

The History And abdominal examination

Elias jan arteen
FRCSI

- * Do abdominal examination for this patient without solid organ examination
Don't examine liver and spleen, examine the abdominal wall, masses, hernia.
- OSCE المراجعة ملخص بالاقوال سريرية هذه Splenomegaly أو Hepatomegaly.

* vomiting + abdominal pain + elderly
Hernia ←

* rectal Bleeding عند فحصه
rectal Cancer قد يكون مع PR

Abdominal examination

- Warm room, privacy.
- Good light.
- Hard couch, raise head **15-20 degree.** - درجة مريحة
- Expose patient from nipple, to knees. (mid thigh)
Silva pupic region لمنطقة المقعدة accepted تقبل femoral hernia فتحة الفخذ
- Rest head on a pillow, arms by his sides.
- Examine: back , genetalia , **PR** examination.



- old age woman, with abdominal pain and vomiting → may be **small obstructed femoral hernia** so here we should expose well to the mid thigh
- in most of the people we expose from below the nipples to the suprapubic region for social reasons.

- No abdominal examination is complete without doing PR
- **PR is mandatory** if you don't put your finger, put your foot

many souls are calling for us why you didn't do PR for us
 "died with cancer rectum :)"

- **Rectal cancer** is common in elderly the peak of colon cancer is **70** years of age there is cancer rectum in 20s

- should examin //

- PR
- Hernial orifices. < umbilical
 Inguinal
- Femoral pulse
- supraclavicular lymph nodes.
 - Virchow node -

* clinical examination → general ما في شئ عام
 → local مكان المرض
 ↓
 as a surgeon the local exam. is the abdomen

→ systemic examination → complete head to toe examination.



- السرير ما يكله ملزمه بالحيط فـ



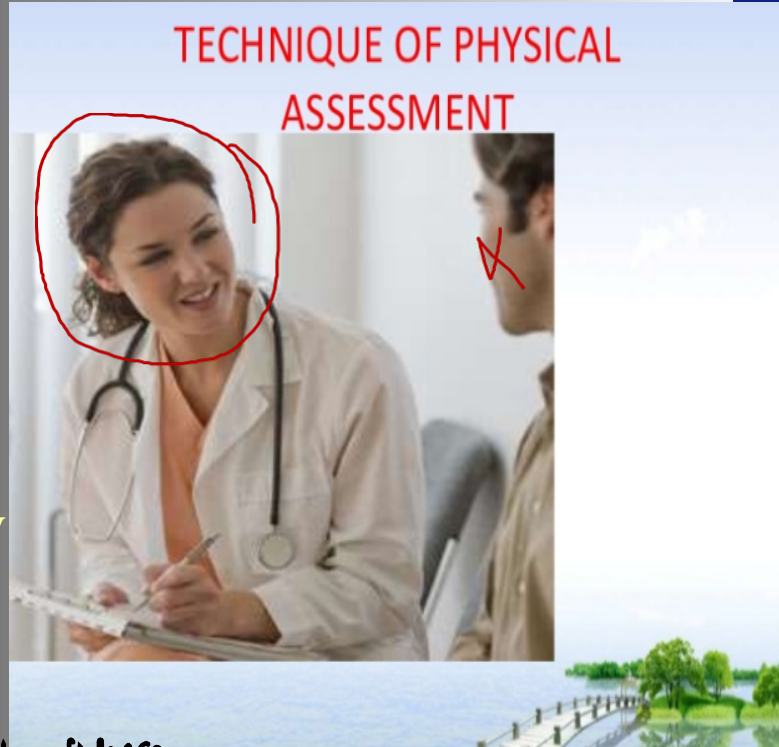
Examiner

- **Right side** of patient.
- **Sit or kneel, your fore arm horizontal.**
 - look to the patient's face for facial expressions
- **Clean hands , short nails .**
- **Use your palmar aspect of fingers .**
- **Examine gently and lightly from Superficial to Deep, and from Normal part to Symptomatic area.**

- to gain patient confidence

- palpation $\begin{matrix} \swarrow \text{superficial} \\ \searrow \text{deep} \end{matrix}$

- Ask the patient if there is a painful area, then this area is examined last.



* looking to the pt (inspection)
(80%) of examination

① radial pulse

② temp.

③ if there is sweating

④ nails

general exam is the hand

* palpation → superficial
to gain the pt confidence
to exam (rigidity - mass
tenderness - temp.)
→ deep.



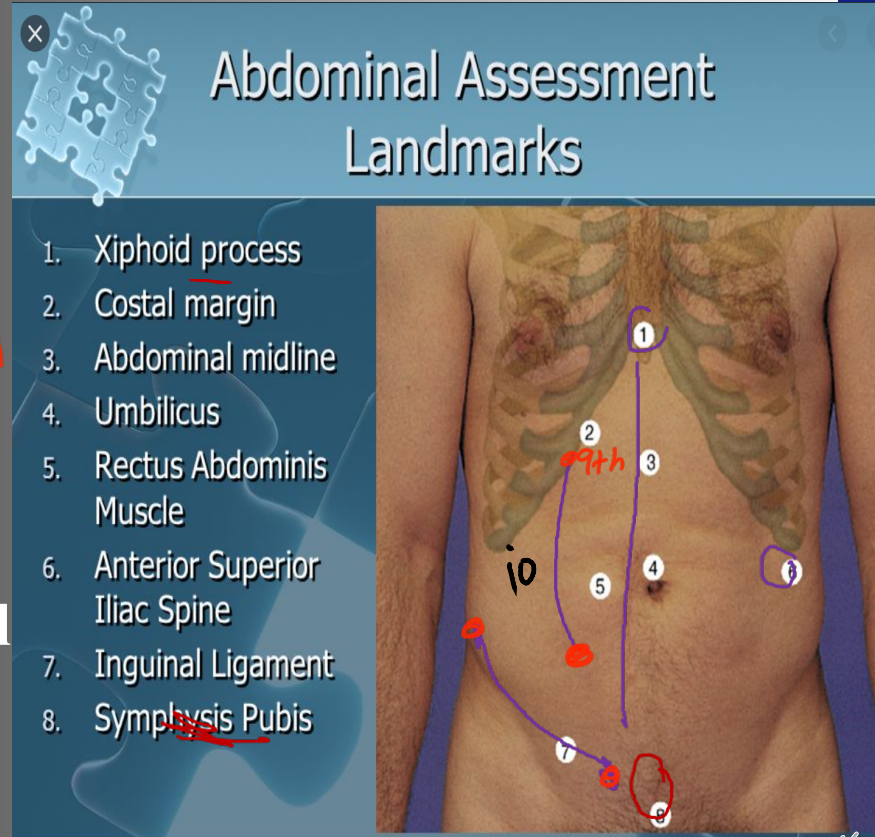
The tenderness may be

sign	symptom
↓	↓
ما نغوص المريض ريجلي في ألم.	توكان المريض ملاحظا tenderness دا جه يحس انه في



Landmarks of abdominal examination

- Umbilicus.
- Linea alba and linea semilunaris.
- Trans-pyloric plane. *L1*
- Subcostal and inter-tubercle plane. *L3*
- ASIS & Pubic Tubercle & Inguinal ligament. *LS*
- Nine quadrants of abdomen.



- **Umbilicus** lies halfway between xiphoid process and symphysis pubis
- **umbilicus pushed upward**
- [-pregnancy -ovarian cancer -fibroids.]
- **umbilicus pushed downward**
- [-Mass in transverse colon or pancreas]
- **linea alba**, the line between the two recti muscles, slightly in the midline
- * why surgeons like it? Preferred site to open the abdomen, since it contains no blood
- * wide above the umbilicus "1.4 cm in width 1-2 fingers", below the umbilicus it's just a line
- ◆ **linea semilunaris**, lateral border of rectus muscle, it's a curved line from pubic tubercle to the ninth costal cartilage
- When it cuts the 9th cc on the Rt side we can find the fundus of gall bladder
- ✓ Rectus muscle is wider on female.
- ✓ tendinosis intersections 3
- * umbilicus * xiphoid process * the 3rd in between

!! Sex bages ← يتعلل ال
Tendons intersections are adherent to the anterior rictus sheath but not to the posterior

◆ Inguinal ligament ASIS → pupic tubercle

*trans pyloric line in the level of L1
[in 9th c.c between the
xiphoid process and the umbilicus].

◆ subcostal plane below the 10th rib (L3)

◆ Intertubercle plane L5

◆ Abdomen Is divided into nine quadrants by 2 vertical lines "from midclavicle to the midinguinal point, and 2 transverse lines at level of L3 L5.

◆ transpyloric plane L1

Cross the ninth costal cartilage, halfway between xiphoid process and umbilicus
Fundus of gall bladder, D1D2 junction, neck of pancreas.

■ femoral pulse midinguinal point "half the way between ASIS and symphysis pupis"

■ Deep ring midpoint of inguinal ligament "half the way between ASIS and pupic tubercle"

Clinical importance/

Deep ring of Inguinal hernia half and inch lateral and half and inch above from the femoral pulse

Think anatomically

Epigastric region pain >> stomach, pancreas

Umbilical region >> small intestine

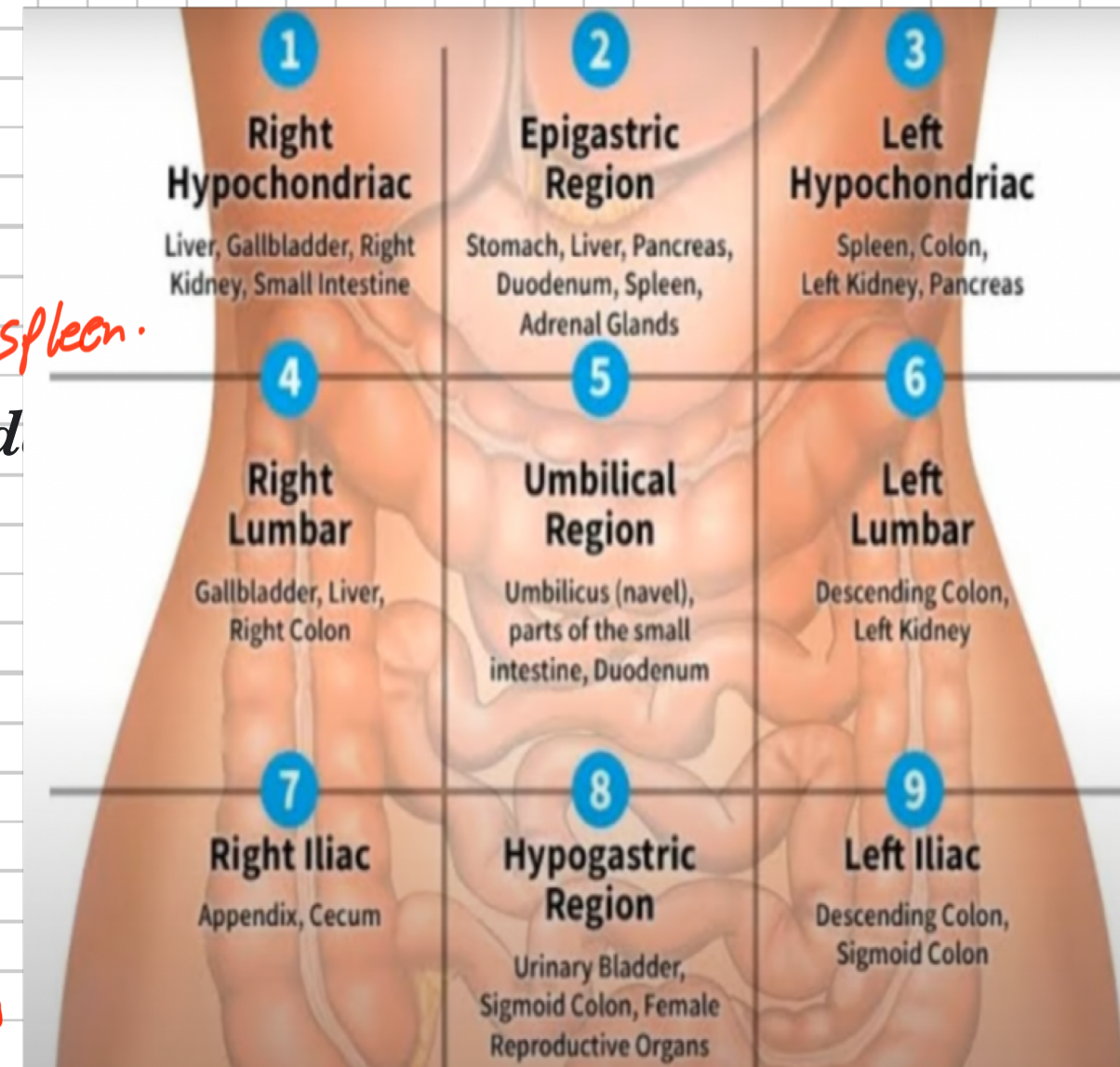
Suprapubic region >> urinary bladder, uterus, sigmoid colon, rectum

