



ABDOMINAL EXAMINATION

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TAKING HISTORY

FOR

ABDOMINAL COMPLAINT

GI SIGNS & SYMPTOMS

- **HALITOSIS** (Bad breath): Dental caries, Lung abscess, GER.
- **MOUTH SORES**: Crohn's, Autoimmune diseases.
- **WATER BRASH**: GER
- **HEART BURN**: GER.
- **REGURGITATION**: Food coming out of the mouth without force. GER.
- **ODYNOPHAGIA** (painful swallowing): Candida, Tonsillitis.
- **DYSPHAGIA**: Difficult swallowing.
- **ANOREXIA**: Decrease in appetite.
- **NAUSEA**: GI or cranial problem, chemotherapy.
- **VOMITING**: Forceful expulsion of gastric content.

GI SIGNS & SYMPTOMS (CONT.)

- **WEIGHT LOSS:** Intentional vs. unintentional, Normal appetite vs. decreased, > 5% of previous weight in less than 6 months (significant).
- **ABDOMINAL PAIN:** onset, duration, severity, radiation, relieving and aggravation factors, age.
- **BLOATING:** intestinal obstruction.
- **EARLY SATIETY:** DM, Gastric Ca
- **DYSPEPSIA**
- **DIARRHEA:** liquid, >3/per day, large amount.
- **TENESMUS:** rectum.
- **ANAL PAIN**
- **JAUNDICE:** more of a sign but patient might notice yellow discoloration.
- **CONSTIPATION**

GI SIGNS & SYMPTOMS (CONT.)

Tips

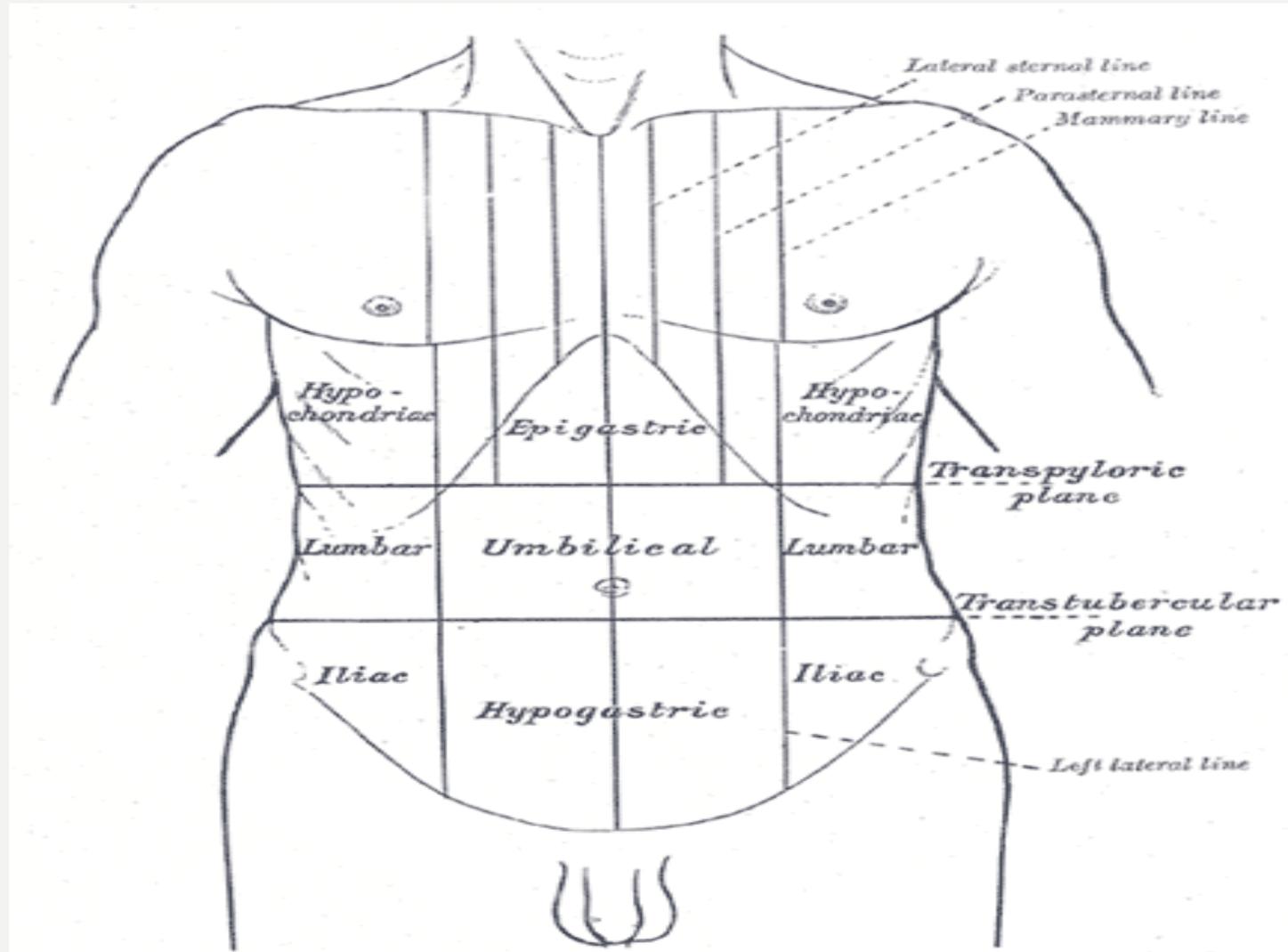
- When taking history start from the top to the bottom, less mistakes
- Think outside the box.
- Abdominal signs
- Never forget the Extra-GI manifestations:
 - Pallor, conjunctivitis (Crohn's), look at the gums, spider nevi, arthritis, gynecomastia, clubbing, palmar erythema, Dupuytren's contracture
 - Rapid pulse, Irregular pulse “atrial fibrillation” (mesenteric ischemia)



