



GI Physical Examination

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General Examination

1

- General Appearance
- Hands
- Face
- Mouth, Throat & Tongue
- Neck
- Chest
- Chronic Liver Disease

Abdomen Examination

2

A. Position

B. Exposure

C. Inspection

- From Foot of Bed
- From Right Side
- Ask pt. to ..

GI Physical Examination

A. Palpation & Percussion

- 1) Light ..
- 2) Deep ..
- 3) Organomegaly
 - Liver & GB
 - Spleen
 - Kidney & UB
- 4) Special Signs
- 5) Ascites

B. Auscultation

- ✓ Bowel Sounds
- ✓ Bruit
- ✓ Friction Rub
- ✓ Splash

Others

- ❖ External Genitalia
- ❖ Hernial Orifices
- ❖ DRE (PR)
- ❖ Back
- ❖ Lower Limbs



General Examination

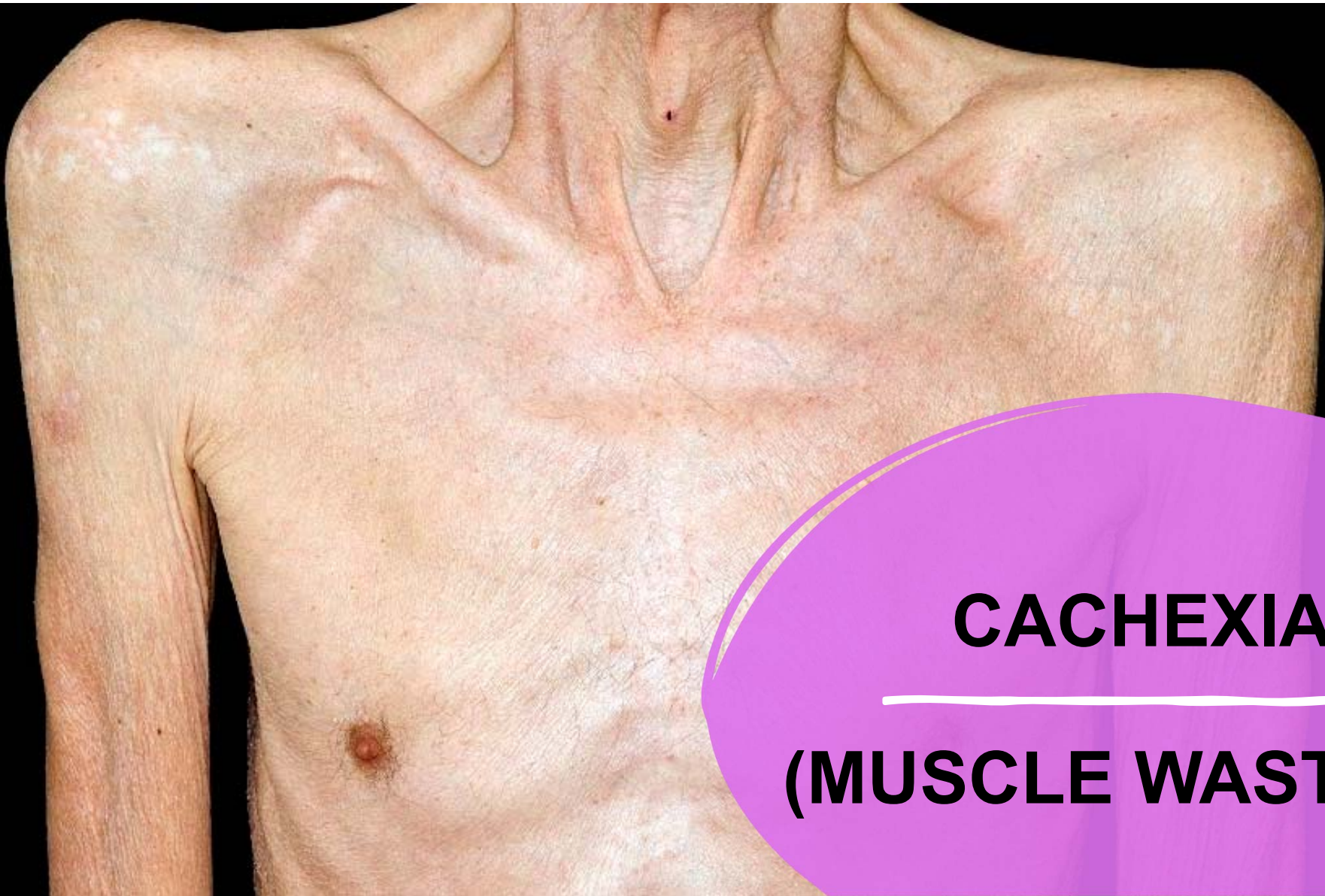
GENERAL APPEARANCE

- **LOC & Orientation.**
 - Orientation impaired in hepatic encephalopathy, why?
- **Looks well or ill (in pain?)**
 - Acute Abdomen vs. Renal Colic.
- **Vital signs.**
- **Nutritional status, Obese or Cachectic?**
 - Ht., Wt., WC, BMI
 - Truncal vs. Generalized Obesity?
- **Skin redundancy.**
- **Striae.**

Hepatic Encephalopathy (West Haven)

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



CACHEXIA

(MUSCLE WASTING)



TRUNCAL
OBESITY

Skin Redundancy

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



Striae

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



HANDS

- **Clubbing** (IBD, Cirrhosis, Celiac).
- **Koilonychias** (IDA).
- **Leukonychia** (Hypoalbuminemia).
- **Muscle Wasting.**
- **Skin Creases.**
- **Tar staining.**
- **Flapping Tremor.**
- **Dupuytren's Contracture.**
- **Palmar Erythema** (normal in pregnancy)
>> (Chronic Liver Dis.)



FINGER

CLUBBING

Koilonychia



spoon-shaped nails



Leukonychia

- White-colored nails.
- Hypo-albuminaemia:
 1. Chronic **Liver** Disease.
 2. Protein calorie **Malnutrition** (Kwashiorkor).
 3. **Malabsorption** protein-losing enteropathy (Celiac disease).
 4. Heavy & prolonged **Proteinuria** (Nephrotic Syndrome).

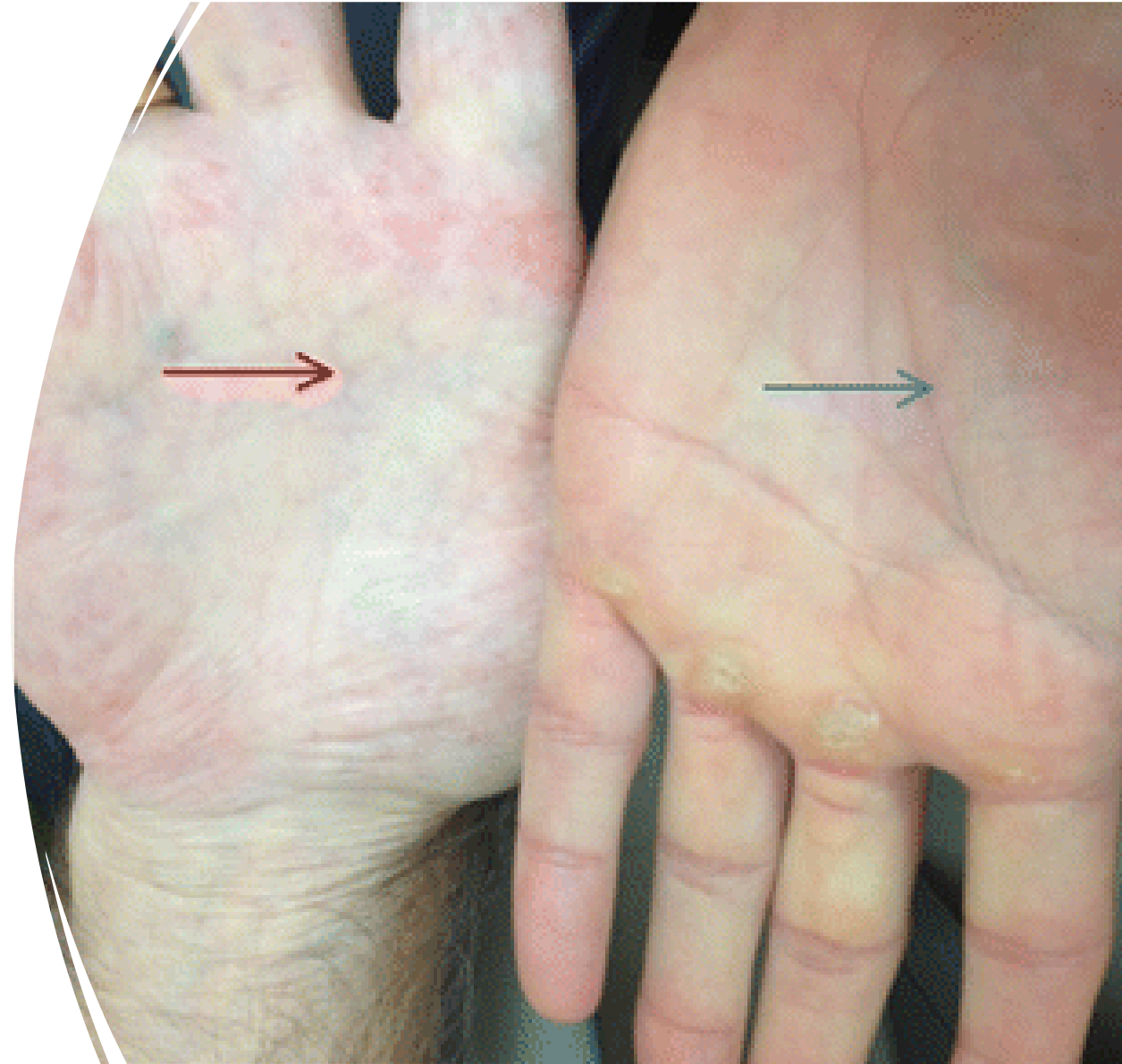


Hand Muscle Wasting



Wasting of small

Palmar Crease Pallor



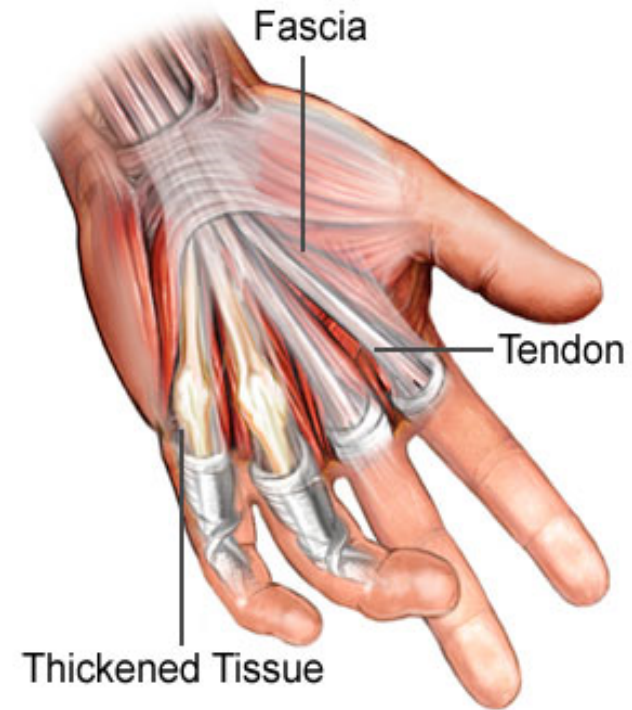


Tar Staining



Asterixis

Flapping Tremor



Dupuytren's Contracture

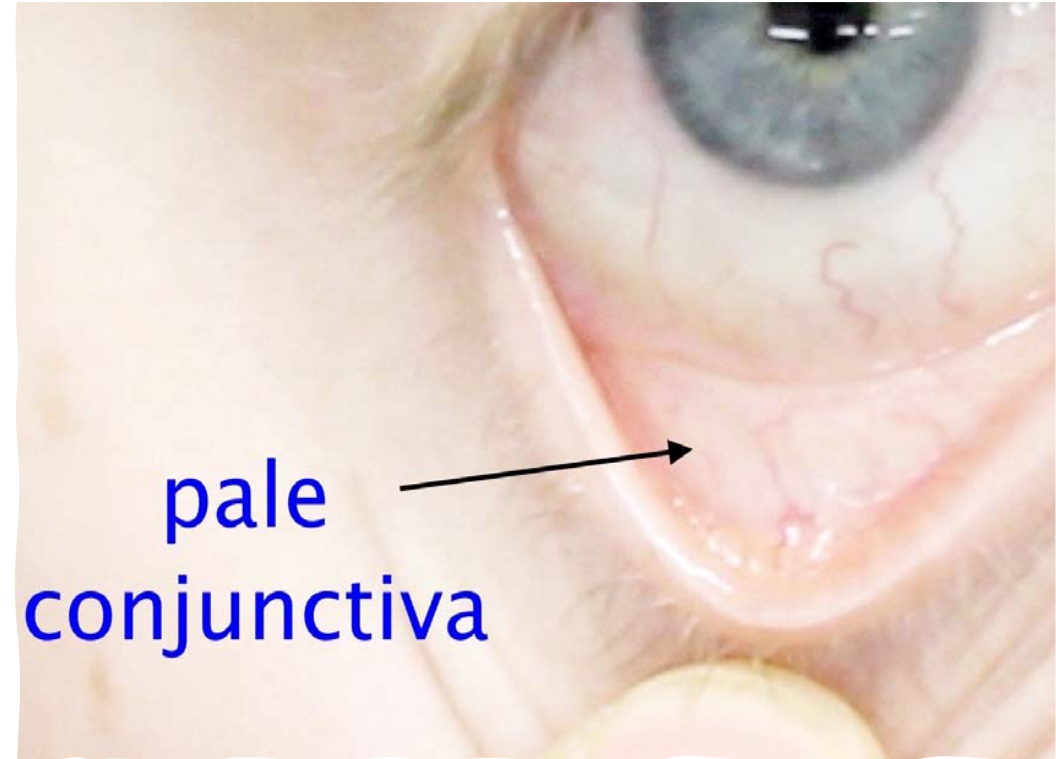
- Contracture of palmar fascia.
- Alcohol-related chronic liver disease.