Rt iliac fossa >> Rt ovary, appendix

Lt iliac fossa >> Lt ovary

Lt hypochondriac >> fundus of stomach ^{spleen}

Rt hypochondriac >> liver and gallbladder

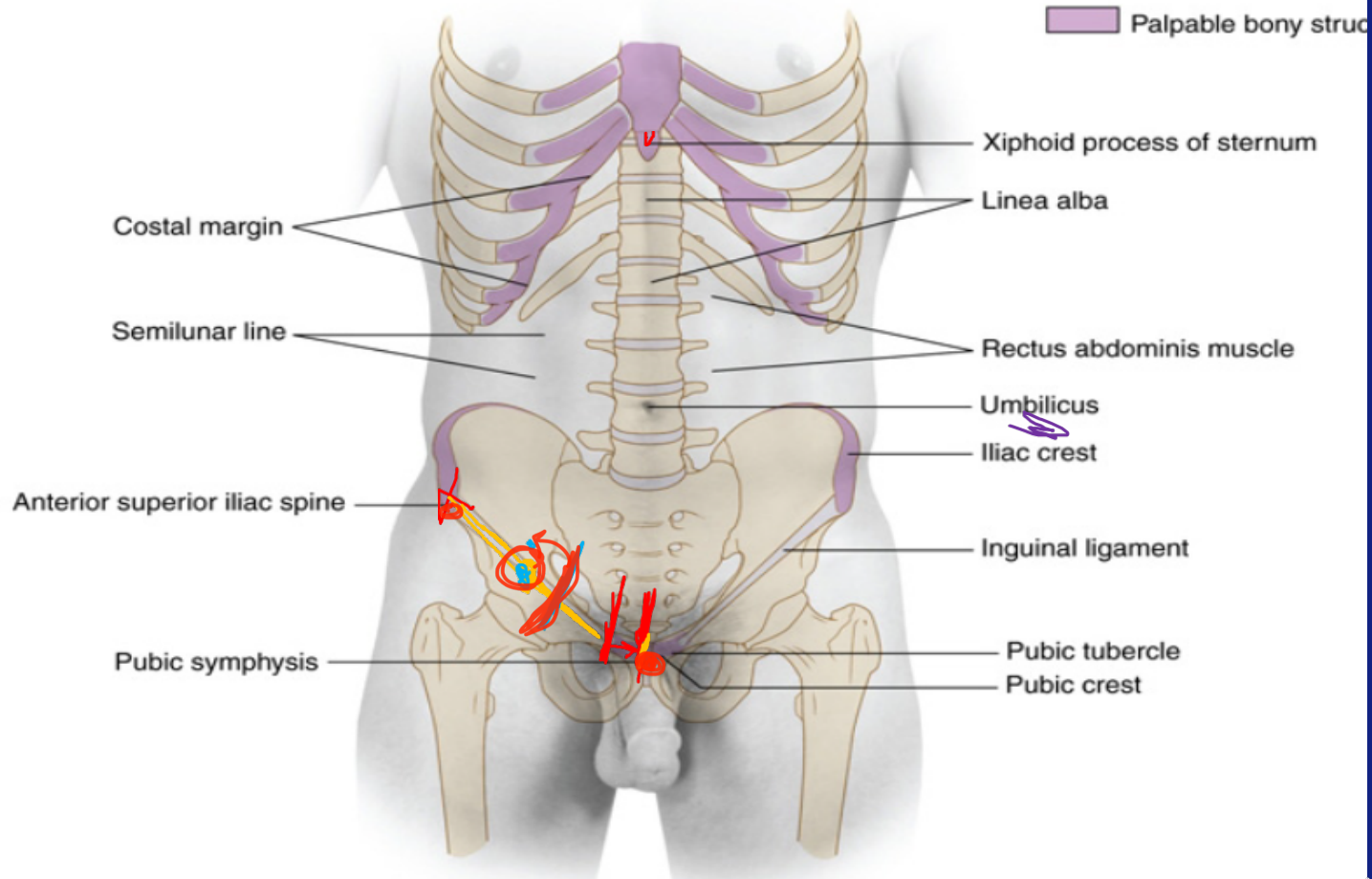


* abdomen → true abdomen [below the CC]
 → thoracoabdomine [above the CC]
 [there is → liver - spleen - diaphragm - fundus of the stomach...]

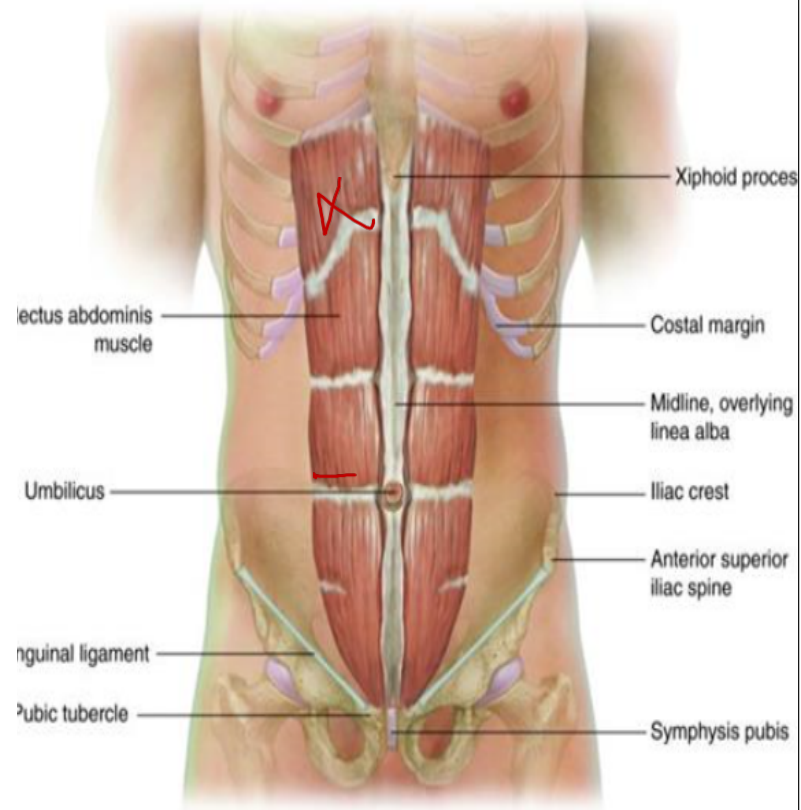
* Bladder → abdomino pelvic organ. [age 11-12]
 in adult → in children.