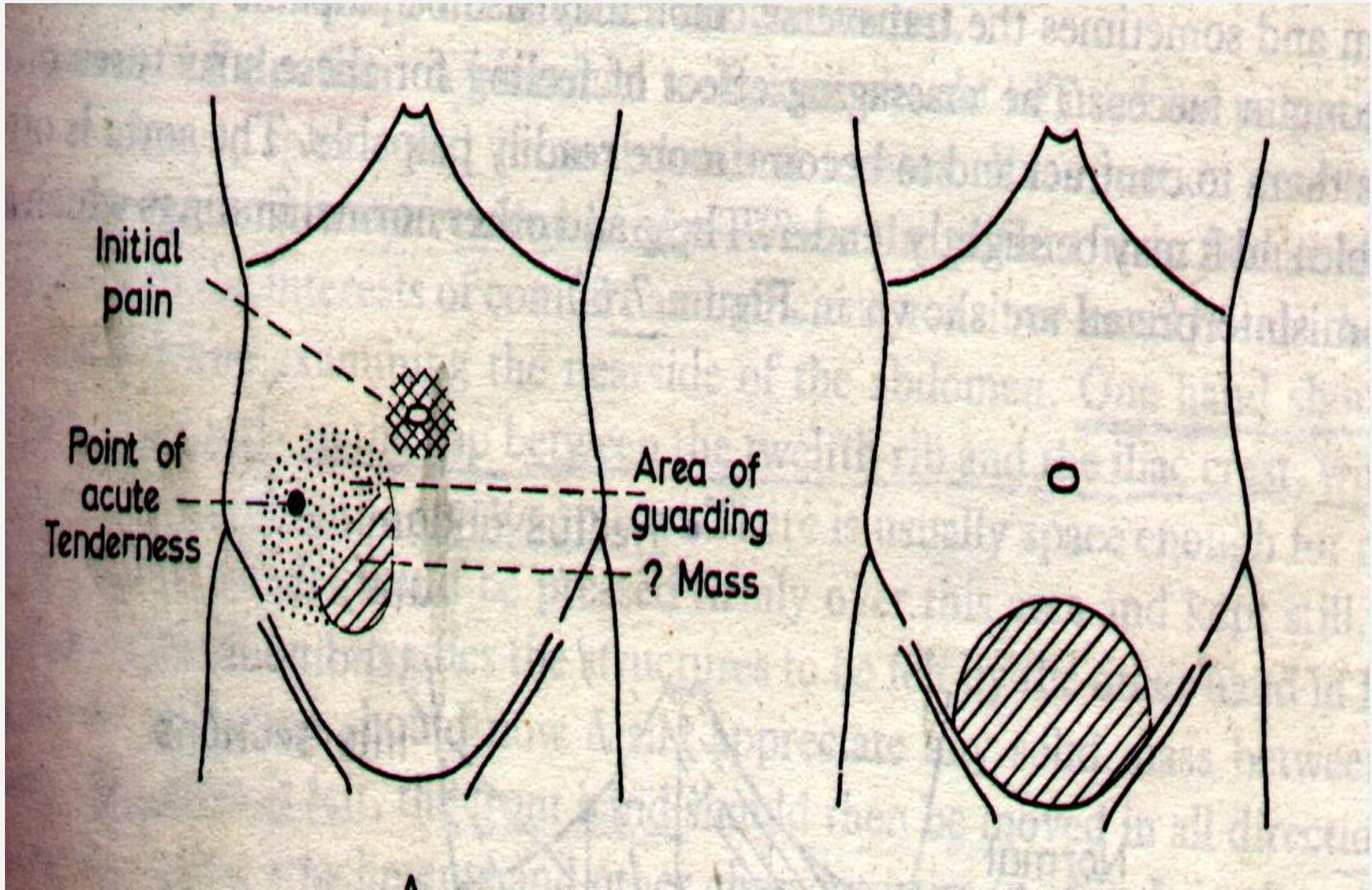
ABDOMINAL REGIONS

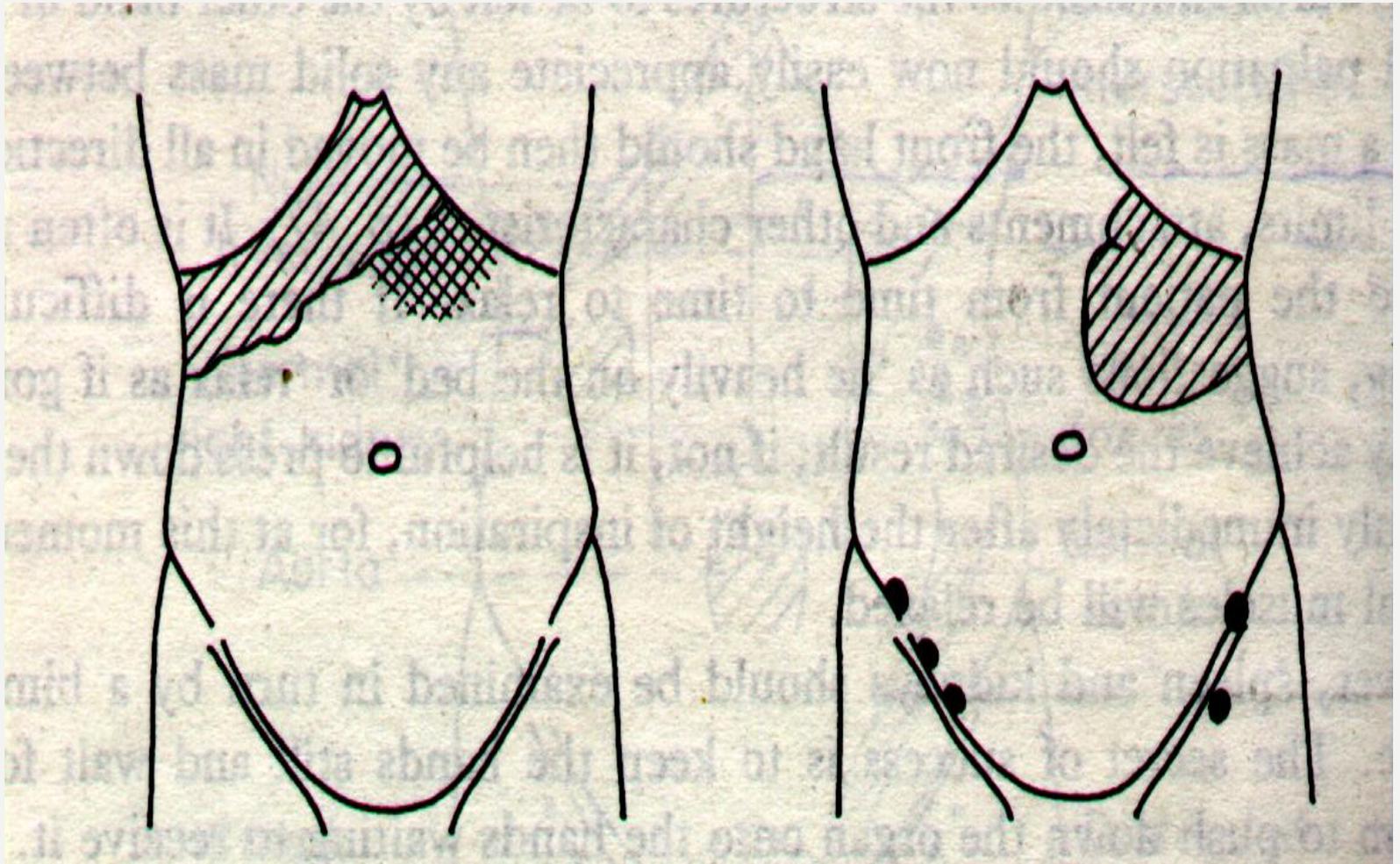
- **The suprasternal notch** : also known as the fossa jugularis sternalis, or jugular notch, or Plender gap is a large, visible dip in between the neck in humans, between the clavicles, and above the manubrium of the sternum. It is at the level of the T2 and T3 vertebrae. The trachea lies just behind it, rising about 5 cm above it in adults.
- **Transpyloric Plane:** (upper transverse line) is a plane half way between the pubic symphysis and the jugular notch, or half way between the Xiphisternal joint (T9/T10 disc) and the umbilicus (L4). It is at the level of the **L1/L2** vertebral disc.
 - ❖ Structures on the Transpyloric Plane (L1/L2 disc): The Hilum of the Kidney + Renal Arteries arise from the Abdominal Aorta (Just below the plane) + Right Renal Vein enters the IVC (Just below the plane) + Neck of the Pancreas + Upper edge of the Pylorus + Beginning of the Portal Vein
- **Transtubercular plane:** A lower transverse plane midway between the upper transverse and the upper border of the pubic symphysis; this is termed the **intertubercular plane** (or **transtubercular**), since it practically corresponds to that passing through the iliac tubercles; behind, its plane cuts the body of **L5**.
- **Sagittal planes:** Right and a left lateral line drawn vertically through points halfway between the anterior superior iliac spines and the middle line.

