Gastrointestinal system

Physical exam

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Outlines

-General examination

- General inspection
- Hand examination
- Face examination
- Mouth, Throat & Tongue
- Neck
- Stigmata of chronic liver disease

-Abdominal examination

General examination

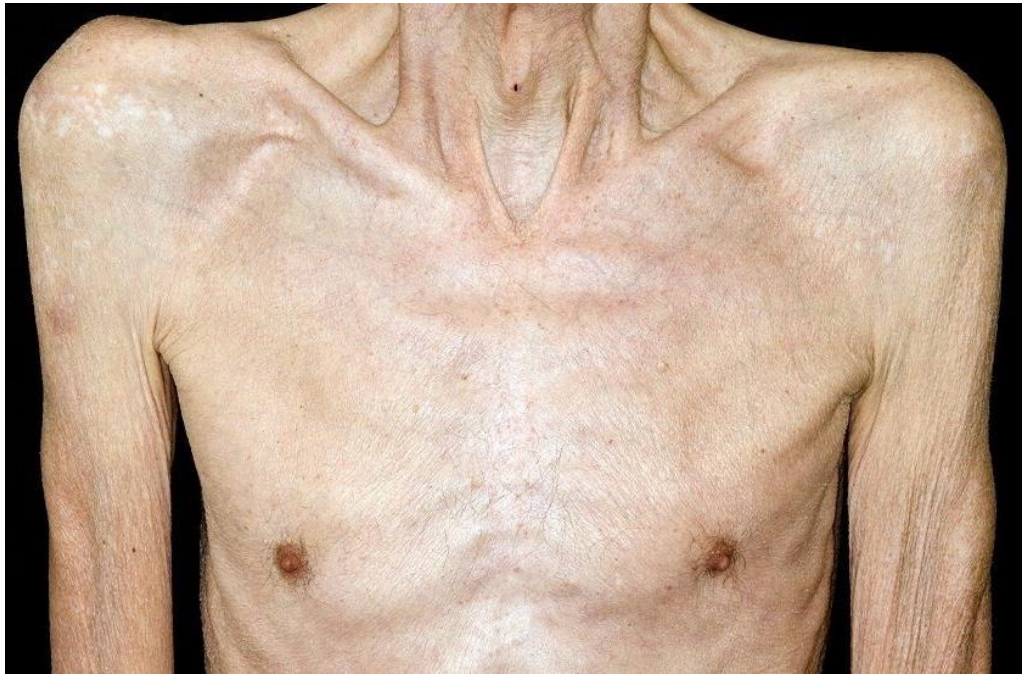
The General inspection

- **Note the patient's general appearance. Are they in pain, cachectic, thin, well nourished or obese?**
- **Record height, weight, waist circumference and body mass index .**
- **Note whether obesity is truncal or generalised. Look for abdominal striae or loose skin folds.**
- **Striae indicate rapid weight gain, previous pregnancy or, rarely, Cushing's syndrome.**
- **Loose skin folds signify recent weight loss.**

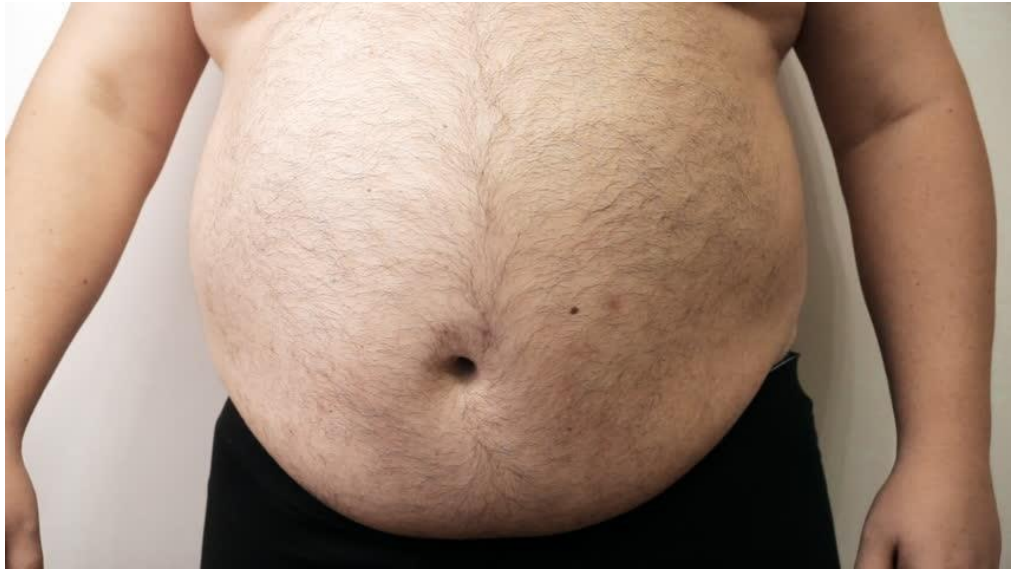
Skin Redundancy
* Skin fold thickness. * Rapid wt. loss

LOC & Orientation.

? Orientation impaired in hepatic encephalopathy, why? Increase ammonium level



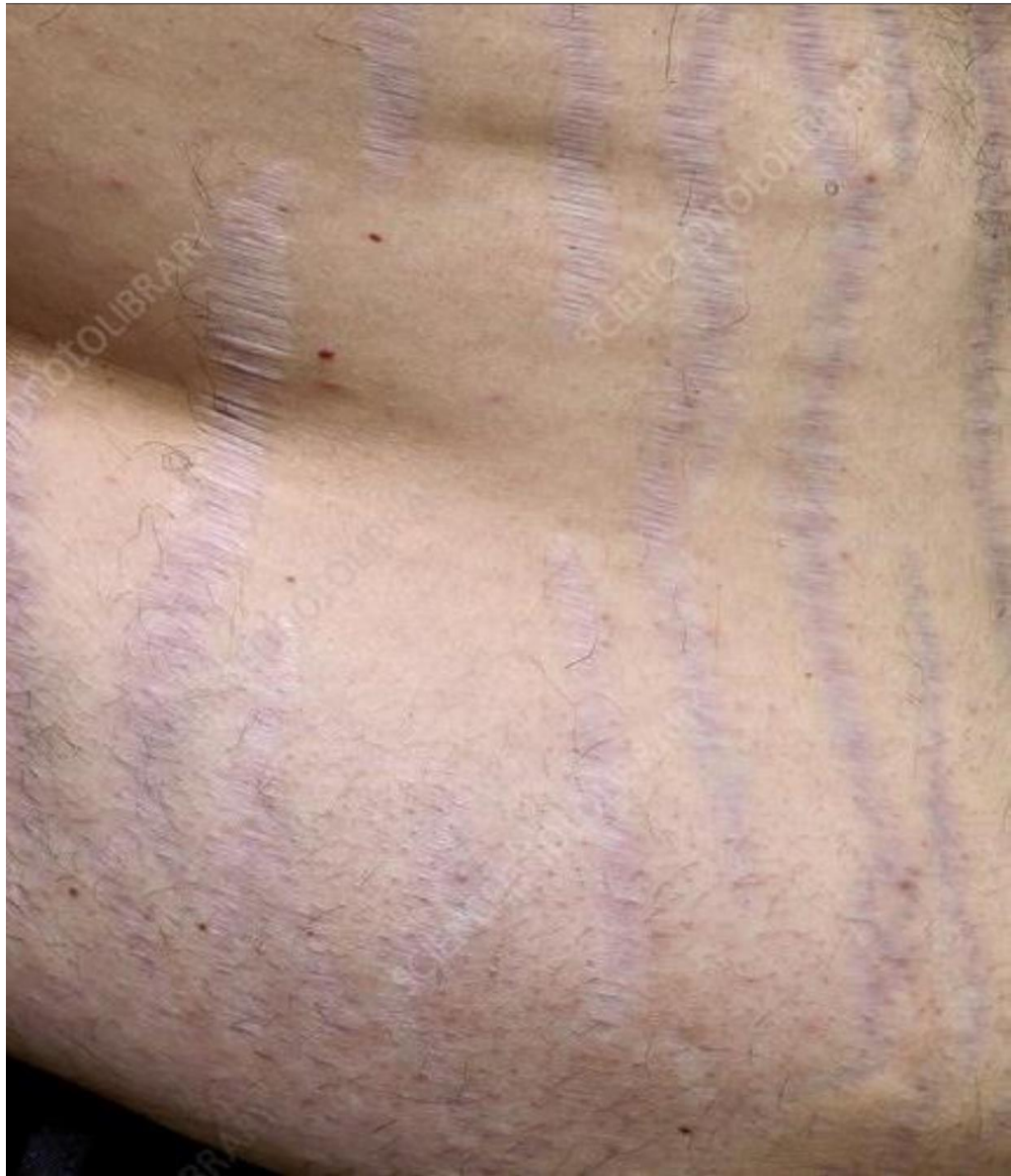
Cachectic patient



Truncal Obesity

Striae

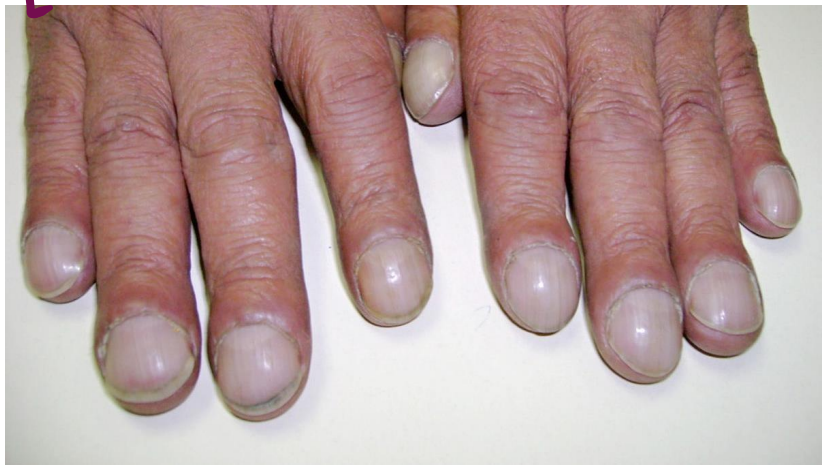
- Asymmetric raised linear streaks (stretch marks).
  - ❑ Rapid wt. gain.
  - ❑ Pregnancy
  - ❑ Cushing Disease.



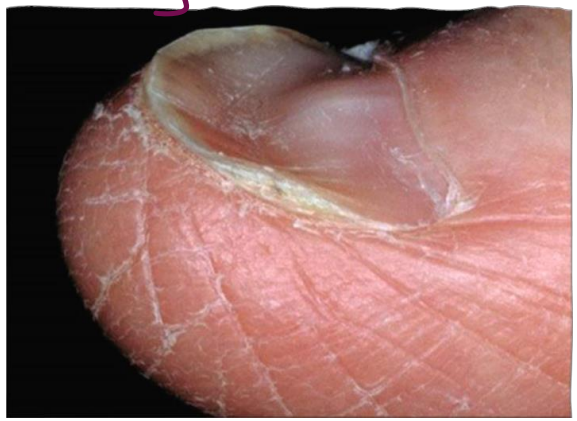
Hands Examination

- Inspect the patient's hands for **clubbing** (IBD, Cirrhosis, Celiac), **koilonychia** (IDA) (spoon-shaped nails) and **signs of chronic liver disease**, including **leuconychia (white nails), Flapping Tremor , Dupuytren's Contracture** and **palmar erythema .**

Normal in pregnancy
Abnormal in Chronic liver disease

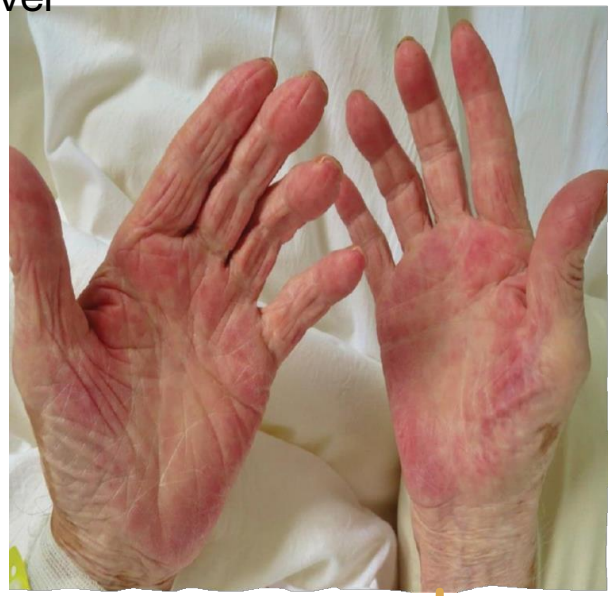


Chronic liver disease
+CO2 retention



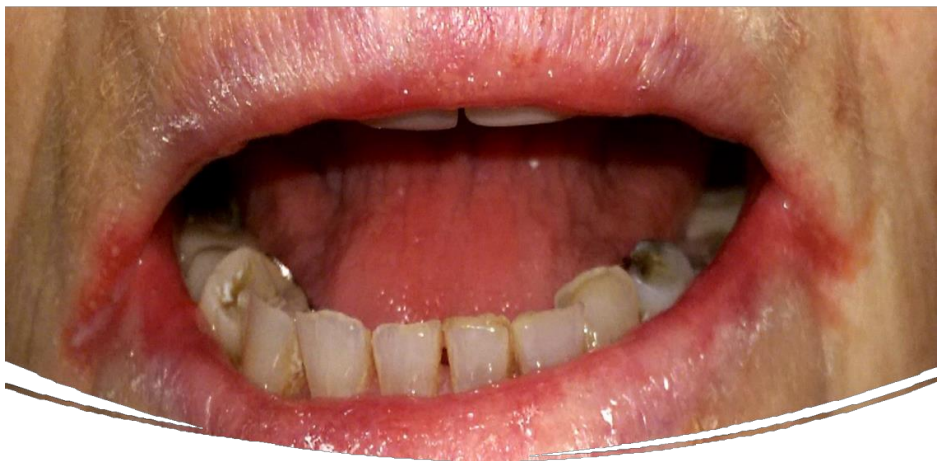
Alcohol related liver diseases

Hypoalbuminemia

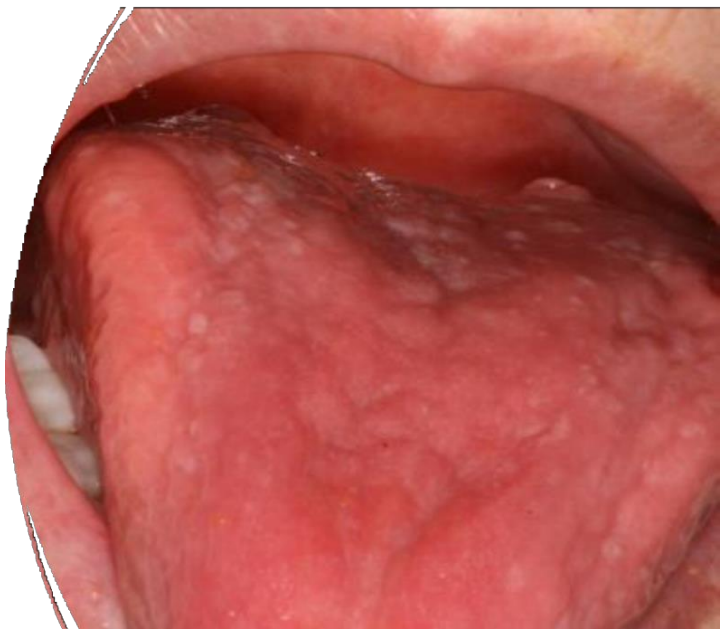


Inspect the mouth, throat and tongue.

