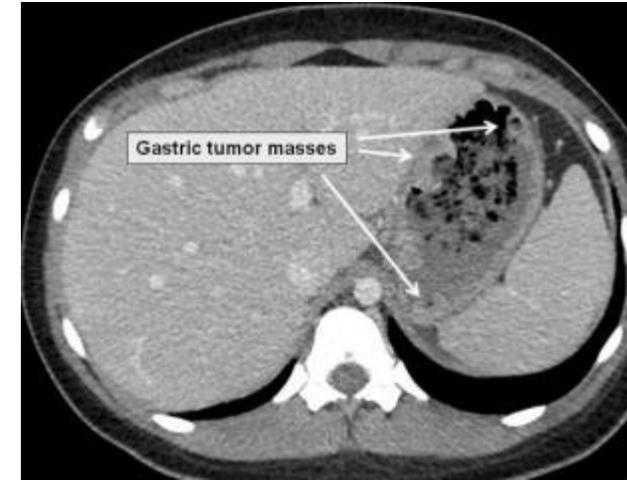


# Investigation

## MRI

- Magnetic resonance imaging (MRI) is a medical imaging Technique used in radiology to form pictures of the anatomy and the physiological processes of the body.

Gastric tumor mass



Ovarian tumor mass



# Investigation

## EGD (Upper Endoscopy)

- An EGD is a procedure in which a thin scope with a light and camera at its tip is used to look inside the upper digestive tract; the esophagus, stomach, and the duodenum. It's also called an esophagogastroduodenoscopy..

## Gastric Adenocarcinoma



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# Investigation

## B-Laboratory Studies

- Guided by findings on history and physical examination
- Studies to be considered include:
  - Urinalysis
  - Complete blood cell count (CBC): anemia, leukocytosis, thrombocytopenia
  - Chemistry profile (electrolyte, blood urea nitrogen [BUN], and creatinine concentrations, as well as liver function tests).

# Investigation

❖ An abnormal laboratory value sometimes plays an important role in establishing the pathogenesis of an abdominal mass. For example:

1. Albumin levels are decreased in chronic liver disease, such as cirrhosis.
2. Alkaline phosphatase (ALP) levels in plasma will rise with large bile duct obstruction, intrahepatic cholestasis or infiltrative diseases of the liver.
3. AST/ALT elevations instead of ALP elevations favor liver cell necrosis such as liver tumors.
4. If direct bilirubin is elevated, then the liver is conjugating bilirubin normally, but is not able to excrete it. Bile duct obstruction by gallstones or cancer should be suspected.
5. Tumor markers (e.g., carcinoembryonic antigen [CEA], the cancer antigens CA 19-9 and CA 125, and  $\alpha$ -fetoprotein [AFP]).
6. Serum amylase is increased in at least 75% of pancreatitis cases as well as pancreatic pseudocysts.

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## 5- Treatment-management

- Depending on the cause of the mass, treatment may consist of medication, surgery, or specialized care.
- The most common treatment options to eliminate abdominal masses include:
  1. medications to correct hormones
  2. surgical removal of the mass
  3. methods to shrink the mass
  4. chemotherapy
  5. radiation therapy

## 5- Treatment-management

- If you have cysts in your abdomen that are large or causing considerable pain, your doctor may opt to remove them through surgery. Surgical removal is also used to remove tumors. However, if removal is dangerous, your surgeon may suggest methods to shrink the mass instead.
- Chemotherapy or radiation treatment may also be suggested to shrink the mass. Once the mass reaches a smaller size, your doctor may opt to end the chemotherapy and remove the mass through surgery. This option is often used for people who have cancerous abdominal masses.
- Masses that are caused by changes in hormones, such as ovarian cysts, may be treated through hormone replacement medication or low dose hormone birth control pills

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**Thank you**