ABDOMINAL REGIONS

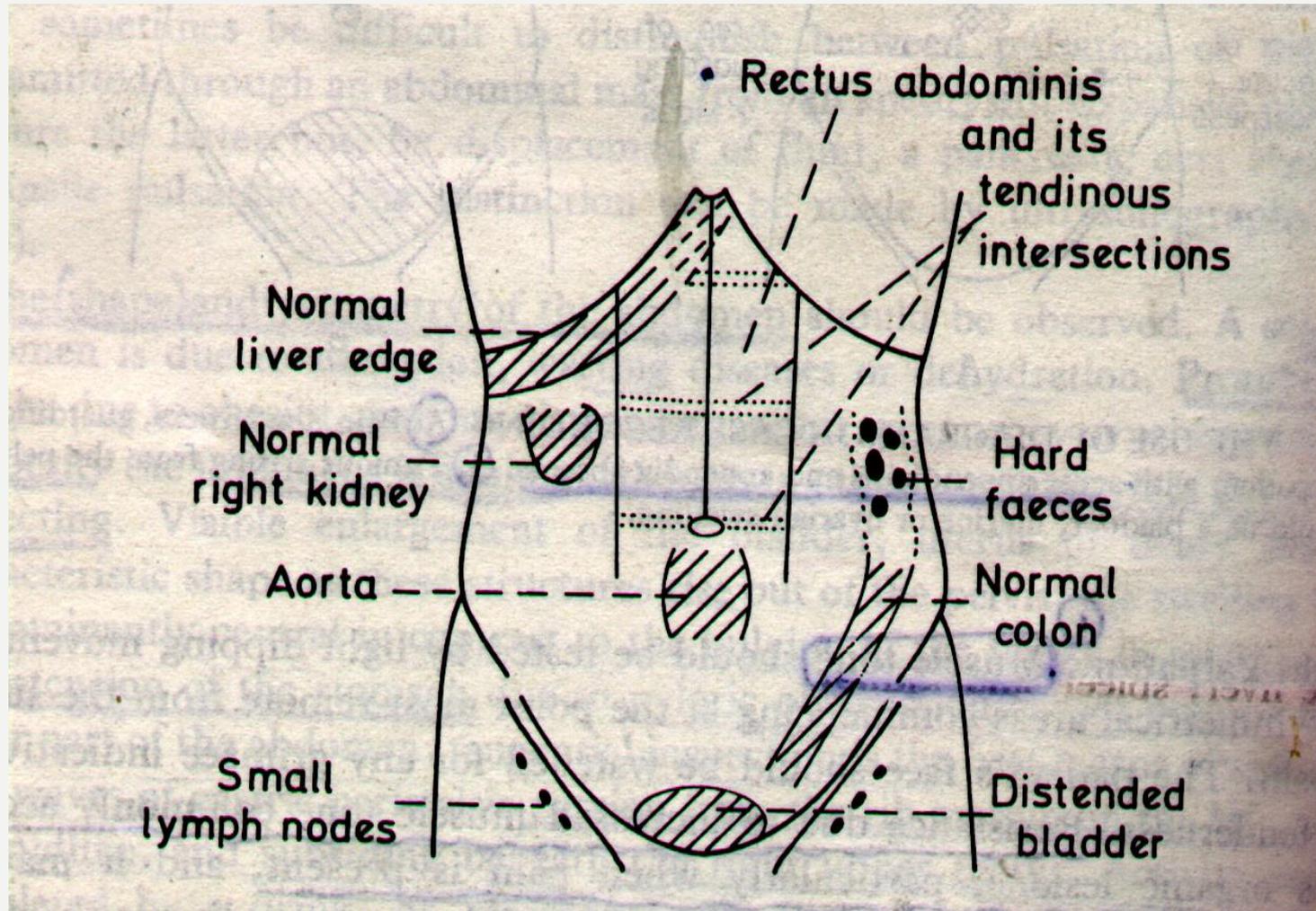


THE USE OF DIAGRAMS IN CASE RECORDING





DIAGRAMMATIC REPRESENTATION OF SOME (NORMAL PALPABLE) FINDINGS



ABDOMINAL EXAMINATION

- Patient is lying flat on his back, arms by his side
- Firm couch or mattress
- Head supported by 1-2 pillows to make patient comfortable
- Good light
- Warm hand
- Stand on the patient's right side
- Good exposure (nipple to mid thigh)

FOUR STAGES OF ABDOMINAL EXAMINATION

A. Inspection

B. Palpation

C. Percussion

D. Auscultation

(A) INSPECTION

- (1) Movements
- (2) Contour
- (3) Symmetry
- (4) Umbilicus
- (5) Hair
- (6) Skin Lesions
- (7) Vein
- (8) Pulsation
- (9) Peristalsis
- (10) Hernial orifices, incisional scars & divercation of recti

INSPECTION: (1) MOVEMENTS

- In males, quiet respiration is predominantly diaphragmatic
- Cessation of respiratory movements of the abdomen (Peritonitis)

INSPECTION: (2) CONTOUR

Shape of the abdomen

1. **Flat**
2. **Scaphoid** (starvation, wasting diseases, dehydration)
3. **Protuberance** (obesity, gaseous distension, ascites, pregnancy, other swellings)

INSPECTION: (3) SYMMETRY

Symmetry of the abdomen

1. Normally the abdomen is Symmetrical bilaterally
2. **Visible bulges** (gross enlargement of the liver, spleen, kidneys, or large tumors)

INSPECTION: (4) UMBILICUS

Umbilicus: normally is slightly retracted and inverted

1. Sunken
2. Flat
3. Projecting/everted (umbilical hernia)
4. Omphalolith (inspissated desquamated epithelium +debris)

INSPECTION: CONTOUR AND SYMMETRY: EXAMPLES

- Visible enlargement of the pelvic organs (bladder, uterus, ovary) = Dome-shaped central swelling rising above the pubis
- Ascites = bulging of the flanks
- Gastric distension (Pyloric obstruction) = bulging of the upper part of the abdomen + visible gastric peristalsis from left to the right. This is confirmed by the presence of Succussion splash

INSPECTION: (5) HAIR

- **Secondary sexual hair**

Absence = hypopituitarism, liver cirrhosis, hypogonadism

- **Hair Distribution**

Male distribution of pubic hair in female = Adrenal virilism

INSPECTION: (6) SKIN LESIONS

- **Scars** (cautery, surgical). Recent or old
- **Striae** (S. atrophicae or gravidarum) (Cushing's syndrome, steroids treatment)
- **Seborrheic wart**
- **Hemangiomas** (Campbell de Morgan spot)
- **Pigmentation** (linea nigra, erythema ab igne)
- **Grey-Turner's sign** (retroperitoneal hemorrhage)
- **Spider angiomas** associated with chronic liver disease
- **Petechiae** from thrombocytopenia or from fat embolus
- **Other** skin abnormalities

A FEW UNCOMMON PHYSICAL FINDINGS ARE ASSOCIATED WITH SEVERE NECROTIZING PANCREATITIS

- **Cullen sign:** Bluish discoloration around the umbilicus resulting from hemoperitoneum
- **Grey-Turner sign:** is a reddish-brown discoloration along the flanks resulting from retroperitoneal blood dissecting along tissue planes
- **Ruddy erythema in the flanks:** secondary to extravasated pancreatic exudate
- **Erythematous skin nodules:** may result from focal subcutaneous fat necrosis. These are usually not more than 1 cm in size and are typically located on extensor skin surfaces
- **Purtscher's retinopathy:** abnormalities on funduscopy examination may be seen in severe pancreatitis. This ischemic injury to the retina appears to be caused by activation of complement and agglutination of blood cells within retinal vessels. It may cause temporary or permanent blindness

INSPECTION: (7) VEIN

- **Collateral veins** (IVC obstruction)
- **Caput Medusae** (Portal hypertension)

INSPECTION: (8) PULSATION

- **Visible Aortic Pulsation** (normal in thin patients)
- **Transmitted Pulsation** (abdominal aorta, R-ventricle, liver, Abdominal aneurysm)
- **Expansile Pulsation** (Aortic aneurysm, Pancreatic cyst)
- Careful inspection and palpation for the **type**, **timing** and **direction** of the thrust to distinguish between these possibilities

