Surgery-Ortho-Radiology

EXTRA-EDGE

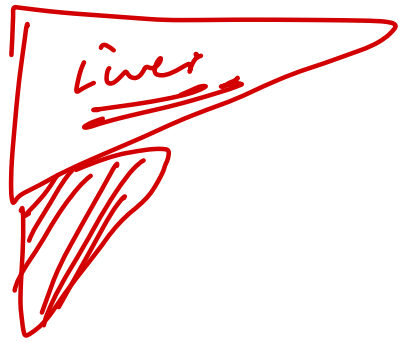
SURGERY

3. In a patient with hyperplasia of all four parathyroid glands who undergoes total parathyroidectomy followed by implantation of parathyroid tissue in a different site, which term best defines this procedure?

A. Isograft – identical twins
B. Auxiliary
C. Heterotopic – kidney, Liver, pancreas (UB)
D. Orthotopic – Liver / cornea / ♡ / Lungs

1/2 gland → Brachioradialis

Accidental removal → Strap muscles



- Allograft / Homograft
- Heterograft / Xenograft
- Autograft – self

4. All of the following are true regarding the metabolic and hormonal response to surgical stress/trauma except:

A. Increased ACTH and cortisol levels are characteristic findings
B. Insulin levels are elevated in the ebb phase of stress
C. There is increased hepatic gluconeogenesis and lipolysis
D. Growth hormone (GH) and TNF-α levels are elevated

Ebb phase

48 hrs

Flow phase

Catabolic

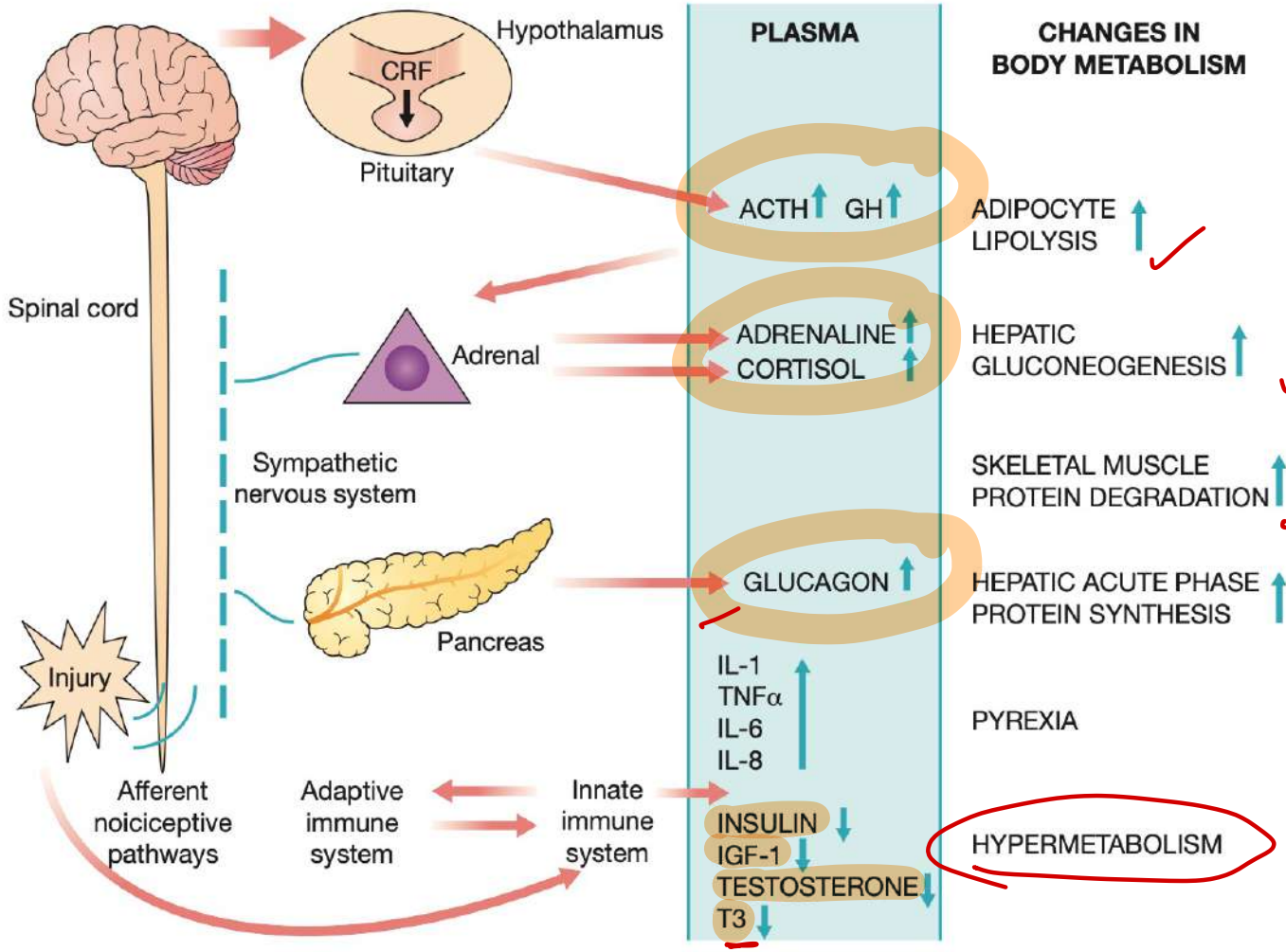
↓

3–10 d

Anab

↓

wks



T4 → T3 ↓

→ rT3 ↑

8. For performing a transurethral resection in cases of bladder tumors, which of the following lasers is most commonly used?

A. Ho-YAG laser
B. Argon laser
C. Nd-YAG laser
D. Carbon dioxide laser

178. All of the following lasers are correctly matched with their ENT indications, except:

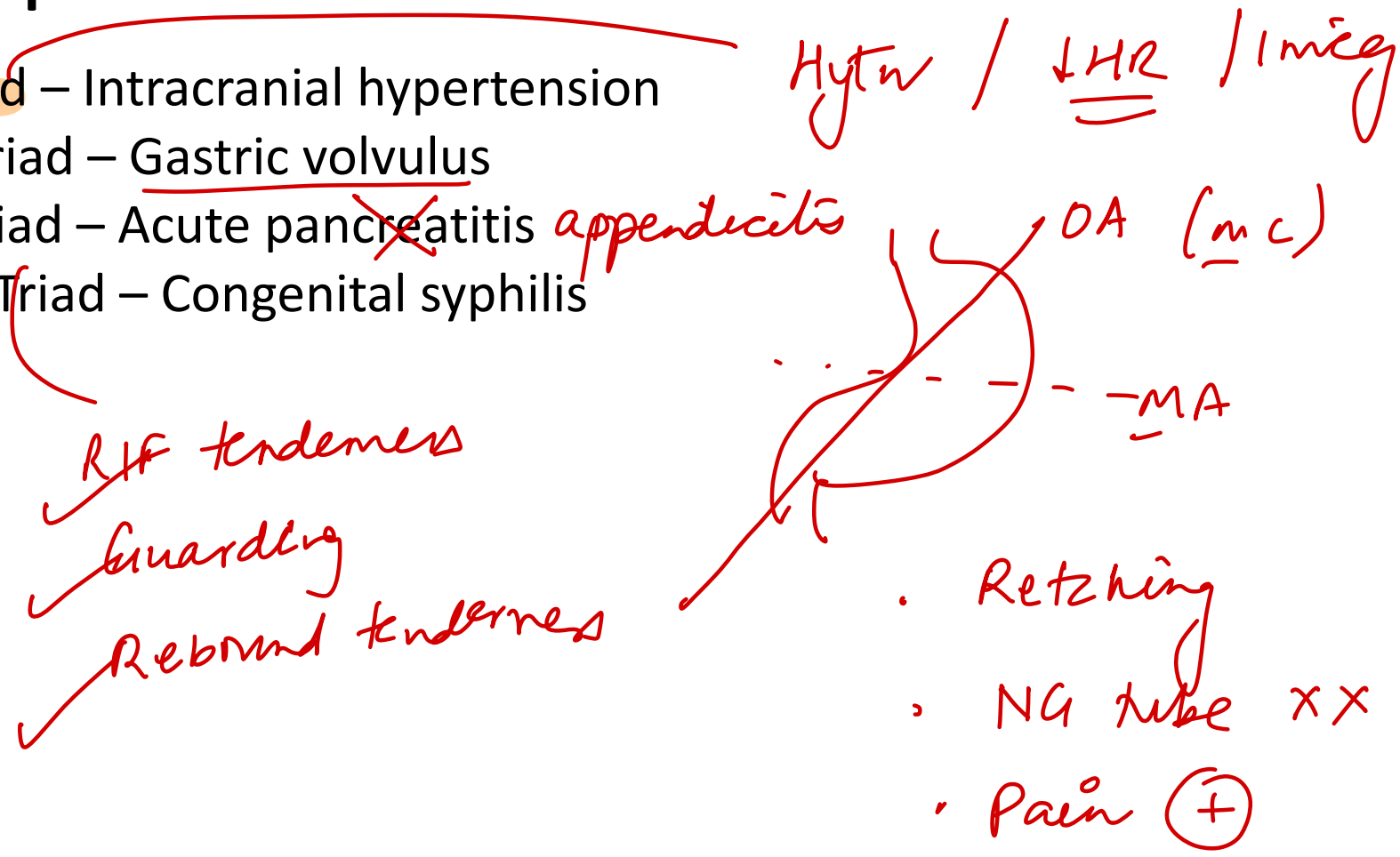
A. CO_2 laser for stapedotomy
B. Argon laser for middle ear adhesion lysis
C. KTP laser for nasal polyps epistaxis
D. Argon laser for vocal cord paralysis CO_2

Laser	Specialties & Indications
Nd:YAG	Ophthalmology: Double frequency (532)- PRP / LT 1064nm- PCO / PI Bladder cancer Gall stone fragmentation
Holmium YAG	Lithotripsy, BPH, Urethral stricture
Carbon dioxide	ENT: Stapedectomy, Larynx, oral cavity
KTP	Epistaxis / nasal polyp
Excimer (Argon fluoride)	LASIK
Argon green	Middle ear surgery
Pulsed dye laser (PDL)	Port-wine stain, Strawberry birthmarks

dermal

12. All of the following are correctly matched triads with their associated conditions except:

A. Cushing's Triad – Intracranial hypertension
B. Borchardt's Triad – Gastric volvulus
C. Dieulafoy's Triad – Acute pancreatitis
D. Hutchinson's Triad – Congenital syphilis