Palmar Erythema

FACE

1. **Pallor** (Anemia).
2. **Jaundice** (vs. pinguecula).
3. **Spider Neavi** (Chronic Liver Disease).
4. **Sialadenitis/Sialadenosis.**



Pallor



Inner aspect of Lower Eyelid

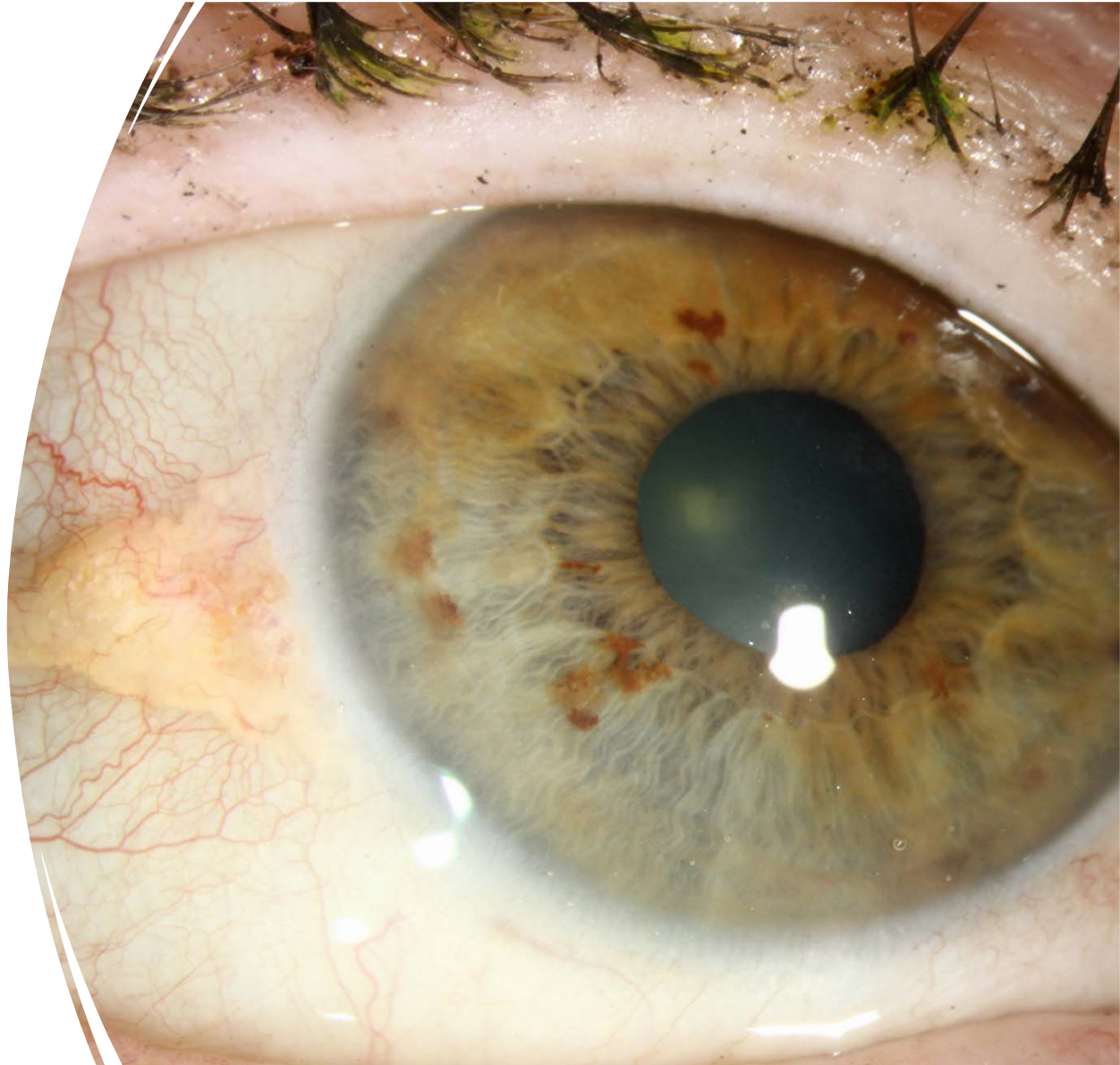
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- If not obvious, look down & retract upper eyelid to expose upper sclera.
- Natural Light

Pinguecula

- Small, yellowish fat pads.
- At periphery of sclerae.



Spider Naevi

- Isolated telangiectasias.
- Fill from a central vessel.
- In distribution of SVC (upper trunk, arms & face).
- **Excess Estrogen + Reduced hepatic breakdown of sex steroids.**
- Healthy women >> up to 5 spider naevi.
- Normal during pregnancy.



Sialadenitis

Sialadenosis

- **Bilateral + Painless >>
Chronic Alcohol Abuse,
Bulimia.**

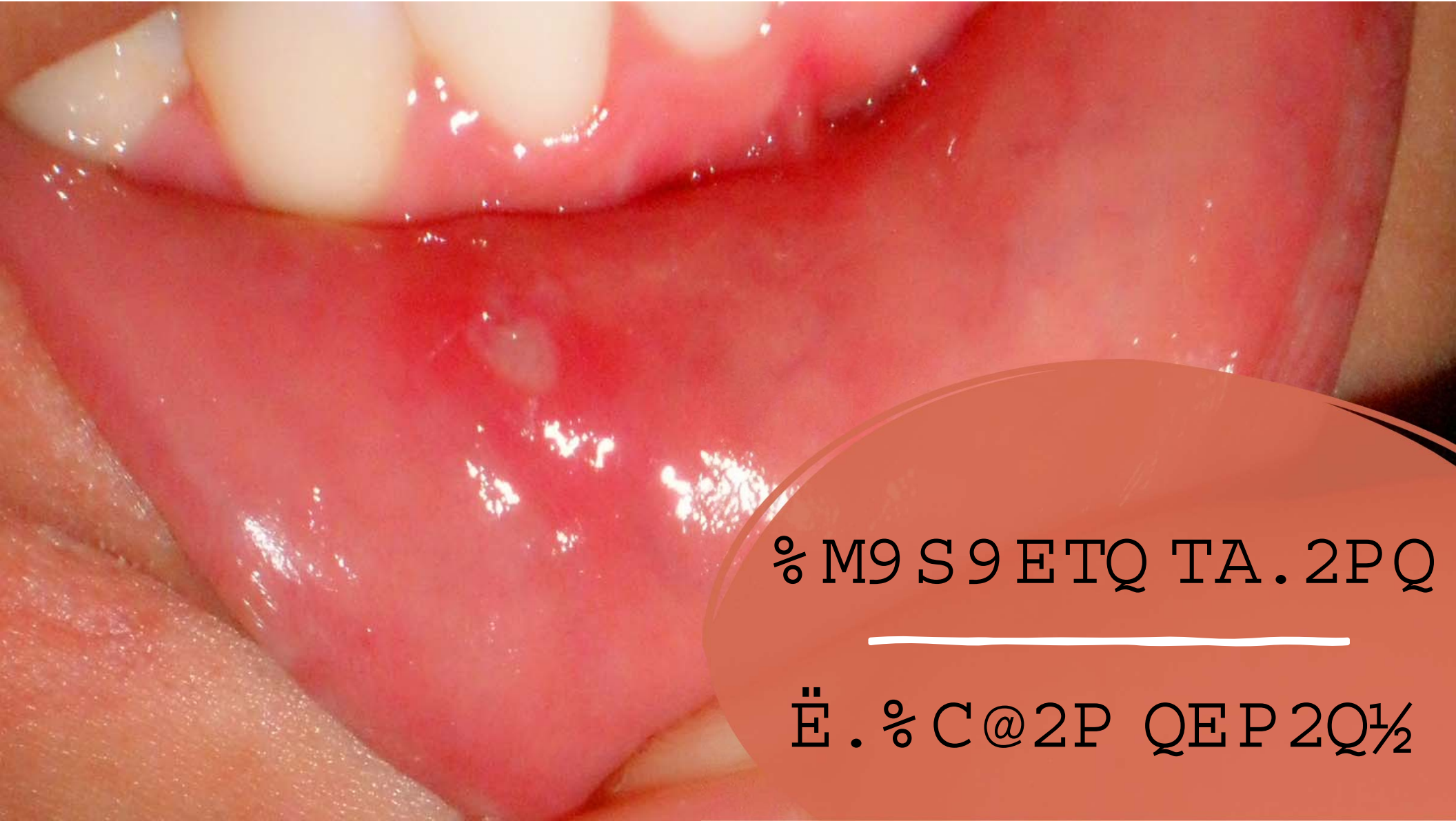


BETS 9 1 S 9 P E % S à SEC 8 T 2

- ❖ **Aphthous Ulcers** (Celiac & IBD).
- ❖ **Angular Cheilitis** (Iron Def.).
- ❖ **Atrophic Glossitis** (Iron Def.)
- ❖ **Beefy Tongue** (Vit.B12 & Folate Def.)
- ❖ **Jaundice.**
- ❖ **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).



% M9 S9 ETQ TA. 2PQ

È . % C@2P QEP 2Q½



Angular Cheilitis

Painful cracks at mouth corners.

Atrophic Glossitis

Pale Smooth Tongue





- 227\ P 20

SEC 8T2



Jaundice

C2. @ E . nfi''vja } ACf1½

- ✓ Enlargement of **Left** Supraclavicular LN (**Troisier's sign**).
 - Gastric + Pancreatic CA.

- ✓ **Widespread LAP + Hepatosplenomegaly.**
 - Lymphoma.

Troisier's Sign



. 9 2QS

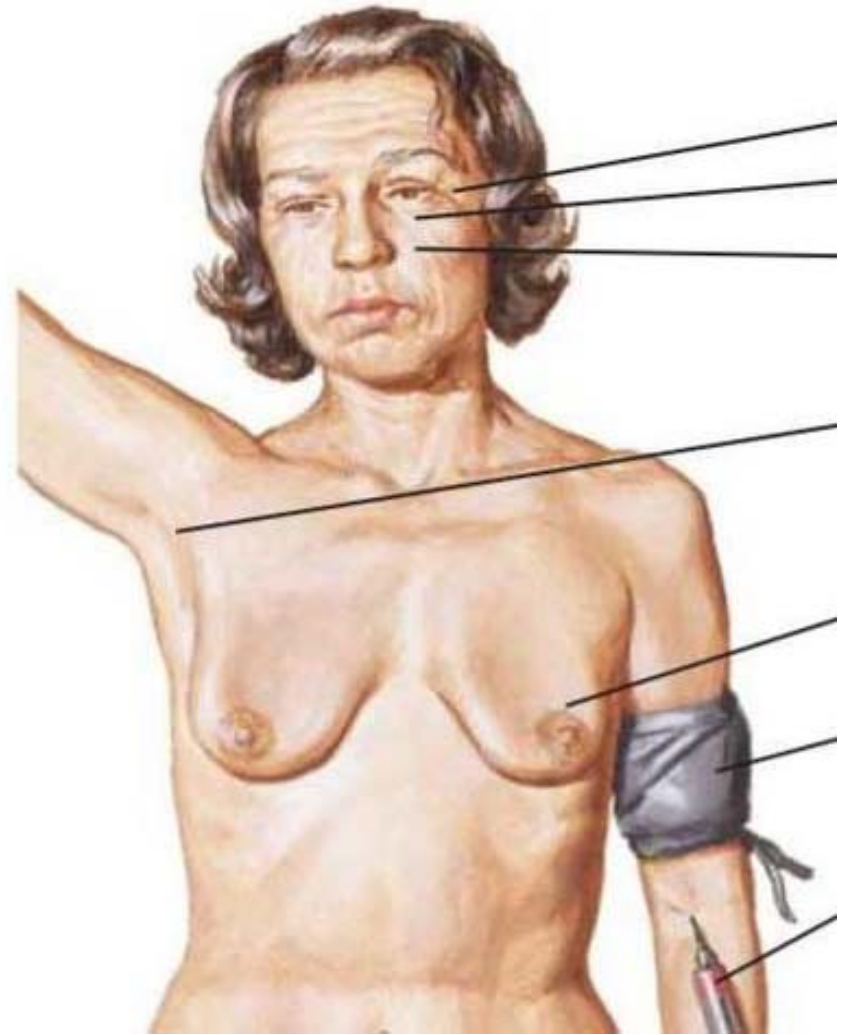
- ✓ **Gynecomastia**
- ✓ **Breast Atrophy.**
- ✓ **Hair Distribution.**
- ✓ **Spider Nivea.**
- ✓ **Scratch Marks.**

Gynaecomastia

- Breast enlargement in Males.
- Reduced breakdown of Estrogens.



- P 2% QS
% S P E M 9 \





Hair Distribution

- Normal Male-Pattern of Hair Distribution.
- Lost in Chronic Liver Disease.