- Stigmata of iron deficiency include angular cheilitis (painful cracks at the corners of the mouth) and atrophic glossitis (pale, smooth tongue).
- The tongue has a beefy, raw appearance in folate and vitamin B12 deficiency.
- Mouth and throat aphthous ulcers are common in coeliac and inflammatory bowel disease .



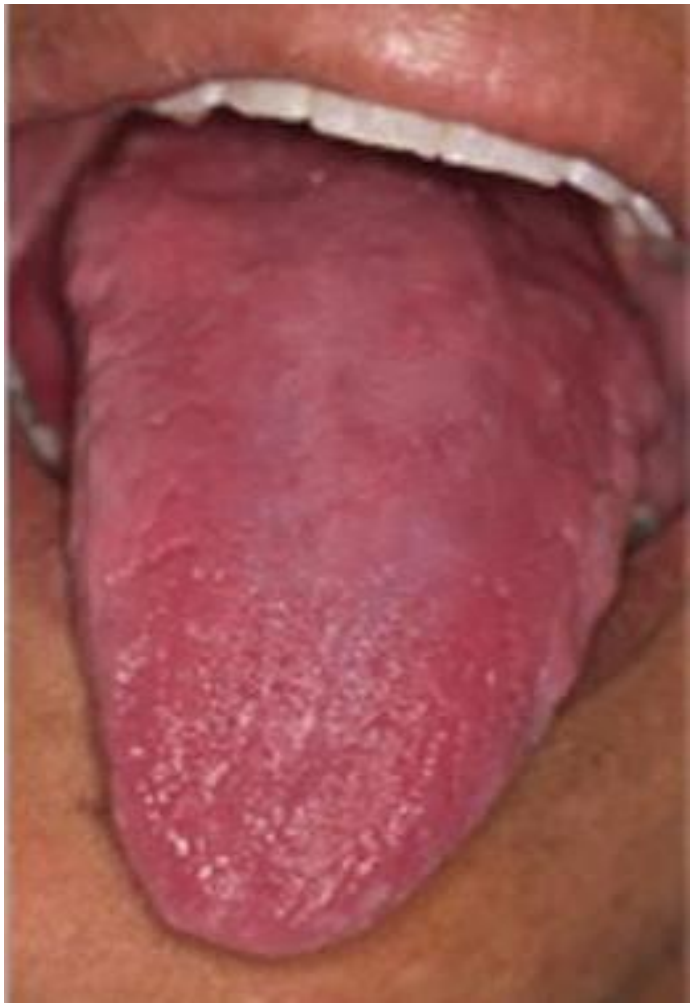
Angular cheilitis



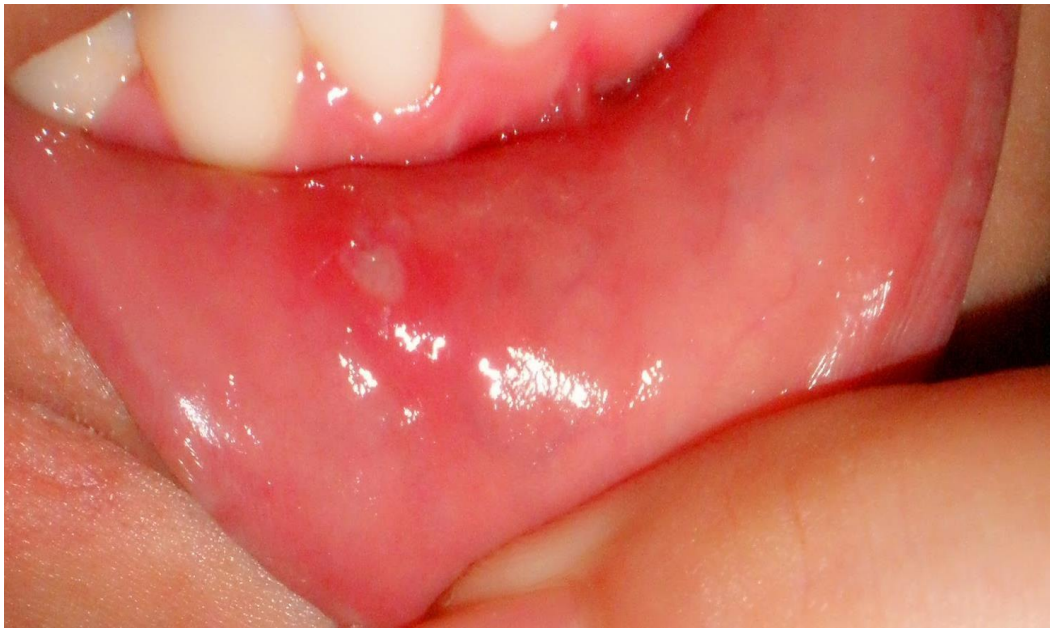
atrophic glossitis

Smell (alcohol, fetor hepaticus, uraemia, melaena or ketones).

Fetor Hepaticus: distinctive ‘mousy’ odour of dimethyl sulphide on breath / evidence of portosystemic shunting (with or without encephalopathy).



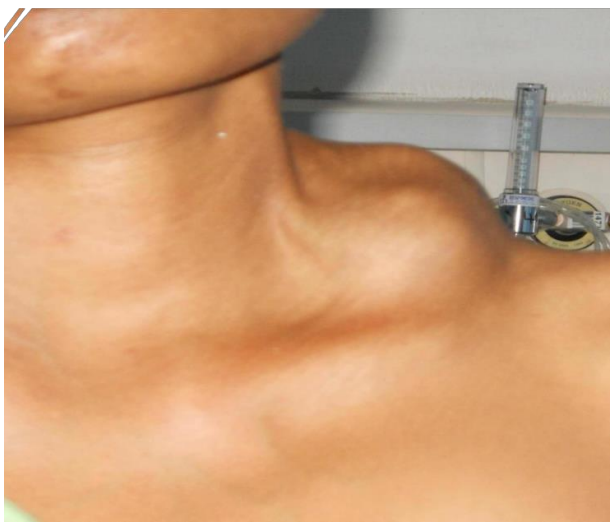
Beefy raw apperance



Aphthous ulcer
(CANKER SORES)

Lymph node examination

- Gastric and pancreatic cancer may spread to cause enlargement of the left supraclavicular lymph nodes (Troisier's sign).
-
- More widespread lymphadenopathy with hepatosplenomegaly suggests lymphoma.



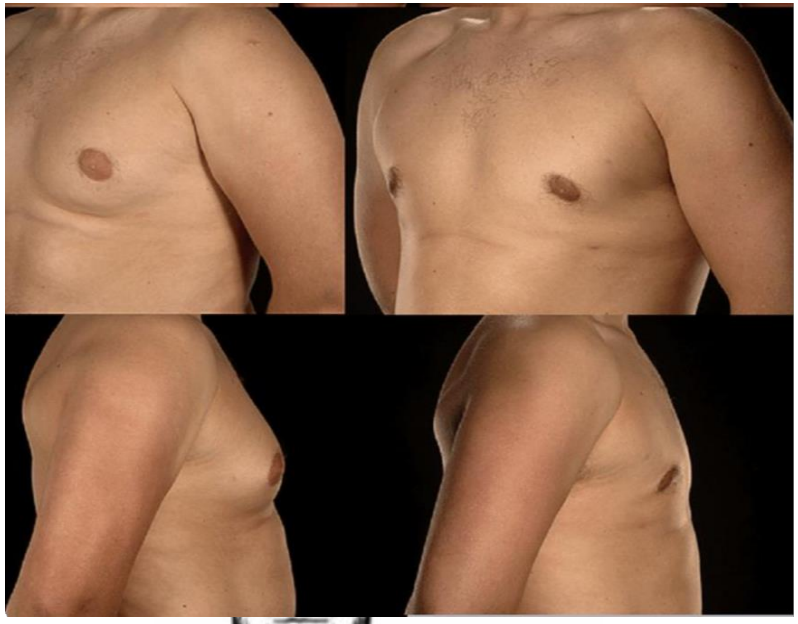
Troisier's sign

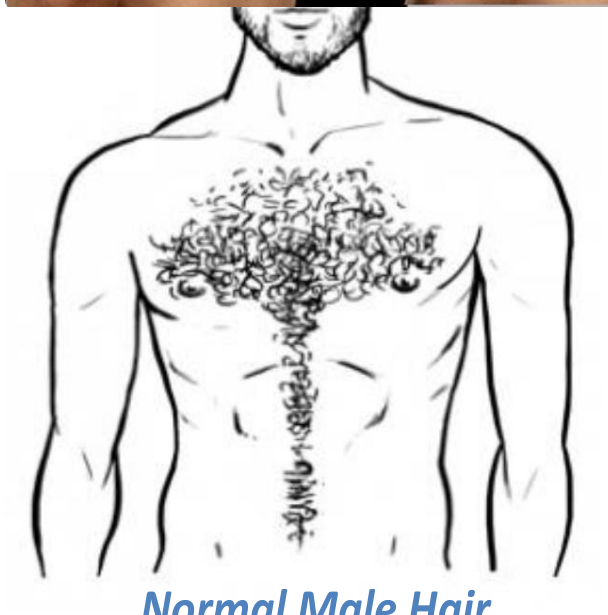
CHEST

- ✓ **Gynecomastia :**
- **Breast enlargement in Males.**
- **Reduced breakdown of Estrogens.**

- ✓ **Breast Atrophy.**
- ✓ **Hair Distribution.**
- ✓ **Spider Nivea.**

Scratch marks (obstructive jaundice)





Normal Male Hair Distribution.

Lost in Chronic liver disese

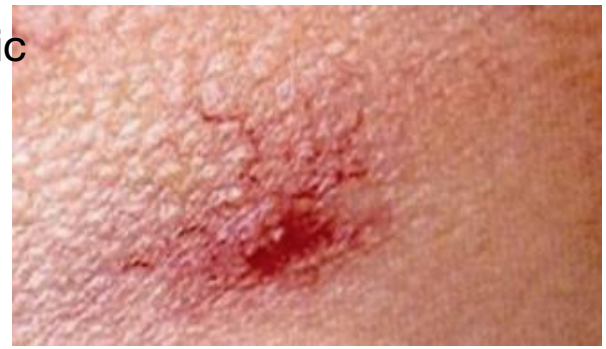
Chronic liver disease signs

- **Certain signs (stigmata) suggest chronic liver disease :**

1- Spider naevi.

isolated telangiectasias that characteristically fill from a central vessel and are found in the distribution of the superior vena cava (upper trunk, arms and face). Women may have up to five spider naevi in health.

Excess Estrogen + Reduced hepatic breakdown of sex steroids.



Normal during pregnancy.

2- Palmar erythema .

Both 1 & 2 are caused by excess oestrogen associated with reduced hepatic breakdown of sex steroids , Palmar erythema and numerous spider naevi are normal during pregnancy. In men, these signs suggest chronic liver disease.

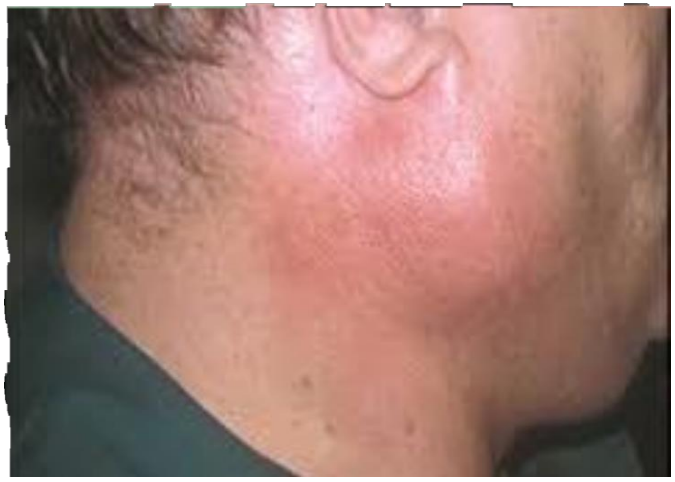
3- Gynaecomastia (breast enlargement in males), with loss of body hair and testicular atrophy, may occur due to reduced breakdown of oestrogens.

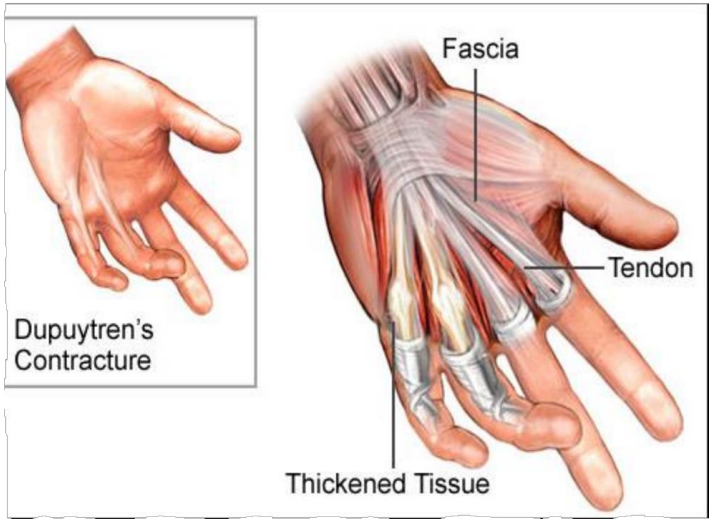
4- Leuconychia, caused by hypoalbuminaemia, may also occur in protein calorie malnutrition (kwashiorkor), malabsorption due to protein-losing enteropathy, as in coeliac disease, or heavy and prolonged proteinuria (nephrotic syndrome).

5- Finger clubbing is found in liver cirrhosis, inflammatory bowel disease and malabsorption syndromes.

6- Dupuytren's contracture of the palmar fascia (see Fig. 3.5): linked with alcohol-related chronic liver disease

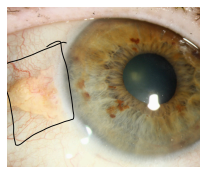
7- bilateral parotid swelling due to sialoadenosis: may be a feature of chronic alcohol abuse.