14. The TRISS (Trauma and Injury Severity Score) model incorporates which of the following variables?

A. RTS + ISS + age
B. RTS + GCS + BP
C. GCS + BP + RR
D. RTS + ISS + GCS

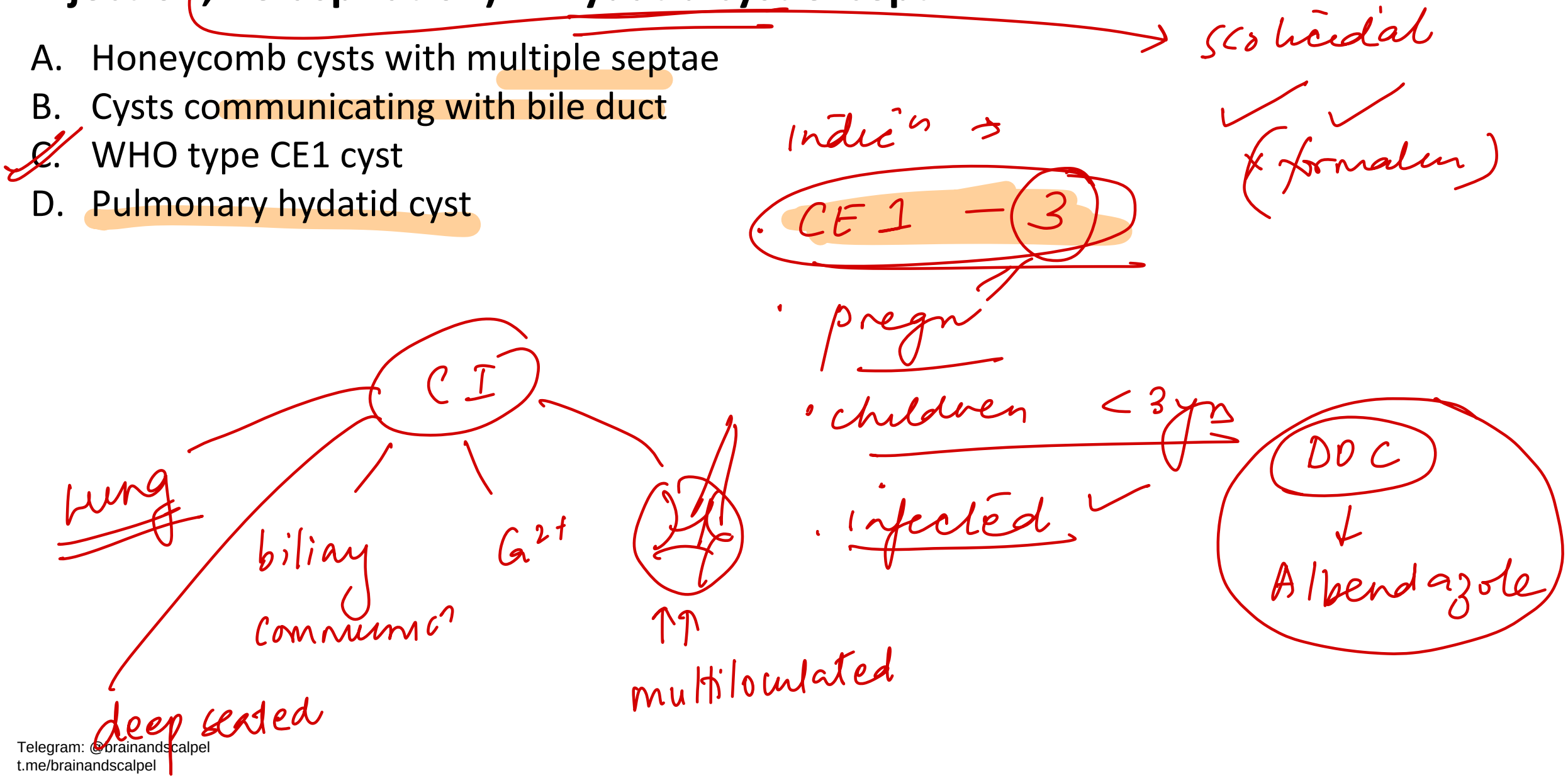
RTS + ISS + age + mech of inj

GARBA

GCS + RR + SBP

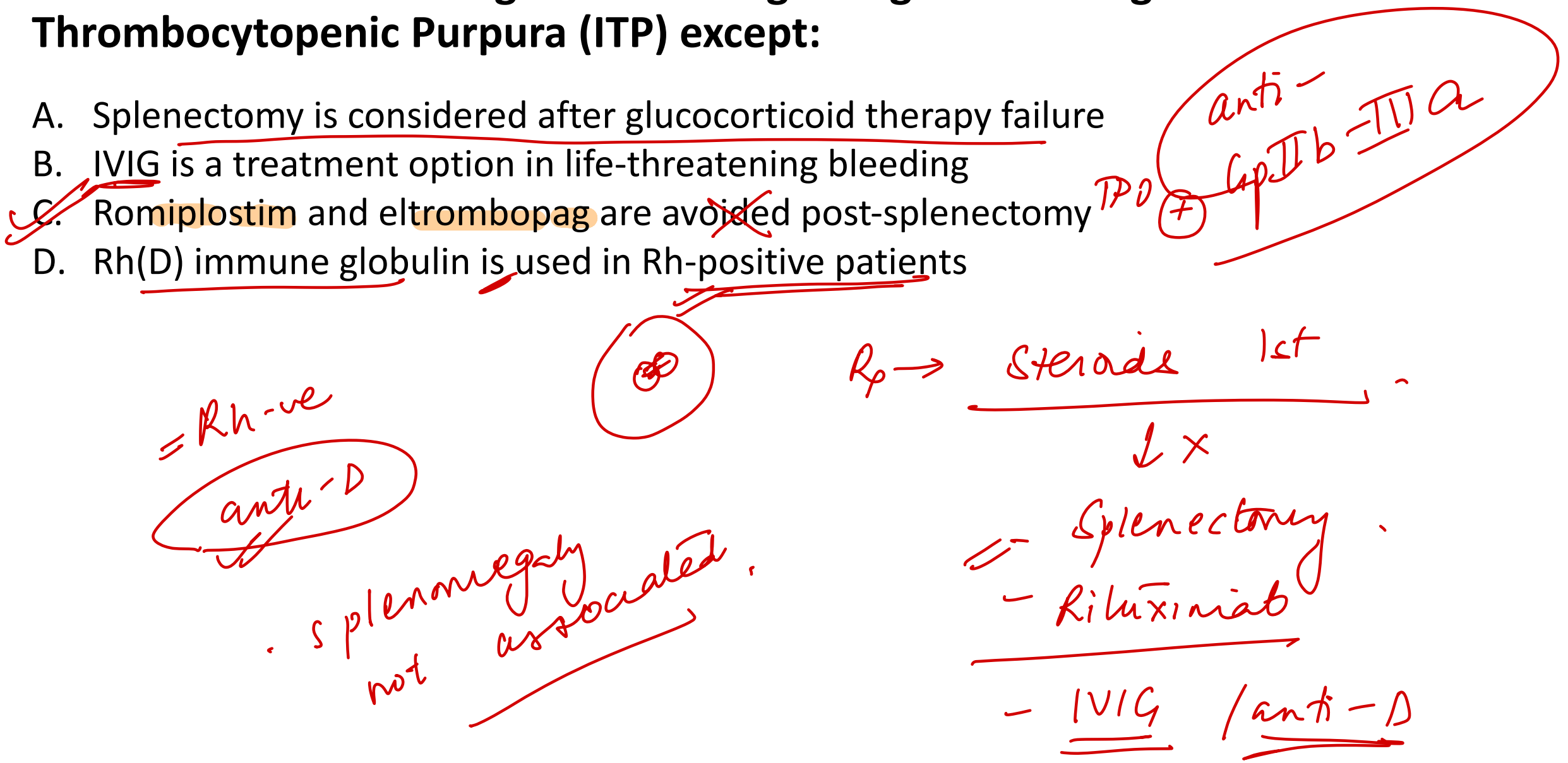
15. All of the following are contraindications for PAIR (Puncture, Aspiration, Injection, Re-aspiration) in hydatid cyst except:

A. Honeycomb cysts with multiple septae
B. Cysts communicating with bile duct
C. WHO type CE1 cyst
D. Pulmonary hydatid cyst



19. All of the following are true regarding the management of Immune Thrombocytopenic Purpura (ITP) except:

A. Splenectomy is considered after glucocorticoid therapy failure
B. IVIG is a treatment option in life-threatening bleeding
C. Romiplostim and eltrombopag are avoided post-splenectomy
D. Rh(D) immune globulin is used in Rh-positive patients



Feature	Acute ITP	Chronic ITP
Incidence	2–6 years	20–40 years
Precedent Infection (viral)	Common	Unusual
Platelet Count	< 20,000/μL	30,000–80,000/μL
Spontaneous Remission	80% of cases	Uncommon

23. Which among the following medications must be withheld on the day of surgery due to potential complications?

A. Digoxin
B. Furosemide
C. Propylthiouracil
D. Prednisolone

Omit morning dose:

Diuretics except thiazides

OHG/insulin except SGLT-2 (stop 24-72hrs prior) euglycemic ketoacidosis

STOP

NSAIDSs → 48hrs ← Li

Aspirin → 72hrs except prior stroke / MI

Warfarin → 5d

Clopidogrel → 7d

Abciximab → 48hr

Eptifibatide → 8hrs

UFH → 4hr.

LMWH → 12-24hr

33. All of the following tumor classifications are correctly matched with their associated tumors except:

A. Bloom–Richardson grading – Carcinoma breast
B. Duke staging – Colorectal carcinoma
C. Gleason scoring – Testicular cancer
D. Masaoka staging – Thymoma

Classification	Associated Tumor
Bloom Richardson grading	Carcinoma breast
Butchart staging	Mesothelioma
Chang staging	Medulloblastoma
Jackson	Carcinoma penis
Masaoka staging	Thymoma
Noguchi	Adenocarcinoma lung
Nevin's staging	Carcinoma gall bladder
Robson staging	Renal cell carcinoma
Reiss and Ellsworth classification, Esson prognostic index	Retinoblastoma
Shimada index	Neuroblastoma
Sullivan modification of Macfarlane system	Adrenocortical carcinoma

36. A female with ER+, PR+, HER2- breast cancer is to be treated. Which of the following is the most recently approved agent for this condition?

A. Ipatasertib
B. Buparlisib
C. Palbociclib + Fulvestrant — Palomа trial
D. Herceptin

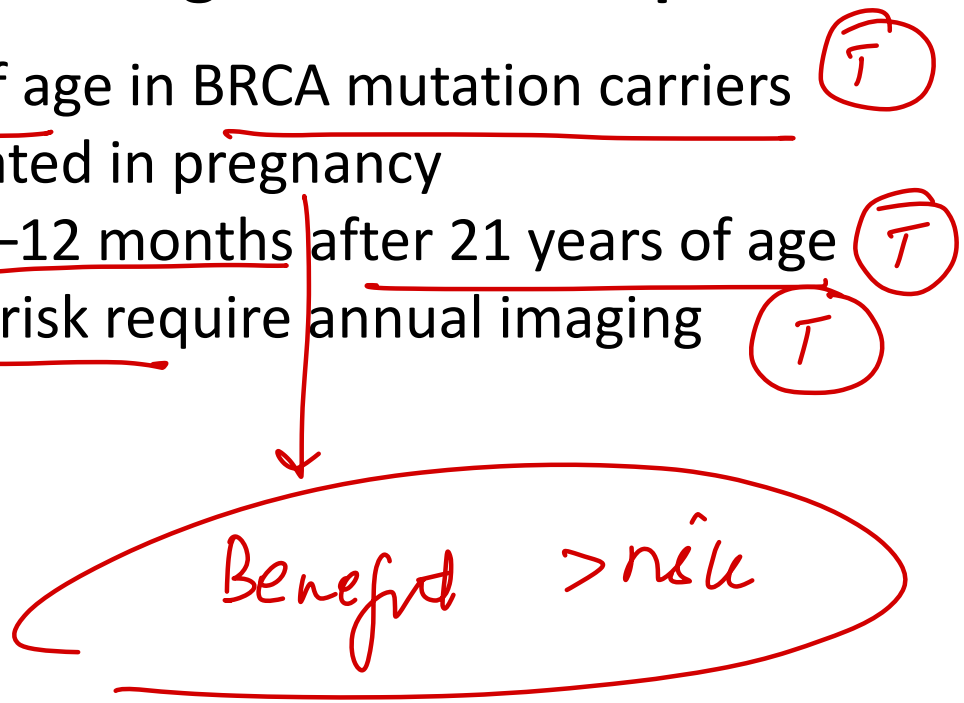
↓

SERD

- **Cyclin-dependent kinase 4/6 inhibitors**
  - **Palbociclib:** With aromatase inhibitor (Letrozole) or SERD (Fulvestrant)
  - **Ribociclib:** With aromatase inhibitor (Letrozole)
  - **Abemaciclib:** With SERD (Fulvestrant)
- **mTOR pathway inhibitors**
  - **Everolimus:** Approved for advanced/metastatic HR+, HER2- breast cancer
- **Phosphatidyl-inositol 3 kinase (PI3k) inhibitors-Buparlisib**
- **AKT (Protein kinase B) inhibitors-Ipatasertib**

37. All of the following are true about breast cancer screening in high-risk women according to NCCN 2022 guidelines except:

A. Annual MRI from 25 years of age in BRCA mutation carriers
B. Mammogram is contraindicated in pregnancy
C. Clinical breast exam every 6–12 months after 21 years of age
D. Women with ≥ 20% lifetime risk require annual imaging



High-Risk Criteria:

1. BRCA1/BRCA2/TP53/PTEN mutations (self or 1st-degree relative)
2. 2 first-degree relatives with breast cancer
3. Chest irradiation (age 10–30)
4. Biopsy-proven breast cancer history
5. Lifetime risk ≥ 20% (based on models)

- MRI
- ≥25yrs annually

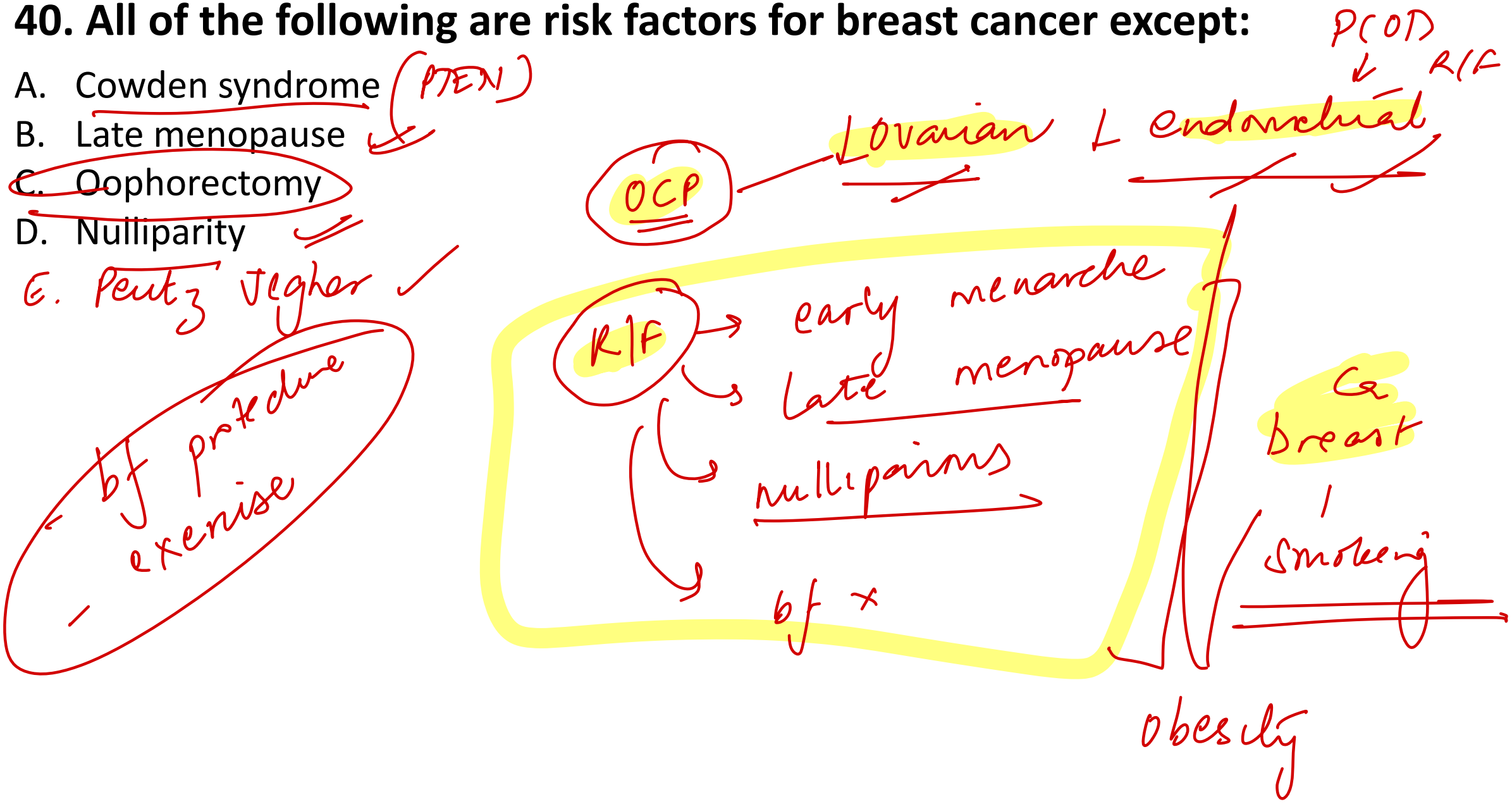
Mammography

>40yrs

annual

40. All of the following are risk factors for breast cancer except:

A. Cowden syndrome
B. Late menopause
C. Oophorectomy
D. Nulliparity
E. Peutz Jeghers



42. Breast conservation surgery is feasible in which of the following patients with breast carcinoma?

(1) A post-partum woman

(2) Small breast with a large tumor

(3) Persistently positive margin

(4) Diffuse microcalcification on mammogram

(5) Prior chest radiation

A. Only 1
B. 1, 3 and 4
C. 2, 3, 4 and 5
D. 2 and 3

49. A 40-year-old female has a 3 cm mass in the upper quadrant of the right breast. Biopsy confirms invasive ductal carcinoma without nodal spread. What is the ideal management plan?

A. Mastectomy followed by chemotherapy
B. Modified radical mastectomy with radiotherapy
C. Breast-conserving surgery with adjuvant radiotherapy
D. Modified radical mastectomy alone

T2 N0 - early

BCS

LABC - T3 N1 / T4 / N2 / N3

Neoadj CT → MRM → adj RT.

46. All of the following signs are correctly matched to their associated condition except:

A. Blumberg sign – Peritoneal inflammation
B. Courvoisier's sign – Gallbladder perforation
C. Chandelier sign – Pelvic inflammatory disease
D. Aaron sign – Acute appendicitis

GB palpable painless
↳ pancreatic ca

Sign	Description
Aaron sign	Epigastric/chest pain on McBurney point pressure
Bassler sign	Sharp pain compressing appendix between wall and iliacus
Ten Horn sign	Pain on traction of right testicle
Blumberg's sign	Rebound tenderness of abdominal wall

acute appendicitis

Chandelier sign	Pain on cervix movement	Pelvic inflammatory disease
Courvoisier's sign	Palpable gallbladder with painless jaundice	Periampullary tumor
Cruveilhier sign	Caput medusae (umbilical varices)	Portal hypertension

18. All are true differences between intestinal and diffuse types of gastric carcinoma except:

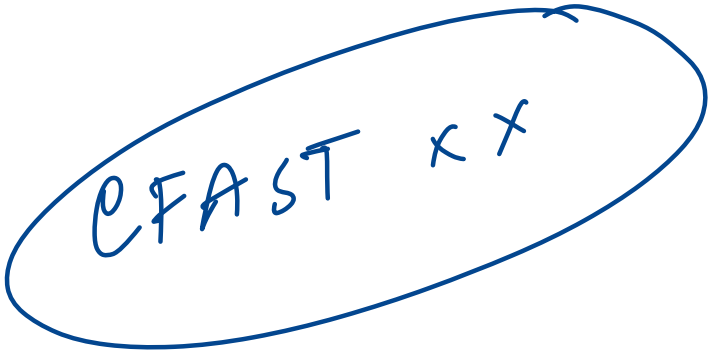
A. Intestinal type is associated with gland formation
B. Diffuse type shows hematogenous spread
C. Diffuse type has signet ring cells
D. Intestinal type increases with age

Lauren:

Feature	Diffuse Type	Intestinal Type
Etiology	Not strongly linked to H. pylori Blood group A	Strongly associated with H. pylori, diet, Metaplasia, atrophy
Age group	Younger individuals	Older individuals
Gender	Equal in both sexes	Male > Female
Histology	Signet ring cells, infiltrative pattern	Glandular/tubular structures
Gross appearance	Linitis plastica (thickened, rigid wall)	Ulcerative or polypoid mass
Pathogenesis	CDH1 (E-cadherin) mutation	APC-MSI
Prognosis	Lymphatic spread	Hematogeneous spread