INSPECTION: (9) PERISTALSIS

- **Small intestinal peristalsis** (normal through a thin abdominal wall)
- **Prominent intestinal peristalsis** (intestinal obstruction)
- **Gastric peristalsis** (Pyloric obstruction)

INSPECTION: (10) HERNIAL ORIFICES, INCISIONAL SCARS & DIVERCATION

- Visible impulse or swelling on coughing

(B) PALPATION

- Warm hands
- Start at the point most remote from the site of abdominal pain
- The patient's face should be watched for any grimace indicative of local tenderness
- Do not use fingertips. Use the flat of the hand

(B) PALPATION

- (1) Light Palpation
- (2) Deep Palpation
- (3) Abdominal mass
- (4) Bimanual Palpation
- (5) Palpation of the liver
- (6) Palpation of the Spleen
- (7) Palpation of the kidneys
- (8) Palpation of the Gallbladder

PALPATION: (1) LIGHT PALPATION

1. Muscle tone:
 - A. Normally soft & lax
 - B. Guarding
 - C. Rigidity
2. Superficial tenderness & Rebound pain (tenderness)
3. Superficial masses

PALPATION: (2) DEEP PALPATION

1. Deep tenderness
2. Deep abdominal mass
3. Normal palpable organs (liver edge, lower pole of the right kidney, etc...)

PALPATION: (3) ABDOMINAL MASS

- 1. Site**
- 2. Size**
- 3. Shape**
- 4. Color and Temperature**
- 5. Tenderness**
- 6. Mobility**
- 7. Consistency**
- 8. Surface Texture**
- 9. Edges**
- 10. Associated Swellings**

PALPATION: (3) ABDOMINAL MASS

- Caudal movement on inspiration means that the mass is not part of the abdominal wall
- An upper abdominal mass, which does not move with respiration, either arises from or has become attached parietes
- Masses, which are superficially situated in the abdominal wall, continue to be palpable when the muscles are contracted by raising the head off the pillow or by blowing against resistance
- Parietal masses situated deep to the abdominal wall and also intra-abdominal swellings are less easily felt when the muscles are contracted

PALPATION: (3) ABDOMINAL MASS

- Swellings arising in the liver, spleen, kidneys, gallbladder and distal stomach all show downward movement during inspiration, due to contraction of the diaphragm. One cannot, however, move such structures with the examining hand
- In contrast, swellings originating in structures that have a mesenteric or other broad base of attachment are uninfluenced by respiratory movements but can be made to move freely by palpation, e.g. tumors of the small bowel and T.colon, mesenteric cysts

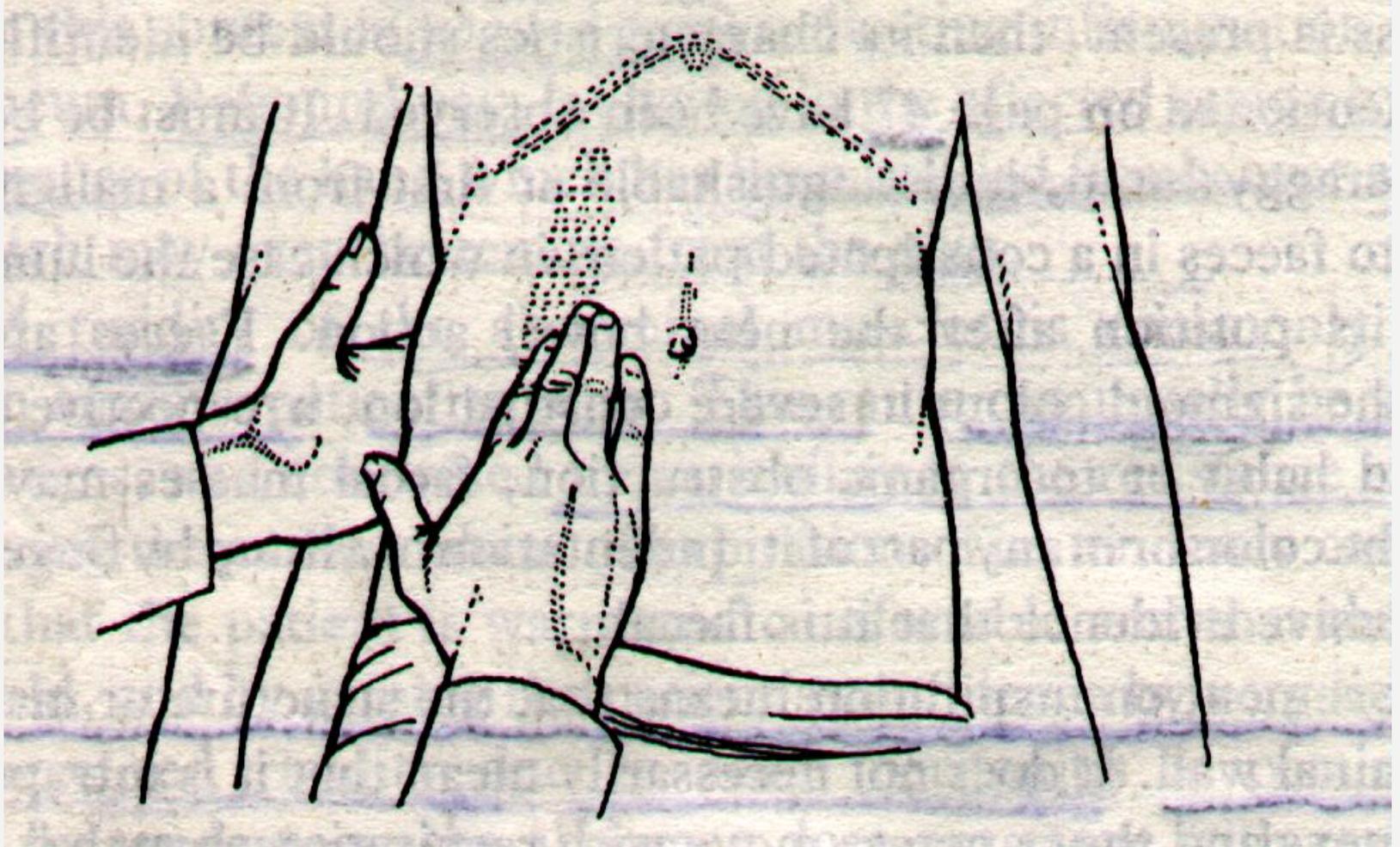
PALPATION: (3) ABDOMINAL MASS

- **Fixed swelling:**
 1. A mass of retroperitoneal origin
 2. Advanced tumor with extensive spread to the abdominal wall
 3. Swelling resulting from severe chronic inflammation

PALPATION: (4) BIMANUAL PALPATION

- Used for palpating the liver, kidneys, spleen and intra-abdominal masses
- One hand should be placed posteriorly in the gap between the twelfth rib and the iliac crest, with the fingertips lateral to the erector spinae, which should be pressed firmly over this area and kept still. This pushes forwards and steadies the structures to be felt by the other hand in front
- If a mass is felt, the front hand should then be moved in all directions to define its limits, attachments and other characteristics
- Keep the hands still and wait for the diaphragm to push down the organ onto the hands waiting to receive it.