Chest

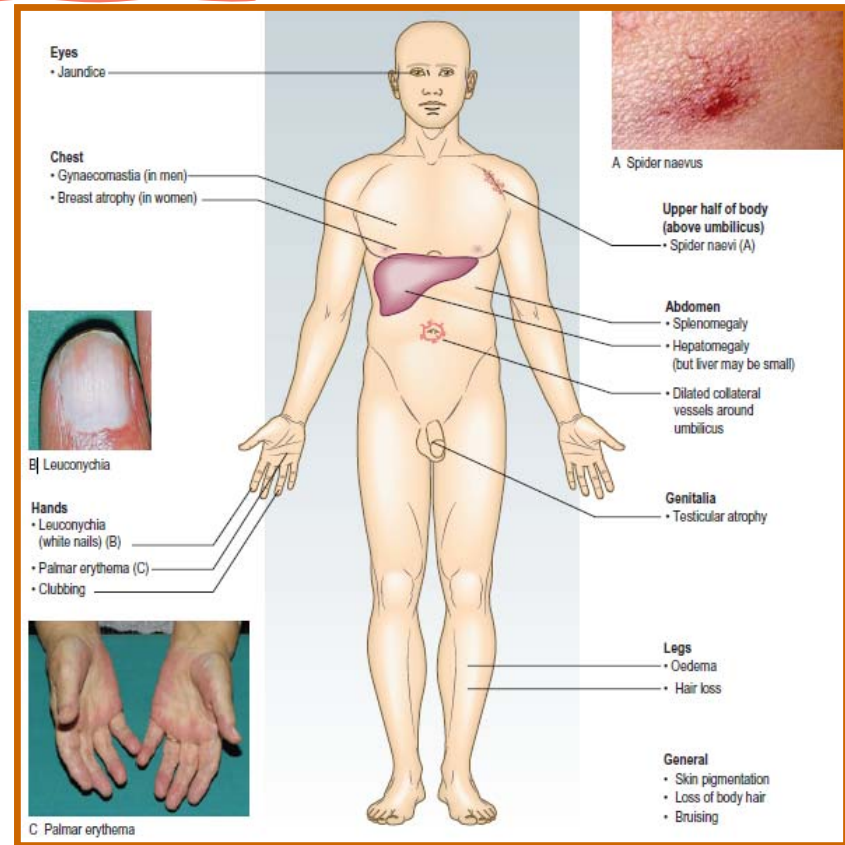
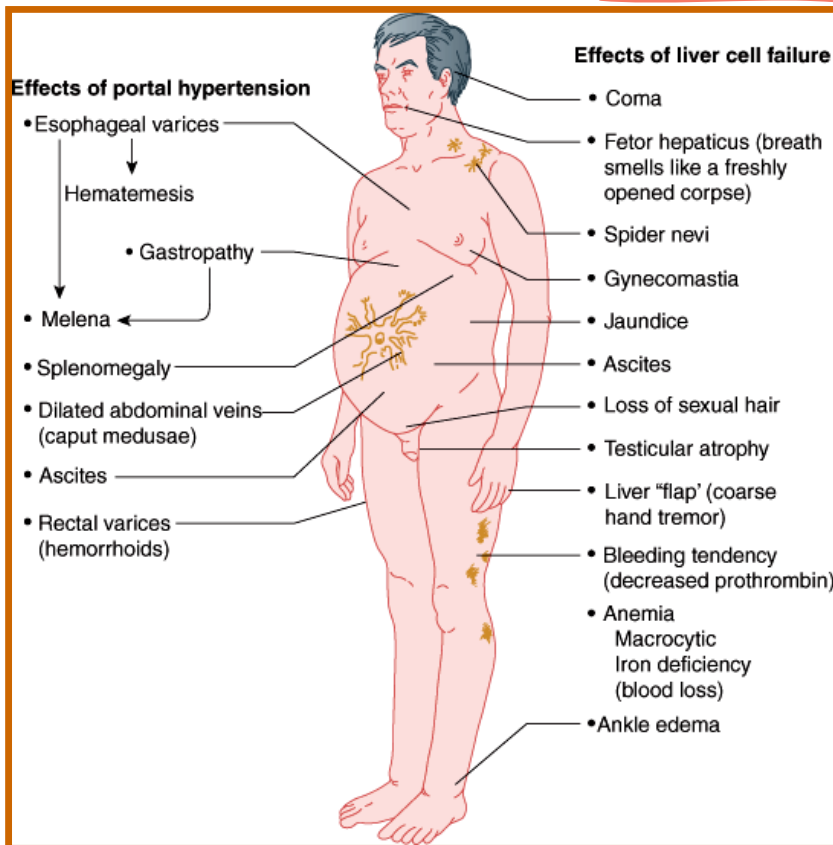
Scratch Marks



Chest

Spider Nevi

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Signs suggest **Liver Failure**:

1. Asterixis.
2. Fetor Hepaticus.
3. **Altered mental state** [varying from drowsiness with day/night pattern reversed, through confusion & disorientation, to unresponsive coma].
4. Jaundice.
5. Ascites.
6. **Late Neurological Features** [spasticity, extension of arms & legs, & extensor plantar responses].



% - 0 EB 2C

2 [% B :C % S :EC

MEQ :S :EC



- **Supine** + **Head on 1-2 pillows** (to relax abdominal wall muscles) + **Legs & Arms stretched**.
- *Extra pillows to support patients with kyphosis or breathlessness.*

2 [MEQTP 2



- Nipples-To-Midthighs.
- Xiphisternum-To-Symphysis Pubis.

EC . S . M2 Q . C

EC ~ EC

nl

1. **Contour.**
2. **Symmetry.**
3. **Umbilicus.**
4. **Abdominal respiration**
(absent in peritonitis >> thoracic respiration).

. ECSETP

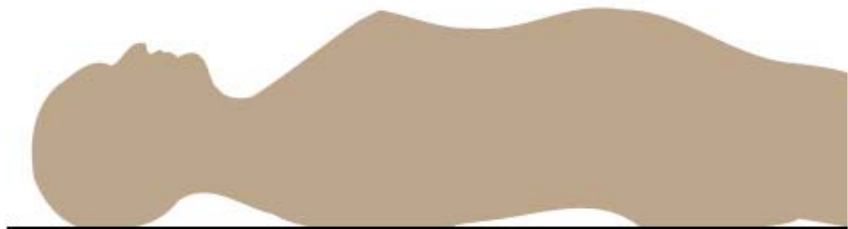
- Flat, Scaphoid, Protuberant.
- 5 F's: Fluid, Flatus, Feces, Fetus, Fat.



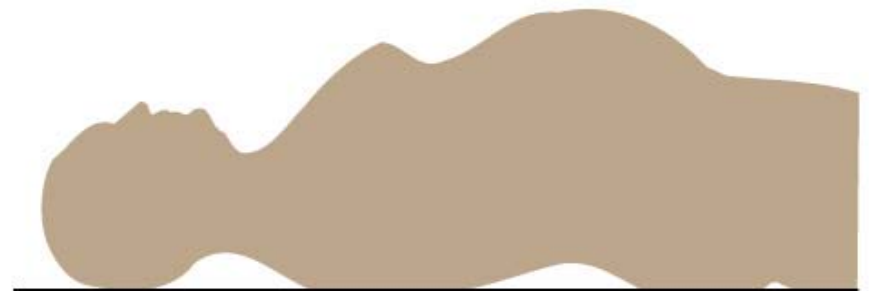
Flat



Scaphoid



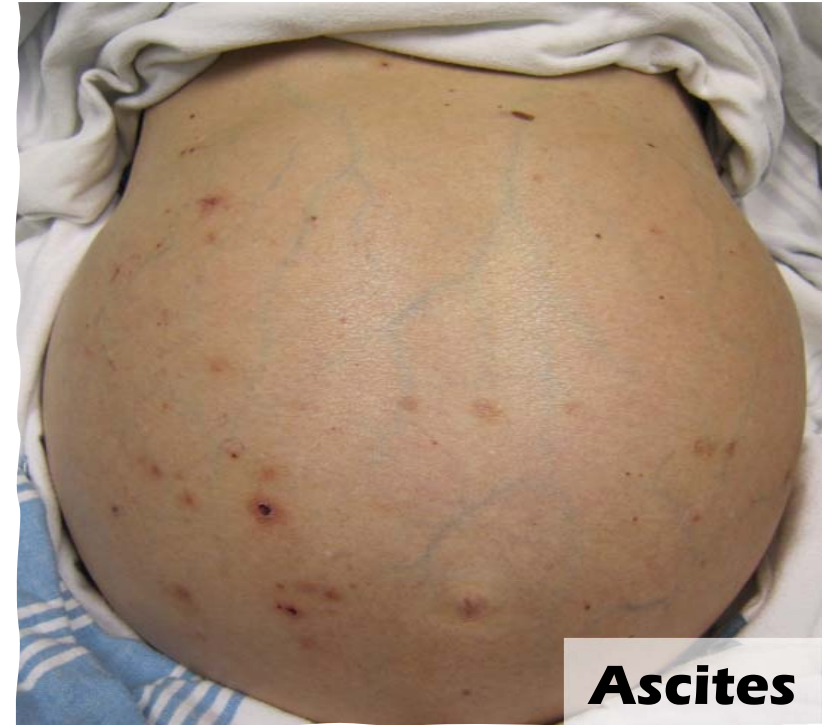
Rounded



Protuberant

Q \ B B 2 S P \

- ❖ Look tangentially from foot of bed & across abdomen.
- ❖ **Abdominal swelling:**
 - **Diffuse:** ascites or intestinal obstruction.
 - **Localised:** urinary retention, mass or enlarged organ such as liver.



TB - A:..TQ

- **Sunken**: Obesity.
- **Inverted**: Normal.
- **Flat**: Ascites.
- **Everted**: Ascites.



C E P B % A

% - 0 E B 2 C

- ✓ **Flat** or slightly scaphoid.
- ✓ **Symmetrical**.
- ✓ Respiration is principally **Diaphragmatic** [at rest].
- ✓ Umbilicus is usually **Inverted**.

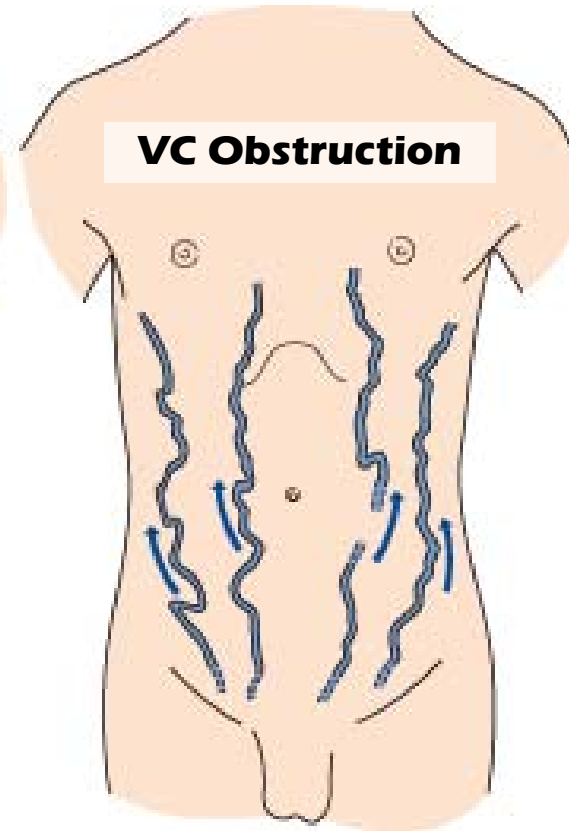
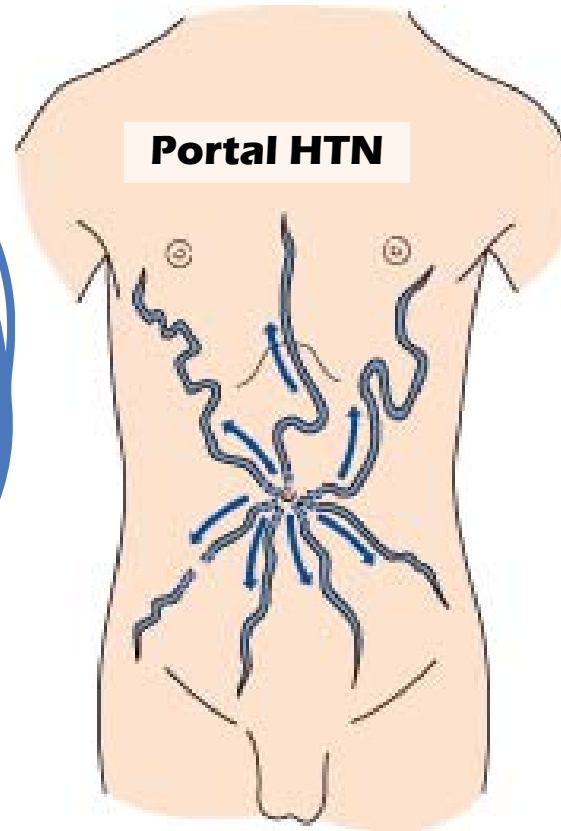
SECTION 2.01