58. All are positive findings in peritoneal lavage except:

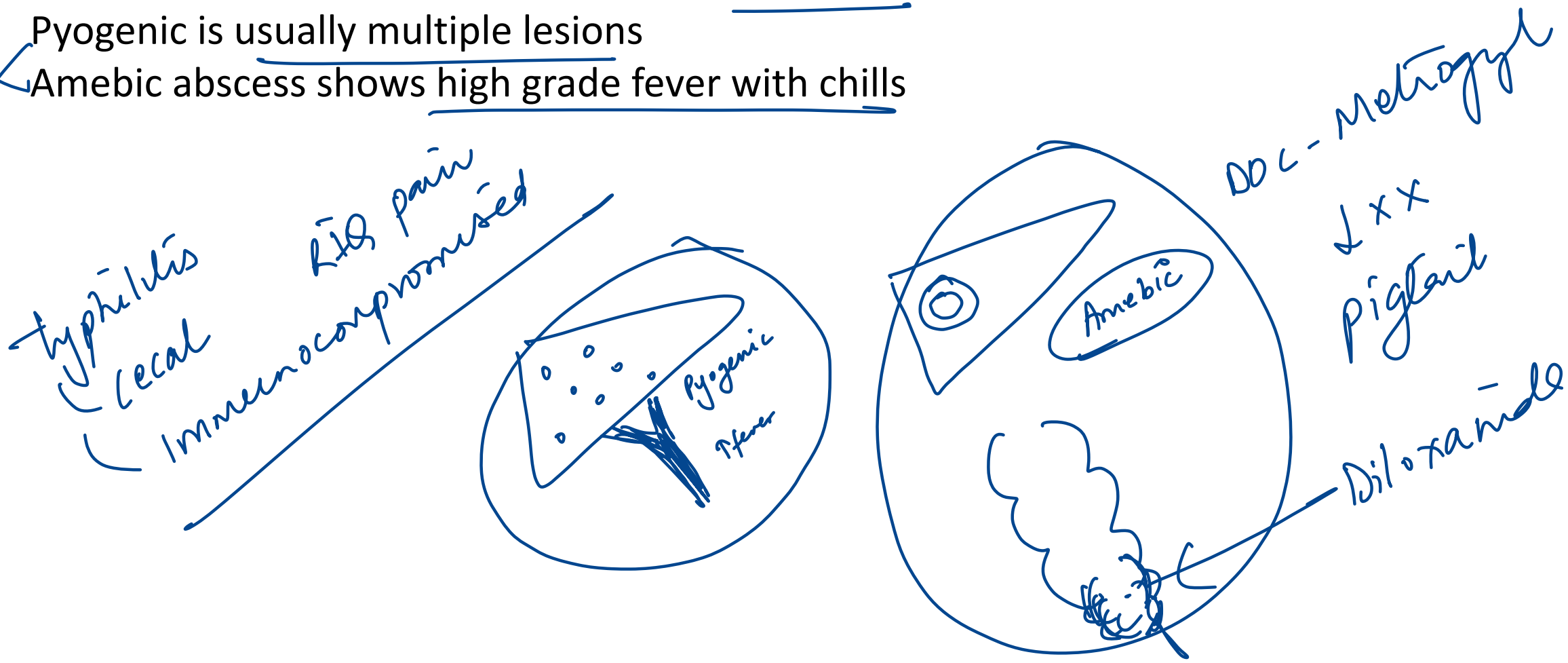
A. 100,000 RBCs/µL
B. Presence of 200 IU/dl amylase
C. 75 WBCs/µL
D. Presence of bile



Positive	Intermediate	Negative
➢ 100,000 red cells/μL ➢ > 500 white cells/μL ➢ 175 units amylase/dL ➢ Bacteria on Gram stain ➢ Bile ➢ Food particles	Pink fluid on aspiration 50,000–100,000 red cells/μL in blunt trauma 100–500 white cells/μL 75–175 units amylase/dL	Clear aspirate < 100 white cells/μL < 75 units amylase/dL

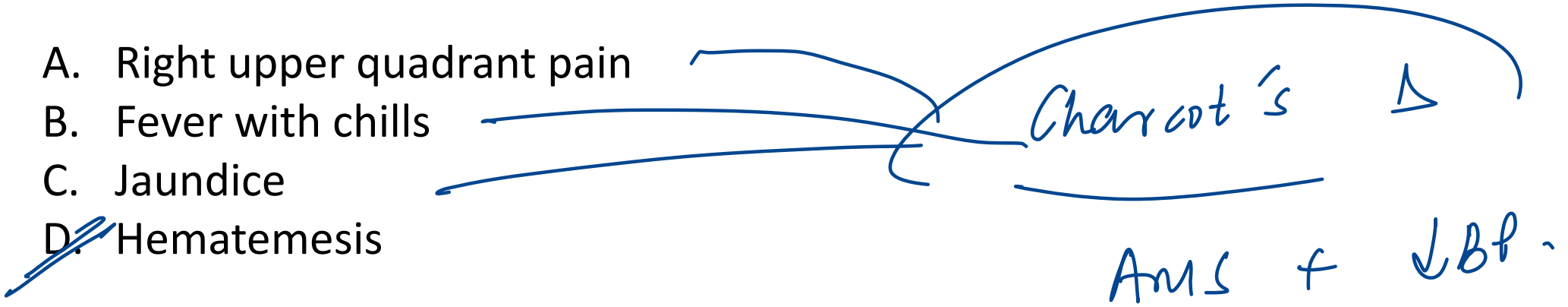
61. All are true differences between pyogenic and amebic liver abscesses except:

A. Pyogenic more common in >50 years
B. Amebic more commonly associated with dysentery
C. Pyogenic is usually multiple lesions
D. Amebic abscess shows high grade fever with chills



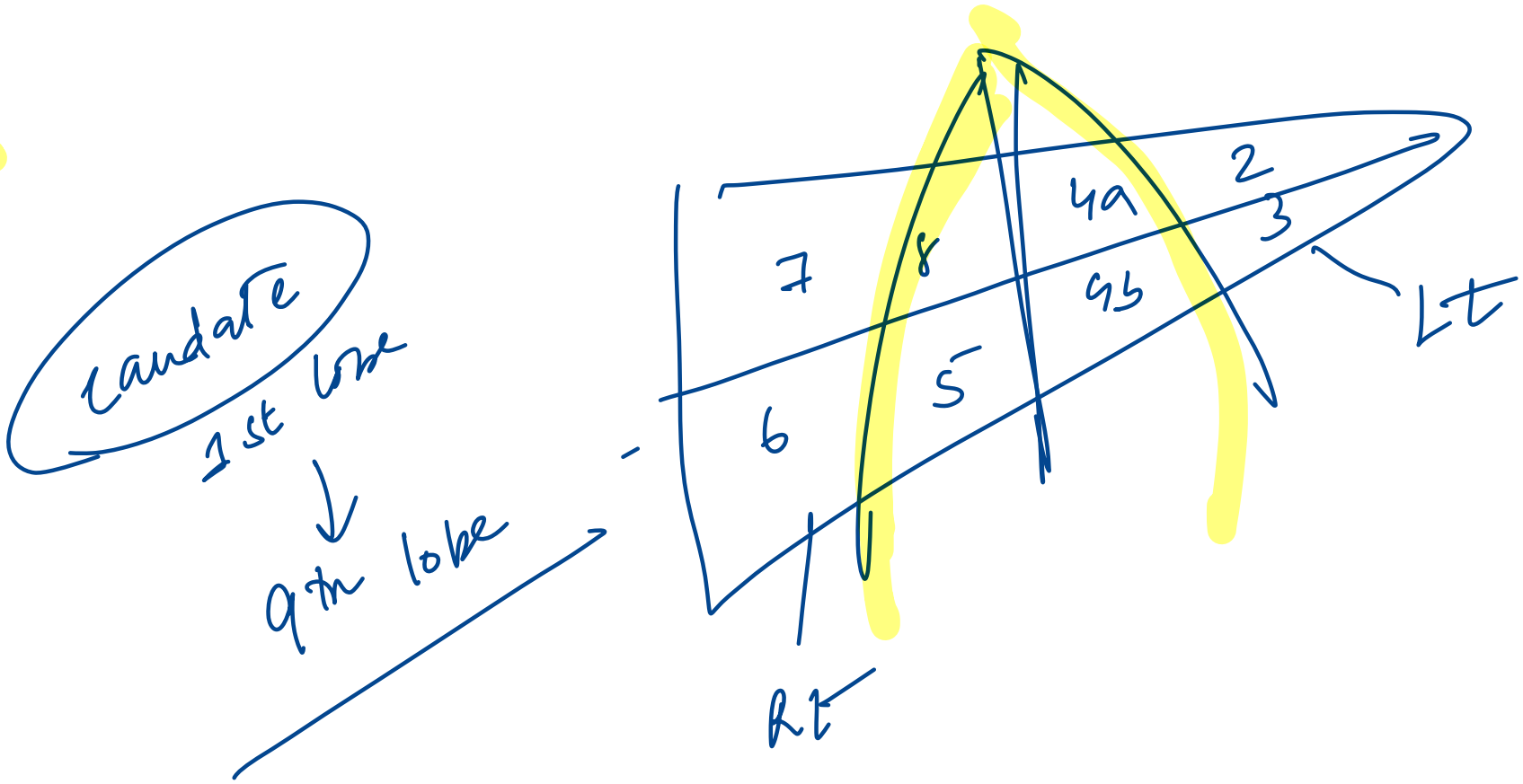
63. All of the following are features of Reynold's pentad in acute suppurative cholangitis except:

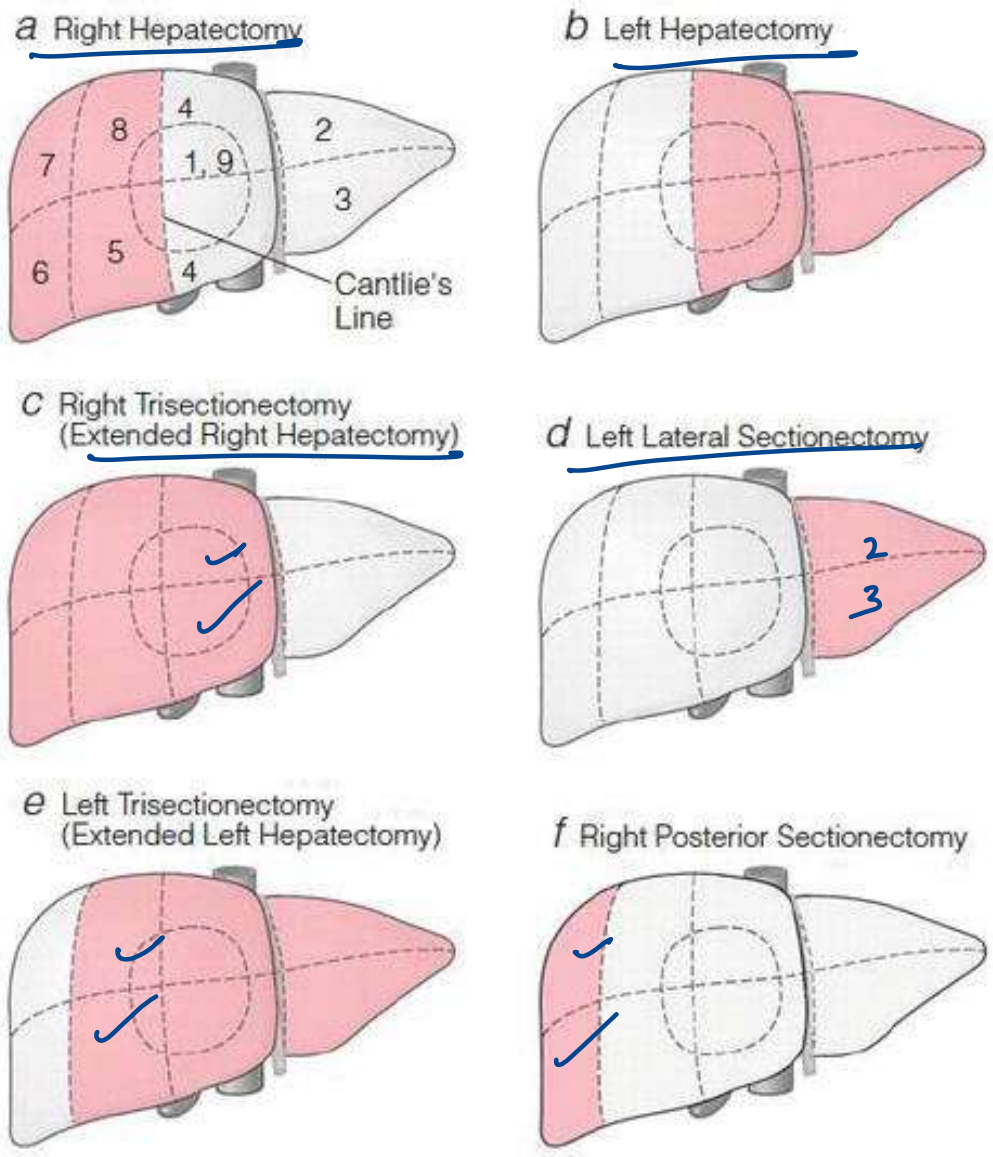
A. Right upper quadrant pain
B. Fever with chills
C. Jaundice
D. Hematemesis



68. In extended left hemi-hepatectomy, the liver segments resected are:

A. 2, 3, 4
B. 2, 3, 4, 5, 6
C. 2, 3, 4, 5, 8
D. 1, 2, 3, 4, 5





67. A hemicolectomy specimen biopsy shows adenocarcinoma invading the subserosa with deposits in the mesentery but no lymph node involvement or distant spread. What is the tumor stage?

A. T4b N0 M1c
B. T3 N1c M0
C. T4a N2b M0
D. T3 N0 M1

TABLE 2. TNM classification and AJCC 7th edition Staging of Colon Cancer[16]

Primary tumor staging (T)	
T0	No evidence of primary tumor
Tis	Carcinoma in situ
T1	Tumor invades submucosa
T2	Tumor invades muscularis propria
T3	Tumor invades through the muscularis propria into the pericolonic tissue
T4a	Tumor penetrates to the surface of the visceral peritoneum (serosa)
T4b	Tumor invades and/or is adherent to other organs or structures
Regional lymph node staging (N)	
N0	No regional lymph node metastasis
N1a	Metastasis in 1 regional lymph node
N1b	Metastasis in 2–3 regional lymph nodes
N1c	Tumor deposits in subserosa, mesentery, or nonperitonealized pericolic or perirectal tissues without regional nodal metastases
N2a	Metastasis in 4–6 regional lymph nodes
N2b	Metastasis in 7 or more regional lymph nodes
Distant metastasis staging (M)	
M0	No distant metastasis
M1a	Metastasis confined to 1 organ or site
M1b	Metastasis in more than 1 organ/site or the peritoneum