PALPATION: (5) PALPATION OF THE LIVER



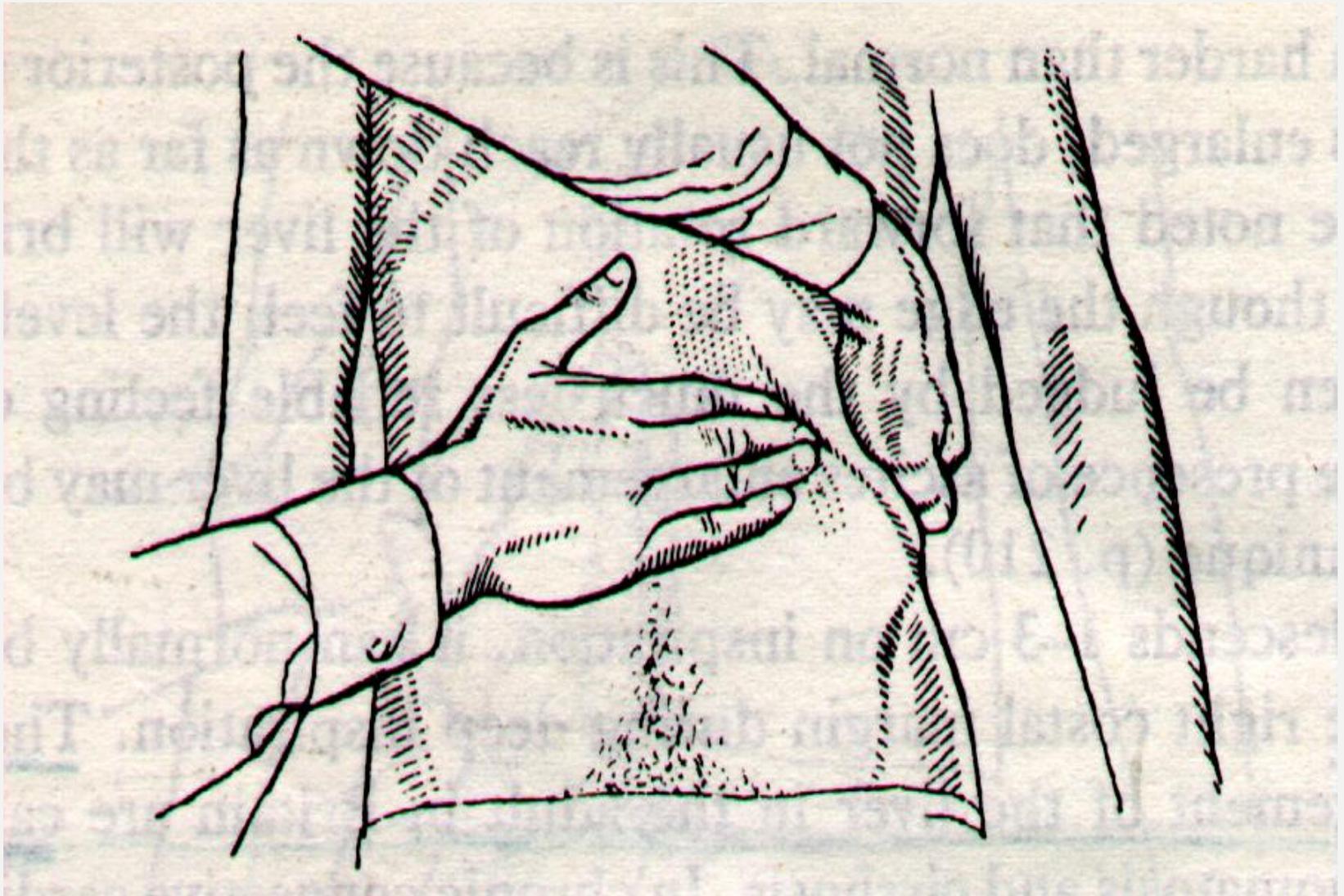
PALPATION: (5) PALPATION OF THE LIVER

- The front hand should be placed flat with the fingers pointing upwards and placed so that the sensing fingers (index and middle) are lateral to the rectus muscle
- The hand should be firmly pressed inwards and upwards and it should be kept steady while the patient takes a deep breath
- At the height of inspiration the inward pressure on the front hand is released while the upward pressure is maintained
- At this movement the tips of the fingers should slip over the edge of a palpable liver

PALPATION: (5) PALPATION OF THE LIVER

- Normally the **edge** is *sharp* and *flexible*. Notice if it is *rounded*, *firm*, *irregular* or *tender*
- The surface should then be felt for **irregularities** using the fingertips and keeping them steady in a new position each time the patient takes a deep breath
- As the liver descends 1-3 cm on inspiration, it can normally be palpated during deep inspiration

PALPATION: (6) PALPATION OF THE SPLEEN



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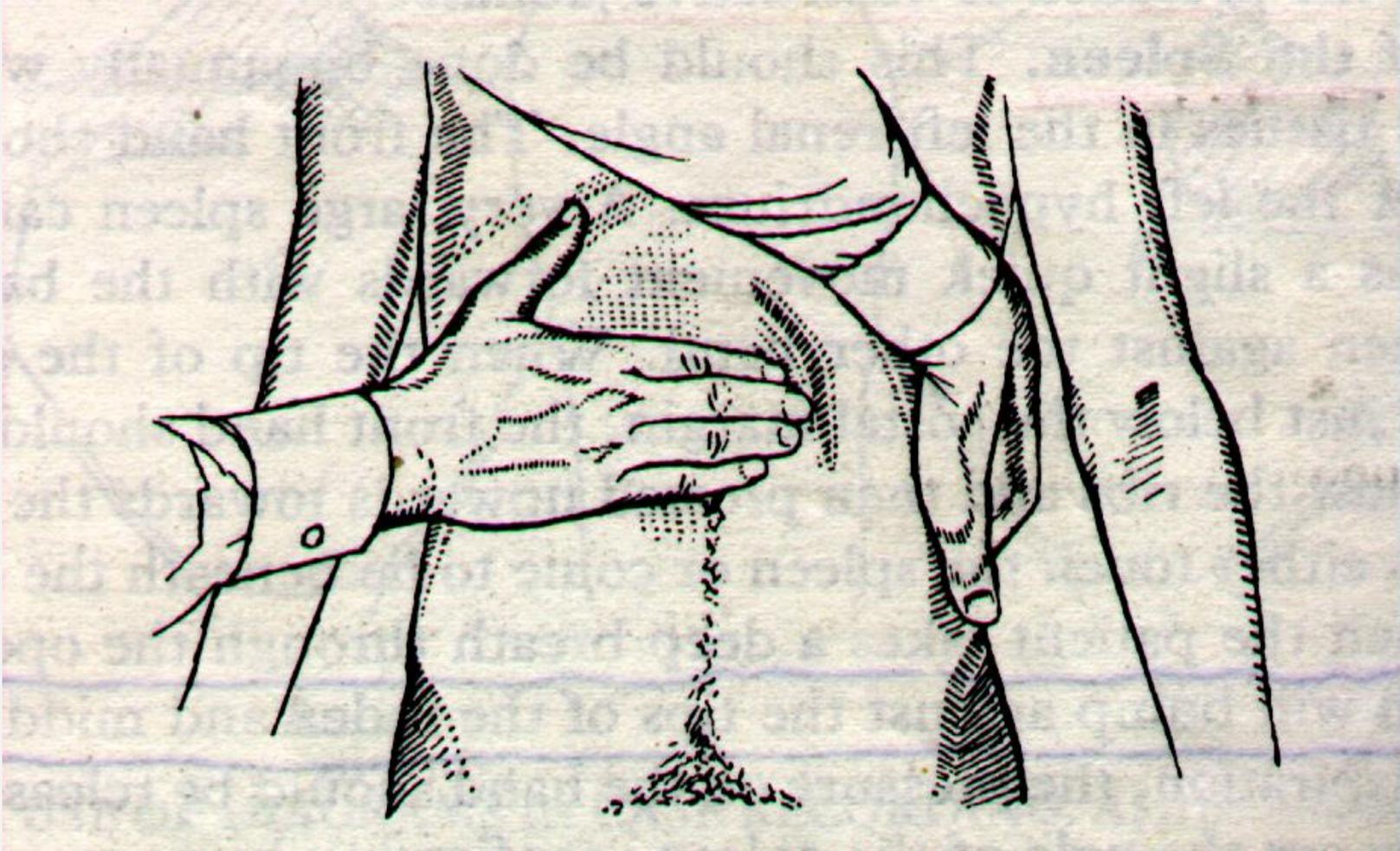
- Bimanual with one hand supporting the tissues in the left renal angle
- The front hand is firmly placed flat over the left hypochondrium. A very large spleen can be detected immediately, as a slight quick movement forward with the back hand will bump the spleen against the other hand
- When the tip of the spleen is just below the costal margin, the front hand should be placed at 1-2 inches below the ribs and then pressed upwards towards the left axilla, so that the fingers either touch the spleen or come to lie beneath the costal margin
- When the patient takes a deep breath, an enlarged spleen will bump against the tips of the index and middle fingers