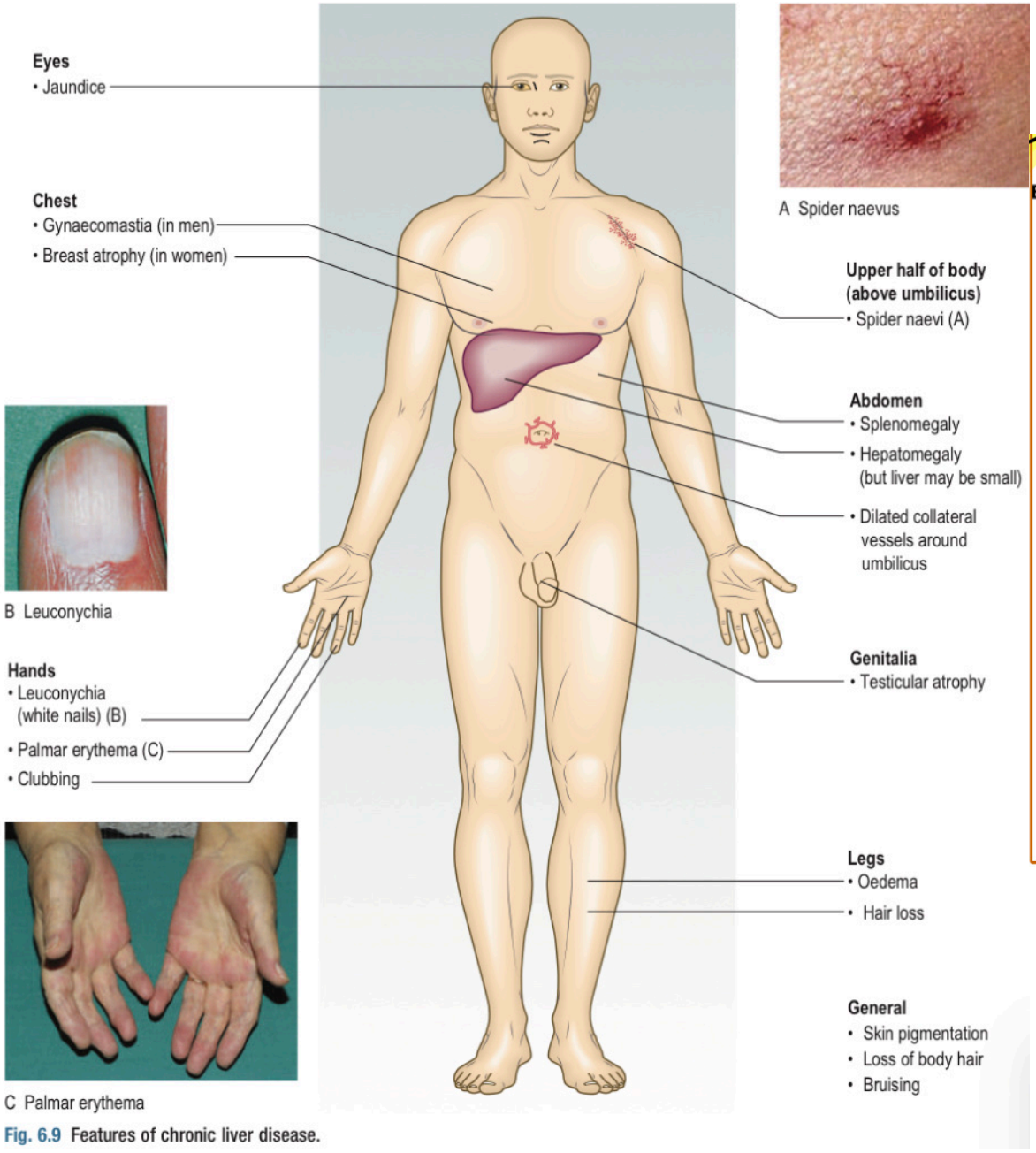
Signs that suggest liver failure

- **Asterixis, a coarse flapping tremor when the arms are outstretched and hands dorsiflexed, which occurs with hepatic encephalopathy.**
- **Fetor hepaticus, a distinctive 'mousy' odour of dimethyl sulphide on the breath, which is evidence of portosystemic shunting (with or without encephalopathy) .**
- **Altered mental state, varying from drowsiness with the day/night pattern reversed, through confusion and disorientation, to unresponsive coma.**
- **Jaundice : Do not confuse the diffuse yellow sclerae of jaundice with small, yellowish fat pads (pingueculae) sometimes seen at the periphery of the sclerae.**



- **Ascites.**
- **late neurological features, which include spasticity, extension of the arms and legs, and extensor plantar responses.**

In a jaundiced patient, spider naevi, palmar erythema and ascites all strongly suggest chronic liver disease rather than obstructive jaundice.



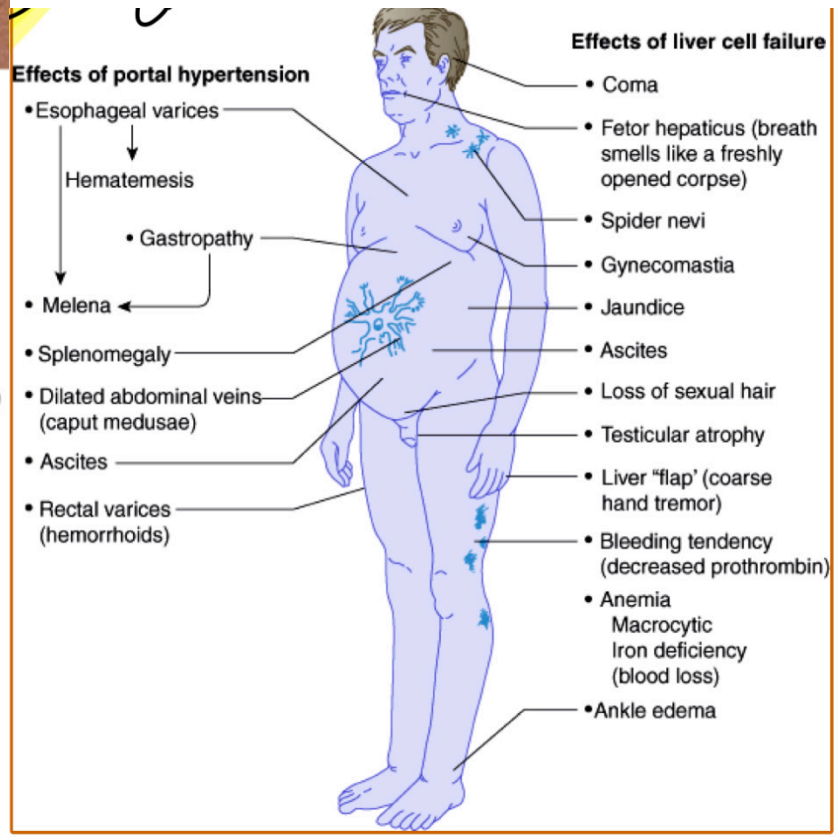


Fig. 6.9 Features of chronic liver disease.

Abdominal examination

Before Any Examination

1- Introduce your self

2- Take permission

3- Explain

4- Privacy and ask for chaperon

5- Good light

6- **Exposure :** **Expose the abdomen from the xiphisternum to the symphysis pubis, leaving the chest and legs covered.**
Ideally from nipples to mid thigh

7- **Ideal Position : comfortably supine with the head resting on only one or two pillows to relax the abdominal wall muscles.**

-**Use extra pillows to support a patient with kyphosis or breathlessness.**

Inspection

From the Foot of the bed for :

1- **Umbilicus**
2- **Abdominal respiration (absent in peritonitis)**
3- **Symmetry & Swelling** (Contour)

Inspect From the Right side of the bed for :

1- **Skin note any striae, bruising or scratch marks.**
2- **Visible dilated veins**
3- **Scars**
4- **Abdominal stomas**

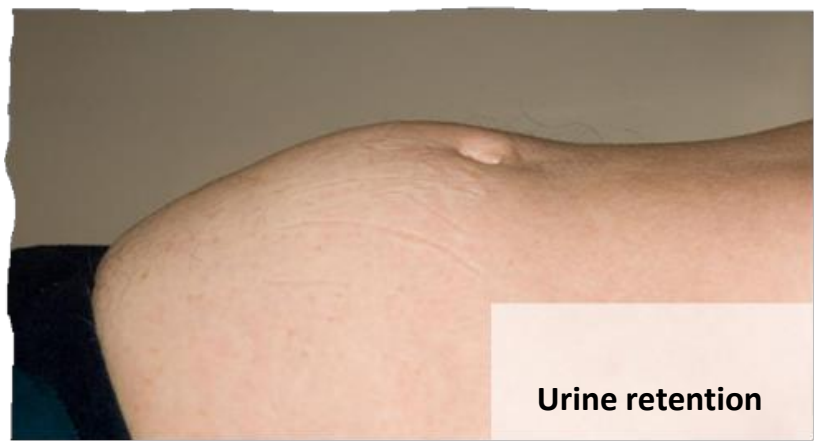
+Stomas + skin lesion + visible pulsation (• Normal Aortic Pulsation in a thin person. • Gastric or Pancreatic Tumour transmitting underlying aortic pulsation. • Aortic Aneurysm) + visible peristalsis(obstruction)+visible mass

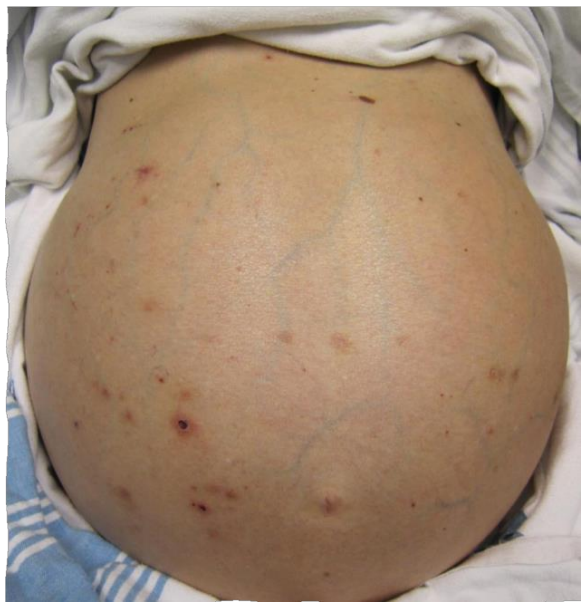
Umbilicus

- is Normally located centrally and usually inverted .
- In obesity, the umbilicus is usually sunken; in ascites, it is flat or, more commonly, everted.

Symmetry & Swelling :

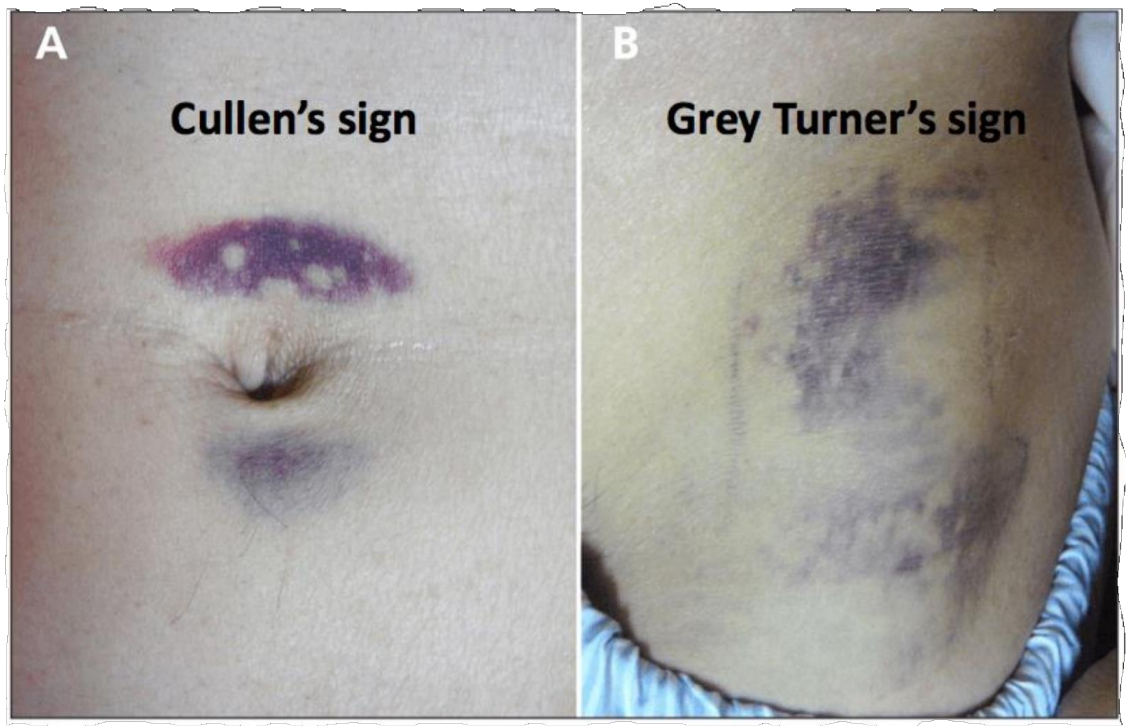
- Look from the foot of the bed for any **asymmetry suggesting a localised mass.**
- **Abdominal swelling** may be :
  - **Diffuse :** Ascites or Intestinal obstruction.
  - **Localized:** urinary retention, mass or enlarged organ such as liver.





Skin Bruising

- **Bleeding into the falciform ligament; gives 2 Signs :**
  1- **Cullen sign is a hemorrhagic discoloration of the umbilical area due to intraperitoneal hemorrhage from any cause; one of the more frequent causes is acute hemorrhagic pancreatitis.**
  2- **Grey Turner sign is a discoloration of the left flank associated with acute hemorrhagic pancreatitis.**

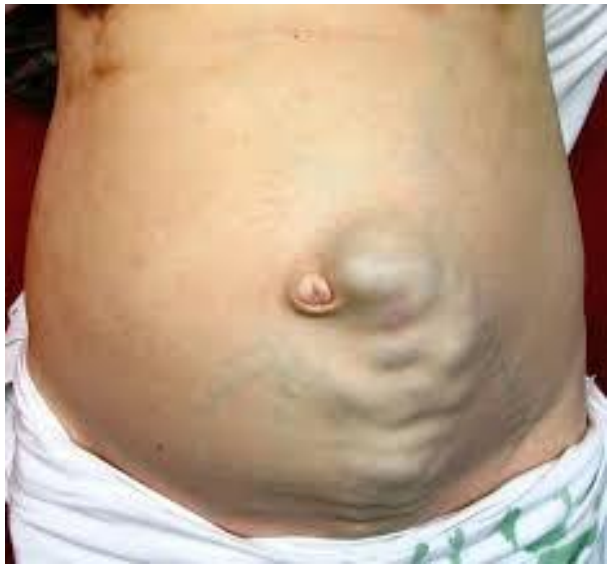


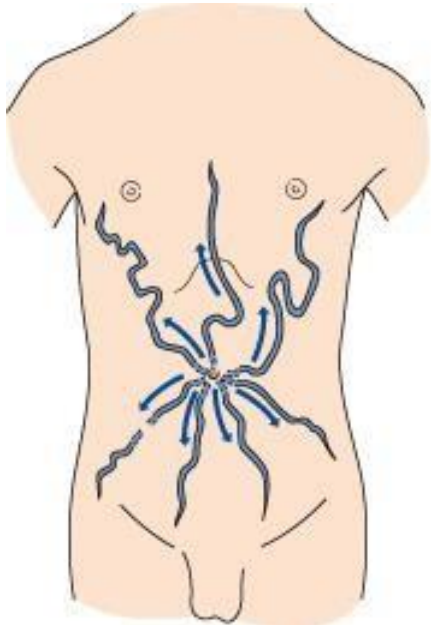
Visible veins

Suggest Portal hypertension or Vena cava obstruction :