* Full Bladder → dull
 ↳ pain في البطن

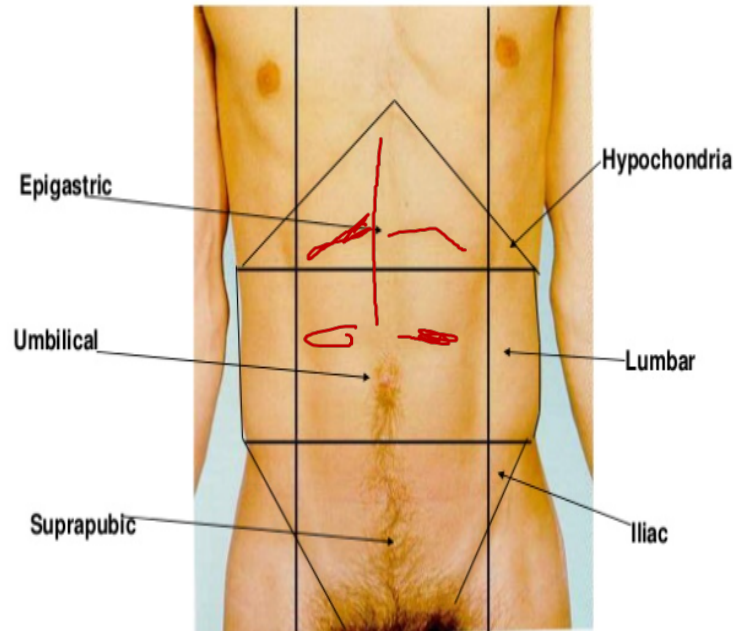
* Bladder capacity 3-500-700 cc

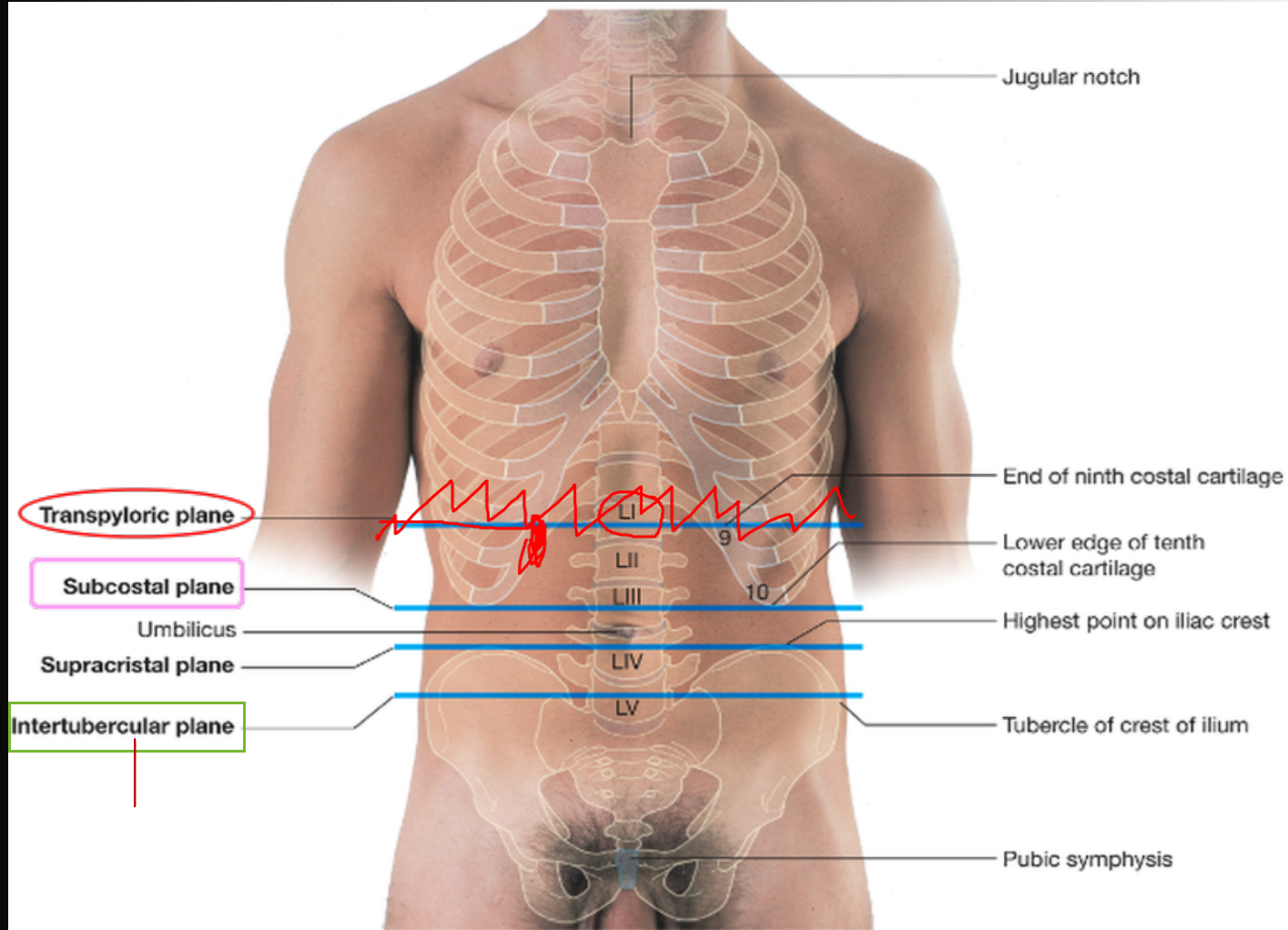


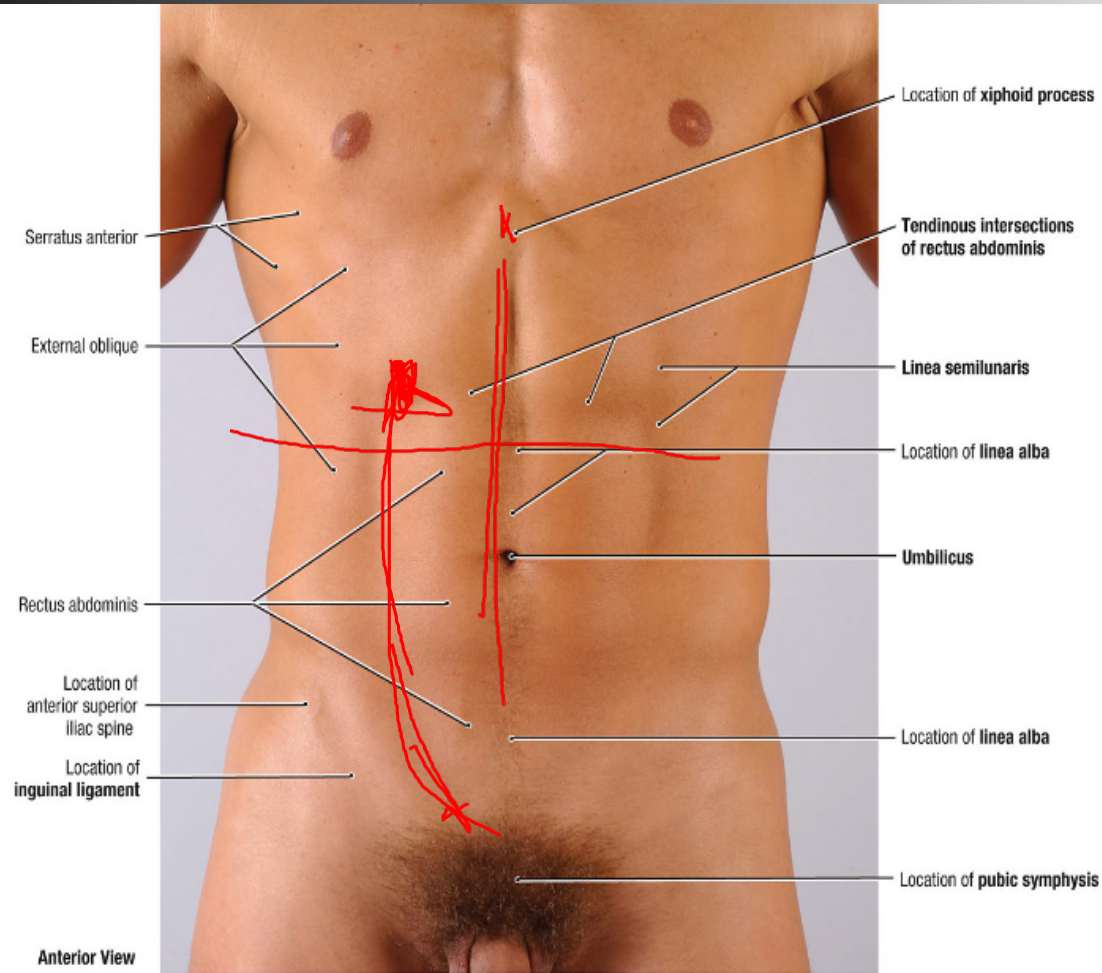
Landmarks of Abdominal Examination



Abdominal Regions

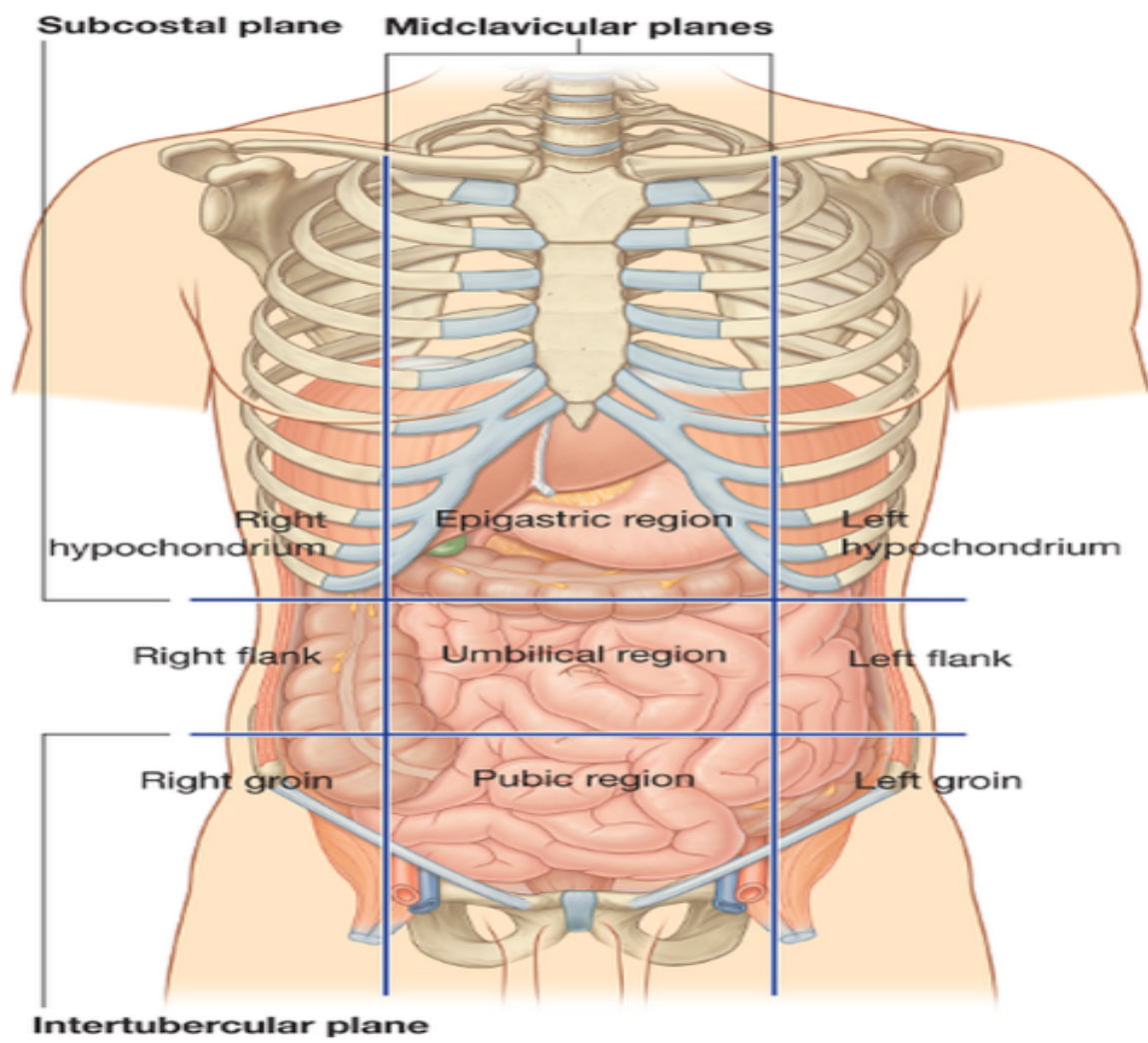


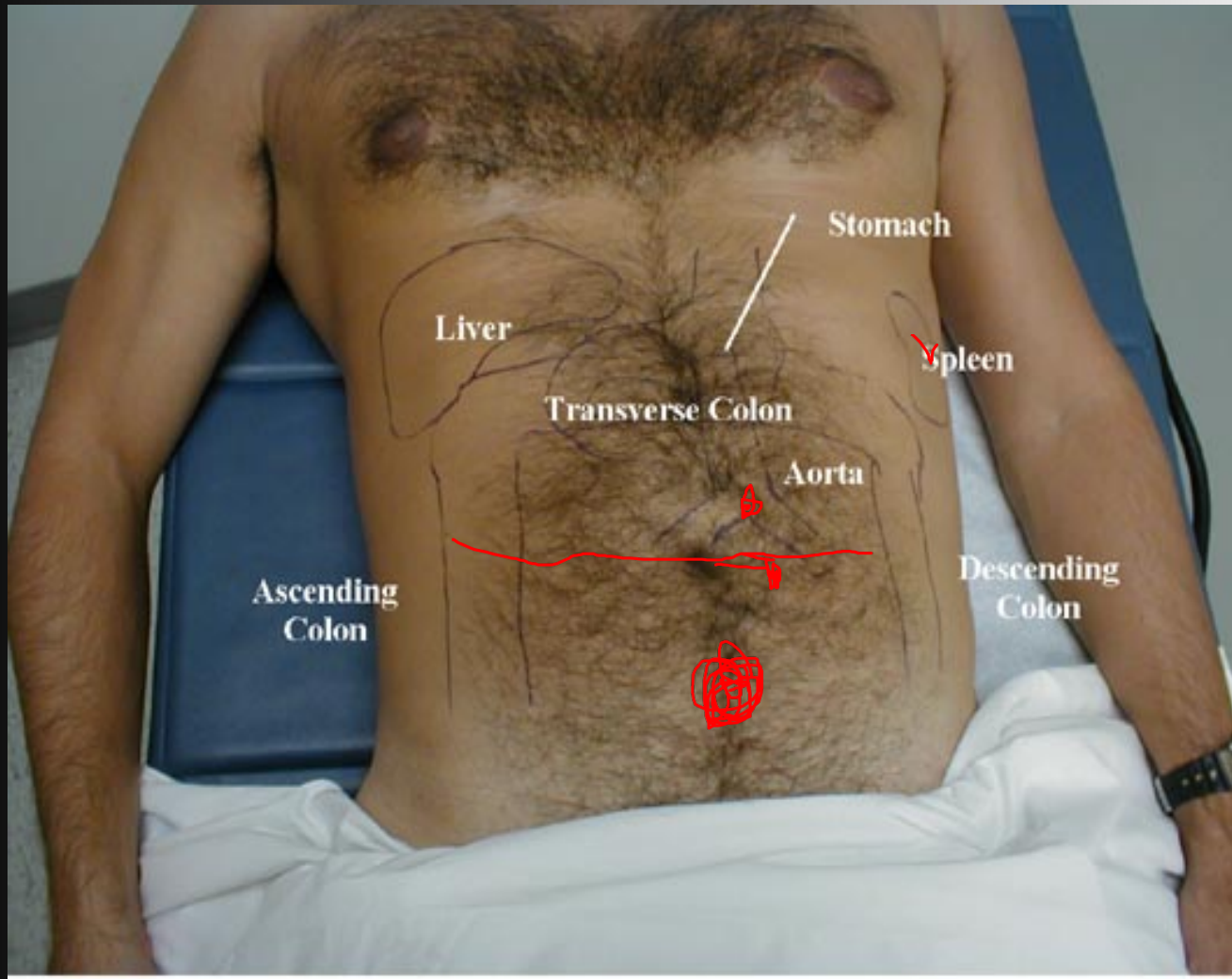




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Liver is above the costal margin “not in the abdomen.