PALPATION: (6) PALPATION OF THE SPLEEN

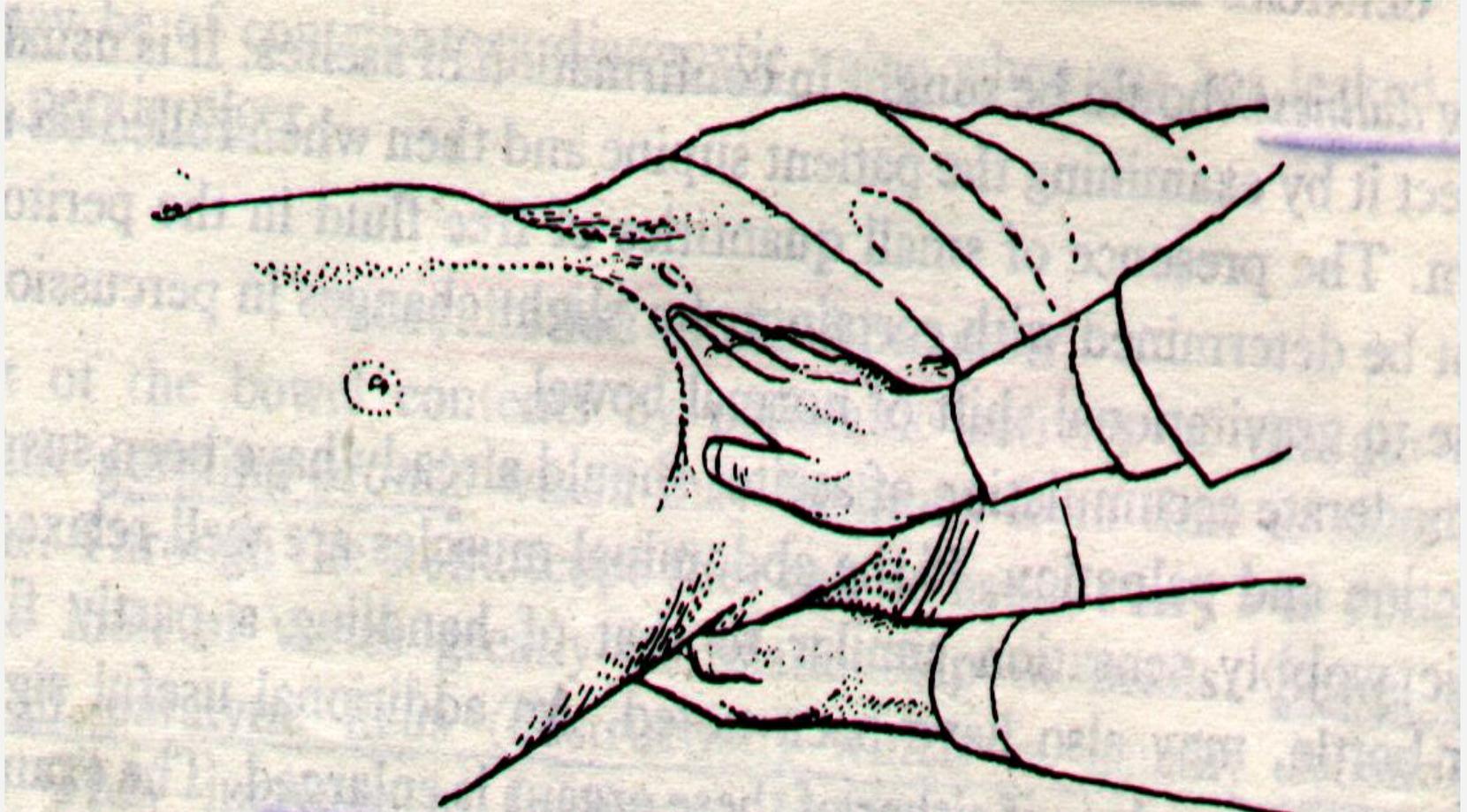
Splenomegally

1. The fingers can usually be pushed deep to the anterior edge and under the lower pole
2. It will not be possible to insert the fingers between the spleen and the costal margin
3. A very large spleen tends to point towards the RIF, and may cross the midline, and one or two notches may be felt on the anterior edge

PALPATION: (7) PALPATION OF THE KIDNEYS



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PALPATION: (7) PALPATION OF THE KIDNEYS

- Bimanual exam
- The front hand should be laid *lightly* over the abdomen in a position suitable for deep palpation just lateral to the rectus muscle
- The patient should be asked to take a deep breath, and immediately after the end of inspiration the front hand should be pressed firmly back against the hand behind
- A moment later a brisk flexion movement of the fingers of the hand in the renal angle should be made; this bumps the kidney on to the front hand
- Squeeze technique
- Renal tenderness is usually greatest posteriorly

PALPATION: (8) PALPATION OF THE GALLBLADDER

- **Murphy's sign:** Tenderness below the right costal margin midway between the xiphisternum and the flank. If the examiner's fingers are placed over this point and the patient is asked to take a deep breath, inspiration may be sharply arrested due to a sudden accentuation of pain = Acute Cholecystitis
- **Palpable Gallbladder:**
 1. Without jaundice = Mucocele/ Empyema/ Ca gall bladder
 2. With jaundice = Carcinoma head of the pancreas

COURVOISIER'S LAW

In the presence of **obstructive jaundice**; if the **gallbladder is also enlarged**, the obstruction will usually be due to causes **other than gallstones** since in most cases of cholelithiasis the wall of the gall bladder is thickened and toughened by changes due to chronic cholecystitis and it cannot stretch.

(C) PERCUSSION

The main value of abdominal percussion is to decide whether distension is due to **gas, ascites**, an **ovarian cyst** or other **solid tumor**

(C) PERCUSSION

1. Gaseous distension = Resonance (Tympanic)
2. Ovarian cyst = central dullness and peripheral Resonance
3. Ascites:
 - a. Shifting dullness
 - b. Dipping technique
 - c. Palpable (transmission) thrill
4. Spleen
5. Liver:
 - a. Liver dullness from 5th intercostal space—costal margin
 - b. Decreased liver dullness: emphysema, large right pneumothorax, perforated viscus
6. Urinary bladder
7. Other masses

(D) AUSCULTATION: (1) BOWEL SOUNDS

- Gurgling sounds (audible)
- Place the stethoscope just to the right of the umbilicus
- Every 5-10 seconds
- Normal bowel sounds are heard as intermittent low or medium pitched gurgles interspersed with an occasional high-pitched noise or tinkle
- Absent = paralytic ileus
- Increase in frequency and intensity = diarrhea, blood in the bowel, carcinoid syndrome
- Mechanical obstruction = Increase in frequency and intensity + the gaseous distension of the gut adds a tinkling quality to the sounds. Frequent loud low pitched gurgles (borborygmi) are heard, often rising to a crescendo of high pitched tinkles and occurring in a rhythmic pattern with peristaltic activity