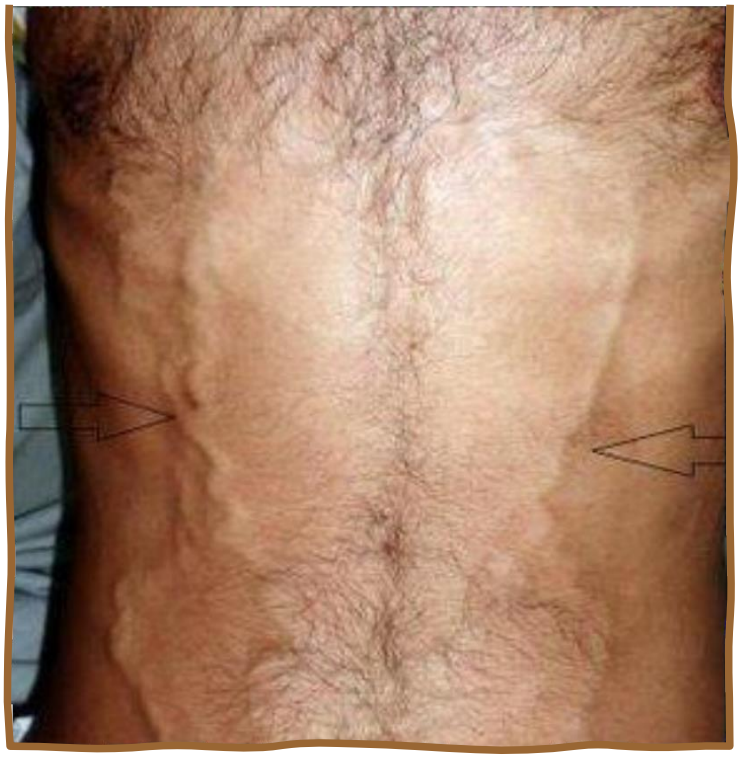
↳caused by esophageal varices

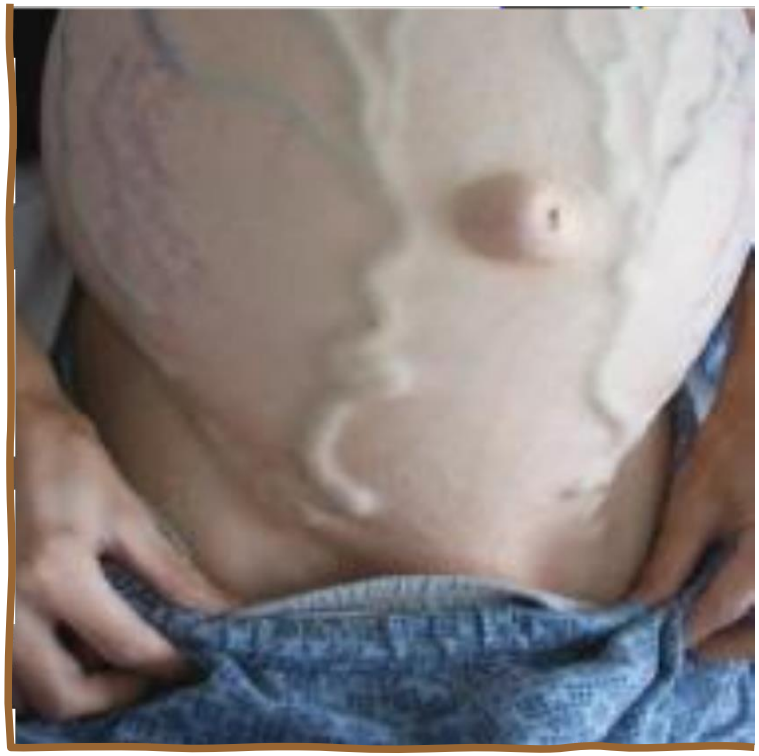
- **In portal hypertension, recanalisation of the umbilical vein along the falciform ligament produces distended veins that drain away from the umbilicus: the 'caput medusae'.**
- **The umbilicus may appear bluish and distended due to an umbilical varix.**
- **In contrast, an umbilical hernia is a distended and everted umbilicus that does not appear vascular and may have a palpable cough impulse.**

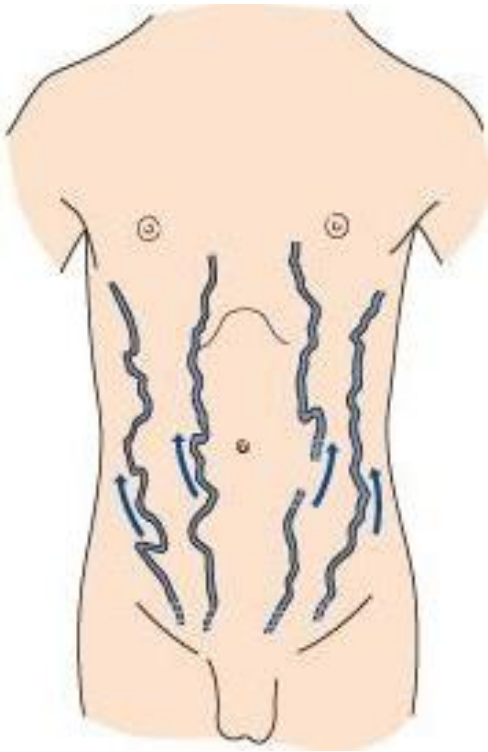




- **Dilated tortuous veins with blood flow superiorly are collateral veins caused by obstruction of the inferior vena cava.**
- **Rarely, superior vena cava obstruction gives rise to similarly distended abdominal veins, but these all flow inferiorly.**



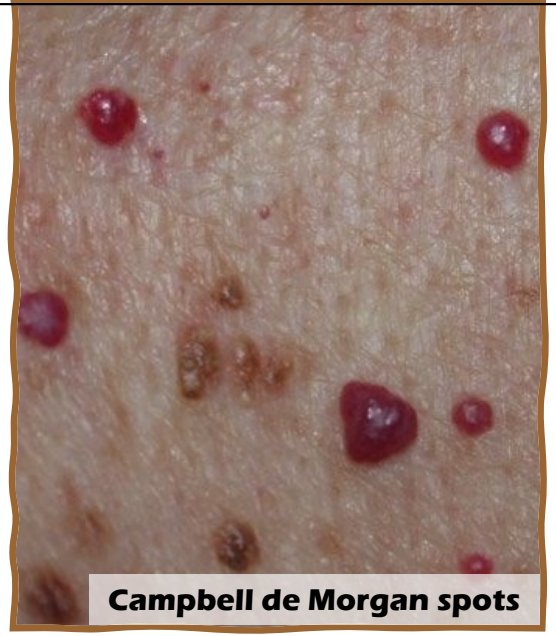


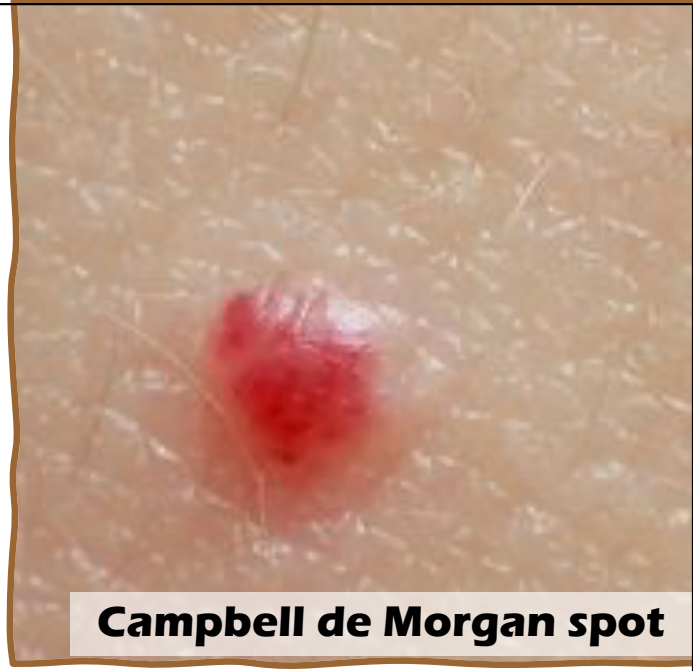


SKIN LESIONS

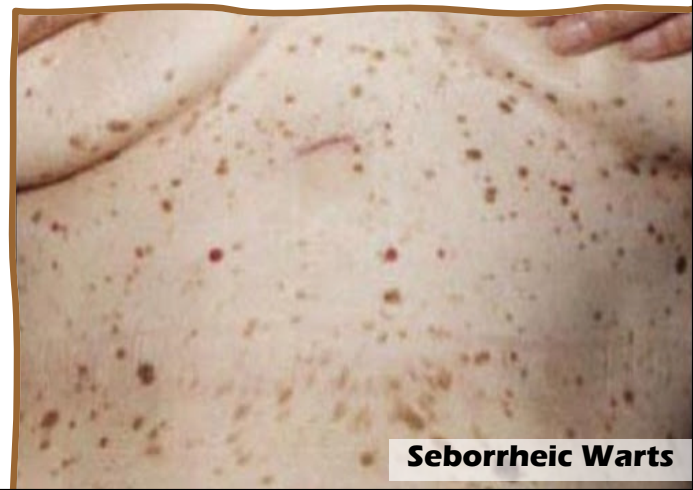
- **Seborrheic Warts** (Senile Warts / Seborrheic Keratosis).
  - Age-Related.
  - ranging from pink to brown or black.

- **Haemangiomas** (Campbell de Morgan spots / Cherry Angiomas).
  - Age-Related.


Campbell de Morgan spots


Campbell de Morgan spot


Seborrheic Wart

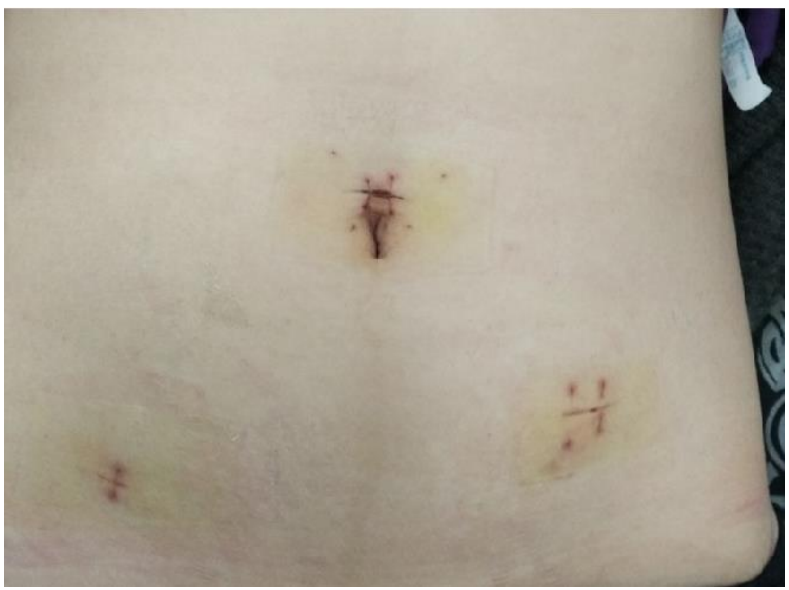

Seborrheic Warts

Abdominal Scars & Stomas :

Scars

- Note any surgical scars or stomas and clarify what operations have been undertaken (Figs 6.10 and 6.11).

- A small infraumbilical incision usually indicates a previous laparoscopy. Puncture scars from laparoscopic surgical ports may be visible.



Old Scar → pale
New Scar → Red

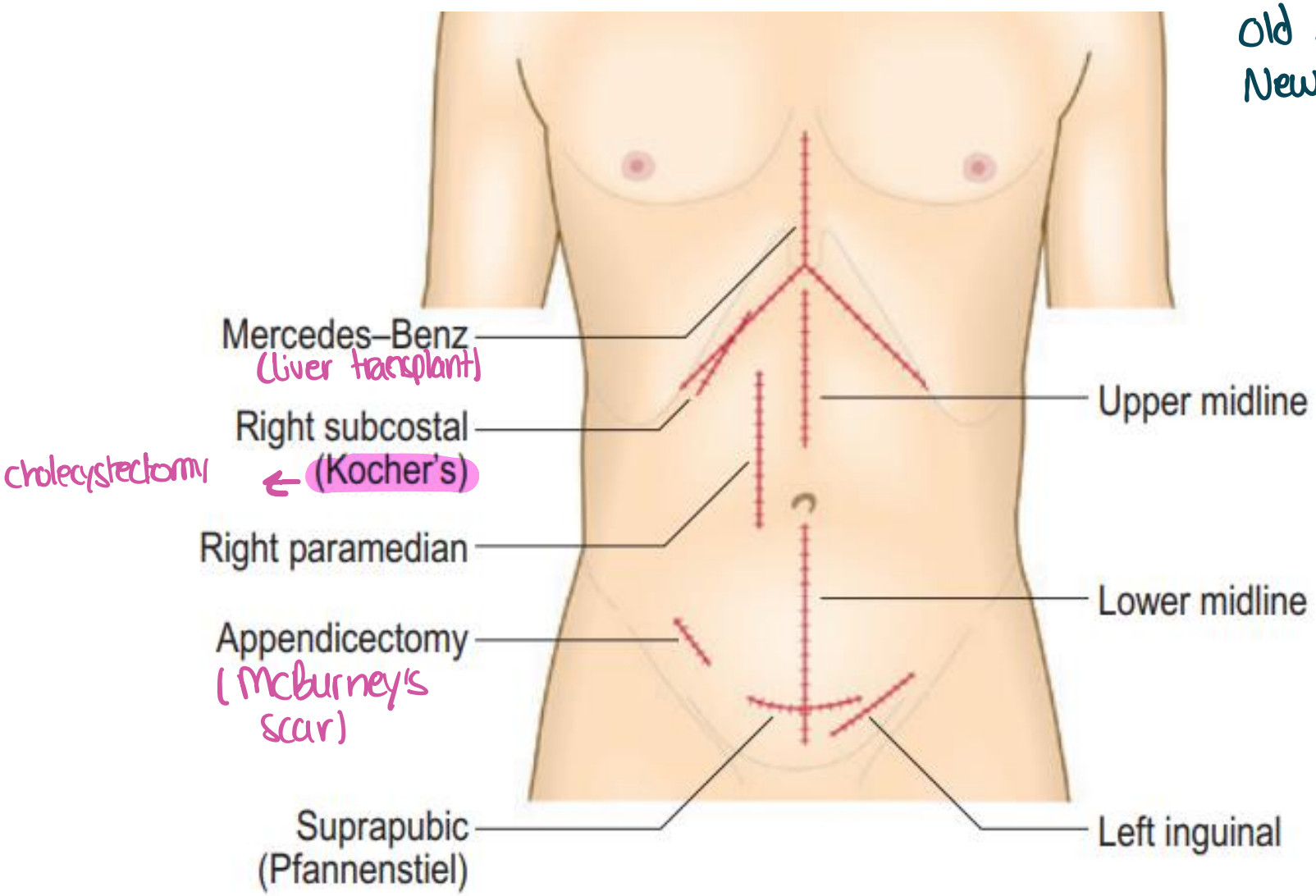
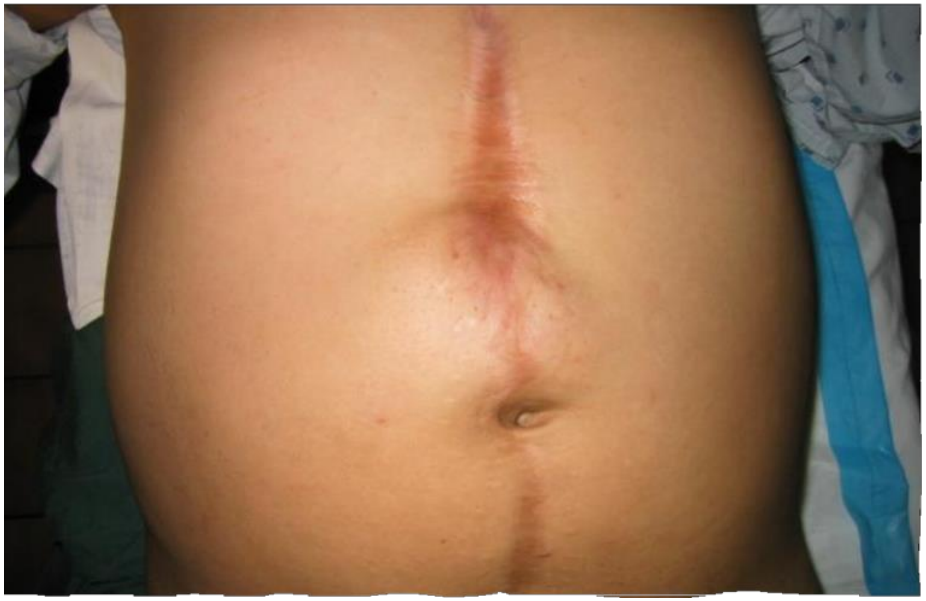
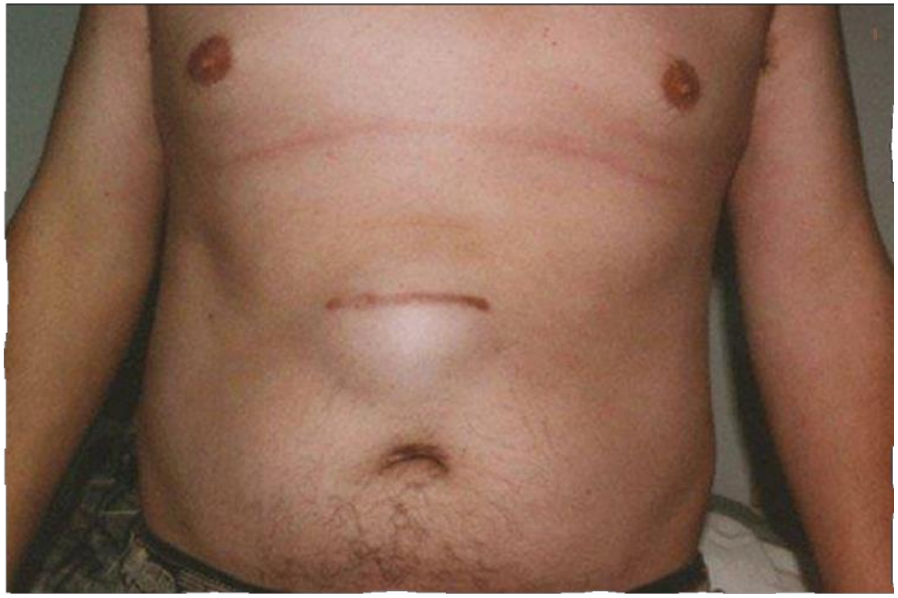