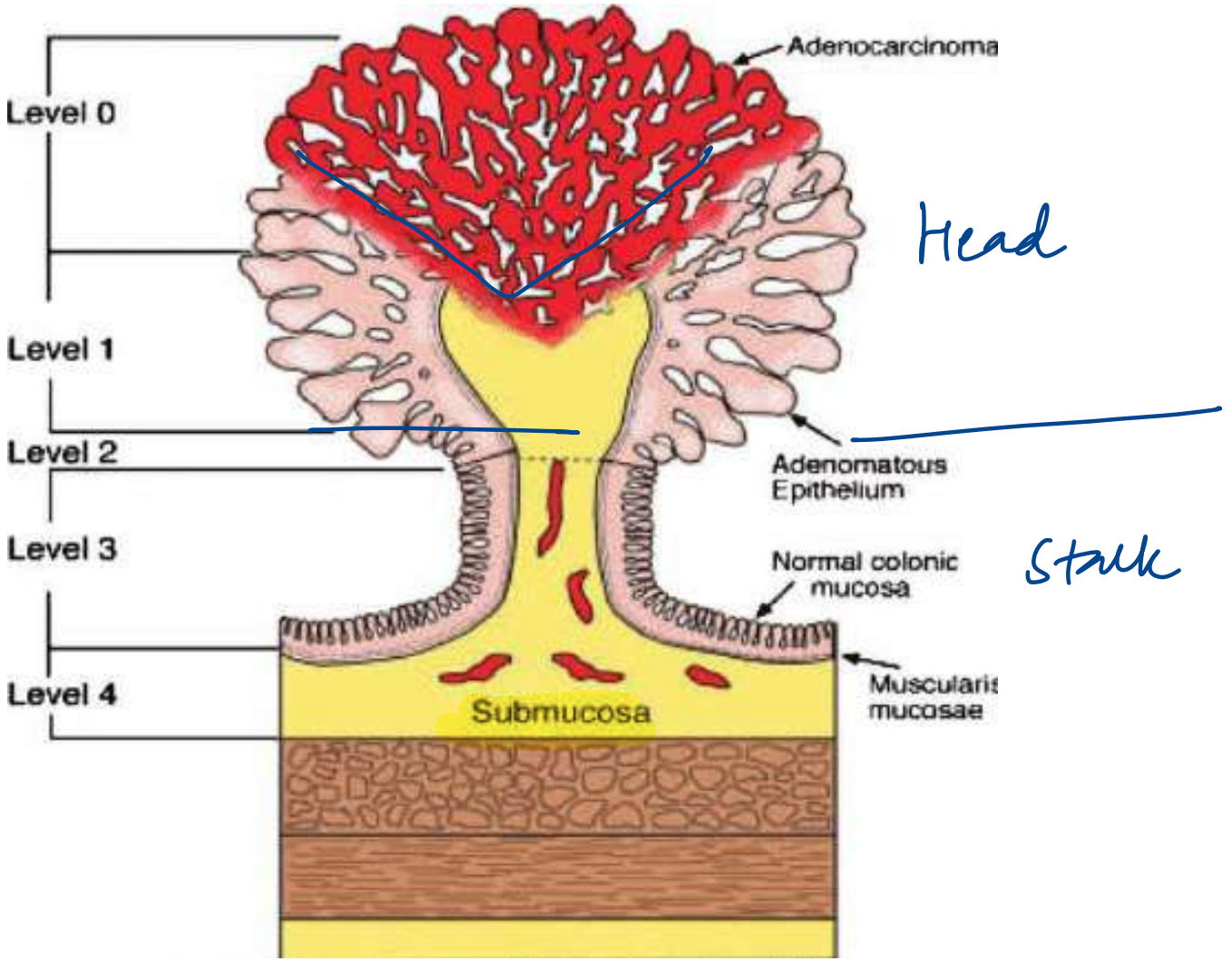
Table. Colon and Rectum Cancer Staging[6]

AJCC Stage	TNM Stage	Description
0	Tis N0 M0	Tumor is confined to mucosa
I	T1 N0 M0	Tumor invades submucosa
I	T2 N0 M0	Tumor invades muscularis propria
IIA	T3 N0 M0	Tumor invades subserosa or beyond, no other organs involved
IIB	T4 N0 M0	Tumor invades adjacent organs or perforates visceral peritoneum
IIIA	T1-2 N1 M0	Metastasis to 1-3 regional lymph nodes with tumor invasion of submucosa and/or muscularis
IIIB	T3-4 N1 M0	Metastasis to 1-3 regional lymph nodes with tumor invasion of subserosa or adjacent organs
IIIC	Any T, N2 M0	Metastasis to 4 or more lymph nodes
IV	Any T, any N, M1	Metastasis to distant organs

Abbreviations: AJCC, American Joint Committee on Cancer; Tis, tumor (carcinoma) in situ.

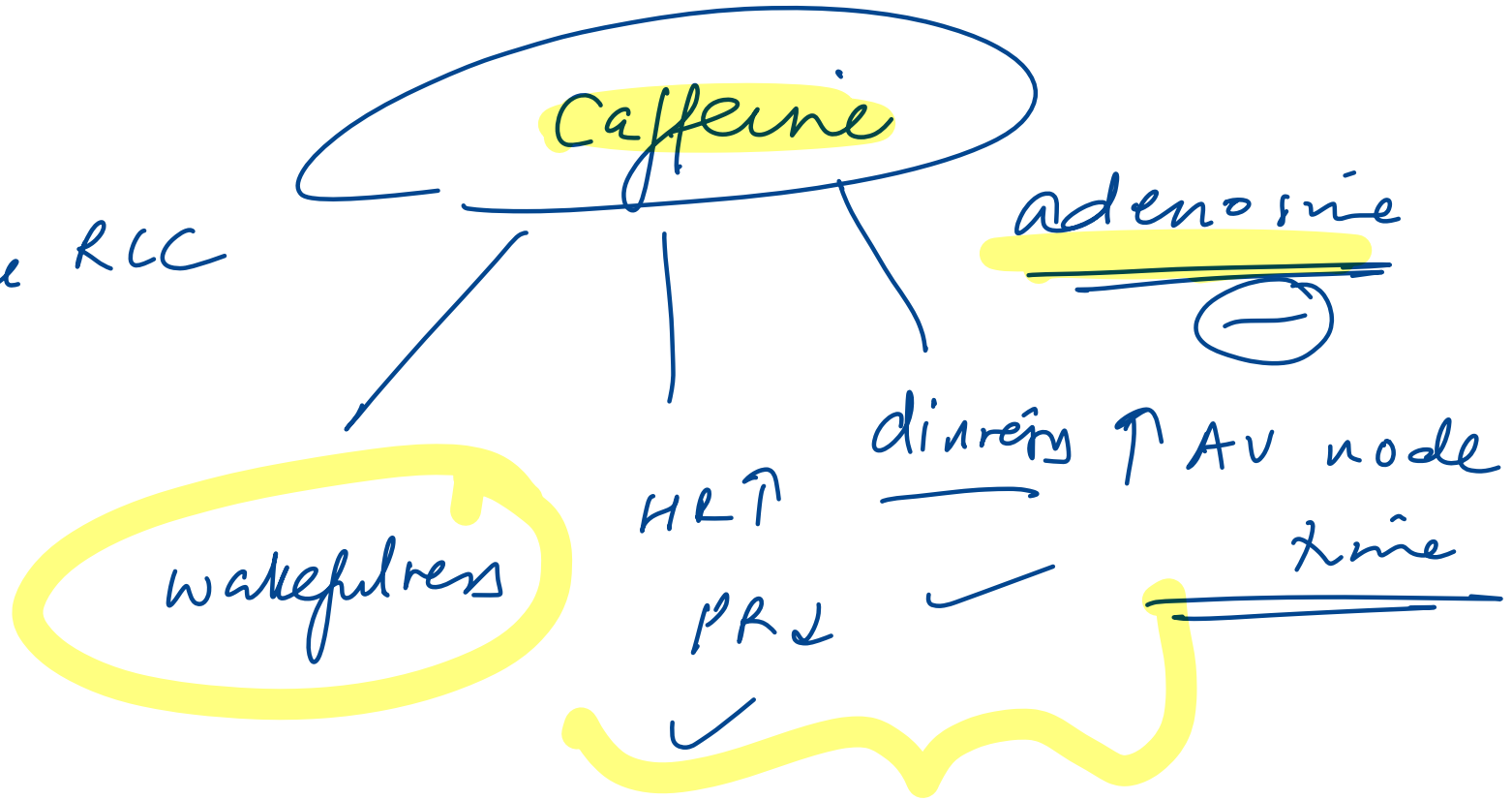
82. Histopathological examination of a polyp shows dysplasia up to the submucosa. What is the correct Haggitt classification level?

A. Level 2
B. Level 3
C. Level 1
D. Level 4



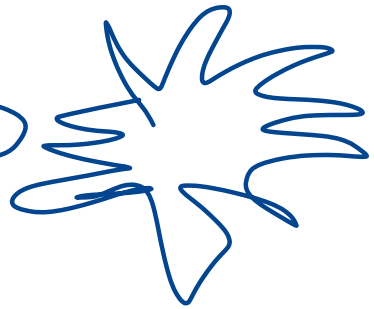
88. A 65-year-old man presents with hematuria and left flank pain. Imaging studies reveal a renal mass, and a subsequent biopsy confirms the diagnosis of papillary renal cell carcinoma. Which of the following cytogenetic abnormalities is most characteristic of papillary chromophilic renal cell carcinoma?

A. Loss of 3p → VHL
B. Trisomy 7/17
C. Xp translocation – pediatric RCC
D. Mutant VHL gene



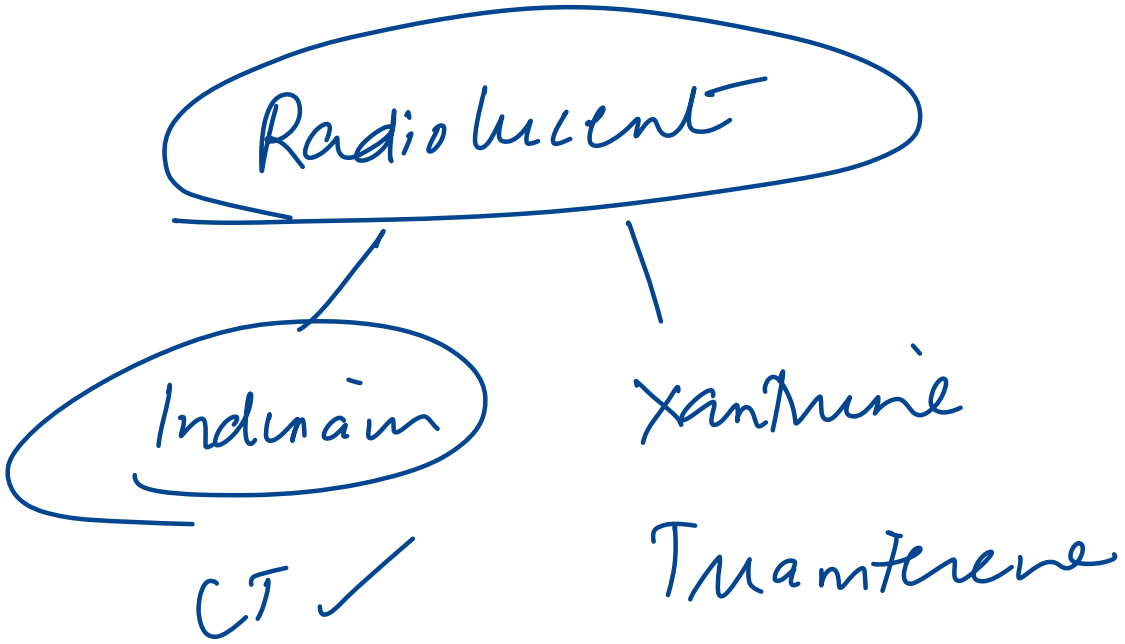
94. Which type of renal stone is commonly associated with chronic laxative abuse?

A. Struvite
B. Uric acid
C. Ammonium urate
D. Calcium oxalate



102. A patient with severe right-sided abdominal pain shows no findings on X-ray, but USG reveals a 6 mm renal stone. Which stone is most likely present?

A. Cystine
B. Uric acid
C. Struvite
D. Oxalate



106. Abbe-Estlander flap is primarily used in the reconstruction of which region?

A. Floor of mouth
B. Tongue
C. Palate
D. Lip

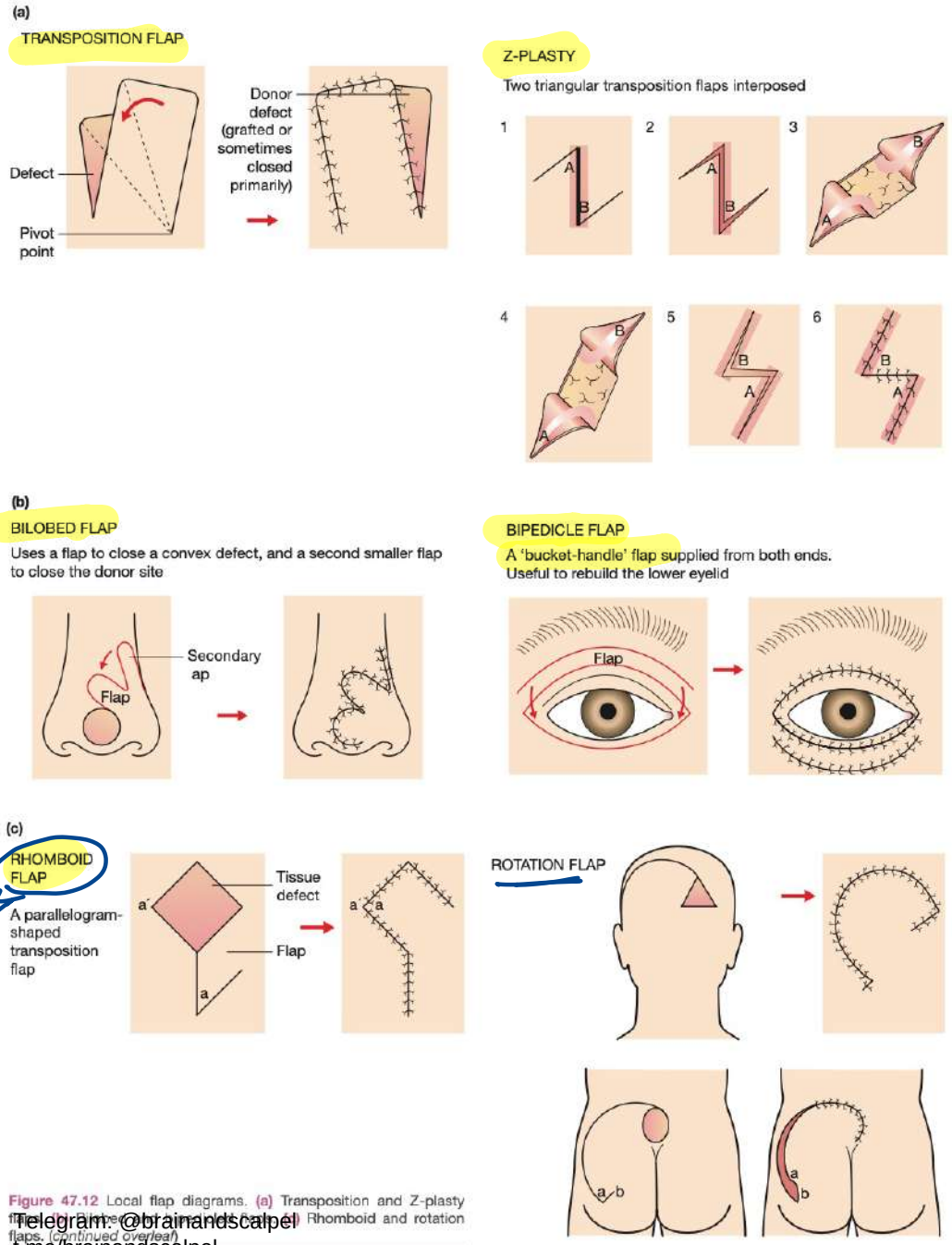


Figure 47.12 Local flap diagrams. (a) Transposition and Z-plasty flaps. (b) Bilobed and bipedicle flaps. (c) Rhomboid and rotation flaps. (Continued overleaf)

Flap Contour (Method of Transfer)

- **Advancement** – Moves forward to cover defect
- **Transposition** – Shifted across a pivot point
- **Rotation** – Rotated around a pivot
- **Interpolation, Waltzing, Crane Principle, Free flap** – Advanced techniques

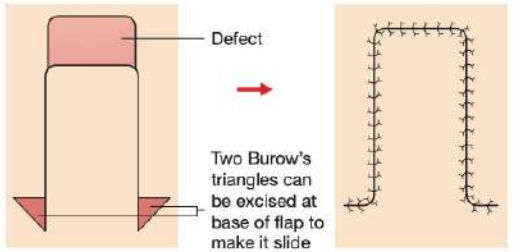
Flap Contiguity

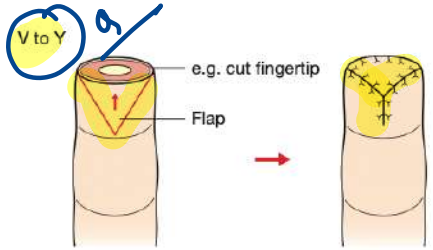
- **Local**: Adjacent to defect
- **Regional**: Near but not directly adjacent
- **Distant**: Far from defect; pedicled or free

(d)

ADVANCEMENT FLAP

Simple rectangular
(with or without Burow's triangle excision at base)

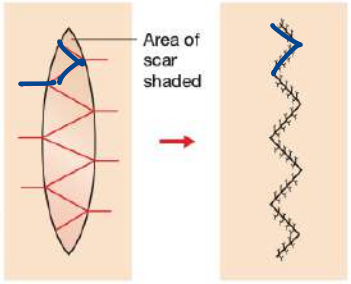




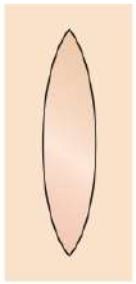
Y to V

Usually multiple to release band scars over joints

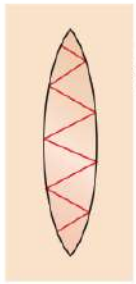
This is one of the most effective means of releasing moderate isolated band burn scars over flexion creases



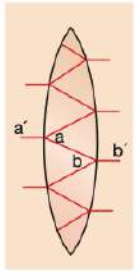
(e)



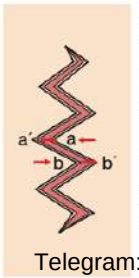
1
Burn scar with long ellipse around it



2
Mark a long zig-zag along the scar



3
Add in the horizontal lines to the zig-zag; each becomes a 'Y'



4
The cut lines will look something like this

Advance the tips of the zig-zags into the spaces

5
The finished wound will look something like this

Pad it well, and be sure to splint open when not exercising

Figure 47.12 *(continued)* Local flap diagrams. (d) Advancement flaps. (e) Multiple Y-to-V plasty for burn scar.