THE PHYSICAL

Exam

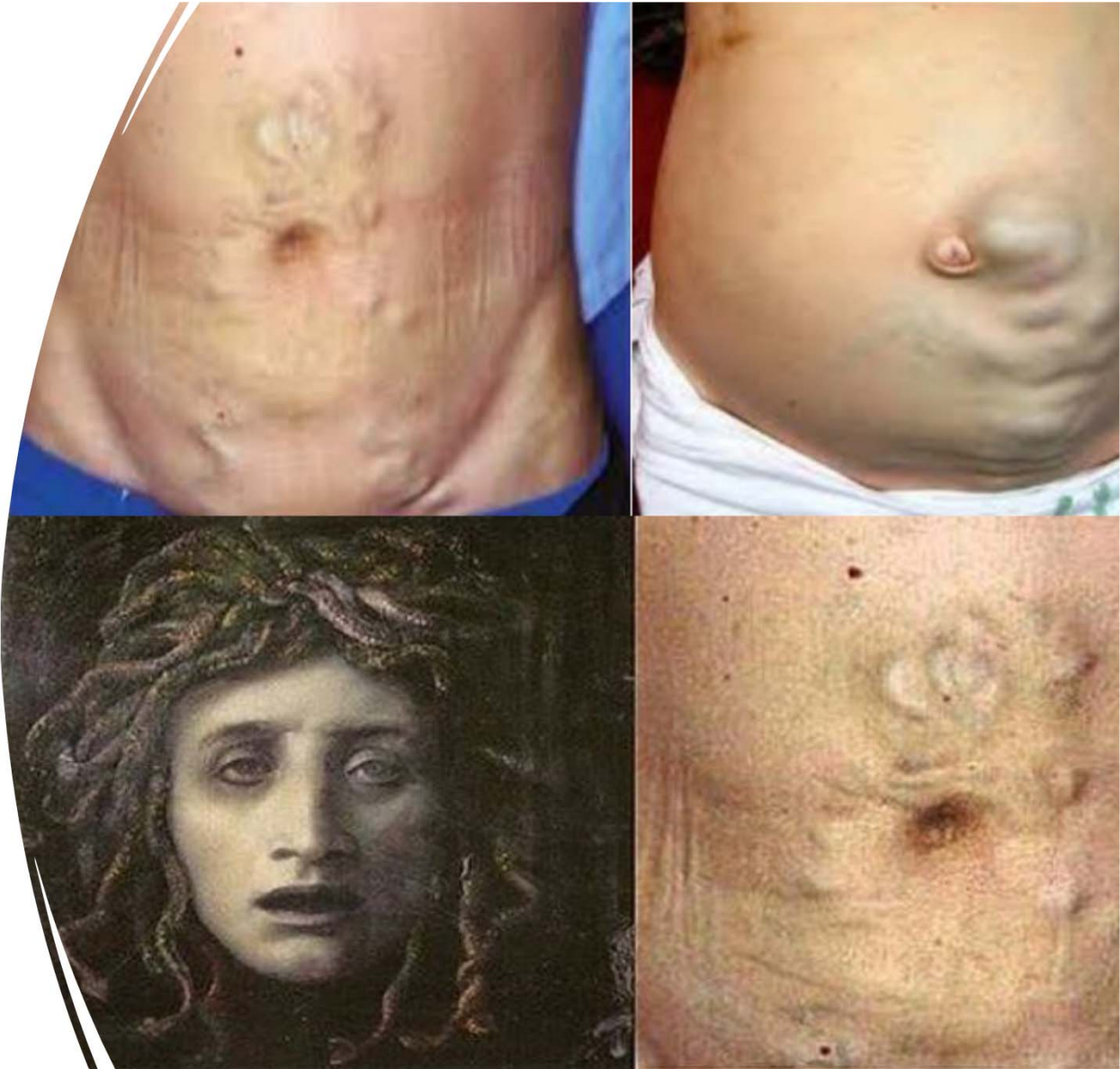
1. Hair distribution.
2. Stomas.
3. Scars.
4. Skin Lesions.
5. Bruising.
6. Visible Veins (Caput Medusa).
7. Visible Masses.
8. Visible Pulsation.
9. Visible Peristalsis.

Y:Q:- A2
0 :A% S 20
Y2 :C Q



Caput Medusa

- In portal HTN.
- Re-canalisation of umbilical vein along the falciform ligament.
- Drain away from umbilicus.
- Umbilicus: **bluish & Distended** due to **umbilical varix**.





Umbilical Hernia

- Distended & everted umbilicus.
- **Does not appear vascular.**
- Palpable cough impulse.



Dilated Tortuous Veins

- Collateral veins >> **IVC obstruction**.
- Blood flows superiorly.
- *Rarely, SVC obstruction gives rise to similarly distended abdominal veins, but these all flow inferiorly.*

Q@ :C

A2Q :E C Q

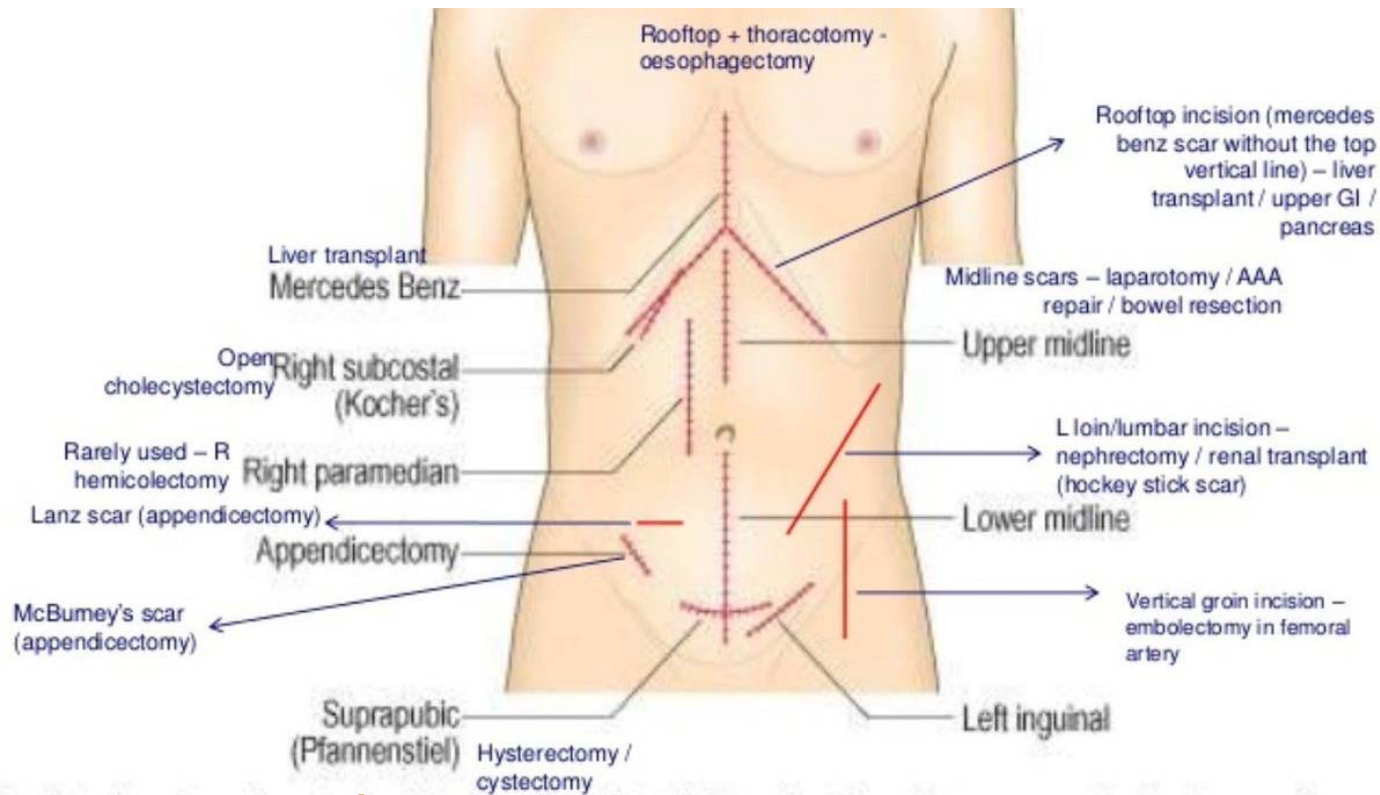
- **Seborrheic Warts** (Senile Warts / Seborrheic Keratosis).

- Age-Related.
- ranging from pink to brown or black.

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

- Age-Related.





QTP 8 :. % A
 Q. % PQ

Midline & Oblique incisions avoid damage to innervation of abdominal musculature & later development of incisional hernias.

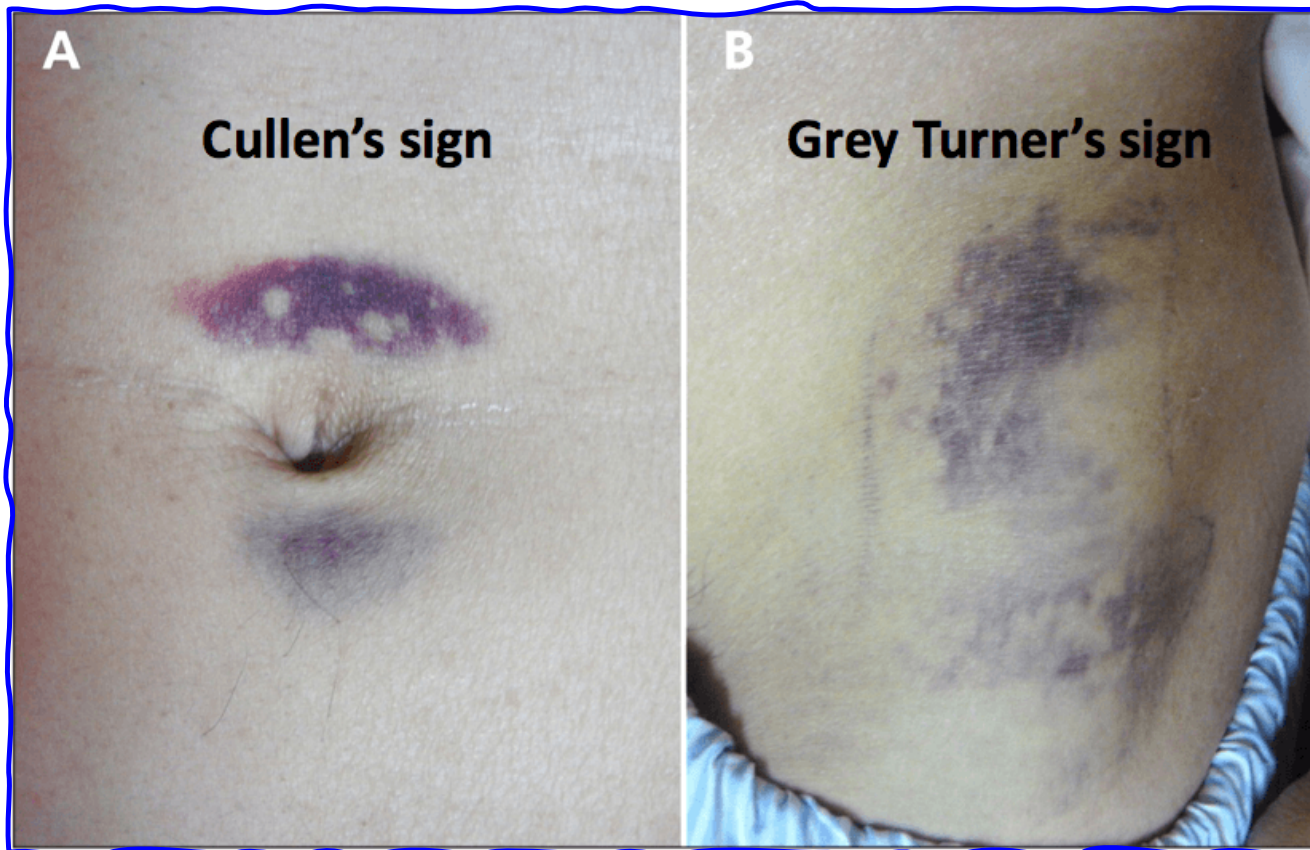
**Laparoscopic
Surgical Ports
Puncture
Scars**