(D) AUSCULTATION: (2) SYSTOLIC MURMURS (BRUIT) [IF PALPABLE = THRILL]

- Aorta, iliac arteries, common femoral
- Renal or mesenteric artery stenosis
- Hepatoma

(D) AUSCULTATION: (3) VENOUS HUM

- Turbulence in a well-developed collateral circulation from portal hypertension

(D) AUSCULTATION: (4) FRICTION SOUNDS

- Resemble pleuritic friction sounds
- Perisplenitis or perihepatitis

EXAMINATION OF THE GROINS: (1) FEMORAL PULSES

- The common femoral artery is found just below the inguinal ligament at the midpoint between ASIS and symphysis pubis
- Place the pulps of the right index, middle and ring fingers over this site and palpate the wall of the artery. Note the strength and character of its pulsation and then compare it with the opposite femoral pulse

EXAMINATION OF THE GROINS: (2) LYMPH NODES

EXAMINATION OF THE GROINS: (3) EXAMINATION OF HERNIAS

- **Inspection:** Look for expansile impulse on coughing
- **Palpation:** Place the left hand in the left groin so that the fingers lie over and in line with the inguinal canal; place the right hand similarly in the right groin. Now ask the patient to give a loud cough and feel for any expansile impulse with each hand
- The principles for examination of swelling apply to hernias

ANATOMICAL FEATURES OF HERNIAS

1. They occur at the site of operation scars and at points of anatomical weakness
 2. All bulge more when the pressure within them is raised
 3. Reducible
- **Obstructed hernia** = irreducible
 - **Strangulated hernia** = tense + tender + no impulse on coughing

ANATOMICAL FEATURES OF HERNIAS

- Abdominal wall hernias are more prominent in erect position
- An impulse can be felt in the hernia when the patient coughs

(Both features also apply to a saphenous varix)

Direct inguinal hernia	Bulges forward above the inguinal ligament. Does not extend to the scrotum.
Indirect inguinal hernia	Above and medial to the pubic tubercle. May extend into the scrotum or labium major. Following reduction, pressure over the mid-inguinal point will obliterate the cough impulse in an indirect hernia but not in a direct hernia.
Femoral hernia	Below and lateral to the tubercle.
Umbilical hernia	Common in babies and multiparous women
Epigastric hernia	Extraperitoneal fat bulging through a defect in the linea alba.
Incisional hernias	Site of any operation, esp if there was wound infection

LUMP IN THE GROIN

- Patient standing
- Does it extend to the scrotum
- Visible expansile impulse on coughing (above or below the crease of the ing. Lig.)
- Palpable expansile impulse on coughing
- Whether the hernia is inguinal or femoral (relationship of the sac to the pubic tubercle). Identify the pubic tubercle (adductor longus tendon)

Inguinal = medial + above

Femoral = lateral + below

LUMP IN THE GROIN

- **Contents of the sac:**

Bowel = gurgle, soft, compressible

Omentum = firmer, doughy in consistency

- **Reducible or not:**

Patient lie down: Ask the patient to reduce the hernia himself

- **Direct or indirect:**

Patient lie down: Inspect the direction of the impulse

Obliteration of the deep ring

D.Dx of Inguinal hernia	D.Dx of Femoral hernia
Femoral hernia	Inguinal hernia
Large Hydrocele of the tunica vaginalis	Lipoma in the femoral triangle
Large epididymal cyst	Femoral artery aneurysm (expansile pulsation)
Undescended or ectopic testis	Sapheno-varix (swelling disappear on lying down, has a bluish tinge to it, varicose vein present, venous hum)
Lipoma of the cord	Psoas abscess (flutuant, compressible)
Hydrocele of the cord (male)	Enlarged inguinal lymph nodes
Hydrocele of the canal of Nuck (female)	

EXAMINATION OF THE MALE GENITALIA: INSPECTION

- Distribution of pubic hair
- Appearance and size of the penis
- Prepuce
- Site of external urethral meatus
- Scrotal skin for redness, swelling, oedema or ulceration
- If any swelling is present, observe whether it appears to extend into the groin
- Note whether both testes are in the scrotum
- Lift up the scrotum to inspect its posterior surface

EXAMINATION OF THE MALE GENITALIA: PALPATION: (1) THE PENIS

- Corpora cavernosa for any induration
- Retract the prepuce
 1. **Phimosis** = narrowing the preputial orifice
 2. **Balanitis, posthitis**
 3. **Hypospadias (1/300)**
 4. **epispadias**
 5. **Syphilis + gonorrhoea** (groin LN + chancre, urethral discharge)
 6. **Primary syphilitic chancre** = painless ulcer indurated margin and base
 7. **Carcinoma** = malignant ulcer with raised everted edges and indurated base

EXAMINATION OF THE MALE GENITALIA: PALPATION: (2) THE SCROTAL SKIN

- Sebaceous cyst
- Malignant ulcers (epitheliomata)
- Sinsus (TB epididymo-orchitis)

EXAMINATION OF THE MALE GENITALIA: PALPATION: (3) THE TESTIS

- Note the size and consistency of the testis and any nodules or irregularities
 - Palpate the upper and lower poles
1. **Atrophic testes** bi or unilateral (hypogonadism, mumps orchitis)
 2. **Undescended testes**

EXAMINATION OF THE MALE GENITALIA: PALPATION: (4) THE EPIDIDYMIS

- Head = posterior aspect of upper pole
- Tail = posterolateral aspect of the lower pole