Figure 47.13 Bilobed flap reconstruction of a nasal defect following excision of a basal cell carcinoma. **(a)** Excision markings. **(b)** Bilobed flap raised. **(c)** Transposition of bilobed flap. **(d)** Immediate postoperative appearance.

Figure 47.14 Forehead flap reconstruction of nasal defect following excision of multiple basal cell carcinomas. **(a)** Preoperative markings [illegible] on the right supratrochlear artery. The pedicle position is confirmed using a hand-held Doppler probe. **(b)** Flap raised and inset, with the bulky pedicle at the right medial eyebrow; donor site closed primarily except at the widest point, where it is allowed to heal by secondary intention. **(c)** The flap pedicle was divided at a second stage, allowing contouring of the flap. Appearance at 6 months.

Figure 47.15 Reconstruction of calcaneal osteomyelitis using a pedicled medial plantar artery flap. **(a)** Chronic wound over calcaneal osteomyelitis. **(b)** The medial plantar artery (MPA), a continuation of the posterior tibial (PT) artery, marked out using a Doppler probe and the skin flap designed accordingly. **(c, d)** Calcaneal wound debrided and flap raised. **(e)** Flap transferred onto the heel. **(f)** Immediate postoperative appearance of the flap inset with a meshed split-thickness skin graft laid on the donor site. **(g)** One-month postoperative appearance.

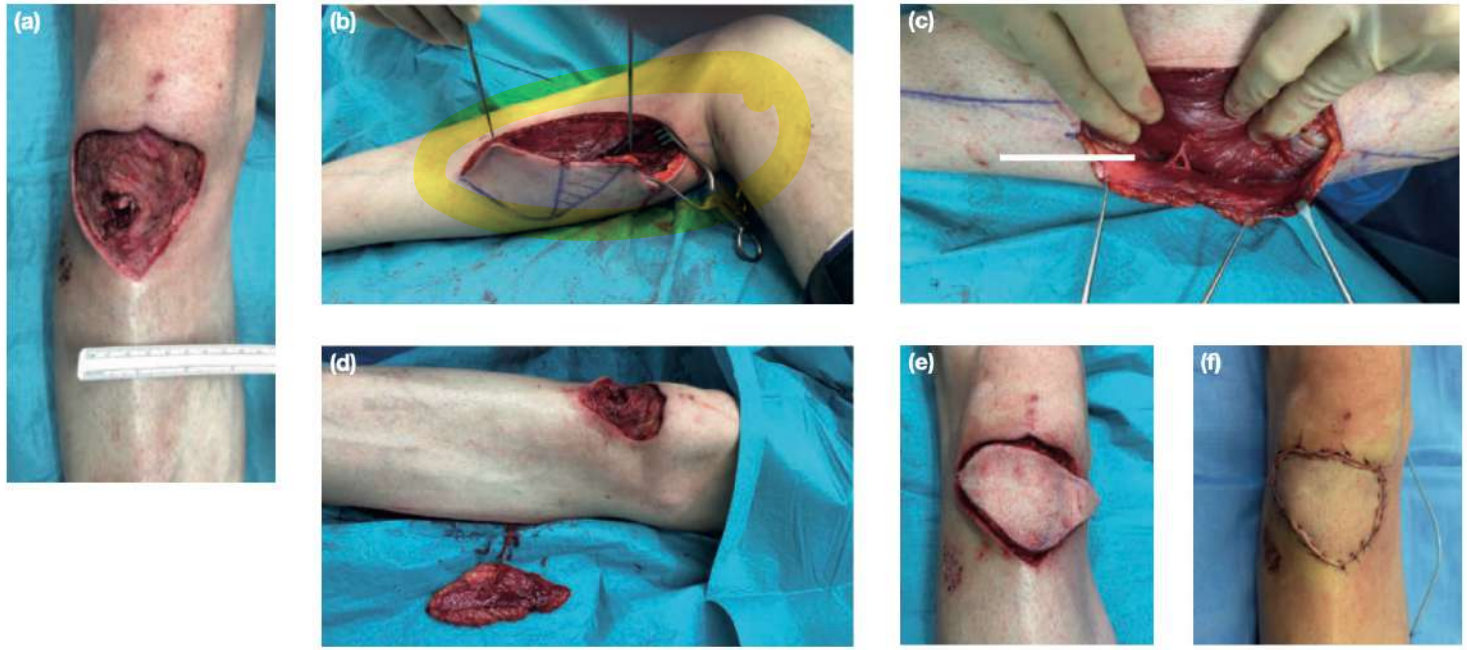


Figure 47.16 The medial sural artery perforator (MSAP) flap can be used as a pedicled flap for regional defects or as a free flap for distant defects. **(a)** Traumatic defect of the anterior knee with a partially transected patellar ligament and cortical loss of the tibial tuberosity following wound debridement. **(b, c)** The MSAP flap is harvested – the perforator (arrow) is identified arising from the substance of the gastrocnemius muscle belly. **(d, e)** The flap remains attached to a pedicle and is transferred through a subcutaneous tunnel to the anterior knee defect.

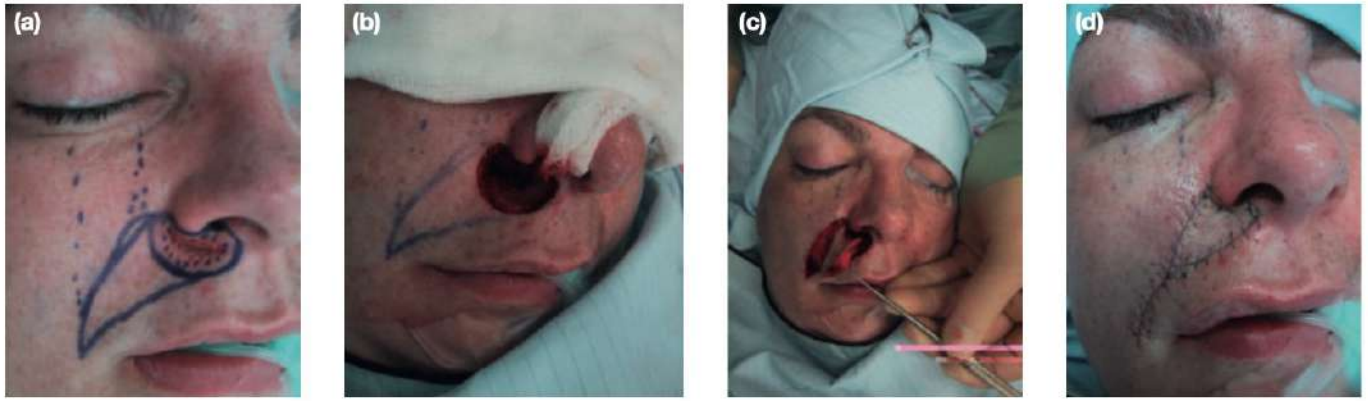


Figure 47.18 Excision of a basal cell carcinoma of the right alar groove and reconstruction with a V-to-Y nasolabial advancement flap. **(a)** Tumour excision margins and flap design markings. **(b)** The defect following excision of the basal cell carcinoma. **(c)** Raising the nasolabial flap. **(d)** Advancement and inset of the flap.

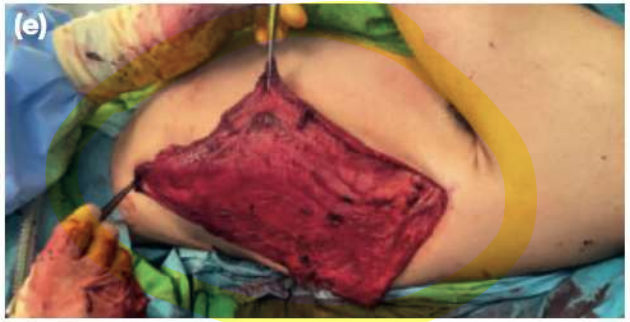


Figure 47.26 (a, b) Limb-threatening, multiplanar degloving injury of the left foot and ankle from a road traffic accident. **(c, d)** Following wound debridement, multiple skin defects with exposed extensor tendons and tibiotalar joint. **(e)** Harvest of left latissimus dorsi and serratus anterior flaps as two separate free flaps. **(f, g)** Immediate postoperative appearance with meshed split-thickness skin grafts laid over the muscle flaps. **(h, i)** Postoperative appearance at 6 months with normal ambulation.

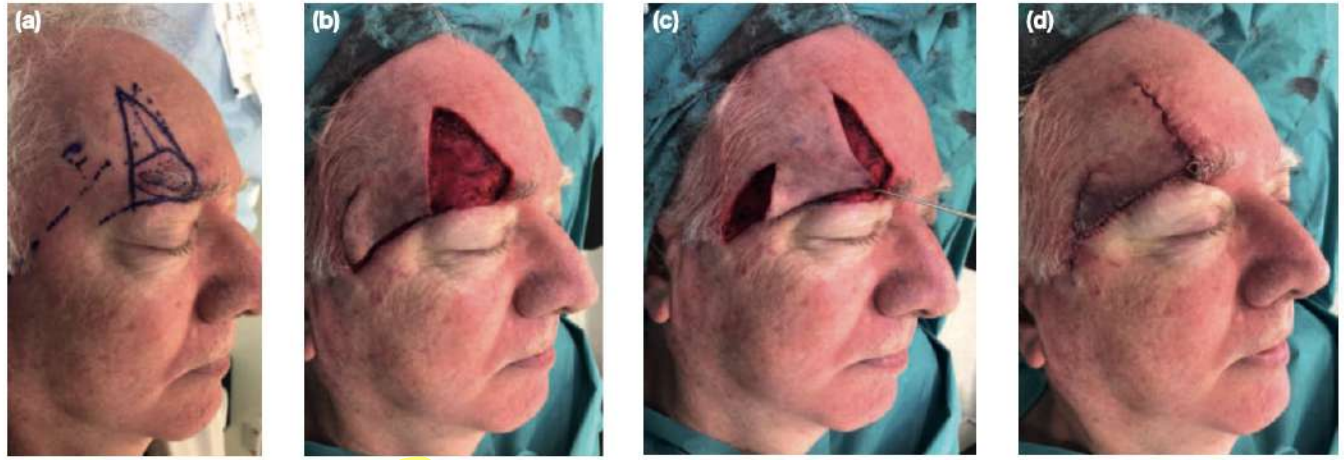


Figure 47.19 Hatchet flap reconstruction following excision of a skin cancer of the right eyebrow. **(a)** Preoperative planning. **(b)** Post excision of the tumour with a back cut to enable flap advancement. **(c)** Inserting of the flap. **(d)** Immediate postoperative appearance.

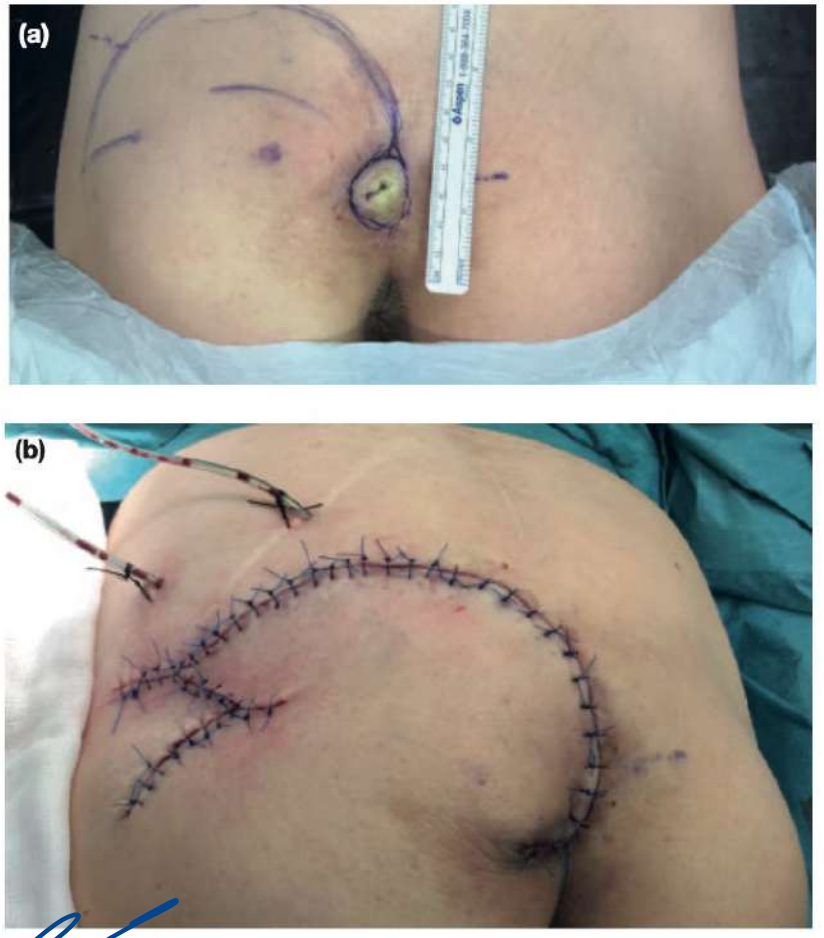
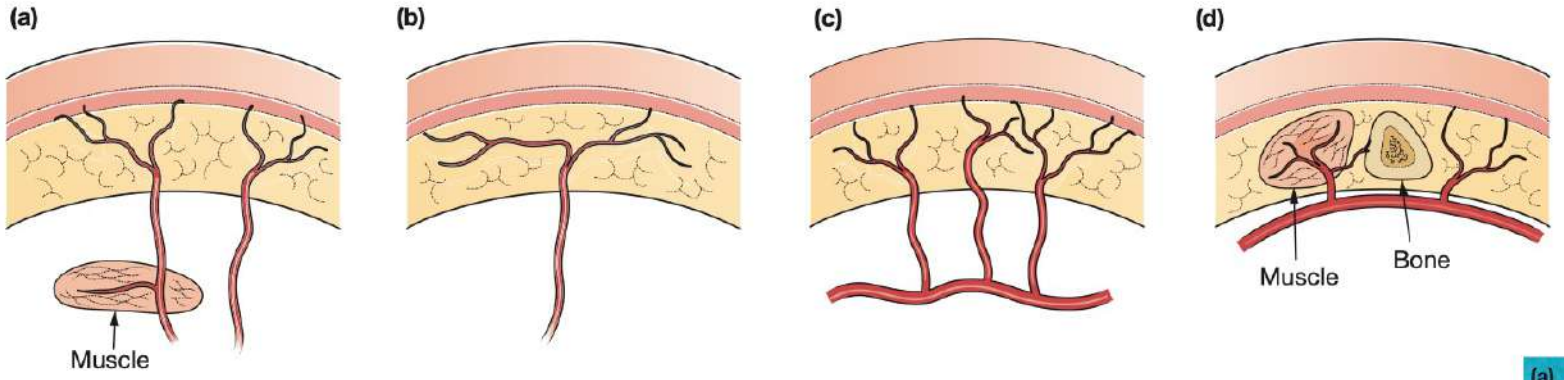


Figure 47.21 Rotation flap reconstruction following excision of a pilonidal sinus. **(a)** Preoperative marking of the rotational flap with a back cut. **(b)** Immediate postoperative appearance.