■ *True abdomen, below the costal cartilage*

■ *Thoracoabdomen*
Liver, spleen, fundus of stomach, diaphragm

Gunshot above the ribcage

Rt side ... liver then pleura

Lt side ... spleen or fundus of stomach



General principles of Exam

- Before the exam Introduce Your Self First and ask patient Permission to Examine him.
- Ask patient to (Identify Painful Areas) so that you can examine those areas last.
- During the exam pay attention to their (Facial Expression) to assess for sign of discomfort.
- **Inspection (Looking).**
- **Palpation .** *Eye inspection is important in examination*
- **Percussion .** *Patient who is closes his eyes ... he is in pain*
- **Auscultation .** *(peritoneal irritation)
Patient who is opens his eyes ... he has no symptoms
in his abdomen 🤔*



Techniques of Examination

- Have Patient:
- Empty Bladder. → not to appear as a mass
- Lie in Supine Position.
- Arms to the side or laying (Across Chest.)
- Bend knees. → Relaxation of abdomen
- Point to any painful area.
- Examiner
- Warm hands and stethoscope.
- Watch patient's face for signs of pain.
- Distract patient if necessary. → طبعه را باي معنه to relax the abdomen
- Begin palpation with patient's hand under yours if patient is Ticklish, then slip your hand underneath directly.



Bladder

✓ abdomenopelvic
organ

Empty— pelvic

Full — abdominal

✓ Dull on percussion

✓ You can't reach
below it

✓ Capacity 500-700 cc

✓ Swollen disappear
when you void

✓ When palpate it when
it's full— pain and desire
to micturate



STOP, LOOK and LISTEN

Before you proceed, consider Your Patient's Comfort.

Is your stethoscope warm? Are your hands warm? Are your fingernails short ?

Has the patient emptied his/her bladder?

Place a pillow under your patient's head.

Asking your patient to bend his/her knees may help relax the abdominal muscles.

Examine the area of pain LAST.

Pt. should be supine, Examiner should be able to walk around the table(not against wall)

Abdomen should be fully exposed.

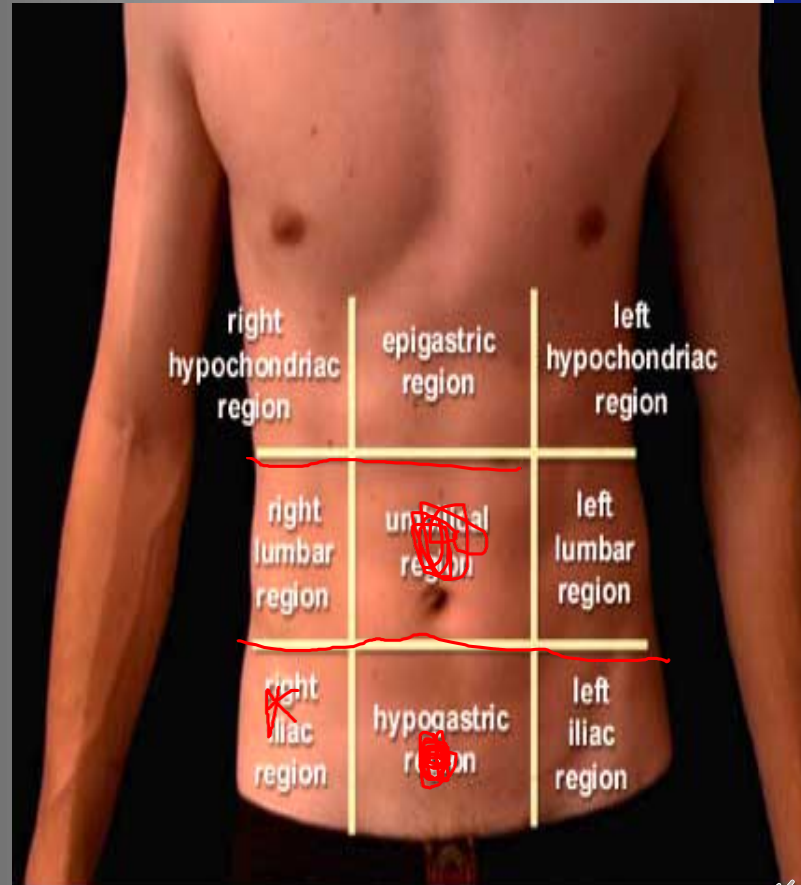
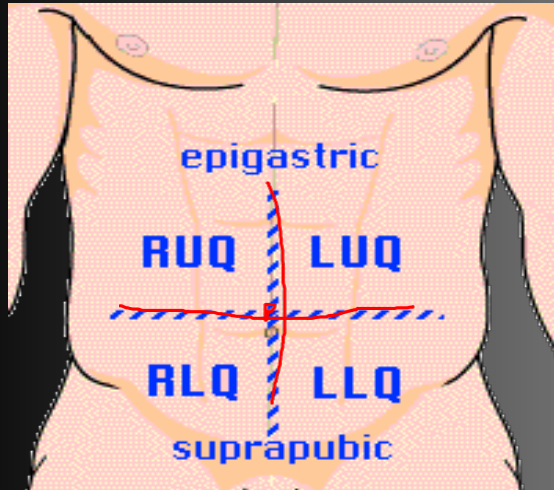
Arms at sides and legs flat.