Fig. 6.10 Some abdominal incisions. The midline and oblique incisions avoid damage to innervation of the abdominal musculature and later development of incisional hernias. These incisions have been widely superseded by laparoscopic surgery, however.





- An incisional hernia at the site of a scar is palpable as a defect in the abdominal wall musculature and becomes more obvious as the patient raises their head off the bed or coughs.

Surgical STOMA :

- Surgically created opening between **skin & hollow viscus.**
- To **divert feces outside body**, where it's collected by **bag.**

Ileostomy vs. Colostomy

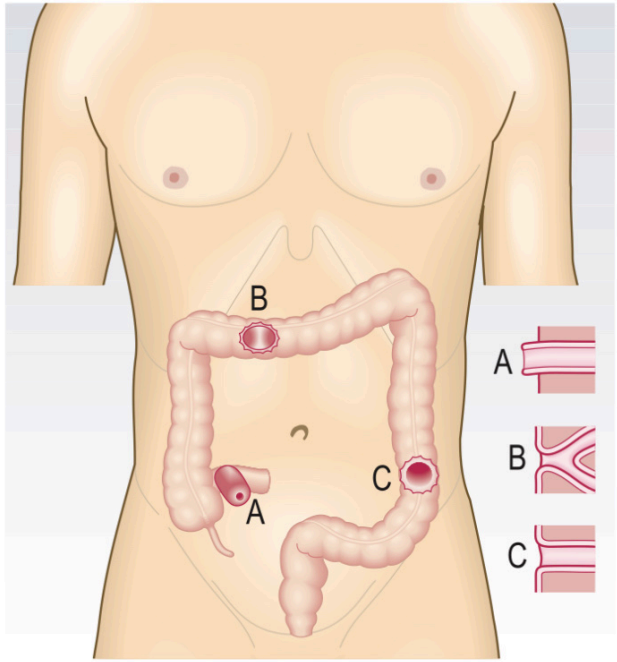


Fig. 6.11 Surgical stomas. A An ileostomy is usually in the right iliac fossa and is formed as a spout. B A loop colostomy is created to defunction the distal bowel temporarily. It is usually in the transverse colon and has afferent and efferent limbs. C A colostomy may be terminal: that is, resected distal bowel. It is usually flush and in the left iliac fossa.

Palpation

- **Any pain?**
  - **If so; leave that area to the last.**
- **Kneel beside bed**
- **Warm hands**
- **Keep Eye-to-Eye contact**
- **Right hand**
  - **keep it flat & in contact with abdominal wall.**

Palpation

1- **Light Superficial Palpation.**
   a. **Gain patient's confidence.**
   b. **Superficial Masses.**
   c. **Superficial Tenderness.**
   d. **Guarding.**

2- **Deep Palpation.**
   a. **Deep Masses.**
   b. **Deep Tenderness.**
   c. **Rebound Tenderness? / Murphy's Sign?**

3- **Palpation For Organomegaly:**
   - **Liver, Spleen & Kidneys.**

COUGH:
• Look for Hernia Orifices. • Increase pain in Peritonitis.
[?] Dunphy sign: pain elicited after coughing.

RAISE HIS/HER HEAD OUT OFF BED.
• Look for Divarication of Recti.

Tenderness

May be MASKED in glucocorticoids, immuno-suppressants or anti-inflammatory drugs, in alcohol intoxication or in altered LOC.

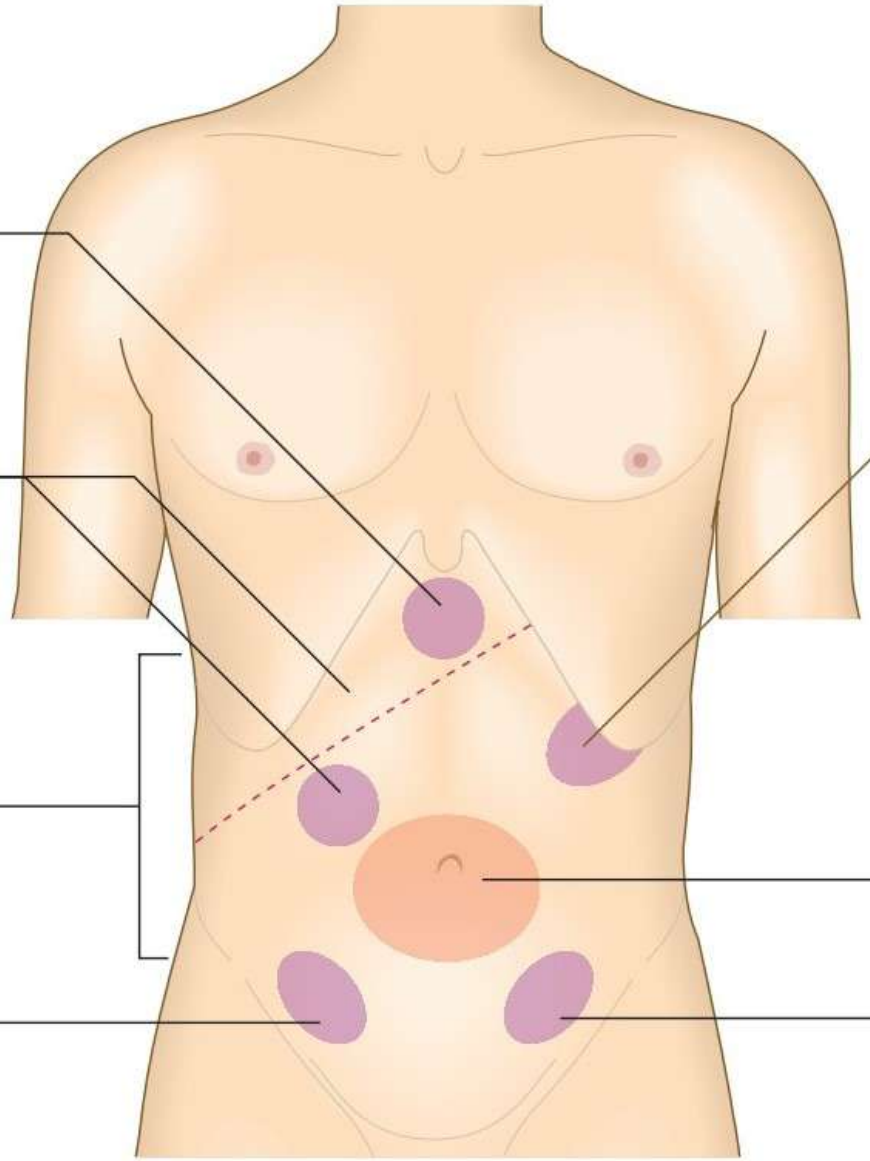
- **Discomfort during palpation may vary and may be accompanied by resistance to palpation, tenderness usefully indicates underlying pathology.**
- **Consider the patient's level of anxiety when assessing the severity of pain and degree of tenderness elicited.**
- **Tenderness in several areas on minimal pressure may be due to generalised peritonitis but is more often caused by anxiety.**
- **Severe superficial pain with no tenderness on deep palpation or pain that disappears if the patient is distracted also suggests anxiety.**
- **Voluntary guarding : is the voluntary contraction of the abdominal muscles when palpation provokes pain.**
- **Involuntary guarding: is the reflex contraction of the abdominal muscles when there is inflammation of the parietal peritoneum.**
- **If the whole peritoneum is inflamed (generalised peritonitis) due to a perforated viscus, the abdominal wall no longer moves with respiration; breathing becomes increasingly thoracic and the anterior abdominal wall muscles are held rigid (board-like rigidity).**

Tenderness

- The site of tenderness is important. Tenderness in the epigastrium suggests peptic ulcer; in the right hypochondrium, cholecystitis; in the left iliac fossa, diverticulitis; and in the right iliac fossa, appendicitis or Crohn's ileitis (Fig. 6.12).
- Ask the patient to cough or gently percuss the abdomen to elicit any pain or tenderness
- 'Rebound tenderness', when rapidly removing your hand after deep palpation increases the pain, is a sign of intra-abdominal disease but not necessarily of parietal peritoneal inflammation (peritonism).

6.9 Specific signs in the 'acute abdomen'

Sign	Disease associations	Examination
Murphy's	Acute cholecystitis: Sensitivity 50–97% Specificity 50–80%	As the patient takes a deep breath in, gently palpate in the right upper quadrant of the abdomen; the acutely inflamed gallbladder contacts the examining fingers, evoking pain with the arrest of inspiration
Rovsing's	Acute appendicitis: Sensitivity 20–70% Specificity 40–96%	Palpation in the left iliac fossa produces pain in the right iliac fossa
Iliopsoas	Retroileal appendicitis, iliopsoas abscess, perinephric abscess	Ask the patient to flex their thigh against the resistance of your hand; a painful response indicates an inflammatory process involving the right psoas muscle
Grey Turner's and Cullen's	Haemorrhagic pancreatitis, aortic rupture and ruptured ectopic pregnancy (see Fig. 6.25)	Bleeding into the falciform ligament; bruising develops around the umbilicus (Cullen) or in the loins (Grey Turner)



Epigastric mass
- Gastric cancer
- Pancreatic cancer
- Aortic aneurysm

Hepatomegaly
- Palpable liver not always enlarged
- Always percuss upper border
- Palpable gallbladder

Generalised distension
- Fat (obesity)
- Fluid (ascites)
- Flatus (obstruction/ileus)
- Faeces (constipation)
- Fetus (pregnancy)

Right iliac fossa mass
- Caecal cancer
- Crohn's disease
- Appendix abscess

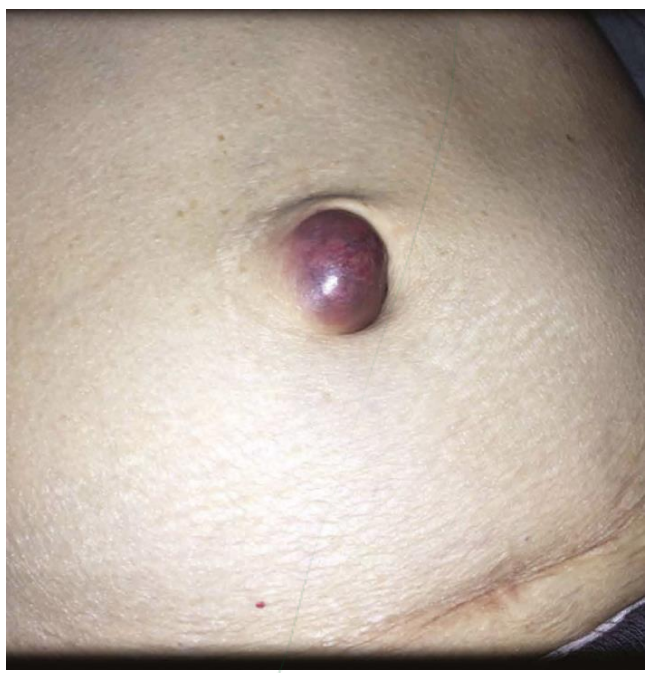
Left upper quadrant mass
- ? Spleen:
  - Edge
  - Can't get above it
  - Moves towards right iliac fossa on inspiration
  - Dull percussion note to 9th–11th ribs mid-axillary line
  - Notch
- ? Kidney:
  - Rounded
  - Can get above it
  - Moves inferiorly on inspiration
  - Resonant to percussion above it
  - Ballottable

Tender to palpation
- ? Peritonitis:
  - Guarding
  - Rebound
  - Absent bowel sounds
  - Rigidity
- ? Obstruction:
  - Distended
  - Tinkling bowel sounds
  - Visible peristalsis

Left iliac fossa mass
- Sigmoid colon cancer
- Constipation
- Diverticular mass

Palpable mass

- A pulsatile mass palpable in the upper abdomen may be normal aortic pulsation in a thin person, a gastric or pancreatic tumour transmitting underlying aortic pulsation, or an aortic aneurysm.
- A pathological mass can usually be distinguished from normal palpable structures by site (Fig. 6.13), and from palpable faeces as these can be indented and may disappear following defecation.
- A hard subcutaneous nodule at the umbilicus may indicate metastatic cancer ('Sister Mary Joseph's nodule').