Fasciocutaneous Flaps (Cormack and Lamberty Classification)

perforator

- **Type A**: Multiple perforators (direct or indirect)
  e.g., Pontén flap
- **Type B**: Single perforator (usually direct, along flap axis)
  e.g., Scapular, Parascapular flaps
- **Type C**: Segmental perforators from same source vessel
  e.g., Radial forearm, Lateral arm flaps
- **Type D**: Similar to Type C but includes bone (osteomyofasciocutaneous)
  e.g., Free fibular flap



Chimeric Flaps

- Multiple flaps with separate vascular supplies, all derived from a common source vessel
  e.g., Based on descending branch of lateral femoral circumflex artery

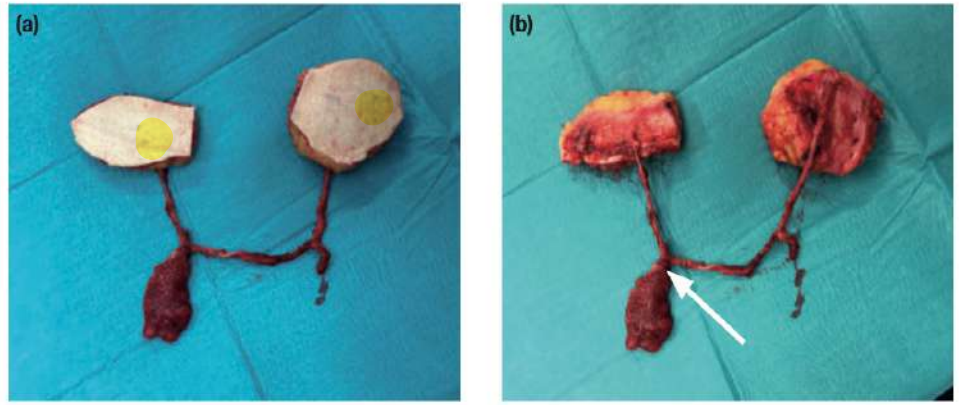


Figure 47.27 (a, b) Chimeric anterolateral thigh flap comprising spatially independent skin and muscle flaps with all pedicles linked to a common source vessel (arrow), the descending branch of the lateral femoral circumflex artery.

Muscle and Musculocutaneous Flaps (Mathes and Nahai Classification)

- **Type I**: Single vascular pedicle

e.g., Tensor fascia lata, Gastrocnemius

- **Type II**: One dominant + minor pedicles (not viable alone)

e.g., Gracilis, Biceps femoris, SCM, Soleus, Trapezius

- **Type III**: Two dominant pedicles

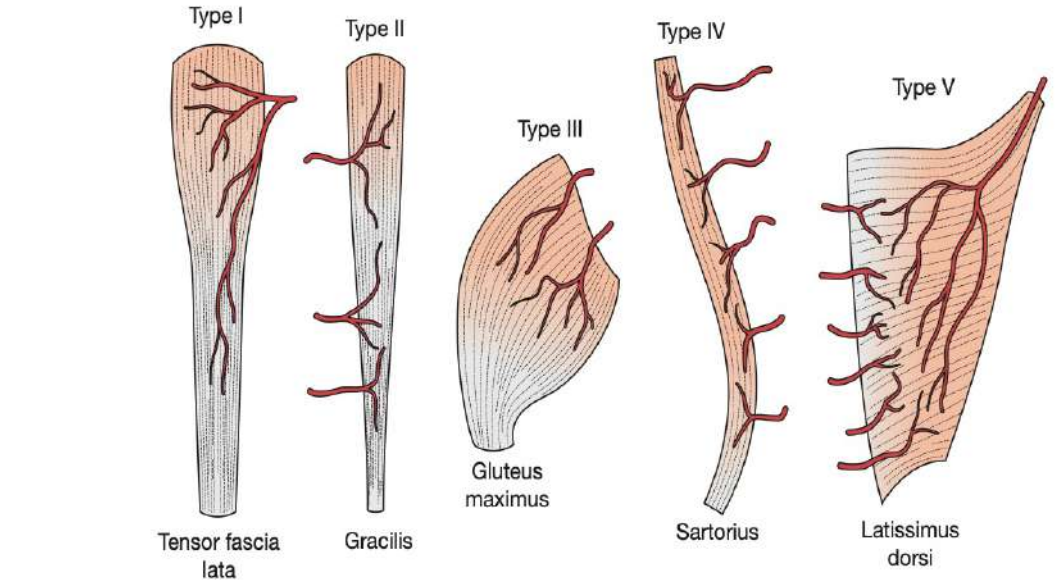
e.g., Gluteus maximus, Pec minor, Rectus abdominis, Serratus anterior, Temporalis

- **Type IV**: Segmental pedicles

e.g., Flexor hallucis longus, Sartorius, Tibialis anterior

- **Type V**: One dominant pedicle + multiple segmental minor pedicles (flap can survive on minor)

e.g., Latissimus dorsi, Pectoralis major



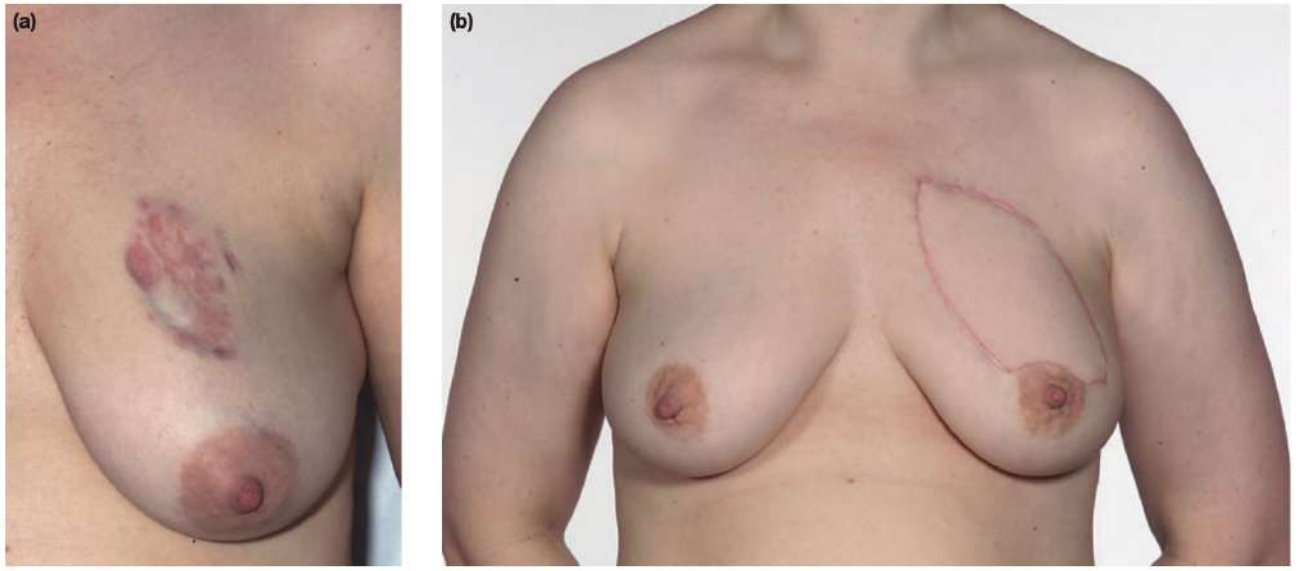


Figure 47.25 The latissimus dorsi flap can be used as a pedicled flap to reconstruct regional defects or as a free flap to reconstruct distant defects. (a) Dermatofibrosarcoma protuberans of the left breast. (b) Reconstruction using a pedicled musculocutaneous latissimus dorsi flap.

109. In a case of head injury, which patient would not require an immediate CT scan?

A. Child with post-traumatic seizure
B. Biker with skull fracture suspicion
C. RTA victim with GCS 12
D. One episode of vomiting

TABLE 28.3 UK National Institute for Health and Care Excellence (NICE) guidelines for computed tomography (CT) in head injury.

Indications for CT imaging in head injury within 1 hour
• GCS <13 at any point
• GCS <15 at 2 hours
• Focal neurological deficit
• Suspected open, depressed or basal skull fracture
• More than one episode of vomiting
• Post-traumatic seizure
Indications for CT imaging within 8 hours
• Age >65
• Coagulopathy (e.g. aspirin, warfarin or rivaroxaban use)
• Dangerous mechanism of injury (e.g. fall from a height, RTA)
• Retrograde amnesia >30 minutes

127. What is the procedure being shown below?

A. Billroth-| reconstruction
B. Billroth II reconstruction
C. Braun anastomosis
D. Roux-en Y gastrojejunostomy

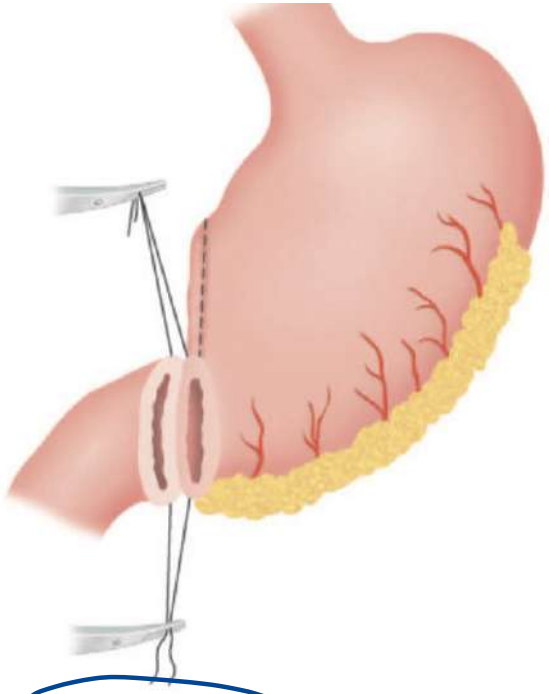


Figure 67.14 Billroth I gastrectomy. The lower half of the stomach is removed and the cut stomach anastomosed to the first part of the duodenum.

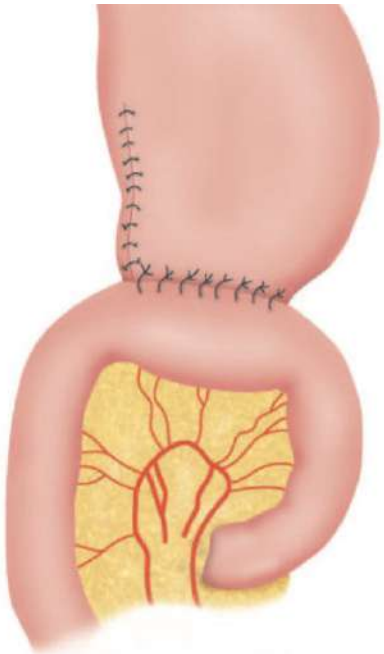


Figure 67.15 Billroth II. Two-thirds of the stomach is removed, the duodenal stump is closed and the stomach anastomosed to the jejunum.

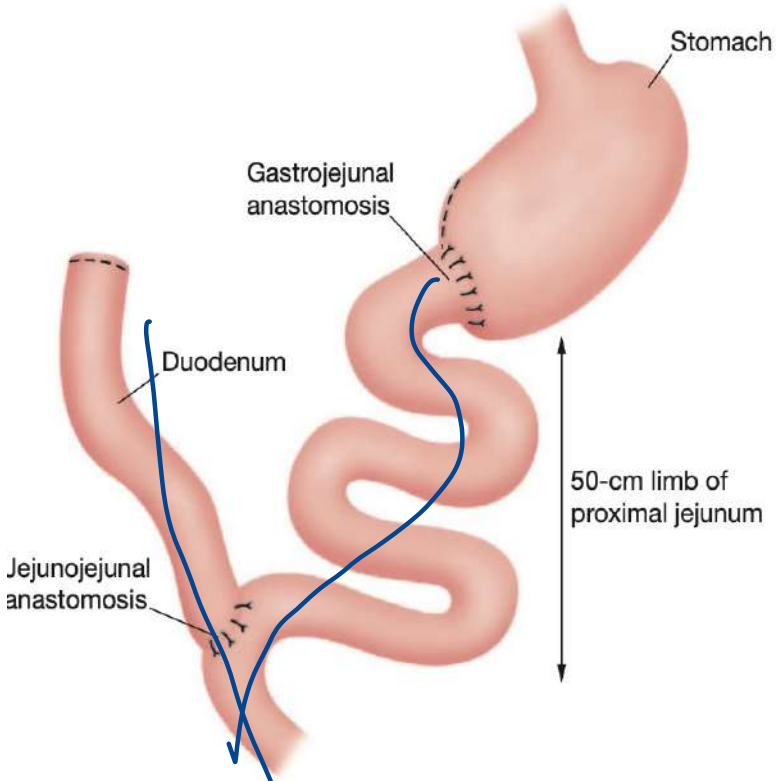
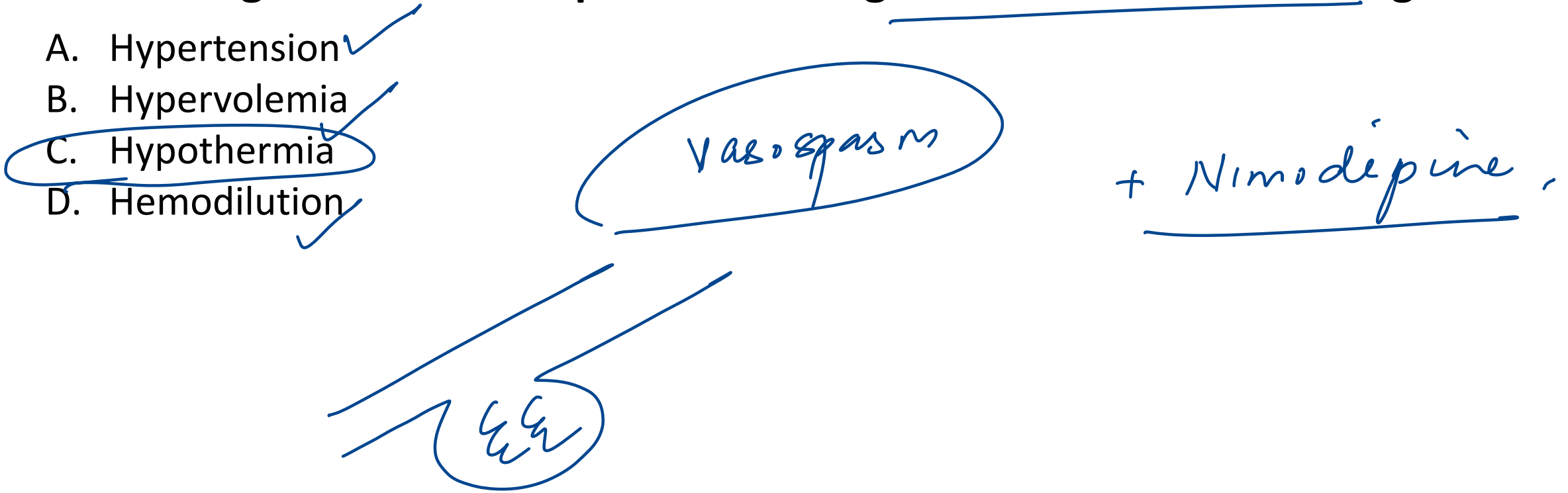


Figure 67.20 Roux-en-Y reconstruction following Billroth I gastrectomy. Note the length of the proximal jejunal limb required to minimise bilious reflux.

129. Which of the following is not a component of Triple H therapy used in the management of vasospasm following subarachnoid hemorrhage?