Old Pale vs. Recent Red Scars



- PT Q:C8



QSEB % Q

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

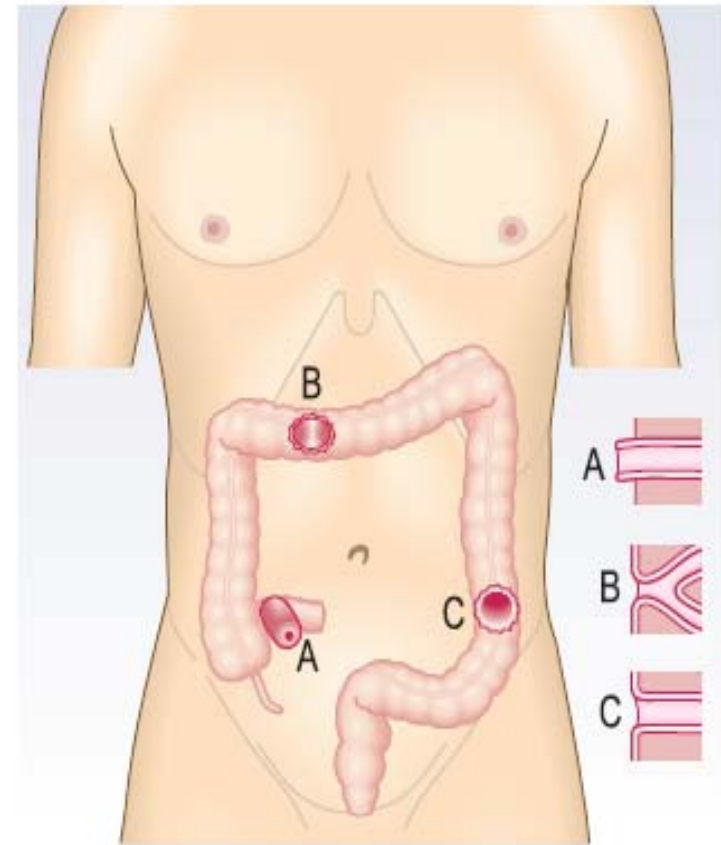
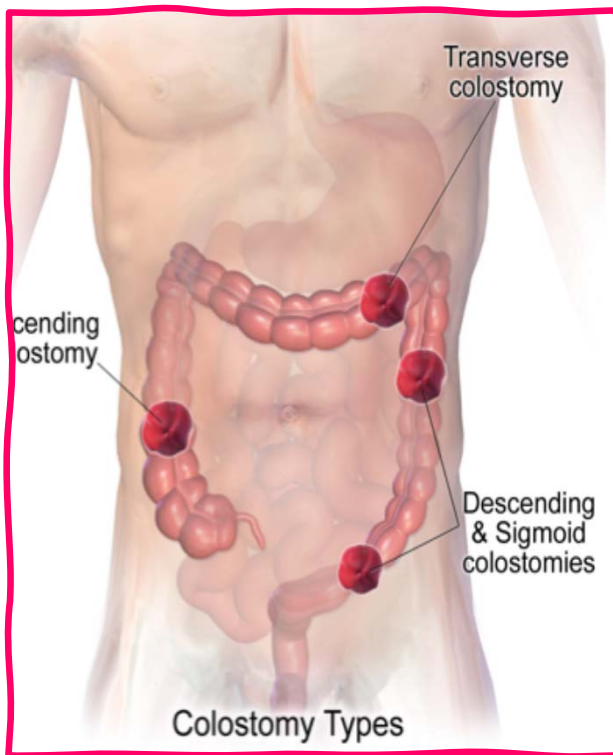


Fig. 6.11 Surgical stomas. **A** An ileostomy is usually in the right iliac fossa and is formed as a spout. **B** A loop colostomy is created to defunction the distal bowel temporarily. It is usually in the transverse colon and has afferent and efferent limbs. **C** A colostomy may be terminal: that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

Colostomy



Ileostomy





Incisional hernia

- At site of a scar.
- Palpable as a defect in abdominal wall musculature.
- More obvious as patient raises head off bed or coughs.

% Q@
M% S :2CS
SE 11

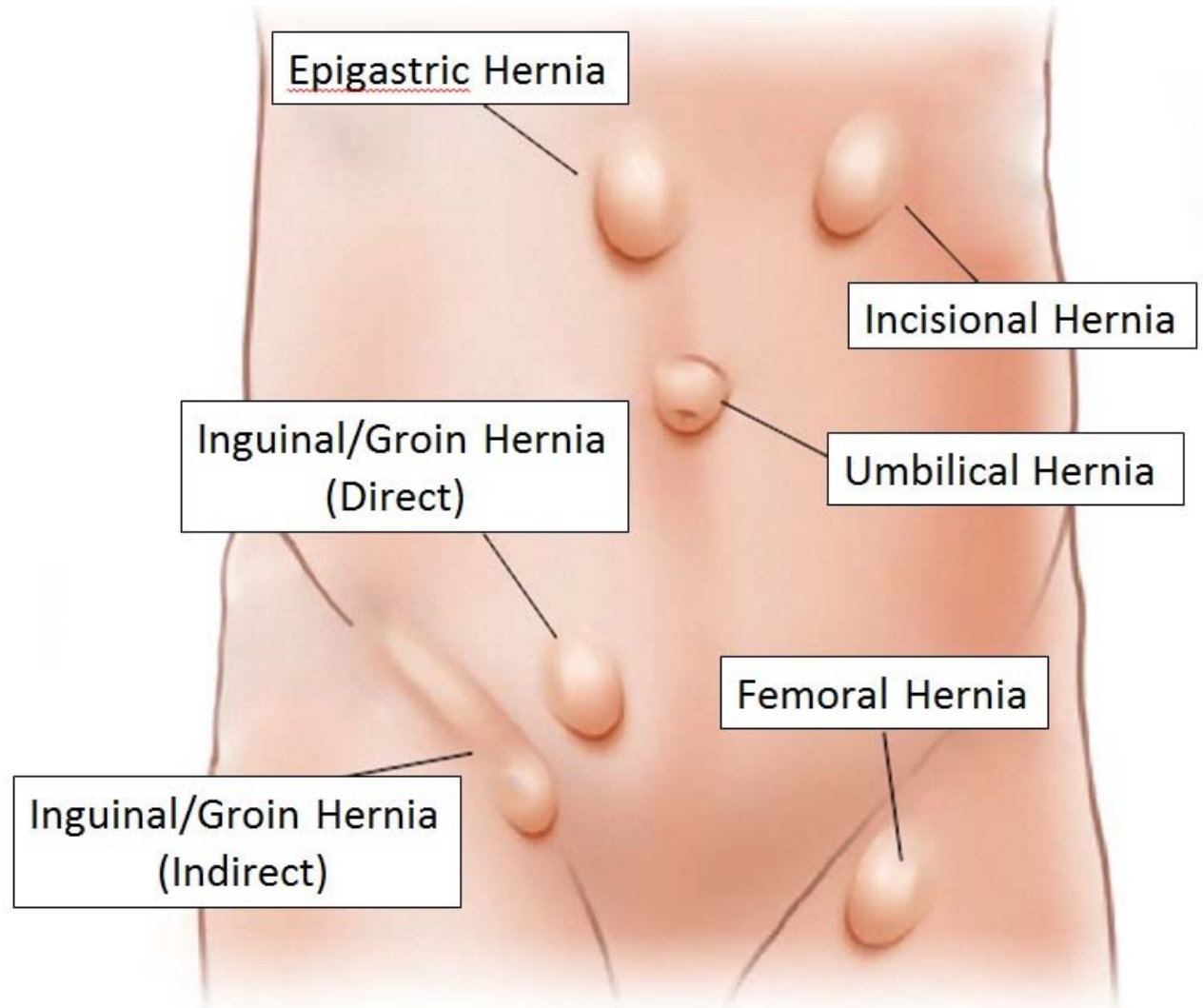
☐ **COUGH:**

- Look for Hernia Orifices.
- Increase pain in Peritonitis.
 - Dunphy sign: pain elicited after coughing.

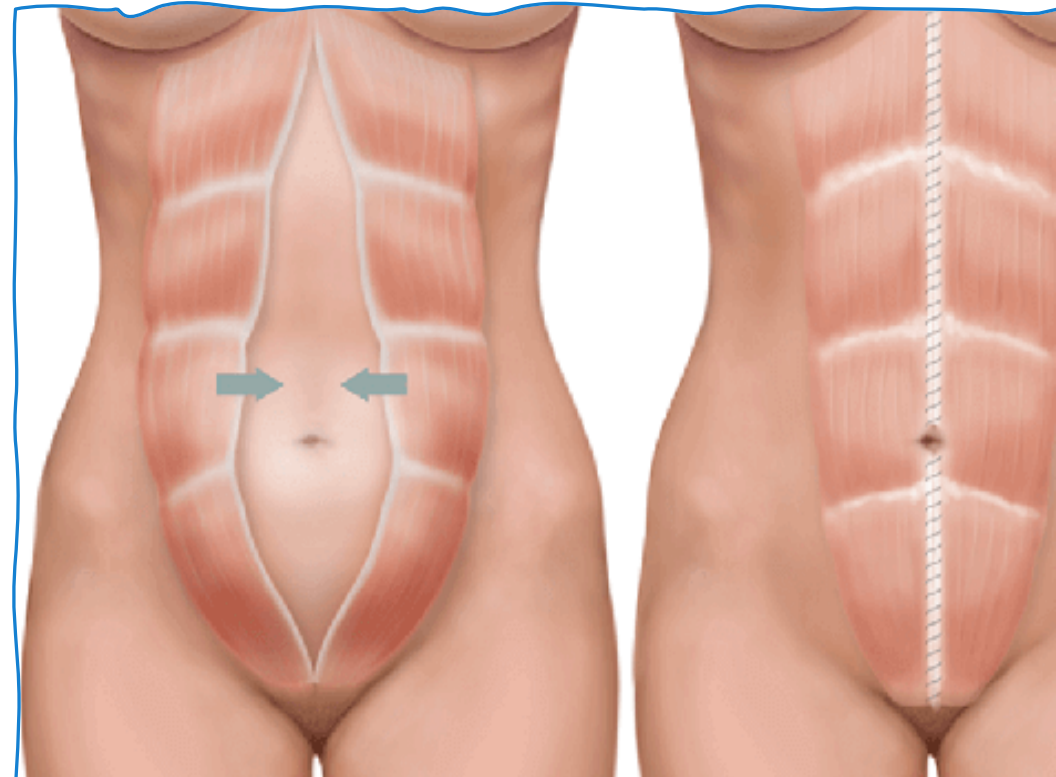
☐ **RAISE HIS/HER HEAD OUT OFF BED.**

- Look for Divarication of Recti.

Ventral Hernia Orifices



Divarication of Recti (Rectus Abdominis Diastasis)

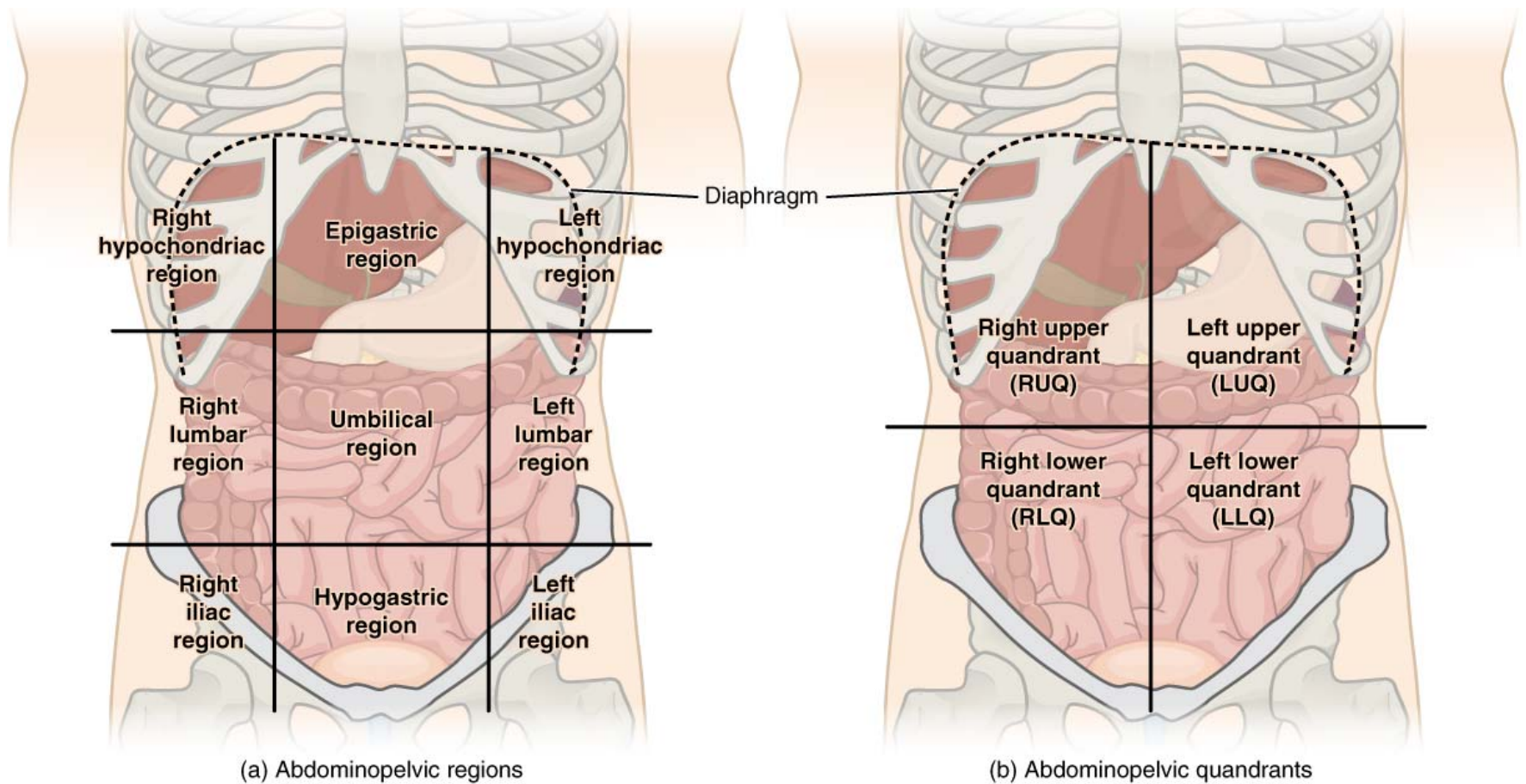


M% AM% S :E C

S :MQ



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



QTP 7% . 2 B % P @ :C 8 Ajupw ; Sfiç

8T% P 0 :C 8

Voluntary Guarding

- * Voluntary contraction of abd. muscles.
- * Palpation provokes pain. (Protection)

Involuntary Guarding

- * Reflex contraction of abd. muscles.
- * Inflammation of parietal peritoneum.