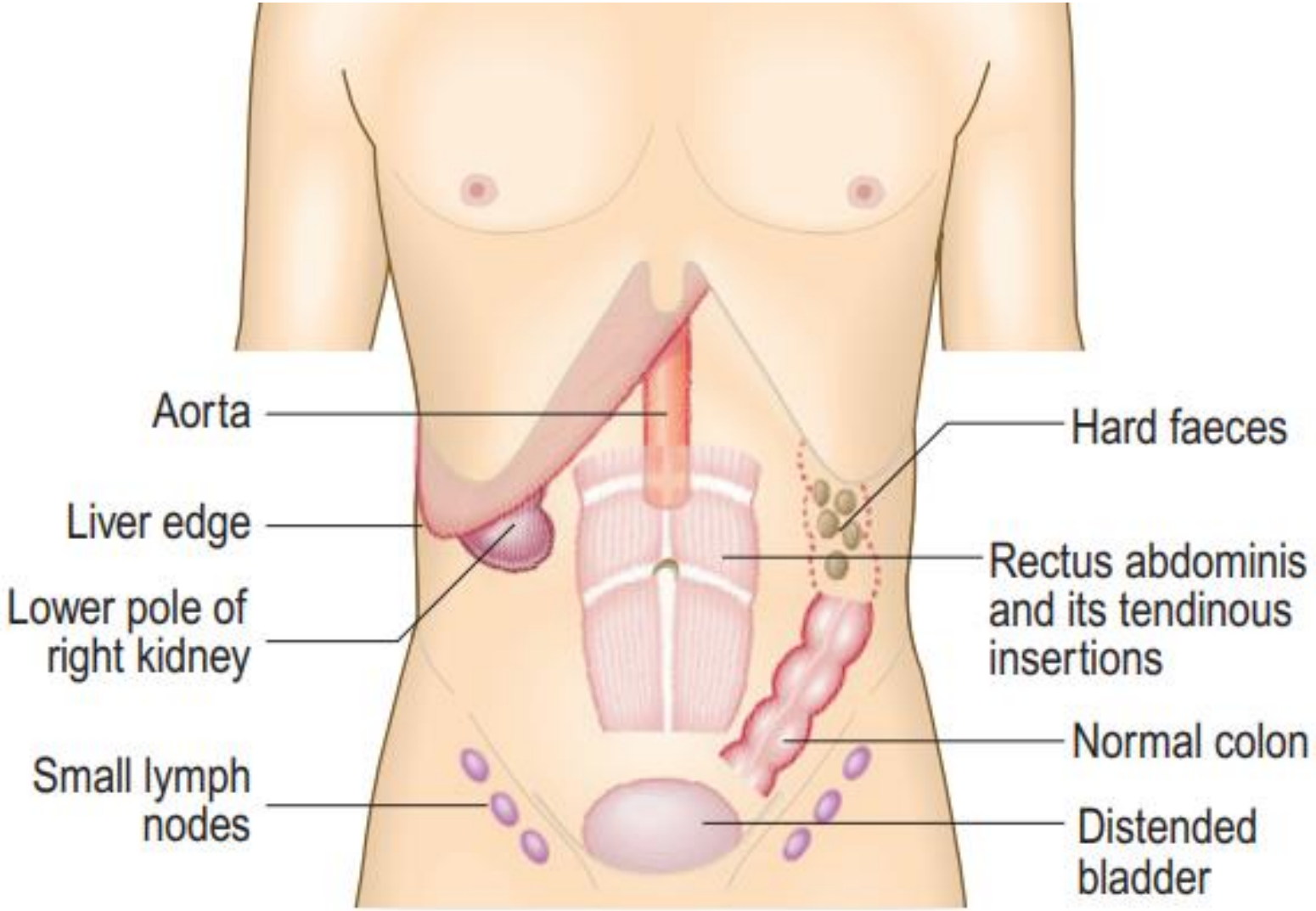


Fig. 6.13 Palpable masses that may be physiological rather than pathological.

Enlarged organs

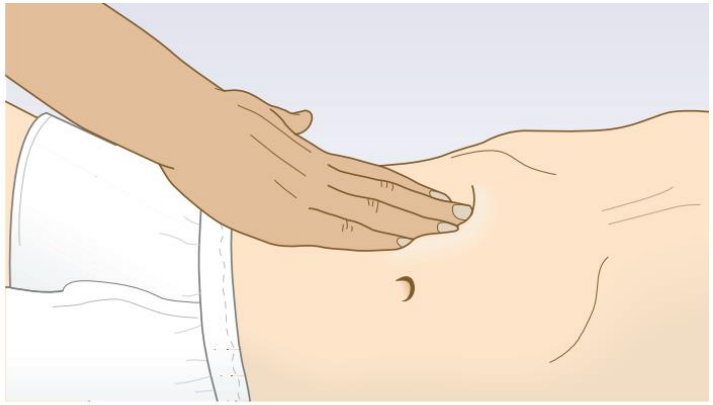
- Examine the liver, gallbladder, spleen and kidneys in turn during deep inspiration.

- Keep your examining hand still and wait for the organ to move with breathing.

- Do not start palpation too close to the costal margin, missing the edge of the liver or spleen.

1- Hepatomegaly :

- Place your hand flat on the skin of the right iliac fossa.
- Point your fingers upwards and your index and middle fingers lateral to the rectus muscle, so that your fingertips lie parallel to the rectus sheath (Fig. 6.14).



- Keep your hand stationary.
- Ask the patient to breathe in deeply through the mouth.
- Feel for the liver edge as it descends on inspiration.
- Move your hand progressively up the abdomen, 1 cm at a time, between each breath the patient takes, until you reach the costal margin or detect the liver edge.
- If you feel a liver edge, describe:
  - size • surface: smooth or irregular
  - edge: smooth or irregular; define the medial border
  - consistency: soft or hard • tenderness • pulsatility.

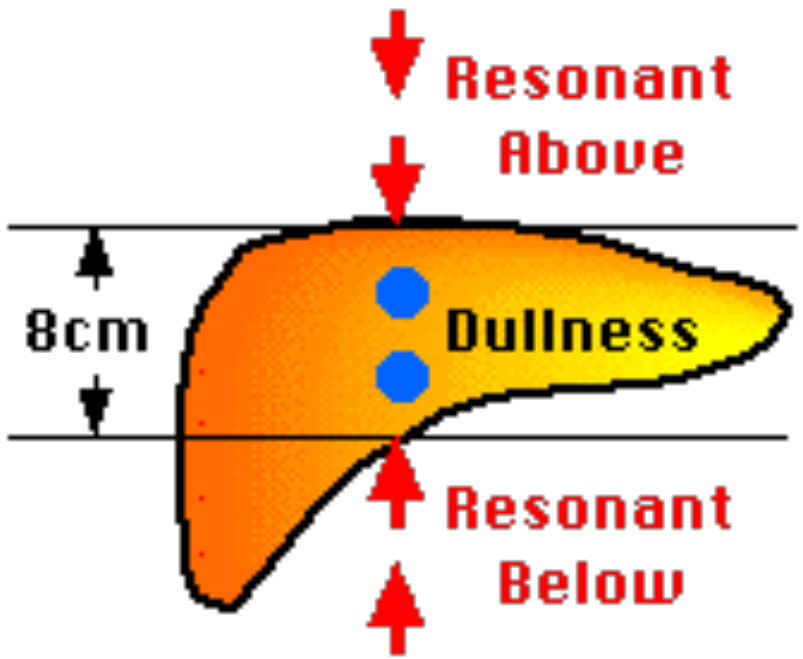
Liver Span : (by Percussion):

- ✓ Ask the patient to hold their breath in full expiration.
- ✓ Percuss downwards from the right fifth intercostal space in the mid-clavicular line, listening for dullness indicating the upper border of the liver.

- ✓ Measure the distance in centimetres below the costal margin in the mid-clavicular line or from the upper border of dullness to the palpable liver edge. [NL: 8-12cm].

- ✓ The normal liver is identified as an area of dullness to percussion over the right anterior chest between the fifth rib and the costal margin.

- ✓ The liver may be enlarged or displaced downwards by hyperinflated lungs.



- **Hepatic enlargement can result from chronic parenchymal liver disease from any cause (Box 6.10).**

6.10 Causes of hepatomegaly

Chronic parenchymal liver disease

- Alcoholic liver disease
- Hepatic steatosis
- Autoimmune hepatitis
- Viral hepatitis
- Primary biliary cirrhosis

Malignancy

- Primary hepatocellular cancer
- Secondary metastatic cancer

Right heart failure

Haematological disorders

- Lymphoma
- Leukaemia
- Myelofibrosis
- Polycythaemia

Rarities

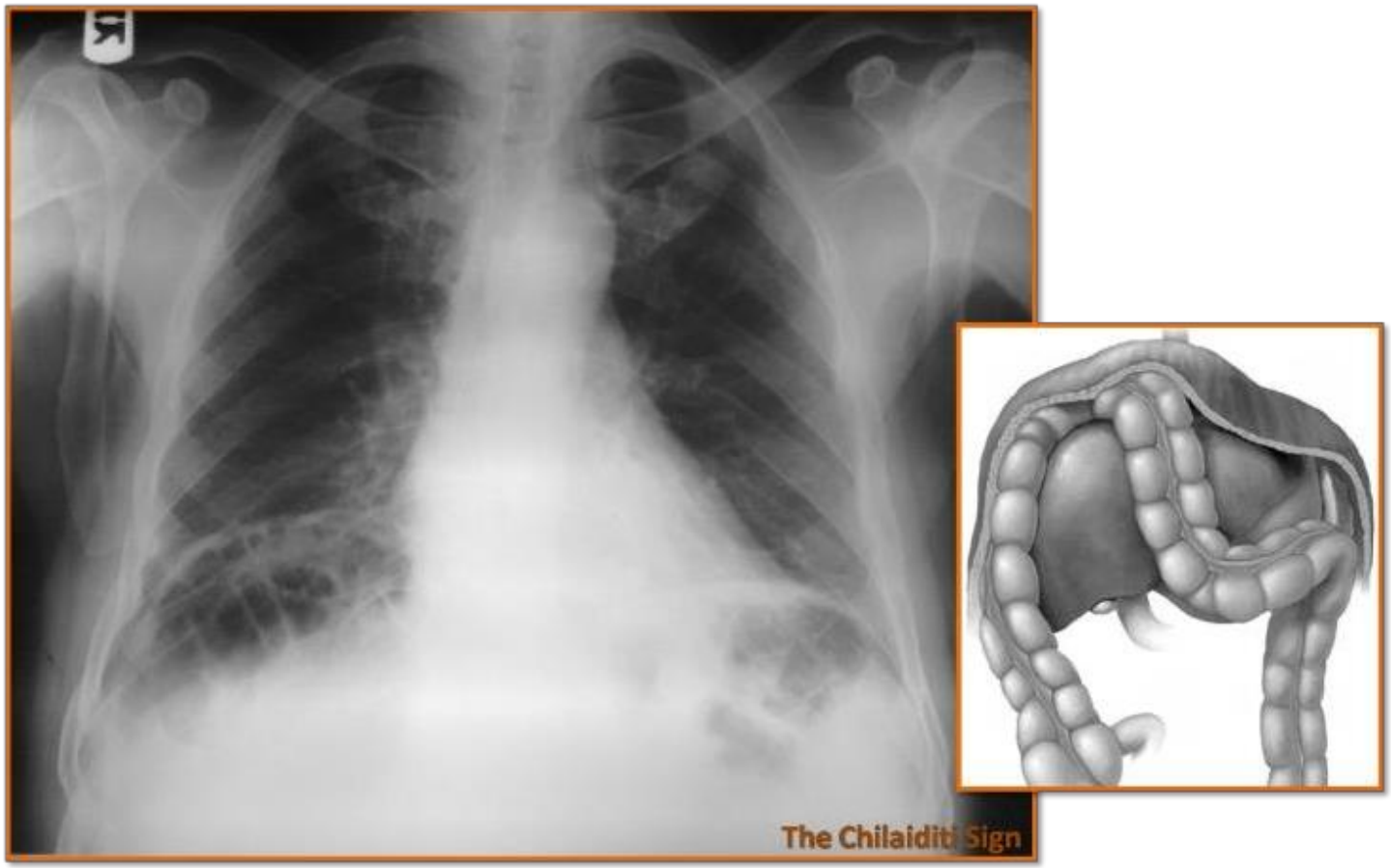
- Amyloidosis
- Budd–Chiari syndrome
- Sarcoidosis
- Glycogen storage disorders

- The liver is enlarged in early cirrhosis but often shrunken in advanced cirrhosis.
- Fatty liver (hepatic steatosis) can cause marked hepatomegaly.
- Hepatic enlargement due to metastatic tumour is hard and irregular.
- An enlarged left lobe may be felt in the epigastrium or even the left hypochondrium.

- In right heart failure the congested liver is usually soft and tender; a pulsatile liver indicates tricuspid regurgitation.

- A bruit over the liver may be heard in acute alcoholic hepatitis, hepatocellular cancer and arteriovenous malformation , the most common reason for an audible bruit over the liver, however, is a transmitted heart murmur.

Resonance below the fifth intercostal space suggests hyperinflated lungs or occasionally the **interposition of the transverse colon between the liver and the diaphragm** (Chilaiditi's sign).



6.11 Grading of hepatic encephalopathy (West Haven)

Stage	State of consciousness
0	No change in personality or behaviour No asterixis (flapping tremor)
1	Impaired concentration and attention span Sleep disturbance, slurred speech Euphoria or depression Asterixis present
2	Lethargy, drowsiness, apathy or aggression Disorientation, inappropriate behaviour, slurred speech
3	Confusion and disorientation, bizarre behaviour Drowsiness or stupor Asterixis usually absent
4	Comatose with no response to voice commands Minimal or absent response to painful stimuli

Reproduced from Conn HO, Leevy CM, Vlahcevic ZR, et al. Comparison of lactulose and neomycin in the treatment of chronic portal-systemic encephalopathy. A double blind controlled trial. Gastroenterology 1977; 72(4):573, with permission from Elsevier Inc.

6.12 Differentiating a palpable spleen from the left kidney

Distinguishing feature	Spleen	Kidney
Mass is smooth and regular in shape	More likely	Polycystic kidneys are bilateral irregular masses
Mass descends in inspiration	Yes, travels superficially and diagonally	Yes, moves deeply and vertically
Ability to feel deep to the mass	Yes	No
Palpable notch on the medial surface	Yes	No
Bilateral masses palpable	No	Sometimes, e.g. polycystic kidneys
Percussion resonant over the mass	No	Sometimes
Mass extends beyond the midline	Sometimes	No (except with horseshoe kidney)

2- Gall bladder

- In a patient with right upper quadrant pain, test for Murphy's sign (see Box 6.9); a positive modestly increases the probability of acute cholecystitis.
- Palpable distension of the gallbladder is rare and has a characteristic globular shape.
- It results from either obstruction of the cystic duct, as in mucocoele or empyema of the gallbladder, or obstruction of the common bile duct with a patent cystic duct, as in pancreatic cancer.
- In a jaundiced patient a palpable gallbladder is likely to be due to extrahepatic obstruction, such as from pancreatic cancer or, very rarely, gallstones (Courvoisier's sign).
- In gallstone disease the gallbladder may be tender but impalpable because of fibrosis of the gallbladder wall.