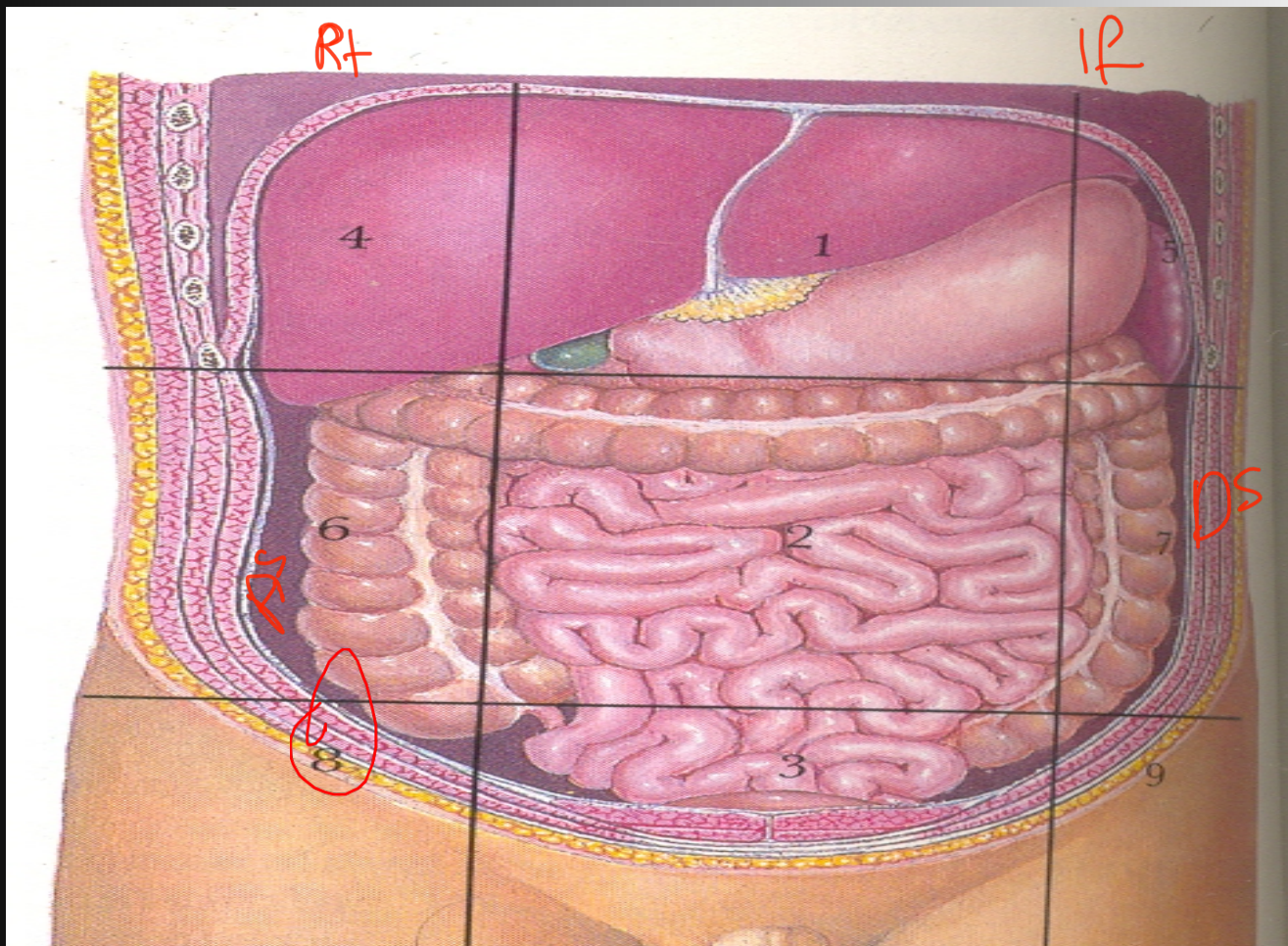


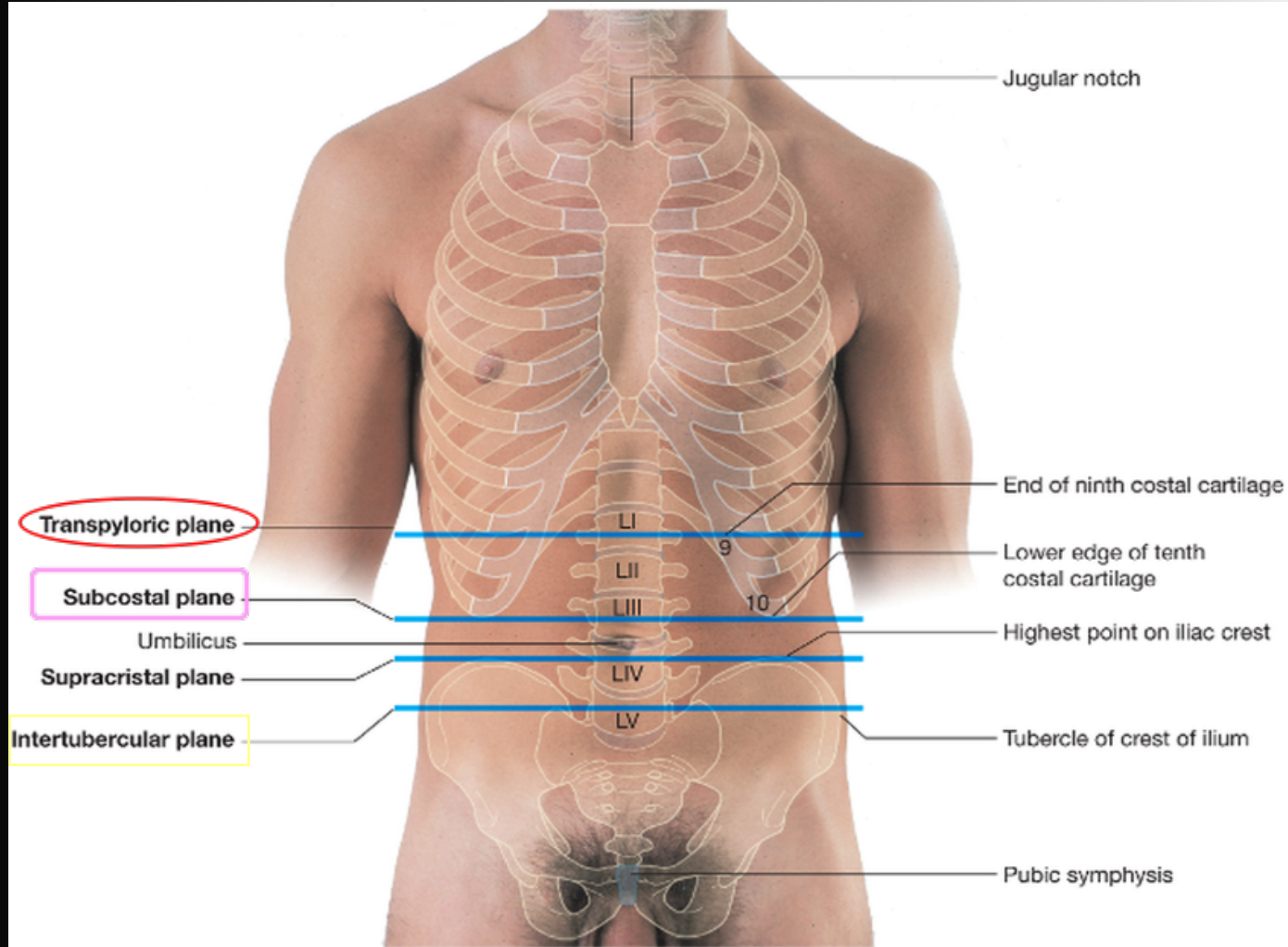


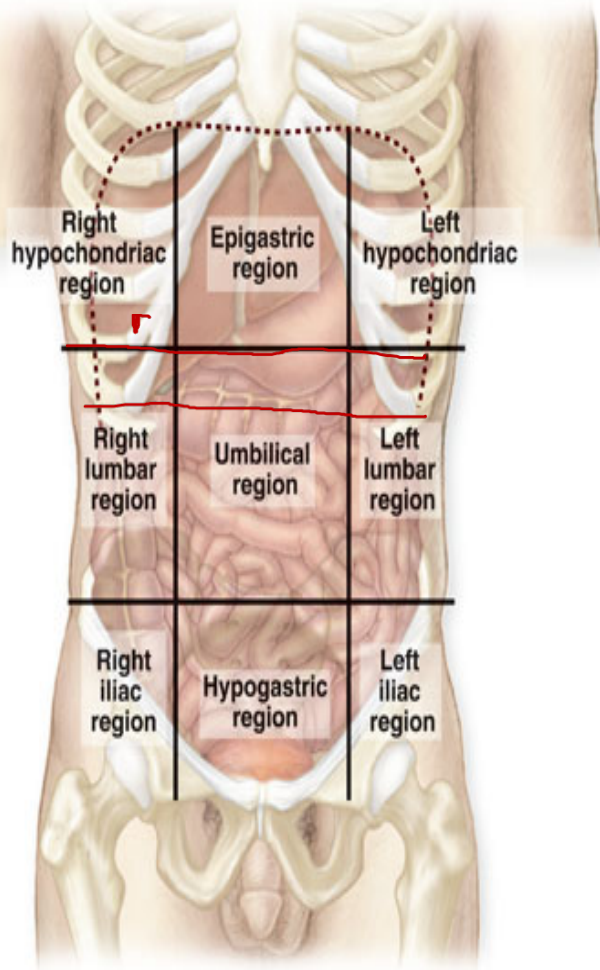
Think Anatomically

- When looking, listening, feeling and percussing
Imagine what organs lies in the area that you are examining.

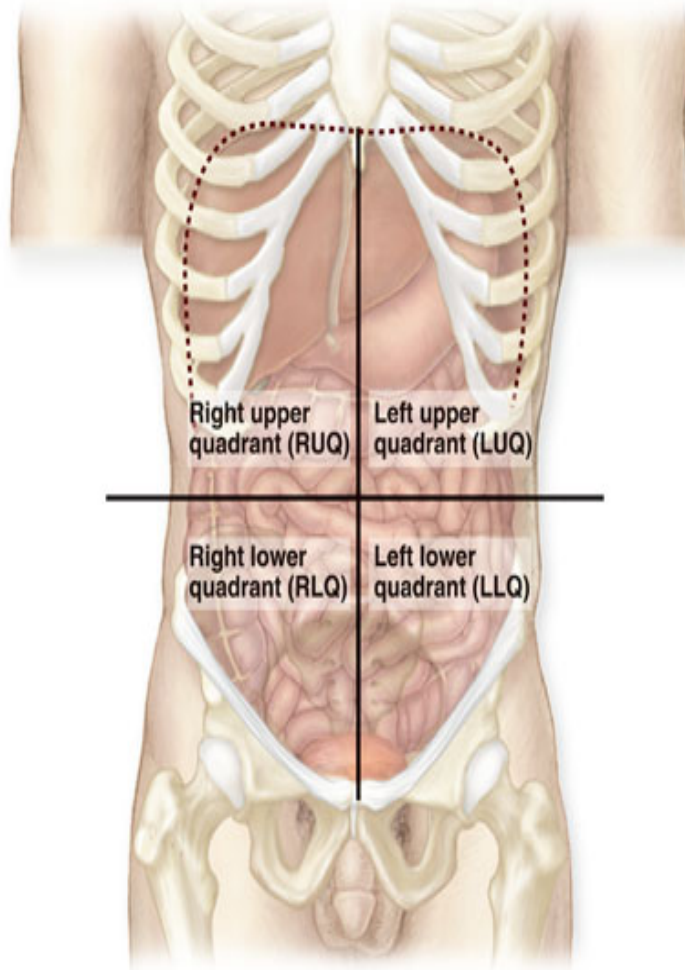








(a) Abdominopelvic regions



(b) Abdominopelvic quadrants



ANATOMICAL CORRELATES OF THE NINE REGIONS OF THE ABDOMEN

Right Hypochondriac

Right lobe of liver ✓
 Gallbladder ✓
 Portion of duodenum ✓
 Hepatic flexure of colon ✓
 Portion of right kidney ✓
 Suprarenal gland ✓

Epigastric

Pyloric end of stomach ✓
 Duodenum ✓
 Pancreas ✓
 Portion of liver ✓

Left Hypochondriac

Stomach ✓
 Spleen ✓
 Tail of pancreas ✓
 Splenic flexure of colon ✓
 Upper pole of left kidney ✓
 Suprarenal gland ✓

Right Lumbar

Ascending colon ✓
 Lower half of right kidney ✓
 Portion of duodenum and jejunum ✓

Umbilical

Omentum ✓
 Mesentery ✓
 Lower part of duodenum ✓
 Jejunum and ileum ✓

Left Lumbar

Descending colon ✓
 Lower half of left kidney ✓
 Portions of jejunum and ileum ✓

Right Inguinal

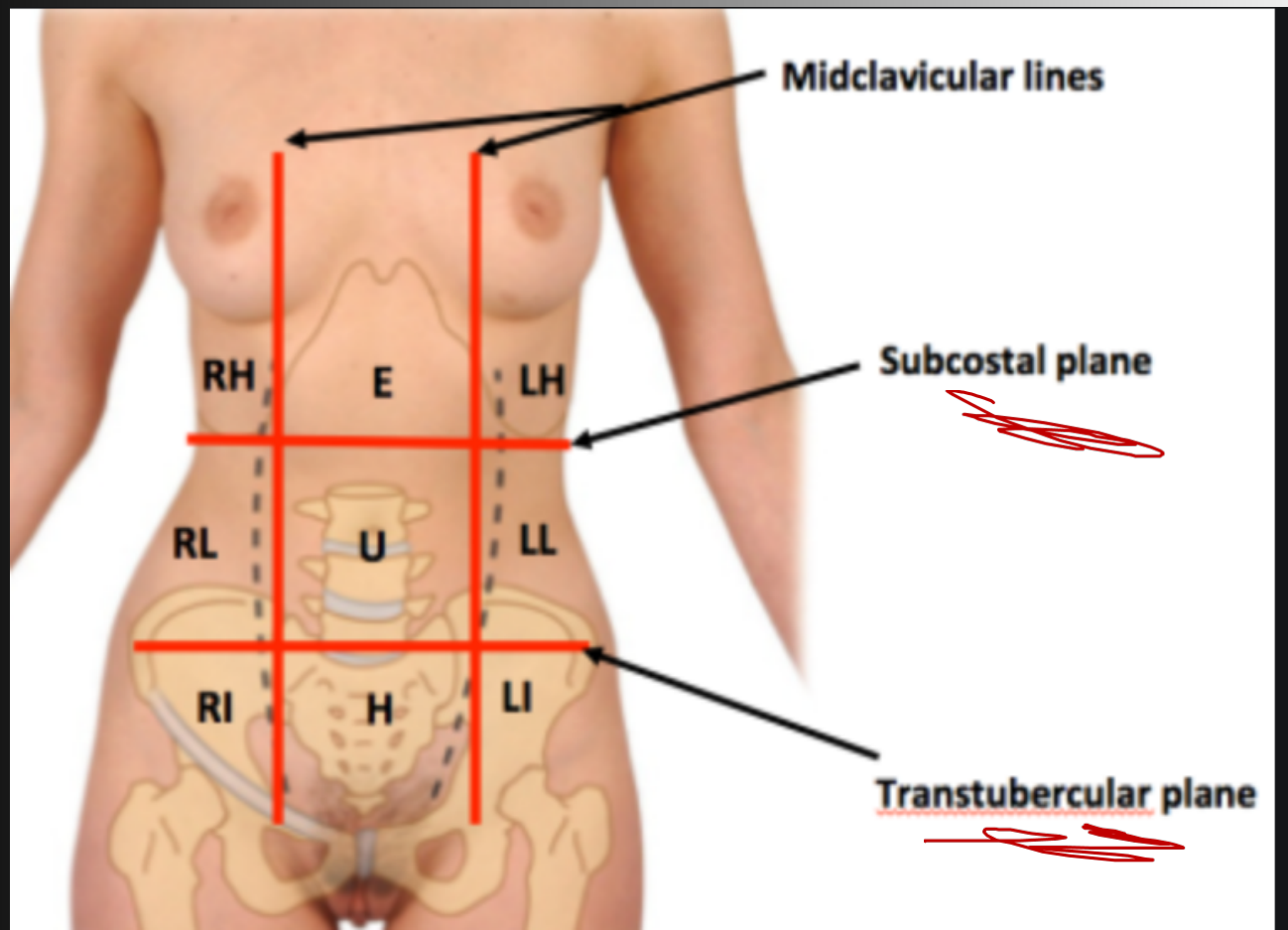
Cecum
 Appendix
 Lower end of ileum
 Right ureter
 Right spermatic cord
 Right ovary

Hypogastric (Pubic)

Ileum
 Bladder
 Uterus (in pregnancy)

Left Inguinal

Sigmoid colon
 Left ureter
 Left spermatic cord
 Left ovary



The **epigastric** (ep"i-gas'trik) **region** is located superior to the umbilical region (*epi* = upon, above; *gastric* = stomach).

The **hypogastric (pubic) region** is inferior to the umbilical region (*bypo* = below).

The **right and left iliac, or inguinal, regions** are lateral to the hypogastric region (*iliac* = superior part of the hip bone).

The **right and left lumbar regions** lie lateral to the umbilical region (*lumbus* = loin).

The **right and left hypochondriac** (hi"po-kon'dre-ak) **regions** flank the epigastric region and contain the lower ribs (*chondro* = cartilage).