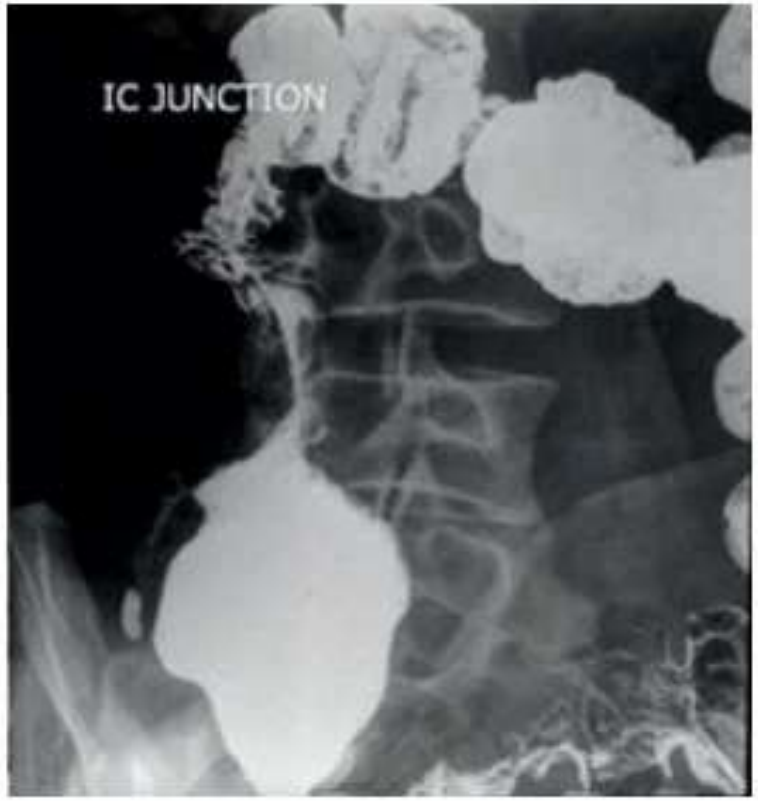
A. Hypertension
B. Hypervolemia
C. Hypothermia
D. Hemodilution

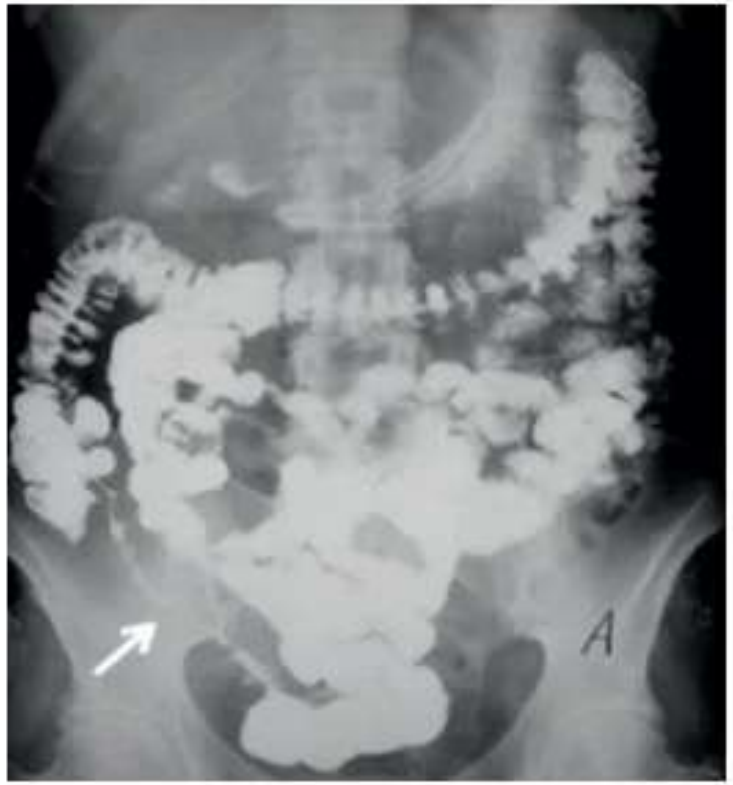


139. All of the following are true regarding barium studies in gastrointestinal tuberculosis, except:

A. String sign indicates a persistent narrow stream of barium due to stenosis
B. Fleischner sign or inverted umbrella sign is due to narrowing of the terminal ileum
C. Gooseneck deformity is caused by dilated terminal ileum with loss of ileocecal angle
D. Pulled-up cecum occurs due to hypertrophy of the mesocolon

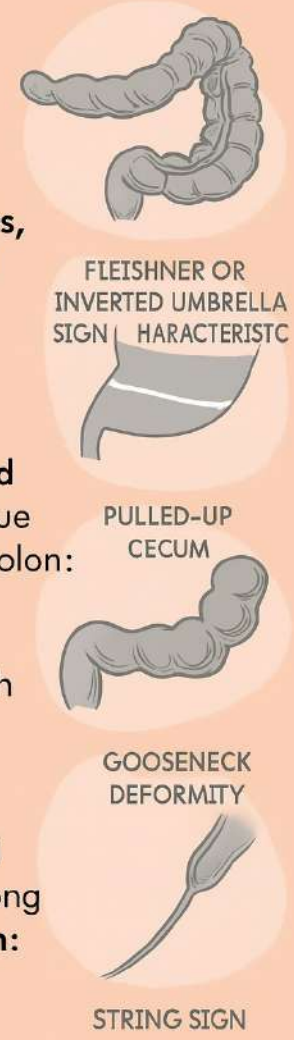
Contracts





BARIUM STUDIES IN GI TUBERCULOSIS

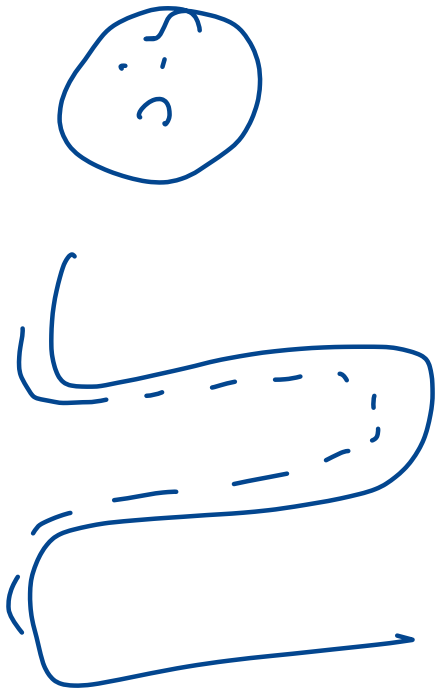
- **Spasm and hypermotility with edema of the valve**
- **Thickening of the valve lips, narrowing of the terminal ileum: *Fleischner*** or ***inverted umbrella*** **sign is characteristic of TB.**
- **The cecum is shrunken and retracts** out **of iliac fossa** due to contraction of the mesocolon: **PULLED-UP cecum**
- **Loss of ileocecal angle** with **dilated terminal ileum: GOOSENECK deformity**
- **Narrowing of the terminal ileum** due to **irritability,** along with **shortened rigid cecum: STERLEIN sign**



141. All are true regarding factors preventing spontaneous closure of a fistula, except:

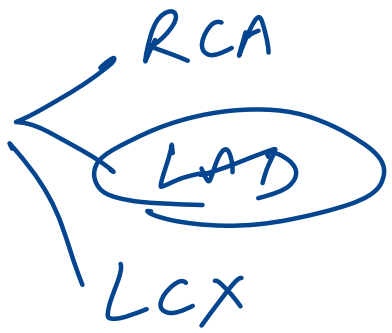
A. High output >500 mL/day
B. Presence of fibrosis
C. Epithelialization of tract
D. Presence of foreign body in the tract

Inflamm active



161. All of the following are Class I indications for CABG, except:

A. Three-vessel disease
B. Left main coronary artery disease
C. Two-vessel disease without LAD involvement
D. Sudden cardiac arrest survivors with ischemia-mediated VT



156. Psammoma bodies are seen in all of the following, except:

A. Meningioma , mesothelioma
B. Papillary carcinoma of thyroid
C. Clear cell RCC papillary
D. Serous cystadenocarcinoma ovary

PR loma -

158. All are valid indications for surgery in asymptomatic primary hyperparathyroidism, except:

A. Age >60 years
B. Vertebral fracture
C. Serum calcium >1 mg/dL above ULN
D. 24-hr urine calcium >400 mg/day

TABLE 56.2 Consensus guidelines for surgical intervention in asymptomatic primary hyperparathyroidism.

Measurement of serum calcium	0.25 mmol/L (1.0 mg/dL) above the upper limit of normal
Skeletal	• BMD by DEXA; T score –2.5 at lumbar spine, total hip, femoral neck or distal one-third of radius • Vertebral fracture
Renal	• Creatinine clearance <60 mL/min • 24-hour urinary calcium >10 mmol/dL (>400 mL/day) or increased risk of stone formation by risk analysis
Age	<50 years

20. All of the following are minimum standards for monitoring of a patient in shock except?

A. ECG
B. Pulse oximetry
C. Urine output
D. Base deficit

Monitoring for patients in shock

Minimum	Additional modalities
• ECG	• Central venous pressure
• Pulse oximetry	• Invasive blood pressure
• Blood pressure	• Cardiac output
• Urine output	• Base deficit and serum lactate

Responder

There is a good and sustained improvement in blood pressure in response to a bolus transfusion.

Transient responder

There is an improvement in the blood pressure but this is not sustained. The rate of haemorrhage is less than the rate of volume administration.

Non-responder

There is no improvement in the blood pressure to a bolus transfusion. The rate of haemorrhage is greater than the rate of volume administration.

CVP measurements should be assessed dynamically as the response to a fluid challenge. A fluid bolus (250–500 mL) is infused rapidly over 5–10 minutes.

The normal CVP response is a rise of 2–5 cmH_2O, which gradually drifts back to the original level over 10–20 minutes. Patients with no change in their CVP are empty and require further fluid resuscitation. Patients with a large, sustained rise in CVP have high preload and an element of cardiac insufficiency or volume overload.

26. Millard's Rule of 10 for indications of cleft lip surgery include all except

A. Infant is at least 10 weeks old
B. Infant weighs around 10pounds
C. Hemoglobin level of 10 grams per deciliter
D. Defect is 10mm

1. A 55-year-old man comes to the physician because of swelling and unusual heaviness of his scrotum that he first noticed a few weeks ago. The symptoms improve when he is lying in bed. He also reports a 5-kg weight loss and increasing fatigue over the past 6 months. He has smoked 1 pack of cigarettes daily for the past 15 years. Physical examination shows tenderness to palpation of his right flank. There are soft strands palpable in the right hemiscrotum superior of the right testis. The strands increase with Valsalva maneuver. Applying a bright light to the right hemiscrotum shows no transillumination. Obstruction of venous drainage into which of the following vessels is most likely responsible for this patient's scrotal enlargement?

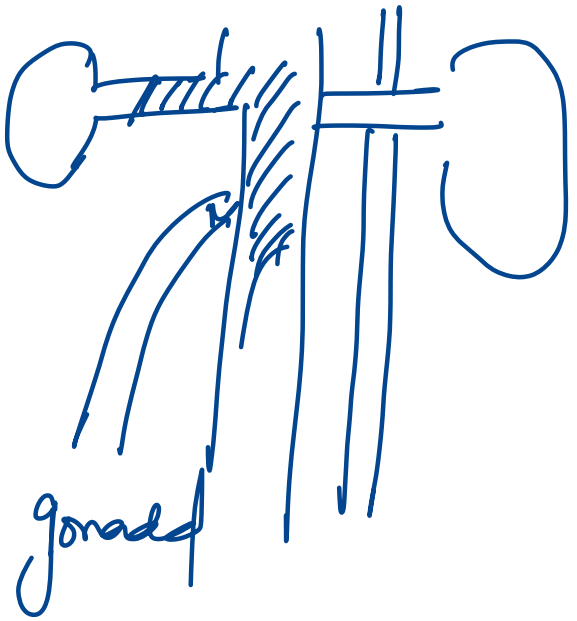
A. Right internal iliac vein

B. Right inferior rectal vein

C. Right renal vein

D. Inferior vena cava

Rt varicocele



2. All of the following are correct about ACS guidelines for average-risk population for colorectal carcinoma except:

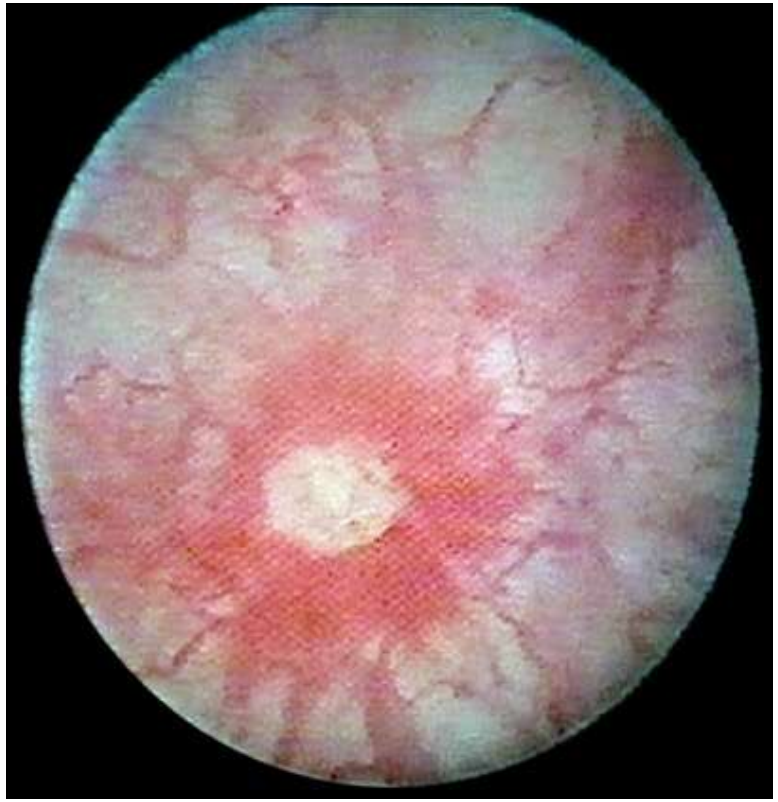
A. Begin screening at 50yrs
B. Annual faecal occult blood test (FOBT)
C. Flexible sigmoidoscopy every 5 years
D. Colonoscopy every 5 years

44. A 45-year-old woman experiences an increased frequency of micturition, with pain relieved by micturition and aggravated by overdistension of the bladder. Urine routine tests showed no pus cells and cystoscopy revealed fissures and punctate hemorrhages in the bladder mucosa as shown in the image below. What is the most probable clinical diagnosis?

A. Interstitial cystitis
B. Malakoplakia
C. Tuberculosis of the bladder
D. TCC

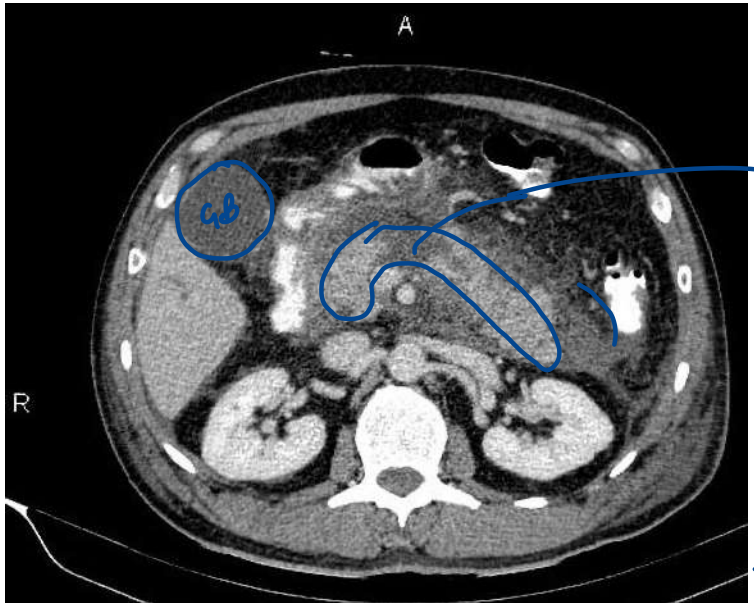
Party

Hunner's ulcers



34. A 56-year-old male presents to the emergency with abdominal pain and an episode of binge drinking, in shock with a BP of 70/50 mmHg and HR of 115/min. The oxygen saturation of the patient is 70 mmHg. The serum creatinine level was 2.4 mg/dL. What is the likely diagnosis based on the CT image shown below?