3- Spleenomegaly

- The spleen has to enlarge threefold before it becomes palpable, so a palpable spleen always indicates splenomegaly.
- It enlarges from under the left costal margin down and medially towards the umbilicus (Fig. 6.15B).
- A characteristic notch may be palpable midway along its leading edge, helping differentiate it from an enlarged left kidney .

Examination sequence:

- Place your hand over the patient's umbilicus. With your hand stationary, ask the patient to inhale deeply through the mouth.
- Feel for the splenic edge as it descends on inspiration.
- Move your hand diagonally upwards towards the left hypochondrium (Fig. 6.16A), 1 cm at a time between each breath the patient takes.

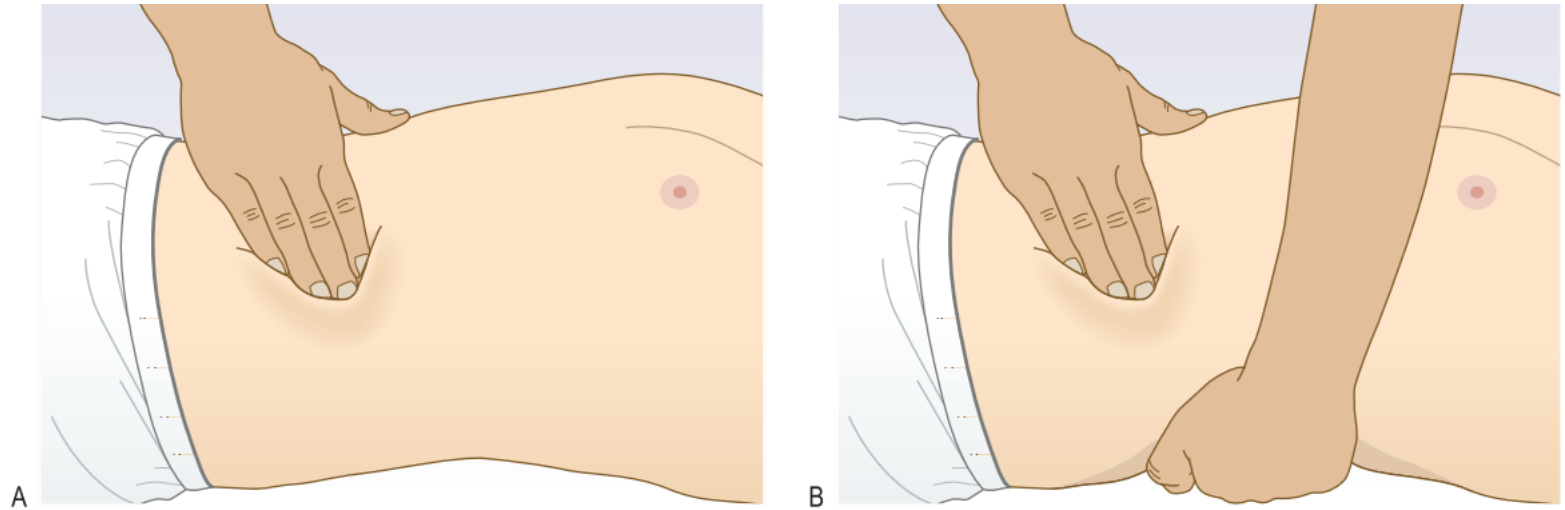
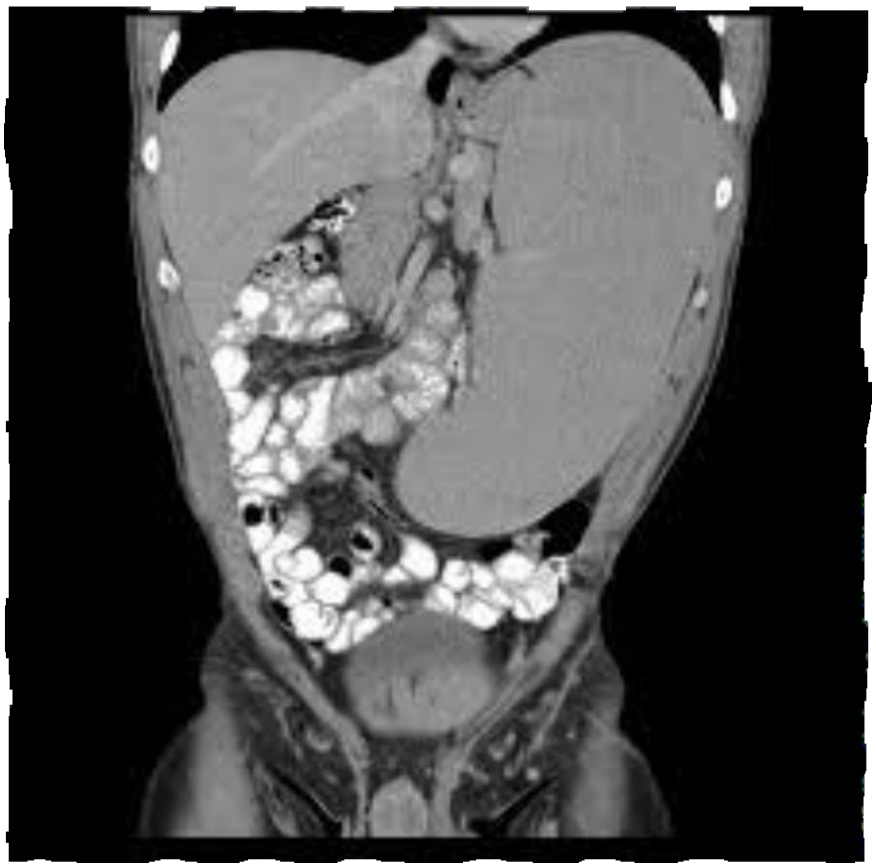
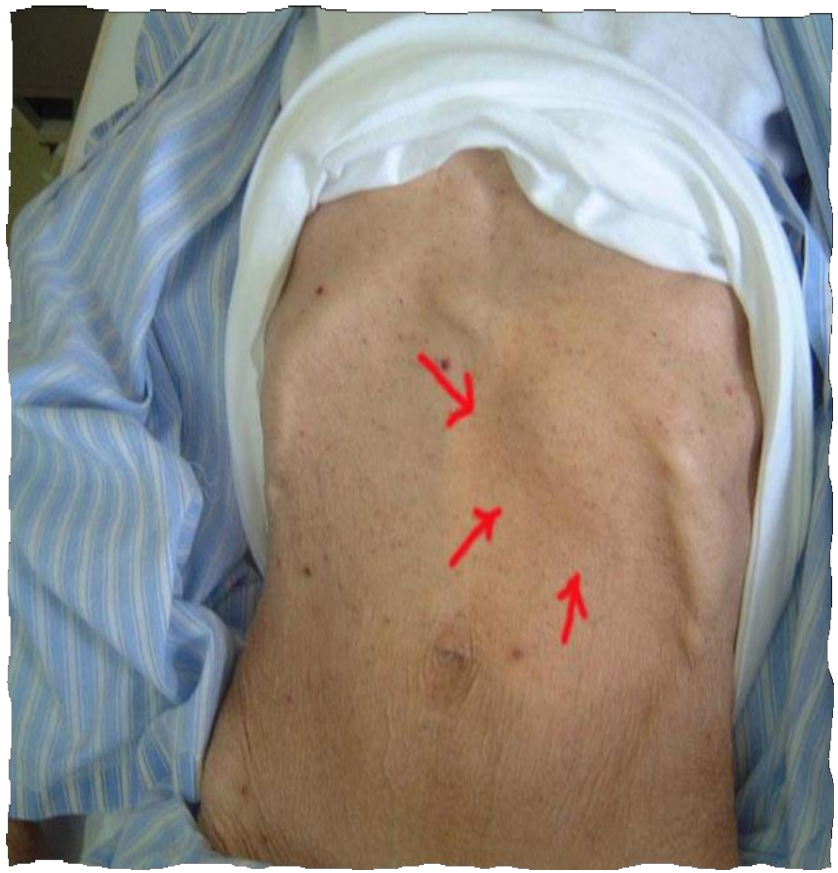


Fig. 6.16 Palpation of the spleen. A Initial palpation for the splenic edge moving diagonally from the umbilicus to the left hypochondrium. B If the spleen is impalpable by the method shown in A, use your left hand to pull the ribcage forward and elevate the spleen, making it more likely to be palpabl by your right hand.

- **Feel the costal margin along its length, as the position of the spleen tip is variable.**
- **If you cannot feel the splenic edge, palpate with your right hand, placing your left hand behind the patient's left lower ribs and pulling the ribcage forward (Fig. 6.16B), or ask the patient to roll towards you and on to their right side and repeat the above.**

- Feel along the left costal margin and percuss over the lateral chest wall.
- The normal spleen causes dullness to percussion posterior to the left mid-axillary line beneath the 9th–11th ribs.





- **Causes of splenomegaly :**

- Massive enlargement in the developed world is usually due to myeloproliferative disease or haematological malignancy; worldwide, malaria is a common cause.

- Important causes of hepatosplenomegaly include:

lymphoma or myeloproliferative disorders, cirrhosis with portal hypertension, amyloidosis, sarcoidosis and glycogen storage disease.

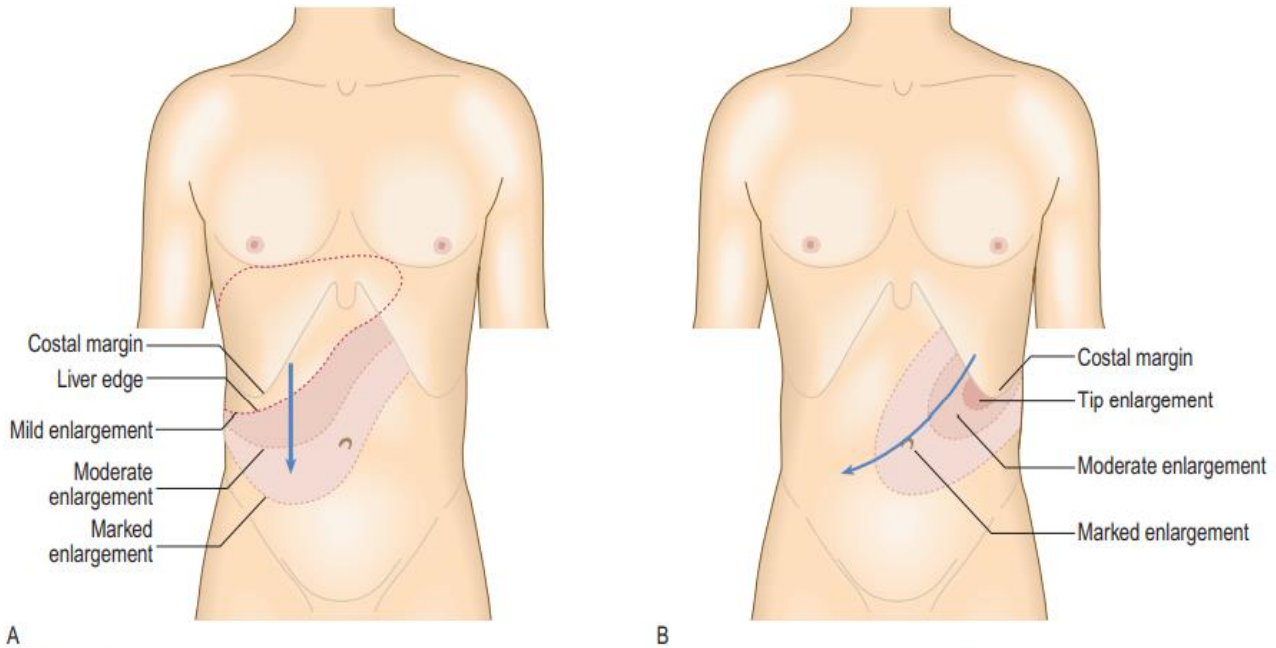


Fig. 6.15 Patterns of progressive enlargement of liver and of spleen. A Direction of enlargement of the liver. B Direction of enlargement of the spleen. The spleen moves downwards and medially during inspiration.

6.13 Causes of splenomegaly

Haematological disorders

- Lymphoma and lymphatic leukaemias
- Myeloproliferative diseases, polycythaemia rubra vera and myelofibrosis
- Haemolytic anaemia, congenital spherocytosis

Portal hypertension

Infections

- Glandular fever
- Malaria, kala-azar (leishmaniasis)
- Bacterial endocarditis
- Brucellosis, tuberculosis, salmonellosis

Rheumatological conditions

- Rheumatoid arthritis (Felty's syndrome)
- Systemic lupus erythematosus

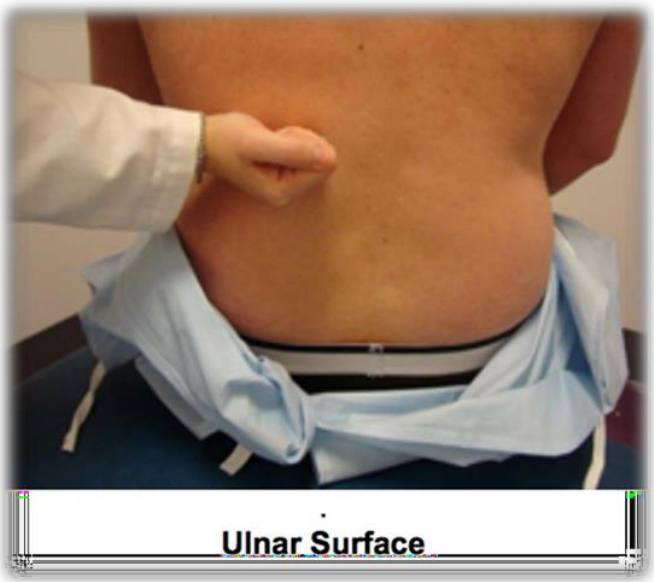
SANTA → Splenomegaly, Anemia, Neutropenia, Thrombocytopenia, Arthritis

Rarities

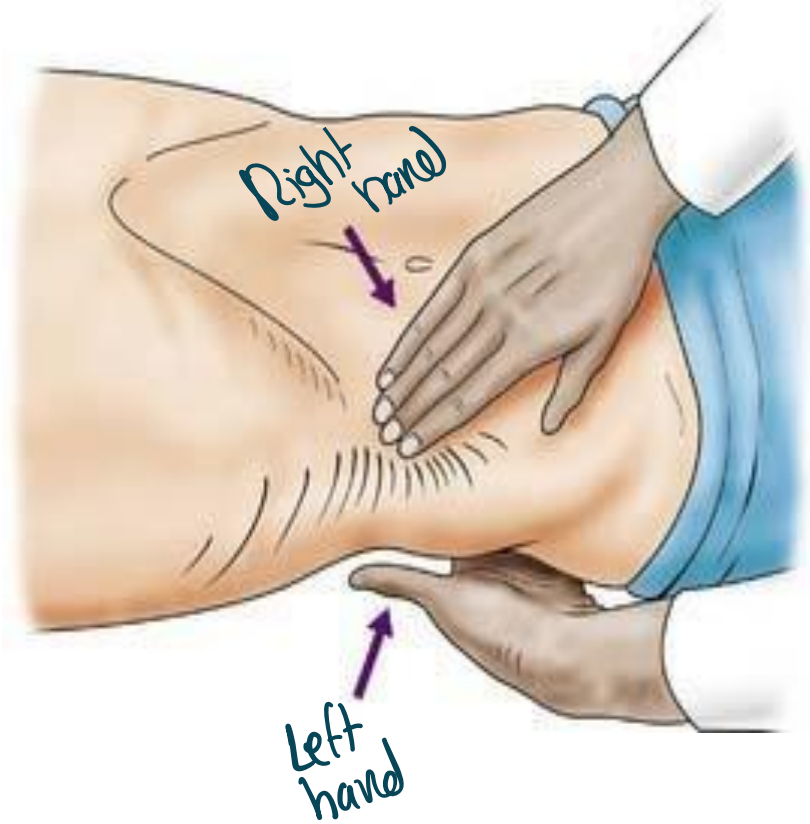
- Sarcoidosis
- Amyloidosis
- Glycogen storage disorders

4- Kidney Examination

Renal angle tenderness



Bimanual exam



* Ballottement

Percussion

- Normal note is Tympanic.
- Over mass or fluid gives DULL
- Percuss All Nine Quadrant.