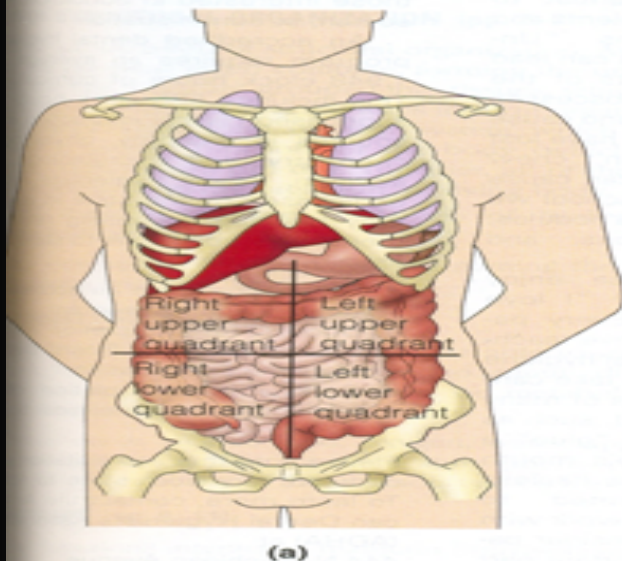
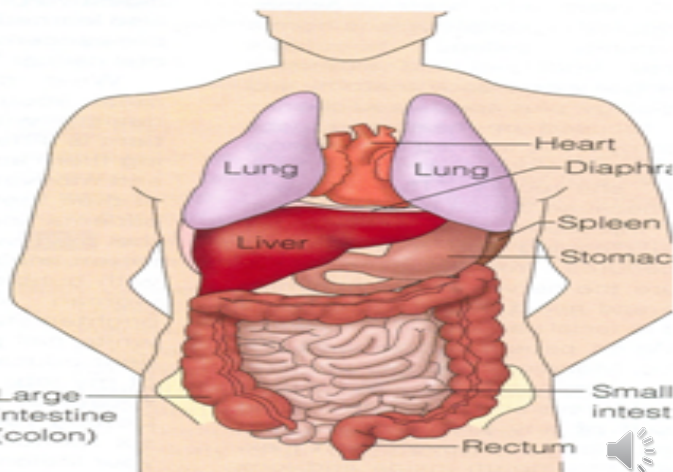
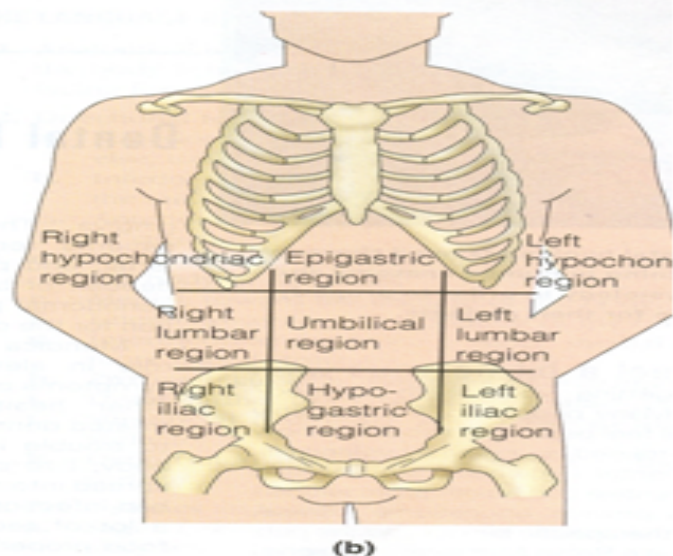


Figure 1.8 Abdominopelvic surface and regions. (a) The four quadrants. (b) Nine regions defined by four planes. The superior horizontal plane is the inferior aspect of the ribs; the inferior horizontal plane is the superior aspect of the pubis.



GENERAL INSPECTION

Part of general examination

① Nutritional State (wasting).

② Pallor.

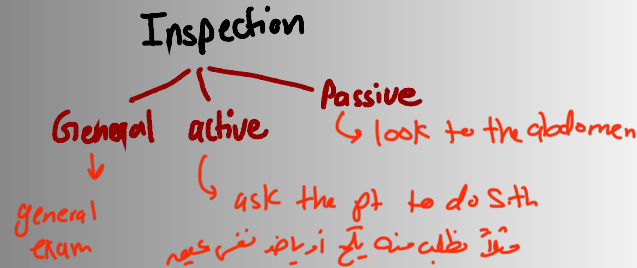
③ Jaundice (liver disease) .

④ Pigmentation (hemochromatosis) .

⑤ Mental state (Encephalopathy) .

↳ level of consciousness [coma - confuse - awake ...etc]

..RTA ١١ بجاءه



Pallor in elderly..

• *Male.. cancer until proved otherwise*

• *Female.. cancer until proved otherwise if postmenopausal*

Premenopausal— the anemia is iron deficiency due to heavy menstruation



Appearance and Behavior

- ① Facial expression
- The stare in hyperthyroidism.
- Sad face of depression.
- Decreased eye contact may suggest anxiety, fear or sadness. / psychotic.

② Memory, Attention

- Remote: inquire about birthdays, names of schools attended, jobs held, or past historical events.
- Recent: Actual date? which day is today?

③ Level of consciousness (Alert, Oriented, Confused). after RTA

If not respond to your call ①,
raise your voice if not shake ②
him if not do a painful ④
stimulus

④ Posture and Motor Behavior (Tremors, Paralysis, Thyroid disease).

- ⑤ The patient is clean or dirty

Inspection

- ① **Contour:** (Shape of abdomen) normal contour is **Flat**, Distension, or Scaphoid, Asymmetry.
- ② **Demeanor:** Motionless, Irritable, Flexing his knees. *Peritonitis or relax... etc*
- ③ **Type of Respiration.** *in female → thoraco-abdominal*
in male → abdomino-thoracic
- ④ **Skin:** Color changes, Rashes and Scratch marks, Scars, Dilated veins, Striae, Bruises, Spider Nevi, Visible peristalsis, Aortic pulsations, Lesions, Ostomies, *itching* *obstructive jaundice liver cirrhosis* *family history خيال من ع* *scabies* *due to itching in jaundice* *بيلة صفراء* *بيلة صفراء*
- ⑤ **Position of umbilicus** Central location, contour of umbilicus, free from Inflammation, Swelling or Bulge.
- ⑥ **Subcostal angle.** *wider in the female. >90*
- ⑦ **Hair distribution.** *in male → 50-70 [<90]*
↑ estrogen in male or ↓ testosterone lead to hair distribution...

→ Sudden onset of severe agonizing pain, thoracic breathing, can't move, motionless — **Peritonitis**

→ Dilated veins in the abdominal wall —

① IVC obstruction

② Liver cirrhosis

③ Portal hypertension

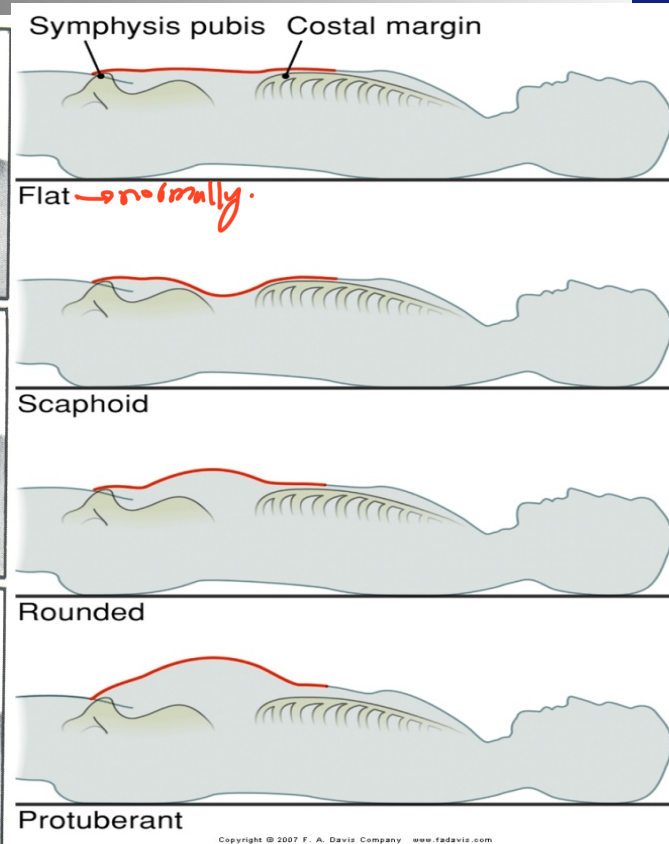
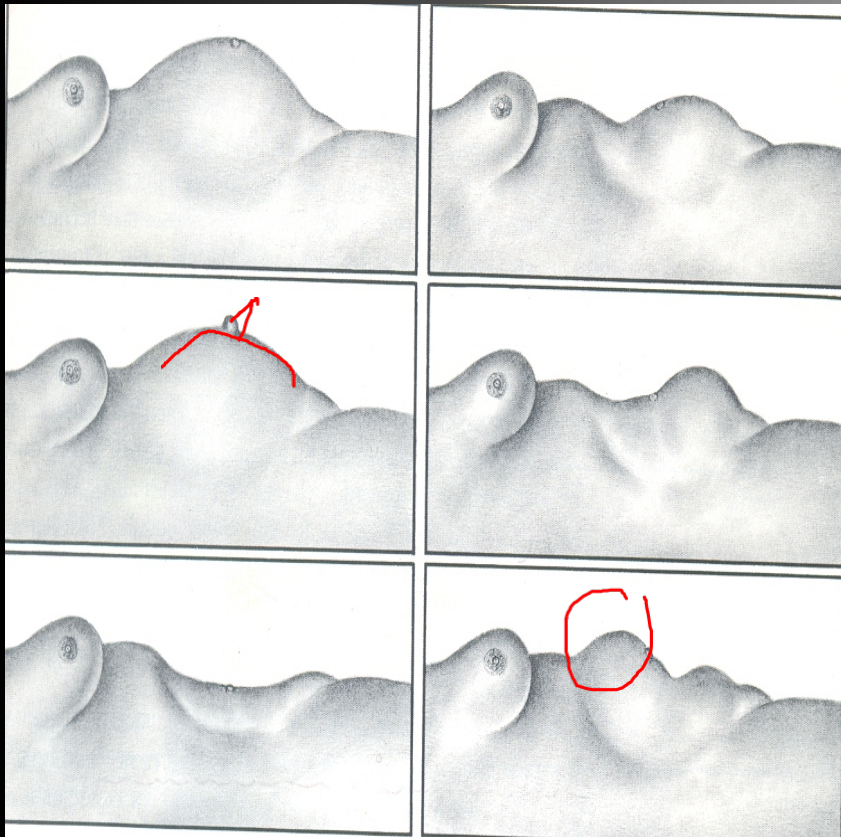
→ Stria

④ Stria gravidarum "birth marks" is due to stretch of the skin "last months of pregnancy, twins

Recent — pink in color, old

— silver — *pale*

⑤ Purple stria — **Cushing**



Stria is seen on//

- Abdomen ✓*
- Shoulder ✓*
- Breast ✓*
- Gluteal region ✓*

In region that has fat.

Stria *is a destruction*
of the elastic fibers as
a result of skin
stretch due to gaining
weight

ABDOMINAL PROFILES



Scars

Scar in lower abdomen (Pfannenstiel incision) - CS or hysterectomy in female.

* The upper abdominal scars in male → stomach surgery.

→ Scars above the umbilicus → colon surgery.

→ " below " → SI surgery.

* Rt Subcostal section → gall bladder.

* Lt " " → spleen.

* endoscope section ⇒ يمكن إجراء الجراحة بالمنظار

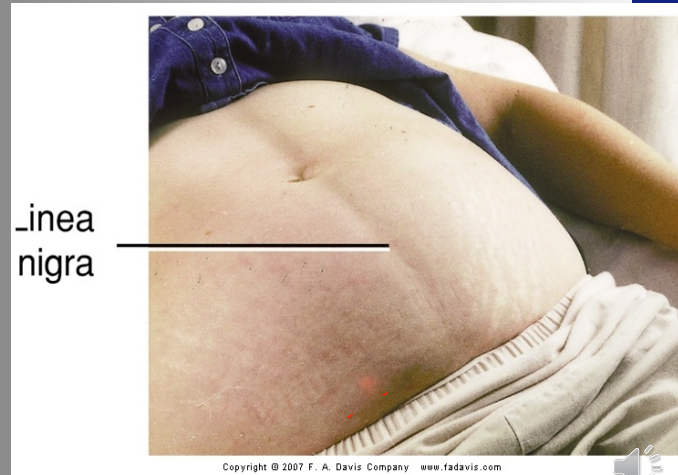
* motionless → acute peritonitis.

↳ [sudden onset of severe pain / perforated abscess / rigid abdomen]..

* renal / GIT causes ⇒ مزارع يتقيح لالتهاب بسبب الألم لذلك نخفيه مكانه ولا لم

Active inspection

- Ask patient to take deep breath, contour stay symmetrical and smooth. *+ cough*
- Ask patient to raise his head, look for hernias, Abdominal masses **!!**, Divarication of Recti,
- Malgaigan's dehiscence
- Type of Respiration: Male Abdomino -Thoracic, Female Thoraco-Abdominal.
- F's of Abdominal Distension
- **F**at, **F**luid , **F**eces , **F**etus, **F**latus , **F**ibroid , **F**atal tumor.