**EXAMINATION OF THE MALE GENITALIA:
PALPATION: (4) THE SPERMATIC CORD**

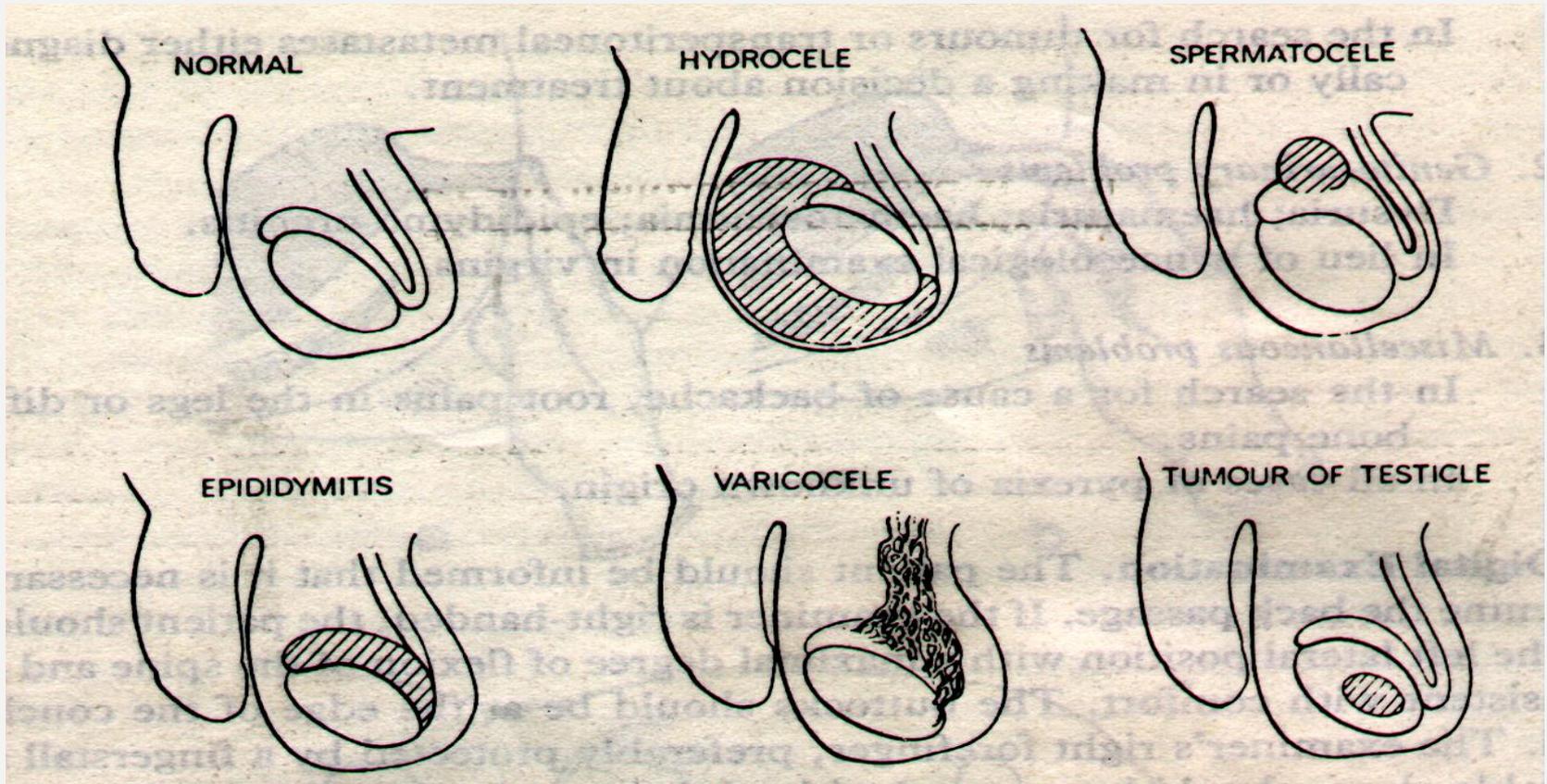
SWELLING IN THE SCROTUM

- Can I “get above” the swelling?
- Is the swelling cystic or solid? Is the testis palpable separate from the swelling?

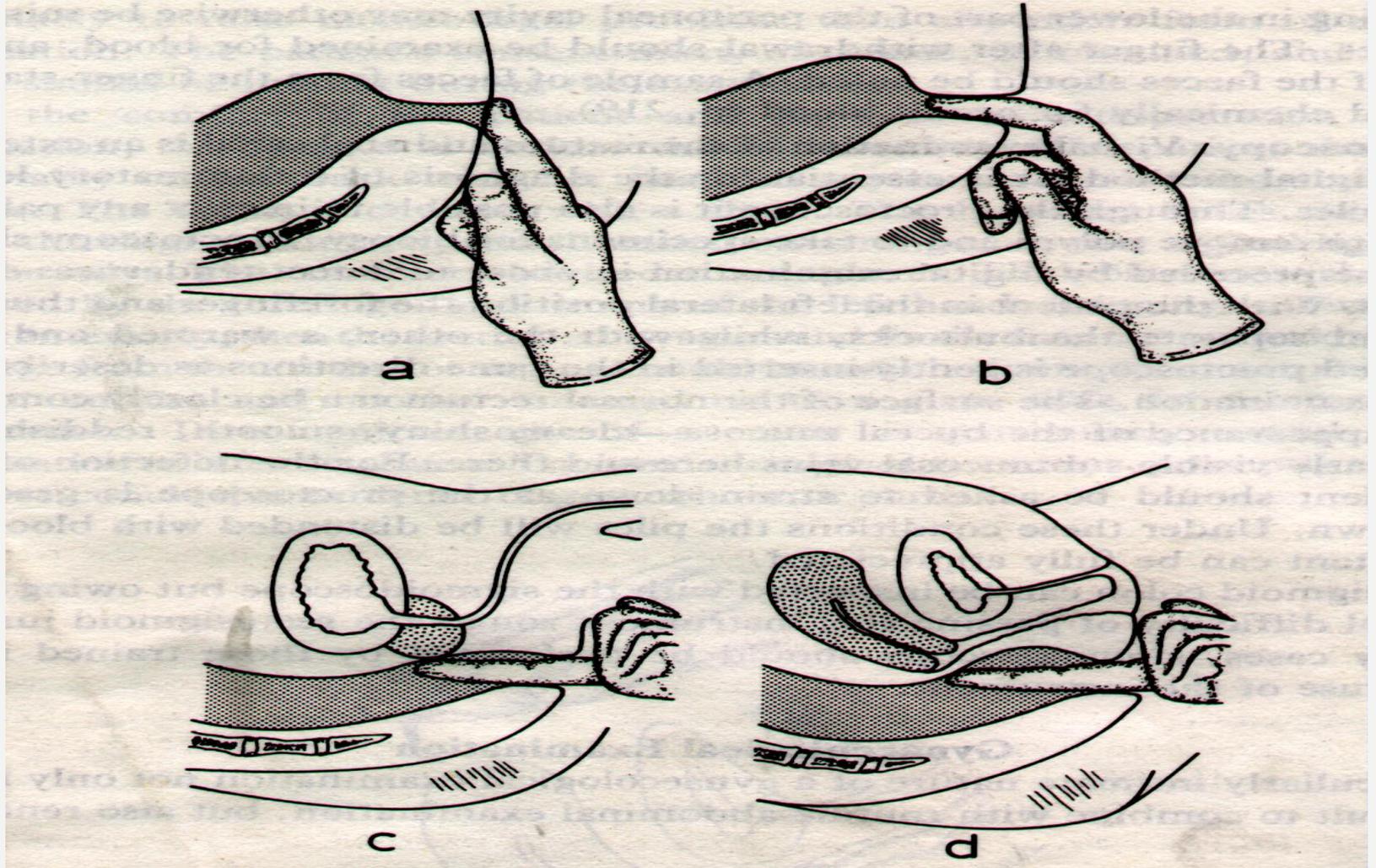
Scrotal swelling:

1. General principles: Confirm that the swelling is of the scrotum and its contents rather than an inguinal hernia.
2. Signs of inflammation
3. Transillumination
4. Relationships to the testis (hydrocele, spermatocele, epididymal cyst)
5. Painless scrotal swelling : hydrocele, epididymal cyst
6. Painfull scrotal swelling : acute epididymo-orchitis

SWELLING IN THE SCROTUM



EXAMINATION OF THE RECTUM



EXAMINATION OF THE RECTUM

- Inform the patient
- Patient in left lateral position with flexion of spine and legs. Buttocks at the edge of the bed
- Glove, lubricant, good light
- Inspection of perianal skin (dermatitis, scratch marks, perianal haematoma, fistula-in-ano, skin tag, anal warts, anal fissure, prolapsed piles, perianal abscess)
- Anal spasm (anxiety, fissure, fibrous stricture, tumour, Hirschsprung's disease)

EXAMINATION OF THE RECTUM

- Perianal region
- Anal sphincter
- Anal canal
- Rectal wall-Sacrum and coccyx
- Membranous urethra--prostate--base of bladder--cervix
- (Piles and seminal vesicle normally not palpable)
- Any masses
- The finger after withdrawal should be examined for blood and the color of feces noted
- A sample of feces can be tested for occult blood.

PROSTATE

- Normal Prostate: Smooth, firm, regular lateral lobes and median groove
- Prostatic hyperplasia: Palpable enlargement
- Small prostate: Hypogonadism due to castration, treatment by oestrogen, hypopituitarism. Klinefelter's syndrome.
- Prostatitis/abscess: Tenderness, local and systemic symptoms
- Prostatic carcinoma: Hard, irregular, nodular may be fixed to the mucosa or surrounding structures, no detectable median groove.