- And percuss for Ascites

Ascites

Ascites is the accumulation of intraperitoneal fluid .

6.14 Causes of ascites

Diagnosis	Comment
Common	
Hepatic cirrhosis with portal hypertension	Transudate
Intra-abdominal malignancy with peritoneal spread	Exudate, cytology may be positive
Uncommon	
Hepatic vein occlusion (Budd–Chiari syndrome)	Transudate in acute phase
Constrictive pericarditis and right heart failure	Check jugular venous pressure and listen for pericardial rub
Hypoproteinaemia (nephrotic syndrome, protein-losing enteropathy)	Transudate
Tuberculous peritonitis	Low glucose content
Pancreatitis, pancreatic duct disruption	Very high amylase content

- **Shifting dullness:** mild-moderate ascites.
- **Fluid transmitted thrill**: massive ascites.

Examination sequence

Shifting dullness

- With the patient supine, percuss from the midline out to the flanks (Fig. 6.17). Note any change from resonant to dull, along with areas of dullness and resonance.
- 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.

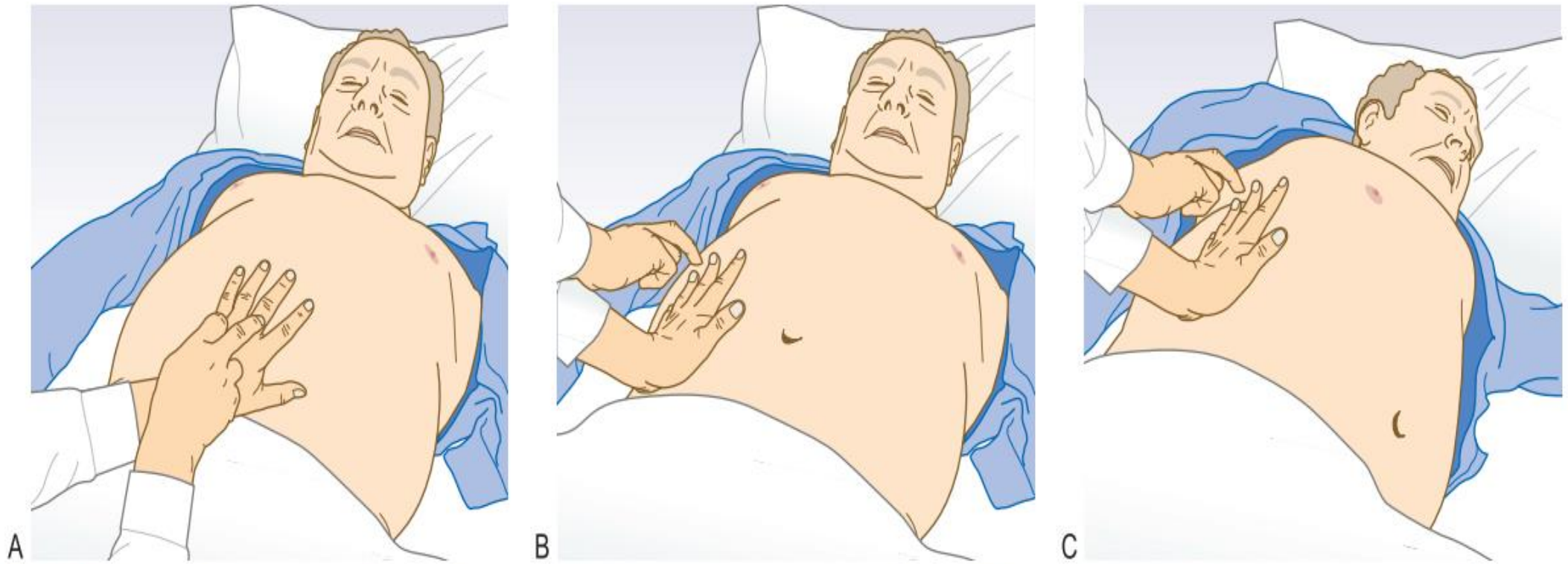


Fig. 6.17 Percussing for ascites. A and B Percuss towards the flank from resonant to dull. C Then ask the patient to roll on to their other side. In ascites the note then becomes resonant.

Fluid thrill

- If the abdomen is tensely distended and you are uncertain whether ascites is present, feel for a fluid 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 (Fig. 6.18).
- 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).

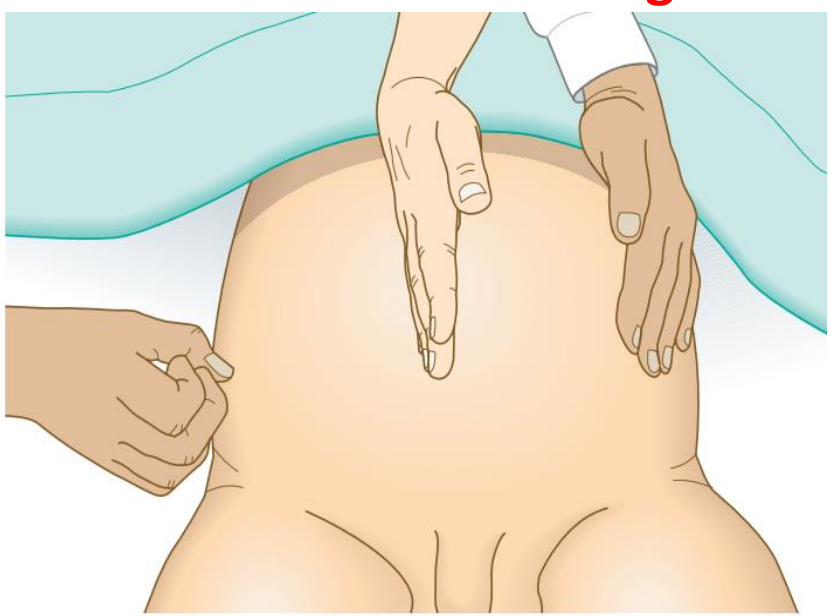


Fig. 6.18 Eliciting a fluid thrill.

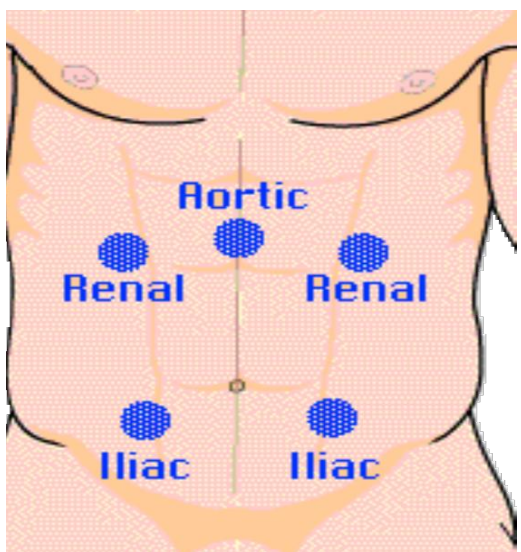
Auscultation (Bowel sound & Bruit)

- With the patient supine, place your stethoscope diaphragm to the right of the umbilicus and do not move it.
- Listen for up to 2 minutes before concluding that bowel sounds are absent.
- Listen above the umbilicus over the aorta for arterial bruits.
- Now listen 2–3 cm above and lateral to the umbilicus for bruits from renal artery stenosis.
- Listen over the liver for bruits

Atheromatous or Aneurysmal Aorta or SMA stenosis.

2-3 cm below & lateral to umbilicus: Iliacs.

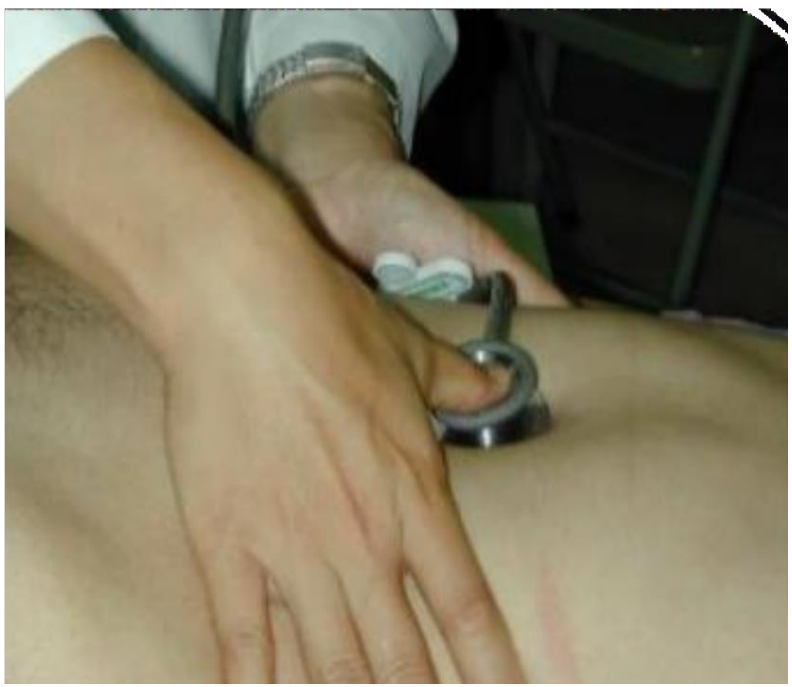
- **Bowel sounds:**
  - Diaphragm / Full 2 minutes.
  - Right of Umbilicus
  - **Normal**: once in 5-10 seconds.
  - **Increased**: IO *[increased frequency, volume, high-pitched, tinkling quality]*.
  - **Absent**: peritonitis, paralytic ileus.
- **Bruit:**
  - Liver (acute alcoholic hepatitis, HCC & AVM. ***MCC: transmitted heart murmur***).
  - Vessels.
- **Friction Rub:**
  - Liver (perihepatitis) & Spleen (perisplenitis).



Succussion splash test

- this sounds like a half-filled water bottle being shaken.
- Explain the procedure to the patient, then shake their abdomen by rocking their pelvis using both hands.

- An audible splash more than 4 hours after the patient has eaten or drunk anything indicates delayed gastric emptying, as in pyloric stenosis.



Bowel sounds

- Normal bowel sounds are gurgling noises from the normal peristaltic activity of the gut.
- They normally occur every 5–10 seconds but the frequency varies.
- Absence of bowel sounds implies paralytic ileus or peritonitis.
- In intestinal obstruction, bowel sounds occur with increased frequency and volume, and have a high-pitched, tinkling quality.
- Bruits suggest an atheromatous or aneurysmal aorta or superior mesenteric artery stenosis.
- A friction rub, which sounds like rubbing your dry fingers together, may be heard over the liver (perihepatitis) or spleen (perisplenitis).

6.16 Causes of abnormal stool appearance

Stool appearance	Cause
Abnormally pale	Biliary obstruction
Pale and greasy	Steatorrhoea
Black and tarry (melaena)	Bleeding from the upper gastrointestinal tract
Grey/black	Oral iron or bismuth therapy
Silvery	Steatorrhoea plus upper gastrointestinal bleeding, e.g. pancreatic cancer
Fresh blood in or on stool	Large bowel, rectal or anal bleeding
Stool mixed with pus	Infective colitis or inflammatory bowel disease
Rice-water stool (watery with mucus and cell debris)	Cholera

Don’t forget to Mention that You Have to Examine ..

1. **External Genetalia.**
2. **Hernial orifices.**
3. **DRE (PR).**
4. **Back.**
5. **LL**
   - ***Edema,***
   - ***Loss of hair,***
   - ***Pyoderma gangrenosum,*** ⇒ IBD
   - ***Auscultate over femoral art.***

6.4 Typical clinical features in patients with an 'acute abdomen'

Condition	History	Examination
Acute appendicitis	Nausea, vomiting, central abdominal pain that later shifts to right iliac fossa	Fever, tenderness, guarding or palpable mass in right iliac fossa, pelvic peritonitis on rectal examination
Perforated peptic ulcer with acute peritonitis	Vomiting at onset associated with severe acute-onset abdominal pain, previous history of dyspepsia, ulcer disease, non-steroidal anti-inflammatory drugs or glucocorticoid therapy	Shallow breathing with minimal abdominal wall movement, abdominal tenderness and guarding, board-like rigidity, abdominal distension and absent bowel sounds
Acute pancreatitis	Anorexia, nausea, vomiting, constant severe epigastric pain, previous alcohol abuse/cholelithiasis	Fever, periumbilical or loin bruising, epigastric tenderness, variable guarding, reduced or absent bowel sounds
Ruptured aortic aneurysm	Sudden onset of severe, tearing back/loin/abdominal pain, hypotension and past history of vascular disease and/or high blood pressure	Shock and hypotension, pulsatile, tender, abdominal mass, asymmetrical femoral pulses
Acute mesenteric ischaemia	Anorexia, nausea, vomiting, bloody diarrhoea, constant abdominal pain, previous history of vascular disease and/or high blood pressure	Atrial fibrillation, heart failure, asymmetrical peripheral pulses, absent bowel sounds, variable tenderness and guarding
Intestinal obstruction	Colicky central abdominal pain, nausea, vomiting and constipation	Surgical scars, hernias, mass, distension, visible peristalsis, increased bowel sounds
Ruptured ectopic pregnancy	Premenopausal female, delayed or missed menstrual period, hypotension, unilateral iliac fossa pain, pleuritic shoulder-tip pain, 'prune juice'-like vaginal discharge	Suprapubic tenderness, periumbilical bruising, pain and tenderness on vaginal examination (cervical excitation), swelling/fullness in fornix on vaginal examination
Pelvic inflammatory disease	Sexually active young female, previous history of sexually transmitted infection, recent gynaecological procedure, pregnancy or use of intrauterine contraceptive device, irregular menstruation, dyspareunia, lower or central abdominal pain, backache, pleuritic right upper quadrant pain (Fitz-Hugh–Curtis syndrome)	Fever, vaginal discharge, pelvic peritonitis causing tenderness on rectal examination, right upper quadrant tenderness (perihepatitis), pain/tenderness on vaginal examination (cervical excitation), swelling/fullness in fornix on vaginal examination