Board-like Rigidity

- * Anterior abd. wall muscles Held Rigid.
- * In Generalised Peritonitis.

P2-ETC0 S2C0 2PC2QQ

BTPM9 \ Q Q:8C

- When rapidly removing your hand after deep palpation, the pain will increase.
- **Indicates:** Intra-abdominal disease (*but not necessary peritonism*).

- Deep palpation at 9th costal margin during deep inspiration will cease inspiration with tenderness.
- **Indicates:** Acute Cholecystitis.

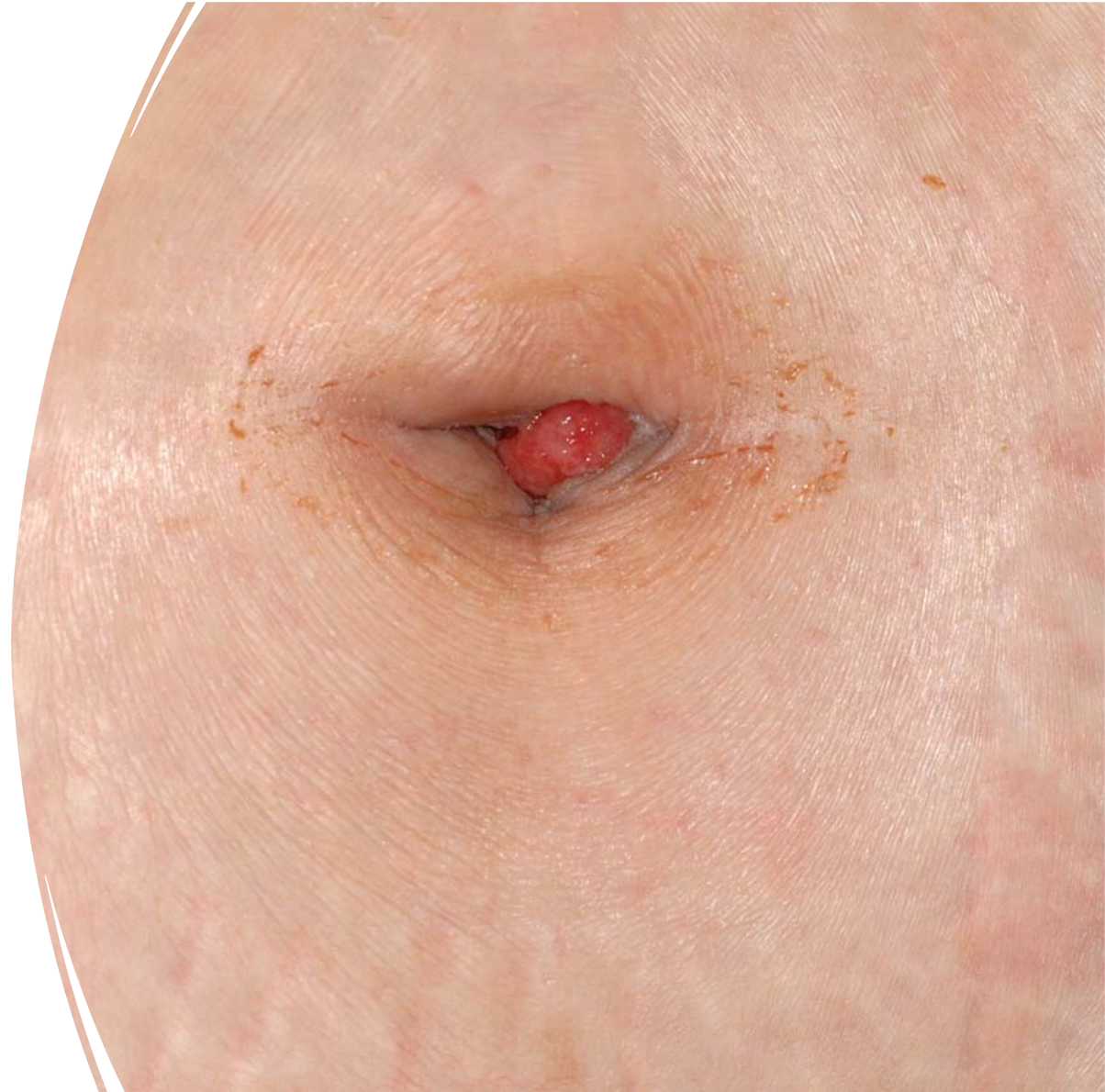
Describe Any Mass



- site, size, surface, shape, consistency.
- moves on respiration?
- fixed or mobile?
- **superficial** in abdominal wall or **within** abdominal cavity?
 - ask patient to tense abdominal muscles by lifting their head >> **abdominal wall mass will still be palpable, whereas intra-abdominal mass will not.**
- Enlarged abdominal organ or separate from solid organs?

TB - A: . % A B % QQ

- 9afliij·arfl;fl·hat·~ivjfl
- B&vlyen~nflbj MafhÖflfi
Baf. fhuöGfl·h/2



2M :8 % QS P :.
MTAQ % S :A2
B % QQ

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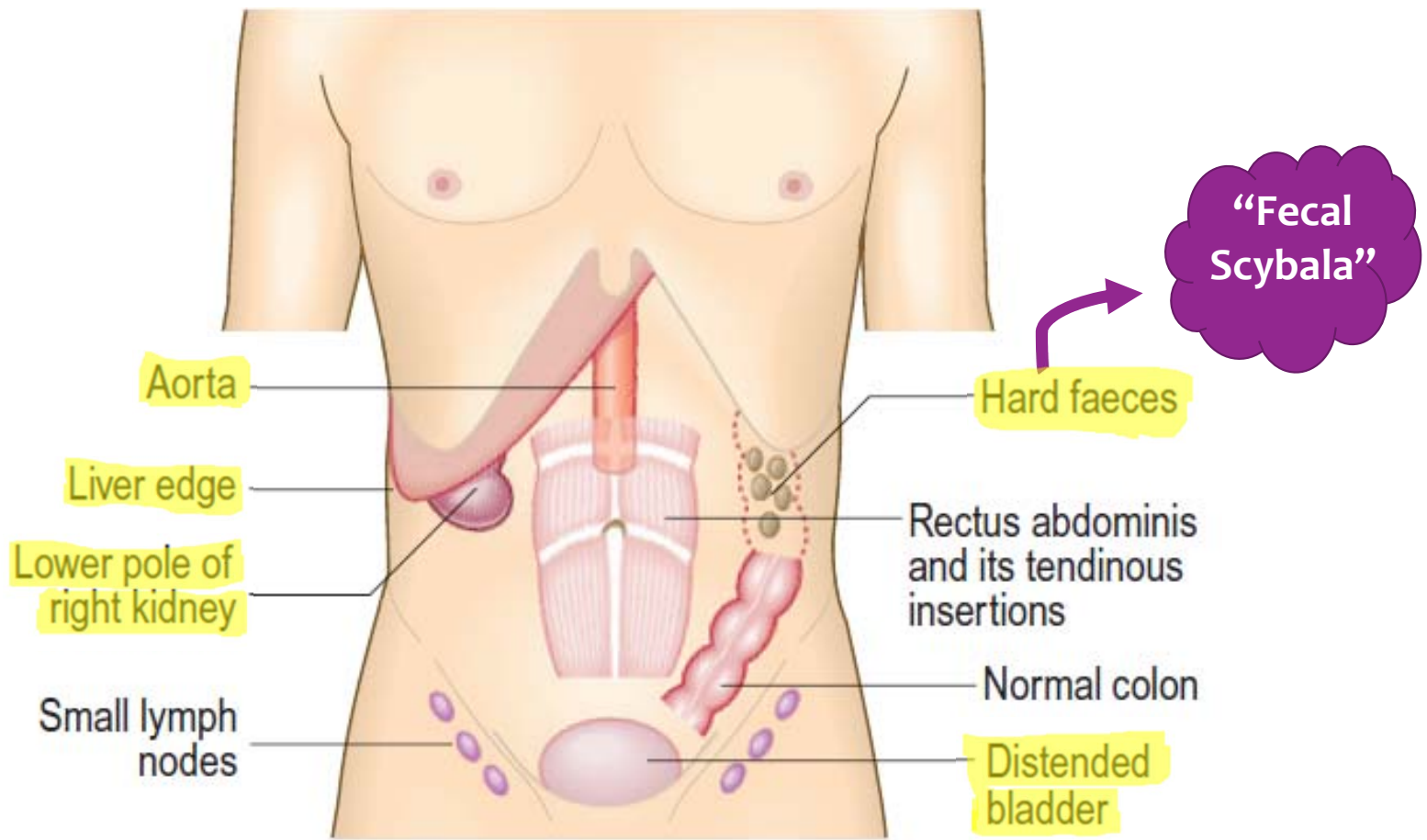


Fig. 6.13 Palpable masses that may be physiological rather than pathological.

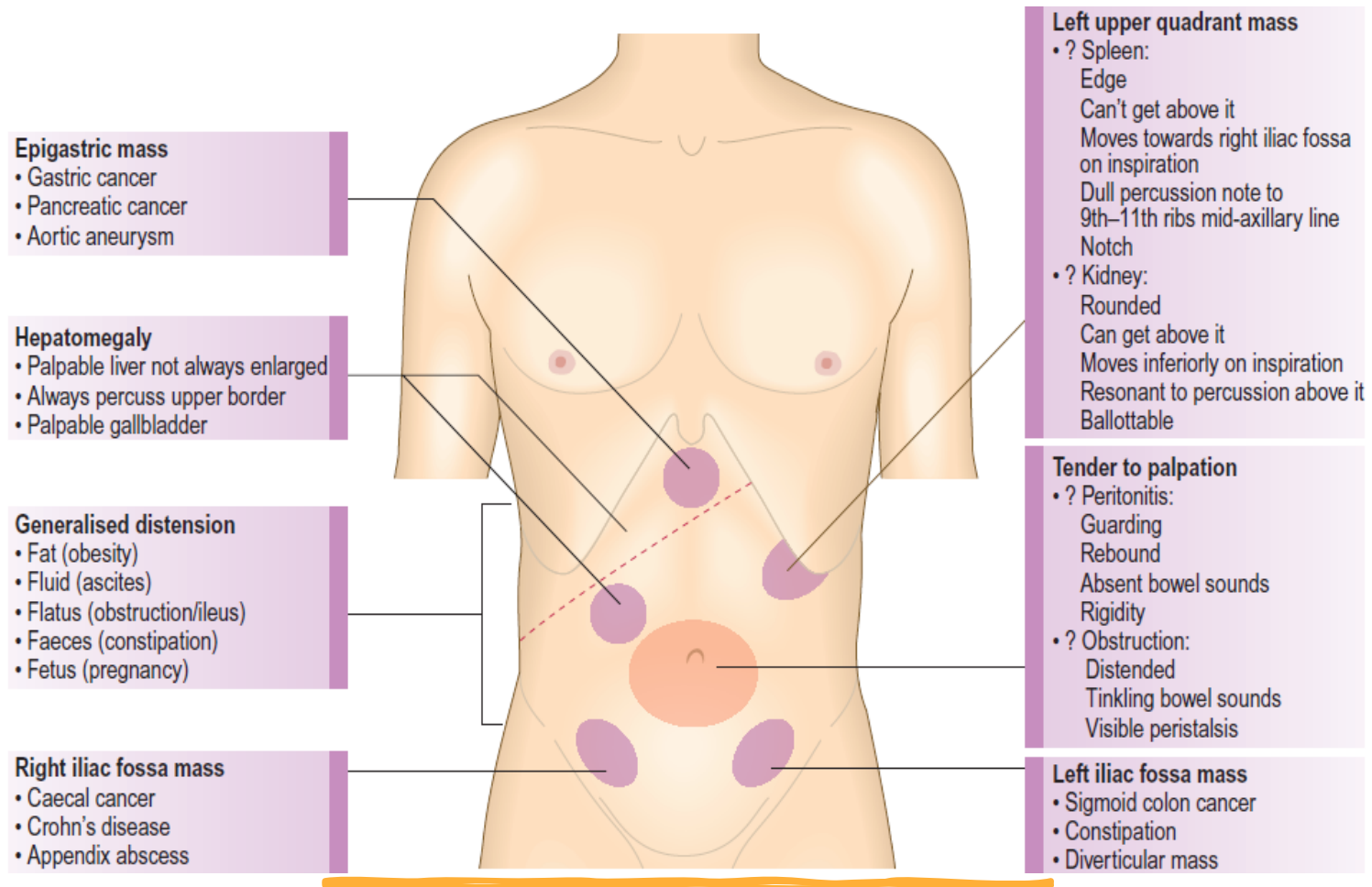


Tenderness

- Discomfort during palpation.
- Vary +/- resistance to palpation.
- usefully indicates underlying pathology.



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



Sites of Tenderness are Important!