Malgaigan's dehiscence



Divarication of Recti

Diastasis Recti (increase space between the two recti) ✓ it's not a hernia

هربيه ال هرنيا



Occurs in//

Pregnancy after delivery

Ascitis

Any thing which cause
an increase in the
intraabdominal pressure
Divarication of recti, ends
above the umbilicus

Treated with
physiotherapy ✓

And we ask the
radiologist to do US to
exclude any cause of
increasing
intraabdominal pressure



Inguinal and Femoral Hernia

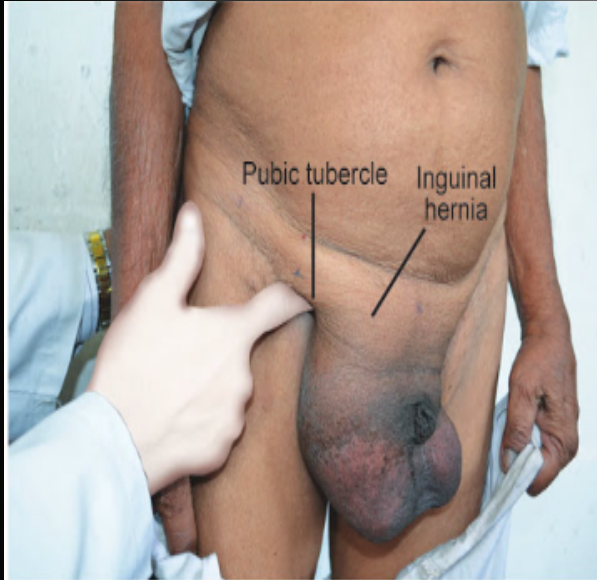


Figure 2.17A: The finger is placed in the pubic tubercle. The hernial sac lies above and medial to the pubic tubercle, suggesting this to be an inguinal hernia

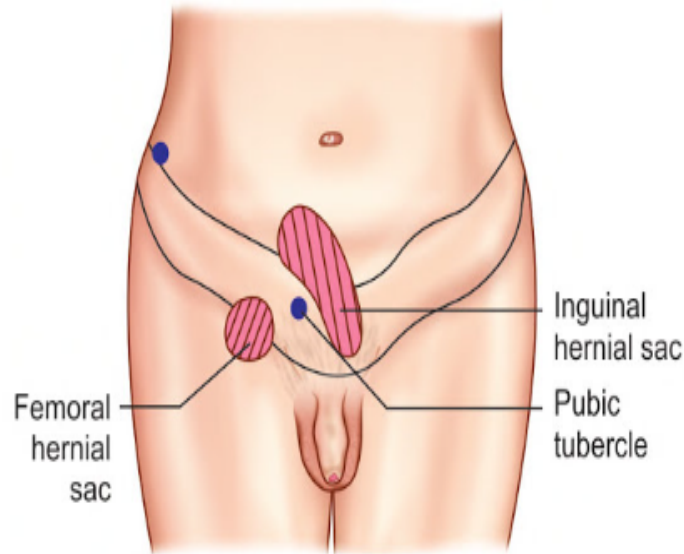


Figure 2.17B: Relation of pubic tubercle with inguinal and femoral hernia

*Hernia above and medial to
pubic tubercle — inguinal
hernia*

*Hernia below and lateral —
femoral hernia*



Striae gravidarum



● ● ● Striae

- Pregnancy, obesity, chronic ascites, rapid weight gain
- Cushing syndrome striae are often purplish-red, in part because of the often increased hemoglobin in the condition.



Spider Nevi → dilated arteriole [central] venules ويبسط حيز

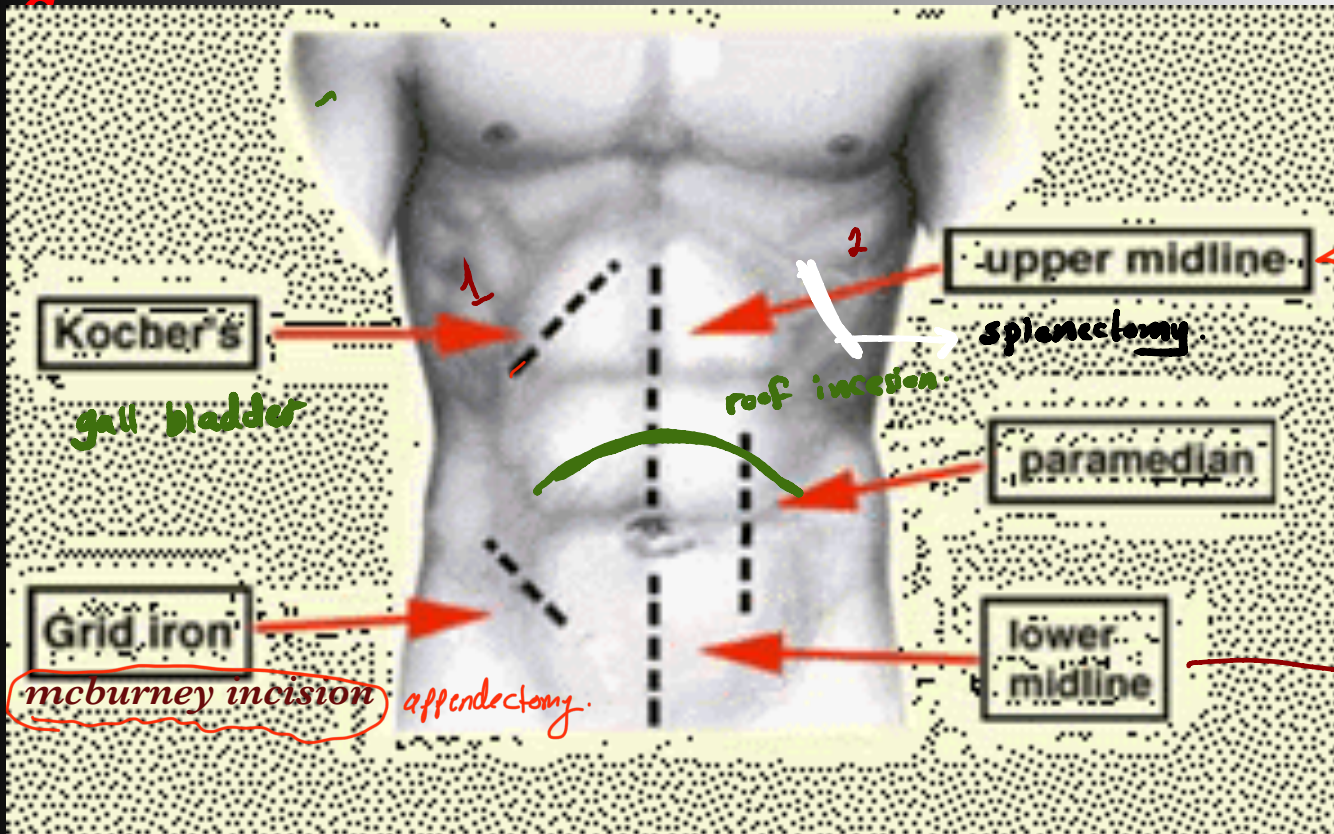


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SCARS

- Explain every scar
- Small scars of laparoscopic surgery.



1. Rt Subcostal incision

'kocher's' — gallbladder

2. Lt subcostal incision—

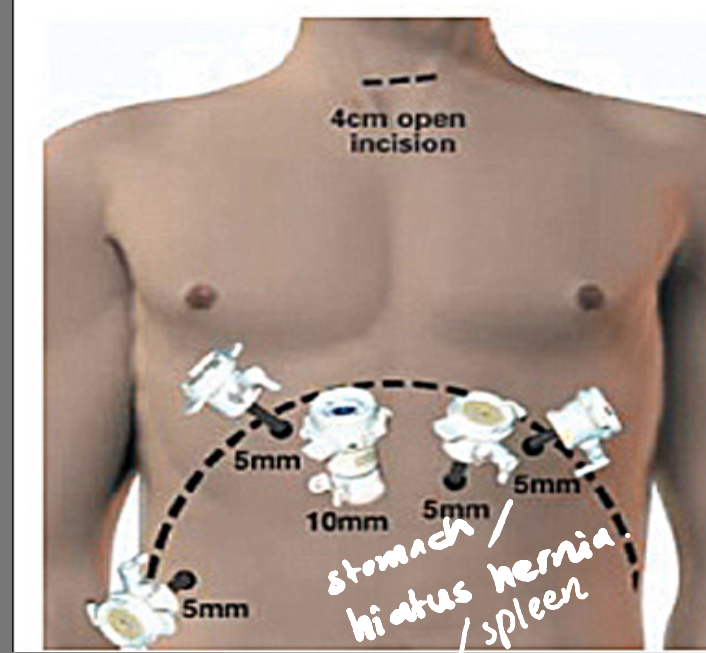
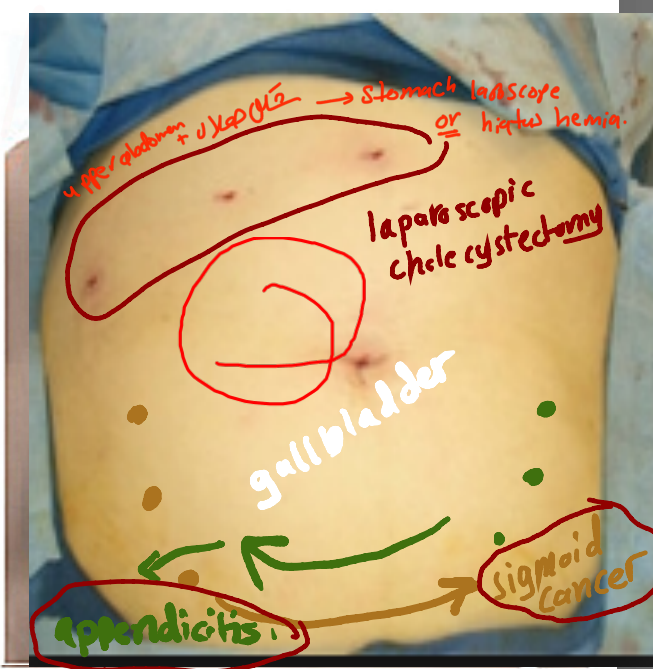
splenectomy

lf [spleen]

Rt [liver]

Small intestine ✓

female genital ✓



new scar → Pink.

old scar → white.

Look for the site and size of incision and ask about the time of the operation

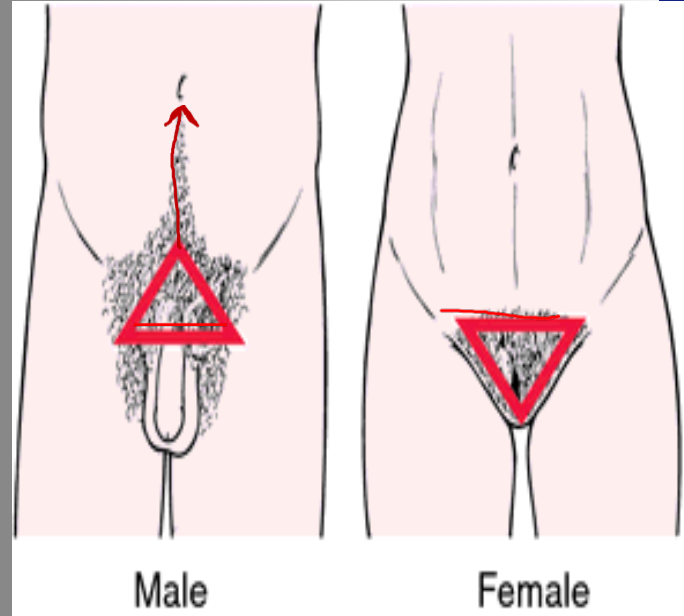
Type of surgery is important

[operative history very important].



Hair Distribution

- In female the pubic hair is roughly Triangular with the base above the symphysis.
- In male it is in the shape of a Diamond often with hair continuing to the umbilicus.
- The distribution and quantity of hair may be changed by chronic liver disease and endocrine abnormalities.