Q M 2 . : % A Q : 8 C Q

6.9 Specific signs in the 'acute abdomen'

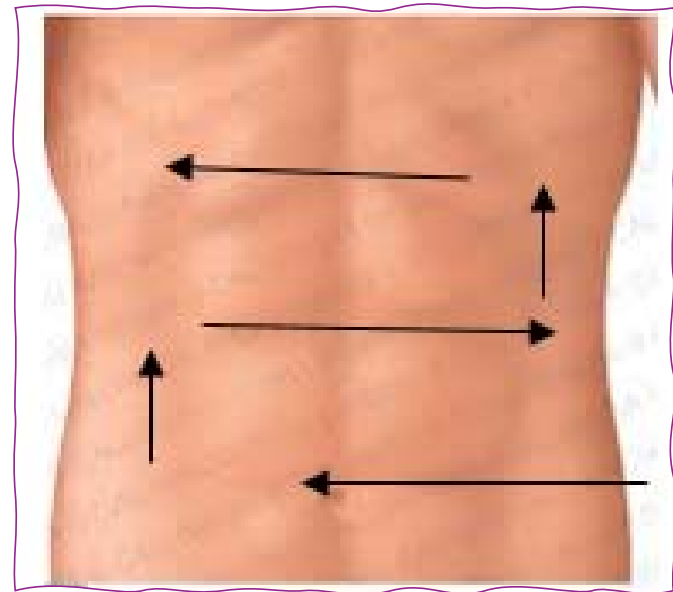
Sign	Disease associations	Examination
Murphy's	Acute cholecystitis: Sensitivity 50–97% Specificity 50–80%	As the patient takes a deep breath in, gently palpate in the right upper quadrant of the abdomen; the acutely inflamed gallbladder contacts the examining fingers, evoking pain with the arrest of 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)

M2P . TQQ :E C

S :MQ

- Cfi a} i f n v i s o ~ a v i
- E' r i ~ a f l l f i s } v t v f l o . } f f . i l l
- M f i j . f i l } } C y n o . a l f a i ; t
- Q n j a } f f f l s f i 2 ; } f i n l f t a f l a a f i j f i l

Percuss for UB
(Dull)



9 2M% SEB 28% A\



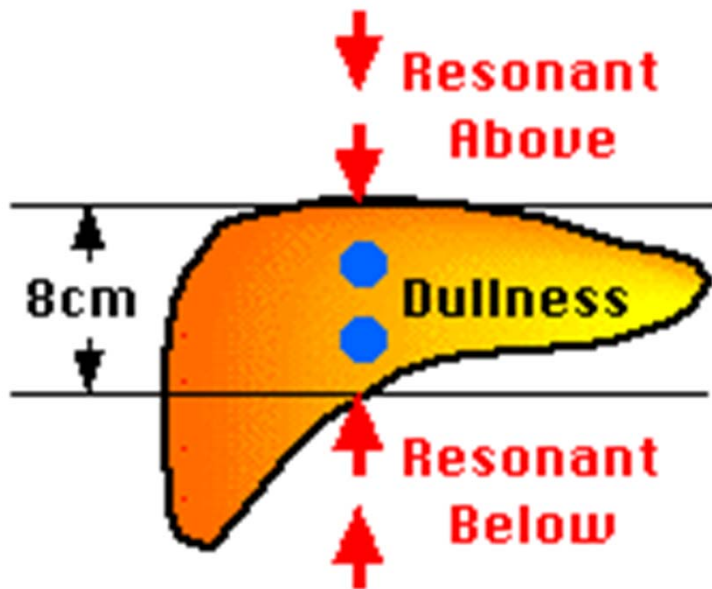
Fig. 6.14 Palpation of the liver.

- Flat hand **at RIF.**
- Deep breath.
- Liver **edge descends on inspiration.**
- Progress up, **1 cm at a time**, between each breath.
- Till costal cartilage or liver edge.

• **.£~~nj†£jØ**

- ❖ Size , Surface, Edge, Consistency, Tenderness (Rt H.F), Pulsatility (TVR).
- ❖ GB tenderness? RUQ / mid-clavicular line.

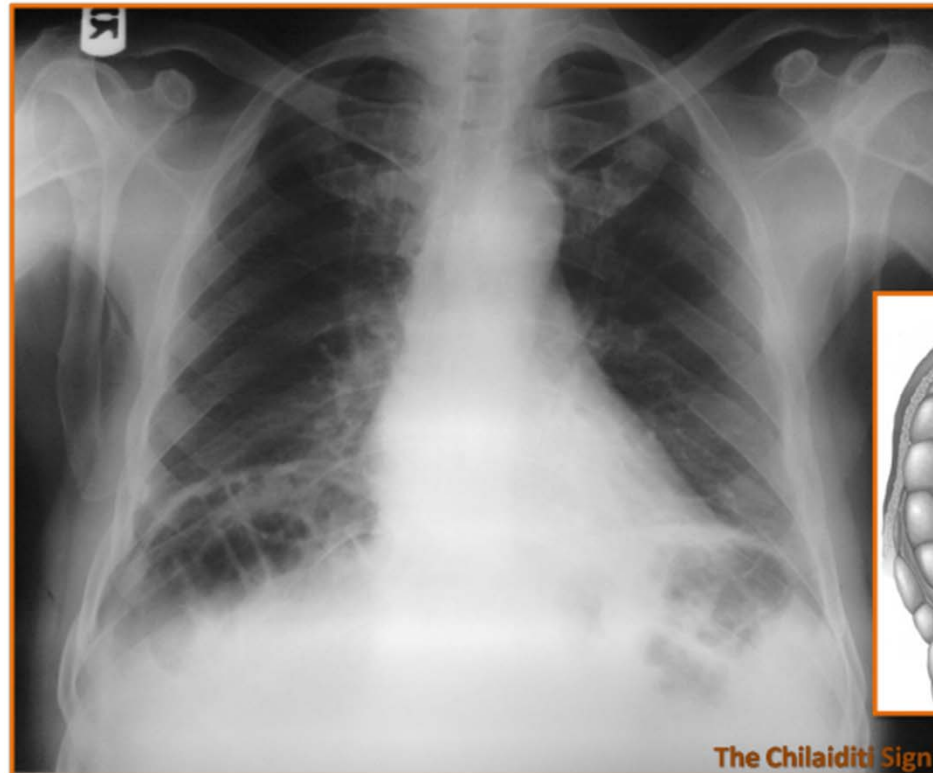
9 2M% SEB 28% A\



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Resonance below 5th ICS

- Hyperinflated lung
- Interposition of transverse colon between liver & diaphragm. (*Chilaiditi's sign*)



The Chilaiditi Sign

. % TQ2Q E 7
9 2M% SEB 28% A \

- Enlarged left lobe: in epigastrium or LUQ.
- Liver enlarged in **early** cirrhosis but shrunken in **advanced** cirrhosis.

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
- Sarcoidosis
- Budd–Chiari syndrome
- Glycogen storage disorders

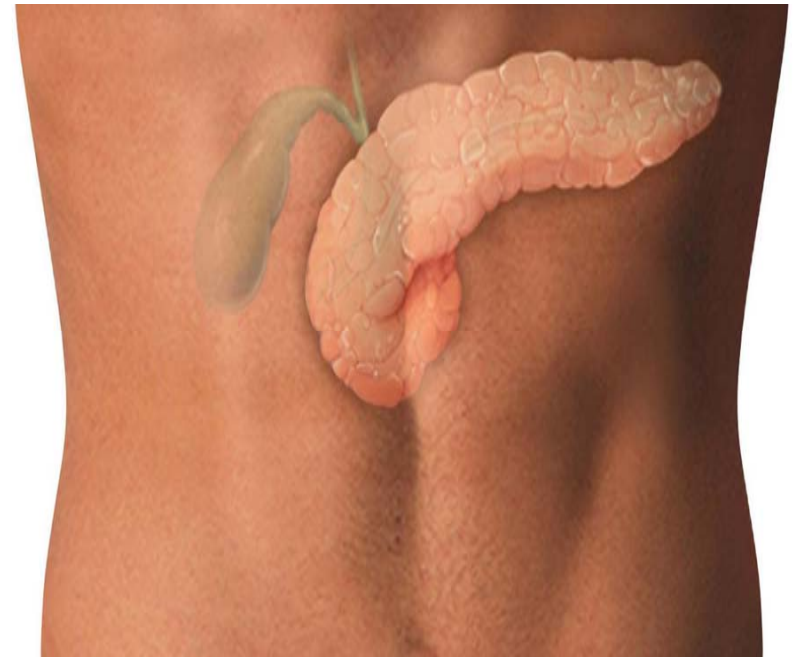
Palpable Distended GB

- Rare. / Globular shape.
- Obstruction of **cystic duct** [Mucocele or Emphyema]
- Obstruction of **CBD** [Pancreatic CA]

**Jaundice + Palpable GB = likely Extrahepatic Obstruction
[pancreatic CA or, very rarely, GBS].**

"Courvoisier's sign"

- Gallstone disease; tender GB + Impalpable (fibrosis of GB wall).



QMA2CEB 28% A\

3X the normal
size to be
palpable.

Percuss
lateral chest / mid-
axillary line (normally
dullness 9th-11th ribs).

- QMA2CEB P.7

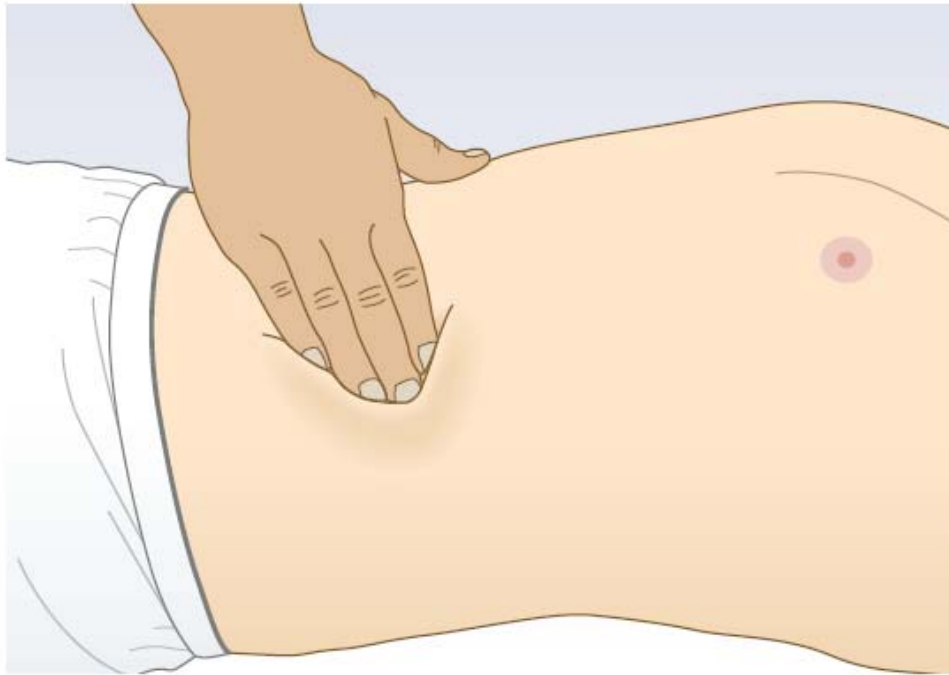
- QMA2CEB

- QMA2CEB P.7

QMA2CEB 28% A\



Cannot feel splenic edge? >> put your Lt. hand behind lower rib & roll pt. to Rt. & feel again.