Male with female hair distribution-low

↓ testosterone and
↑ estrogen excess (liver cirrhosis - orchitis due to mumps infection and so on)

Female with male hair distribution— excess

testosterone

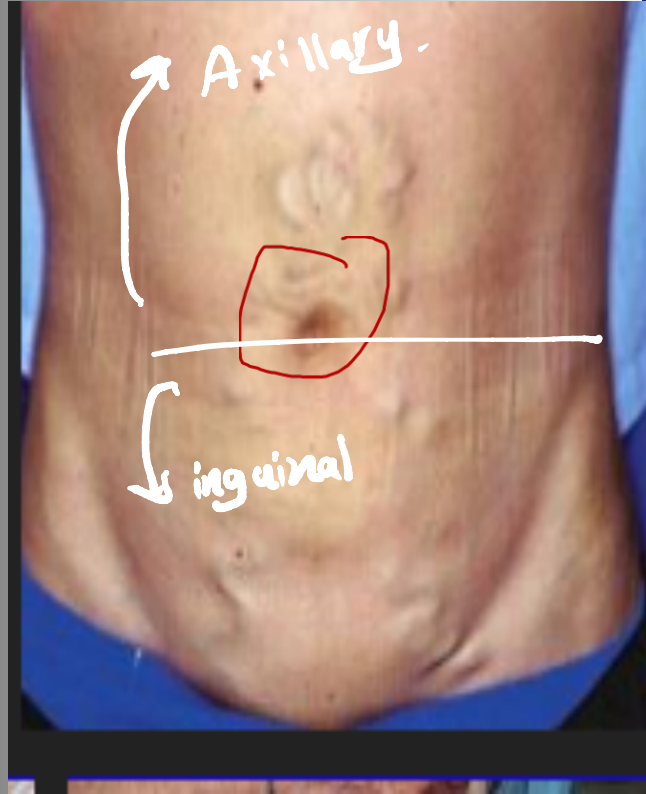
The most common cause of gynecomastia—
physiological between 13-15 years

Disappear between 15-17 YO

subcutaneous mastectomy
Eg. lamellar tissue

لو بدنا نعملها عملية بهاد
العمر فقط لو الأهل طلبوا

Caput Medusa



Abdominal wall veins
flow!

Below the umbilicus—
downward to the
saphenous vein and
femoral vein

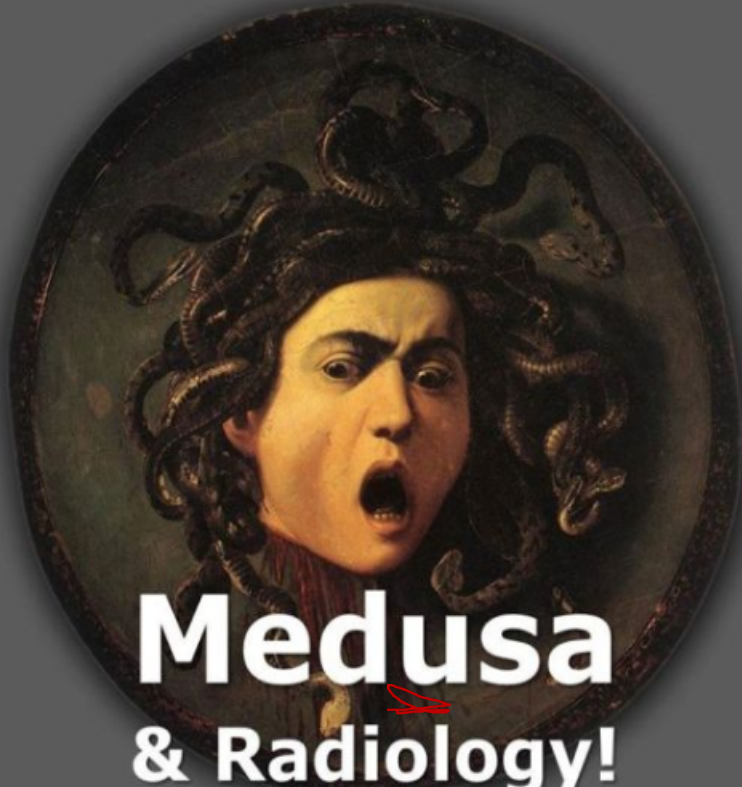
Above the umbilicus—
upward to the axillary
vein



Portal hypertension.
IVC obstruction.



Caput



Medusa & Radiology!

Outward flow pattern from umbilicus



* Caput medosa :-
portal HTN.
IVC obstruction
liver cirrhosis

normal venous flow → below the umbilicus [down ward].
→ above the umbilicus [upward].

IVC obstruction → up ward flow
SVC obstruction → down ward flow
... portal HTN ← peripheral flow

* SI prestenosis ⇒ from Lt to Rt
or step ladder appearance in SI obstruction
* Colon/Secum prestenosis ⇒ from Rt to Lt..



Sister Mary Josef's nodule

Hidden malignancy



Seen in late pregnancy

late cancer {
Stomach cancer
Pancreatic cancer } 40%
in 40% of cases

Renal cancer

Ovarian and
uterine cancer



around the umbilicus

Cullen's sign + Gray Turner's

in the flanks.

Acute hemorrhagic

after 1-2 day rise

Pancreatitis



Discoloration around the umbilicus

Cullen's sign and

Gray Turner's sign

are bad signs for

need ICU.

40% mortality rate

Acute hemorrhagic

pancreatitis in

surgery

These signs in

obs&gyn — rupture

ectopic pregnancy

In trauma —

retroperitoneal

bleeding maybe from

aorta or aortic

aneurysm



Grey Turner's sign

discoloration in the
flank



discoloration
around
inguinal ligament



Fox sign, seen in Acute hemorrhagic pancreatitis
and retroperitoneal bleeding

In AHP ^{acute hemorrhagic pancreatitis} these signs appear
after 48 hours
and the mortality
rate becomes 40%!



Umbilical Hernia

swelling increase with cough, on straining or deep inspiration → hernia or mass
active inspection.



swelling / lump
outside the muscle → increase
under the muscle → going inside
[extra peritoneal] → with coughing
[intra peritoneal] →

Same umbilical hernia while patient performs valsalva maneuver.

Active inspection—
ask the patient to do
sth. to cough ' hold
ur breath and so on

Step ladder appearance → bowel obstruction

VISIBLE PERISTALSIS



Seen from the patients foot place

Visible peristalsis due to weakness of muscles, it's not a true hernia

Due to bowel obstruction
Small intestine from left to right

So visible peristalsis from Lt to Rt it's a small bowel obstruction

Colon runs from Rt to Lt, so if peristalsis from Rt to Lt, it's a large bowel obstruction

- in small bowel obstruction it's step ladder appearance

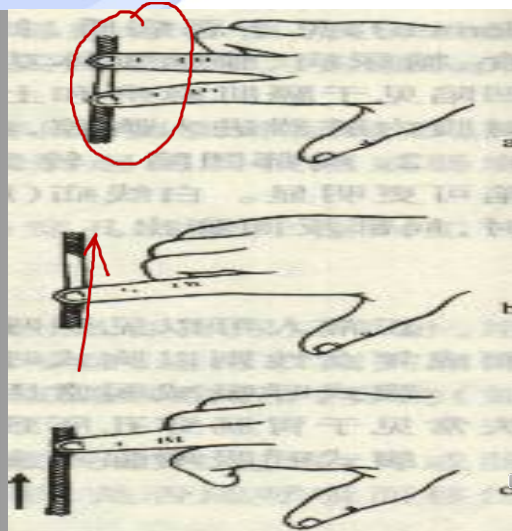
After surgery peristalsis return first at small intestine after 12 hours, then at stomach after 24 hours, then colon after 36 hours

Evaluate venous return states

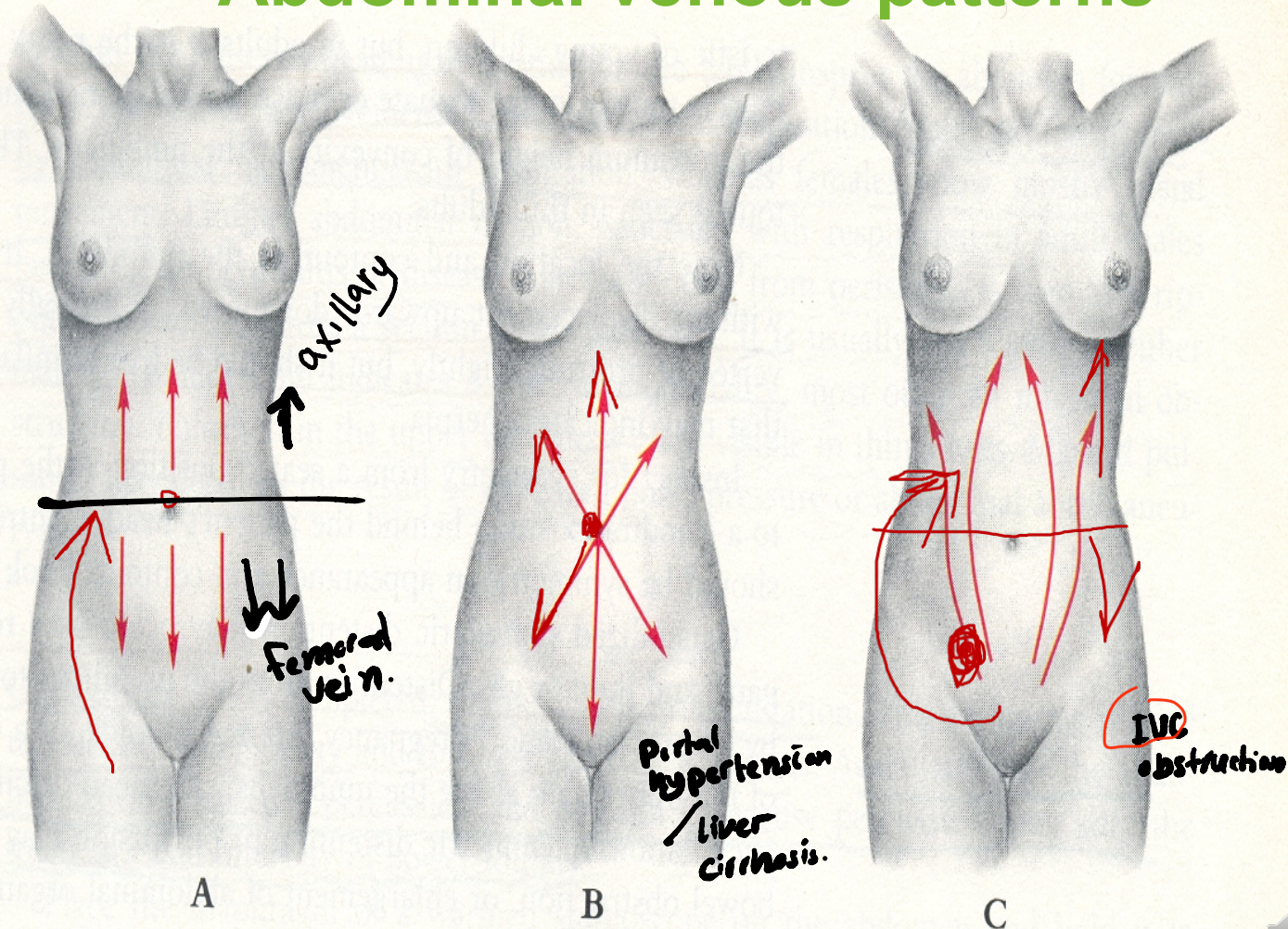
- Harvey's test
- Place **index finger side by side** over a vein and press laterally, milking vein.
- Release one finger and **time refill**, repeat with other finger. **Venous return is in direction of faster filling.**

Abdominal veins

- The normal flow is away from the umbilicus. Flow direction is determined by alternate stripping of veins.



Abdominal venous patterns



Auscultation

تدقيق سمعته او سمعته المعيار percussion

- It always precedes percussion.
- Listen for bowel sounds, with warm stethoscope.
- Absent bowel sound only after 5 minutes.
- Listen for arterial bruits.
- Venus hum (Kenawy's sign).
- Friction rub.
- Succussion splash.