A



B

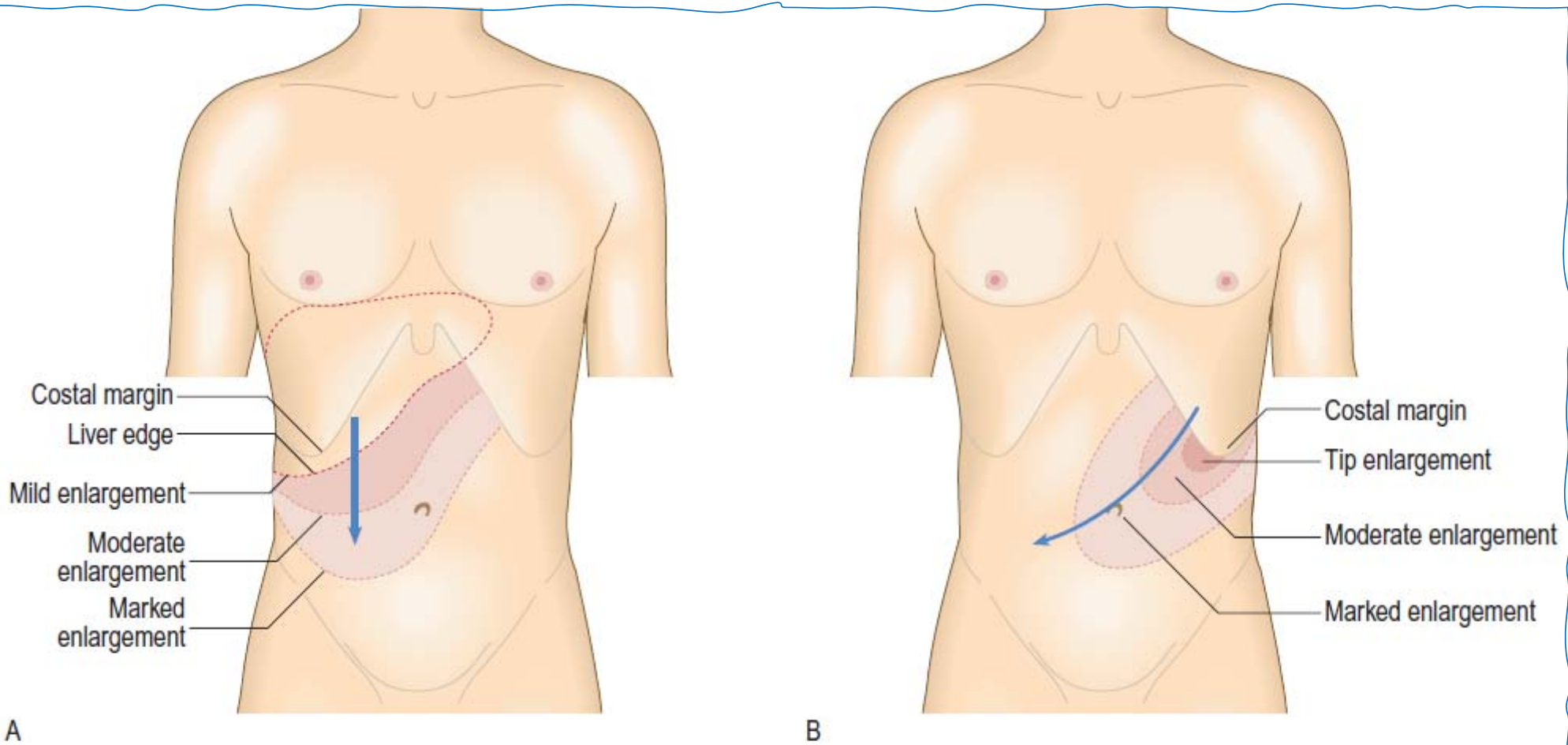
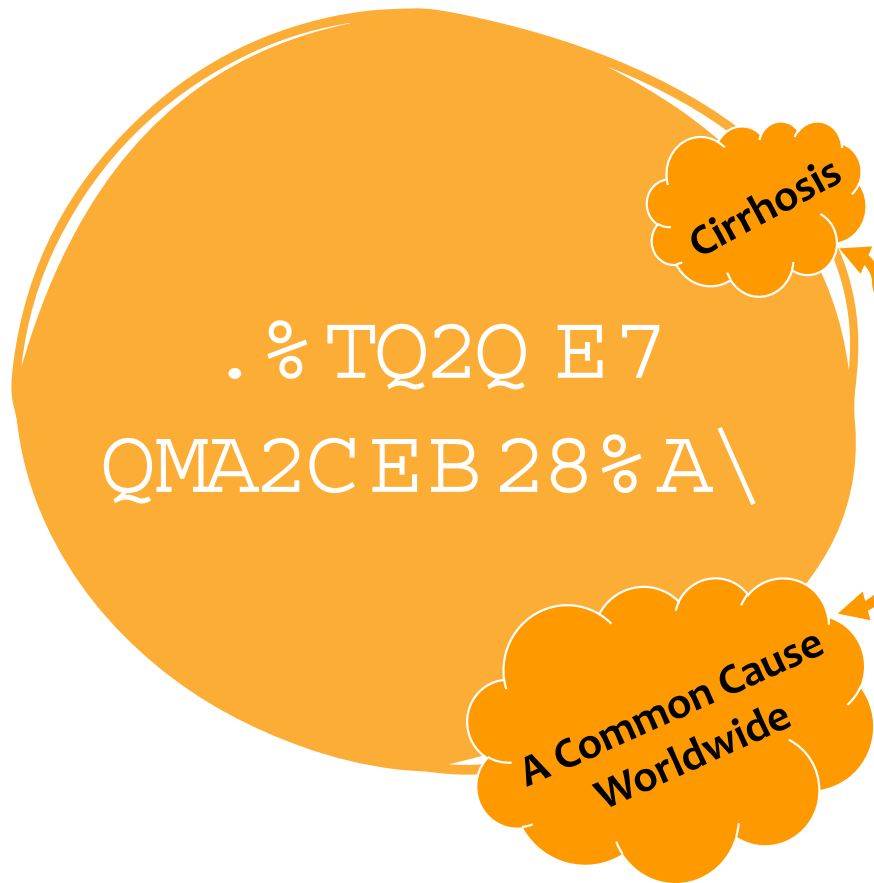


Fig. 6.15 Patterns of progressive enlargement of liver and of spleen. **A** Direction of enlargement of the liver. **B** Direction of enlargement of the spleen. The spleen moves downwards and medially during inspiration.



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

Rarities

- Sarcoidosis
- Amyloidosis
- Glycogen storage disorders



Felty's Syndrome

- Increased Chance of Infections.
- Unknown Cause / Autoimmunity?
- Chance of Genetics? AD trait?

Felty's Syndrome Components



Splenomegaly

Anemia

Neutropenia

Thrombocytopenia

Arthritis (Rheumatoid)

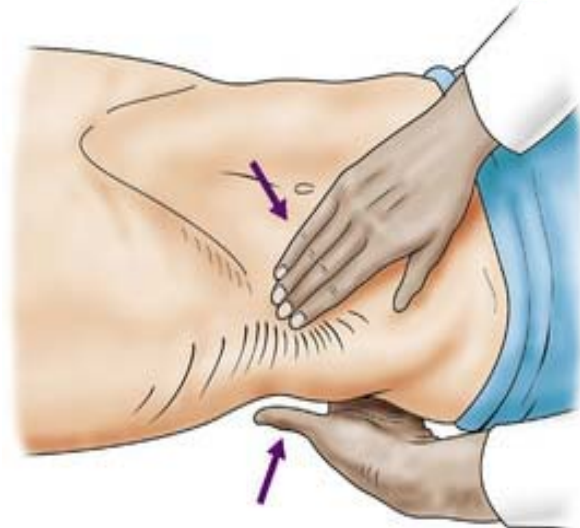
Felty syndrome is a rare condition that involves rheumatoid arthritis, decreased white blood cell count, and a swollen spleen.

@ :0 C 2\
2 [% B :C % S :EC

- -vai·ana·1
- Enjaitj·n·l·f·f·l



Ulnar Surface



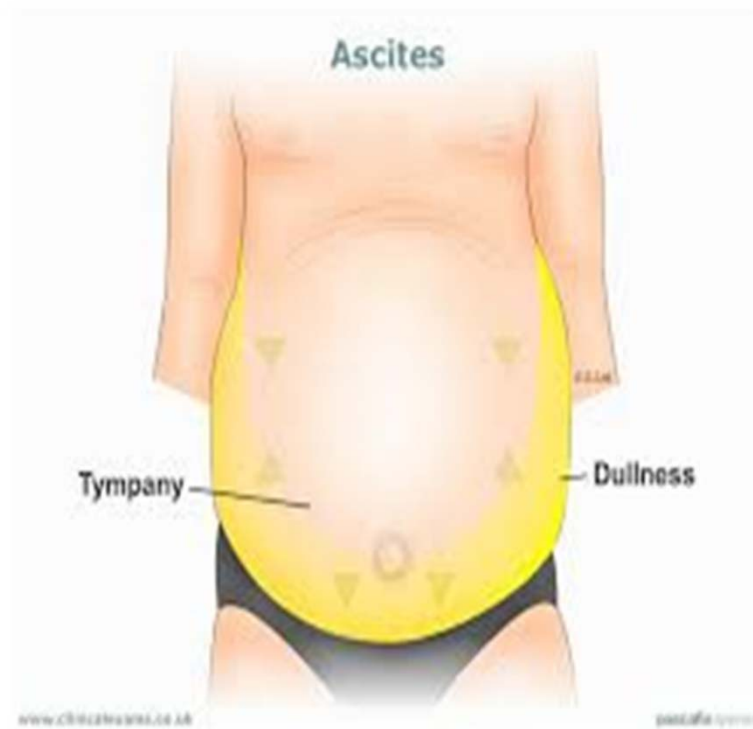
Spleen vs. Kidney

- 

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)

Q. 2Q



- :ifäñivÉra}svh
- Qwyt l. }nffl v}D~Énfänafjxfi
- 7}v fäfl-v#l #fiv}~affvnañjxfi

Q9 :7S :C8 0 TAAC 2QQ



- Finger on site of dullness in flank >> pt. turns on opposite side >> 10 seconds >> percuss again.
- If **dullness is now resonant**, shifting dullness is present, indicating **Ascites**.

7AT :0 S9P :AA

- **Flat Palm.**
- **Flick a finger.**
- **Ripple against your palm?**
 - assistant or pt. place edge of their hand on midline of abdomen.
 - prevents transmission of impulse via skin rather than ascites.
- **Still feel a ripple >> fluid thrill is present.**

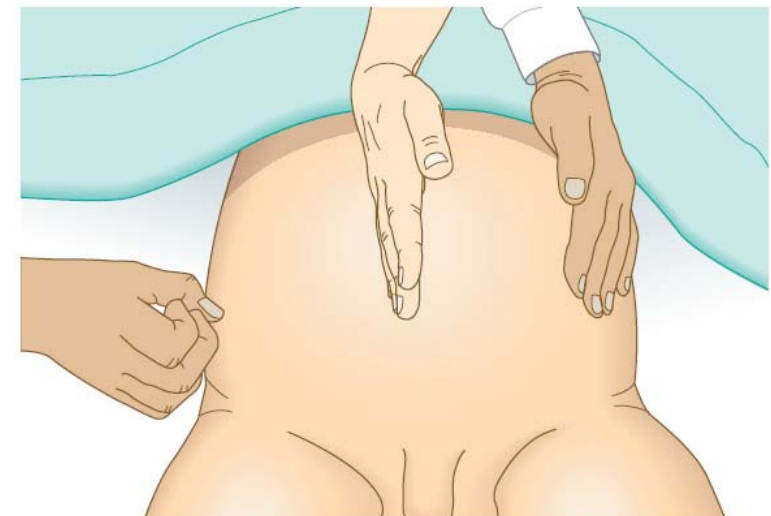


Fig. 6.18 Eliciting a fluid thrill.

Q% % 8

**[Serum-Ascites
Albumin
Gradient]**

	SAAG (g/dL)	
	≥ 1.1	< 1.1
Total protein (g/dL)		
< 2.5	Cirrhosis Acute liver failure	Nephrotic syndrome
≥ 2.5	CHF Constrictive pericarditis Budd-Chiari syndrome Veno-occlusive disease	Peritoneal carcinomatosis TB peritonitis Pancreatic ascites Chylous ascites

EC S AS TQ . TAS S EC



• **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:**

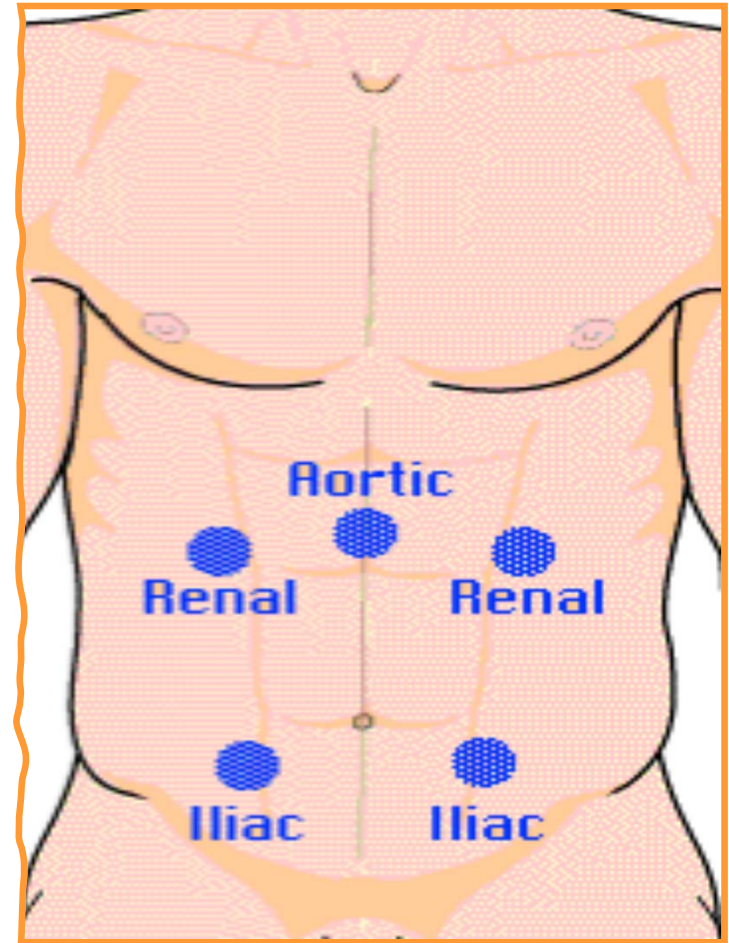
- **Liver** (acute alcoholic hepatitis, HCC & AVM. **MCC: transmitted heart murmur**).
- **Vessels.**

• **Friction Rub:**

- Liver (perihepatitis) & Spleen (perisplenitis).

Bruits

- sign ~ ivjfb Atheromatous or Aneurysmal Aorta or SMA stenosis 1
- Đ j in» a pfa} € ~ ivjfb Iliacs 1
- Đ j aifna pfa} € ~ ivjfb RAS.



% T0 :- A2 QMA% Q9
**(Succession
Splash)**



- 2. «ay € «#
- Qan°ilf~n; »vu%€fiifstua;fla«n}vfl
- Áa}Dsjl »afii#hinytfla;ñ;ç
- ², uffl«f Dfa;lv}²² Cn&n l 8afvj
2~«#ytaalv N%fvjQn;fvfl



ES9 2PQ



**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,*
- *Auscultate over femoral art.*

Pyoderma Gangrenosum





6.16 Causes of abnormal stool appearance

Stool appearance	Cause
Abnormally pale	Biliary obstruction
Pale and greasy	Steatorrhea
Black and tarry (melaena)	Bleeding from the upper gastrointestinal tract
Grey/black	Oral iron or bismuth therapy
Silvery	Steatorrhea 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