A. Liver abscess
B. Necrotising Acute pancreatitis
C. Pneumoperitoneum
D. Interstitial acute pancreatitis



1. What is the name of this suture material?

A. Silk – black
B. Prolene — Blue
C. Vicryl — violet (tube)
D. Plain catgut

ORTHO

91. A 36-year-old man presents to the clinic with a 6-month history of low back pain and spasms radiating down his leg. He works as a delivery driver and reports that the pain worsens as the day progresses. He takes acetaminophen, which provides temporary relief. He denies any recent trauma. His medical history includes type 2 diabetes mellitus controlled with metformin. Physical examination reveals:

- **Restricted hip extension on the left**
- **Lumbar hyperlordosis**
- **Hypertonic right piriformis**

Further evaluation is most likely to show:

A. Tender point medial to the anterior inferior iliac spine
B. Positive Ober test
C. Positive Thomas test
D. Pelvic side shift to the left

115. Fasciotomy for compartment syndrome involves cutting through which of the following layers?

A. Skin, subcutaneous tissue, superficial fascia, deep fascia
B. Skin and subcutaneous tissue
C. Skin, subcutaneous tissue, superficial fascia
D. Skin, subcutaneous tissue, superficial fascia, deep fascia, muscle fibers

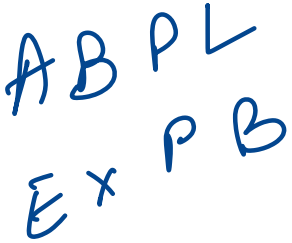
153. While performing Kocher's method for reducing anterior shoulder dislocation, which is the correct sequence of movements?

A. Traction → External rotation → Adduction → Medial rotation
B. Traction → Abduction → Medial rotation → Extension
C. Traction → Extension → Adduction → Medial rotation
D. Traction → External rotation → Abduction → Medial rotation

TEAM

159. In a patient with Colles fracture, rupture of which tendon is most commonly seen?

A. Extensor pollicis longus
B. Extensor carpi ulnaris
C. Abductor pollicis longus
D. Extensor pollicis brevis



162. What is the most appropriate treatment for the following fracture?

A. External fixation with Ilizarov frame
B. Closed reduction with below-elbow cast
C. Internal fixation using compression plate
D. Closed reduction with above-elbow cast

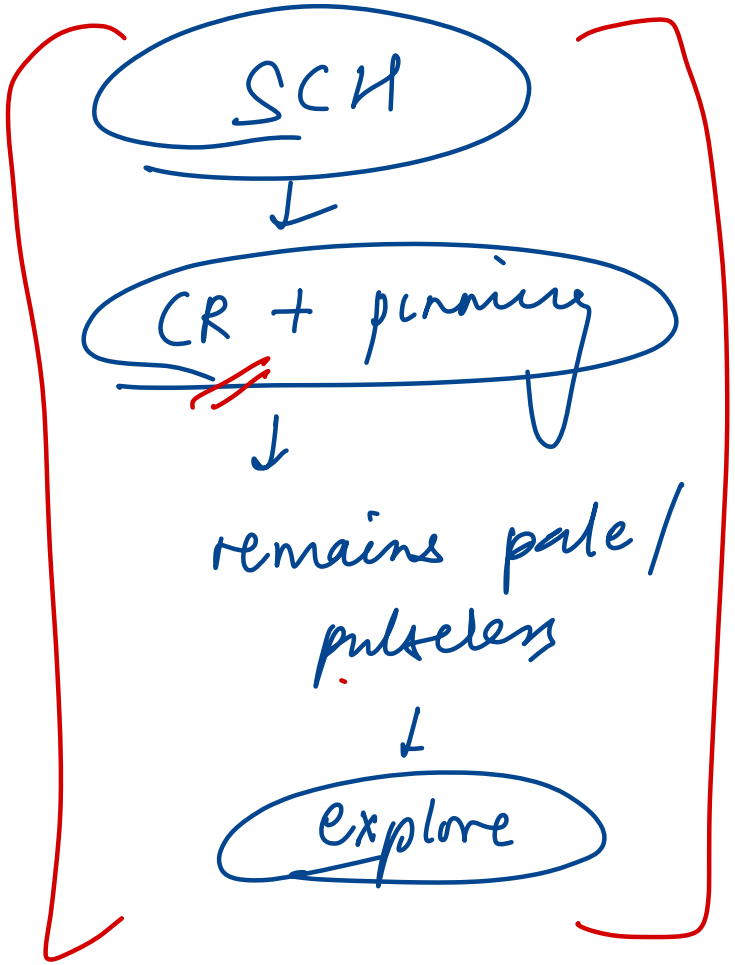
Fractures of necessity → OR-IF.

- Lateral condyle fracture humerus
- Displaced fracture of olecranon and patella → TBW.
- Fracture neck of femur
- Galeazzi fracture-dislocation
- Monteggia fracture in adults
- Intra-articular fractures

UL - plate
LL - nail

167. A 4-year-old presents with a pink but pulseless arm following an injury. Xray is shown below. What is the best next step?

A. Observation
B. Vascular repair
C. Fasciotomy
D. Reduction and pinning



185. All of the following cast types are correctly matched with their indications, except:

A. Hip spica – Fracture of femur
B. Glass holding cast – Fracture of scaphoid
C. Burkhalter cast – Developmental dysplasia of hip
D. Colle's cast – Fracture of lower end radius

MCP / IP jt

Hand holding

189. All of the following elbow conditions are correctly described, except:

A. Baseball pitcher's elbow – Osteoarthritis and joint incongruity
B. Little leaguer's elbow – Partial avulsion of medial epicondyle
C. Javelin thrower's elbow – Olecranon bursitis
D. Pulled elbow – Downward dislocation of radial head

191. All of the following classification systems are correctly matched to their indication, except:

A. Neer's – Fracture of proximal humerus
B. Gartland's – Supracondylar fracture humerus
C. Mayo classification – Shoulder instability
D. AO-Magerl classification – Thoracolumbar fractures

olecranon

192. All are true about treatment of femoral shaft fracture in different pediatric age groups, except:

A. Pavlik harness is used for infants under 6 months
B. Spica cast is preferred for ages 6 months to 5 years
C. Flexible nails are used in adolescents >10 years
D. Gallows traction is useful in children under 2 years and <12 kg

Age Group	Management
0 – 6 months	Pavlik harness
6 months – 5 years	Spica casting
5 – 10 years	Flexible intramedullary nails
>10 years	Locked intramedullary nail

fraction

Gallow: <2yrs / <12kgs

197. A 11-year-old boy with CTEV has not responded to POP casting over 6 months. What is the next step in management?

A. Triple arthrodesis
B. CTEV shoes
C. Dillwyn Evans procedure
D. Turco's procedure

CTEV: C-A-V-E → DB: Splint

Age	Management
1–3 years	Posteromedial soft tissue release (**PMSTR**) = Turco's
3–5 years	Dillwyn Evans procedure
5–8 years	Dwyer osteotomy
8–10 years	Wedge tarsectomy
>10 years	Triple arthrodesis, external fixators

1. T-C
2. C-C
3. T-N

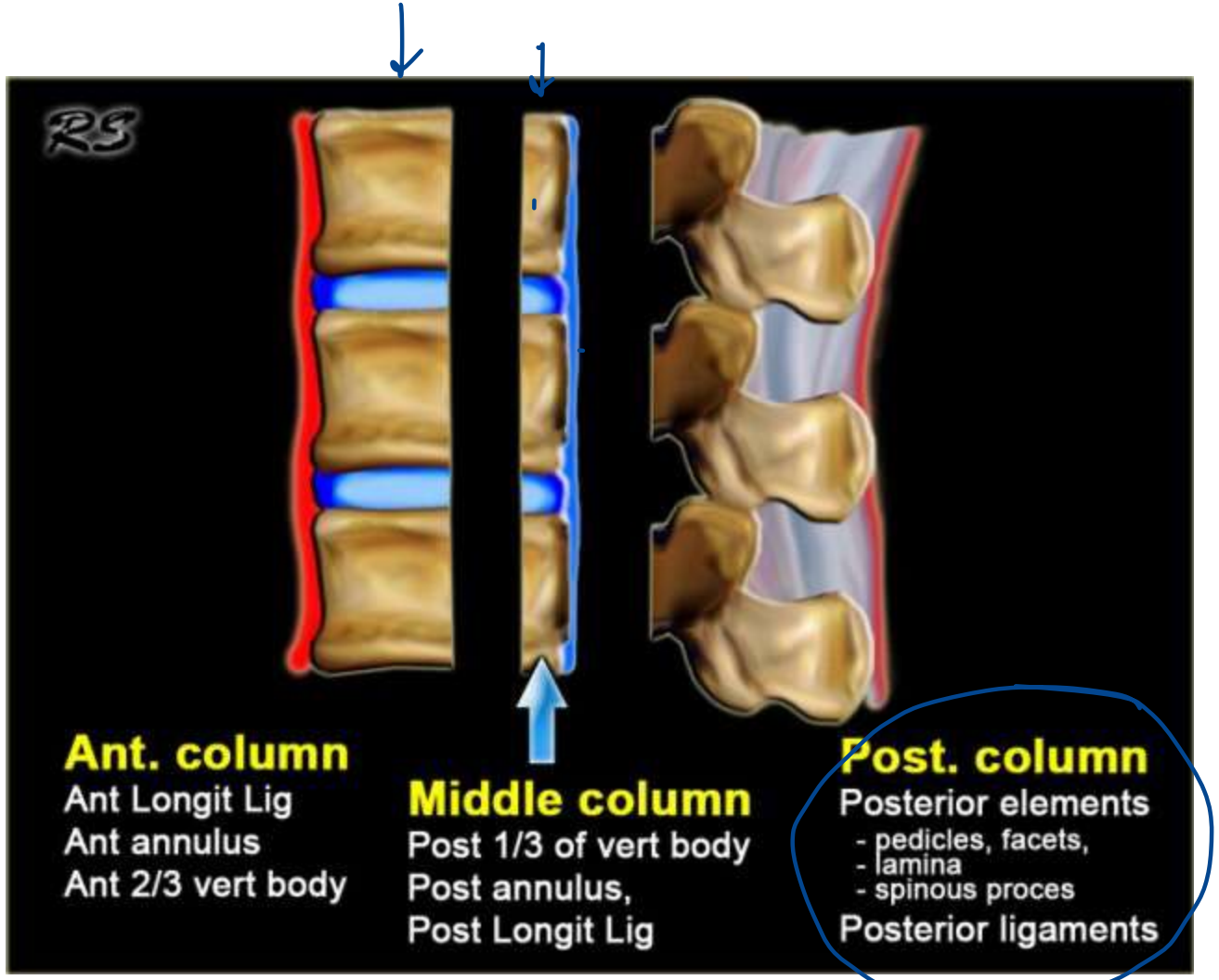
188. A 1-year-old child with DDH has failed closed reduction. What is the next best step in treatment?

A. Pelvic osteotomy
B. Open reduction
C. Manipulation under anesthesia
D. Total hip replacement

Age of the Patient	Management
< 6 months	Closed reduction with Pavlik harness or von Rosen splint
6–18 months	Closed or open reduction followed by hip spica after reduction
18–36 months	Open reduction with femoral shortening and pelvic osteotomy (Salter's, Pemberton, Steel)
3–8 years	Open reduction with femoral shortening and pelvic osteotomy
8–18 years	Open procedure with femoral shortening with pelvic osteotomy or total hip replacement

193. All of the following are part of the Denis column theory for vertebral fractures, except:

A. Anterior column includes anterior longitudinal ligament and anterior 2/3 of vertebral body
B. Middle column includes posterior part of disc and posterior longitudinal ligament
C. Posterior column contains spinous process and PLL
D. Involvement of middle column with another column is considered unstable



2/3

≥ 2 columns
+
unstable

194. All are true about types of nerve injuries, except:

A. Neuropraxia involves segmental demyelination without axonal damage
B. Axonotmesis involves axonal interruption with intact neural tubes
C. Neurotmesis results from temporary ischemia with full recovery
D. Neurotmesis involves endoneurial tube destruction

Seddon classified nerve injuries into neurapraxia, axonotmesis and neurotmesis:

- Neurapraxia – no loss of nerve sheath continuity or peripheral Wallerian degeneration. If the pressure is removed from the nerve, recovery potential is good but may take months.
- Axonotmesis – nerve sheath remains intact, with internal nerve fibre damage and associated Wallerian degeneration. The neural tube (endoneurium) can guide the regenerating nerve fibres to their target. Good potential for recovery; nerve fibre regrowth is at 1 mm per day.
- Neurotmesis – complete division of the nerve, nerve sheath and nerve fibre. Functionally poor outcome without surgical intervention to restore continuity of the nerve sheath.

Sunderland

Sx

Degree	Pathology	Previously Called
1	Blocked flow of axoplasm / conduction block	Neuropraxia
2	Loss of axons but within its endoneurium	Axonotmesis
3	Loss of endoneurium and crossed regeneration	Neurotmesis
4	Injury to perineurium and scarring	Partial transection
5	Injury to epineurium and scarring	Complete transection

RADIO

45. What is the likely diagnosis based on the skeletal survey of a 10-year-old boy with recurrent fractures?

A. Osteogenesis imperfecta

B. Osteopetrosis

C. Osteoporosis

D. Non-accidental injury

27. Identify what is depicted in the abdominal X-Ray:

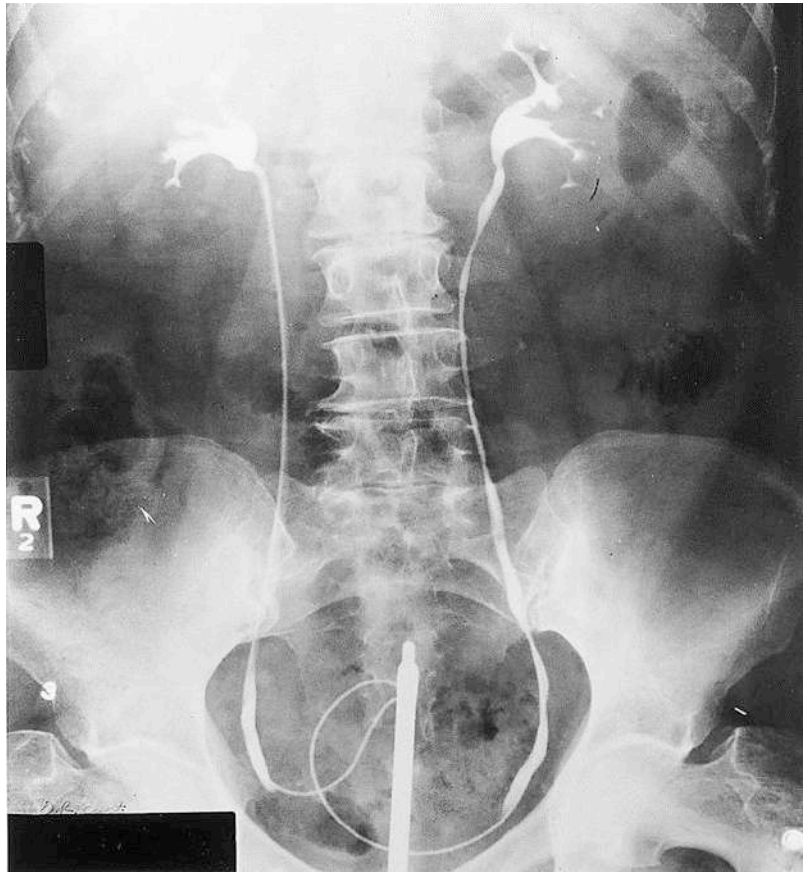
A. IVU

B. Retrograde pyelogram

C. Ureteric stent

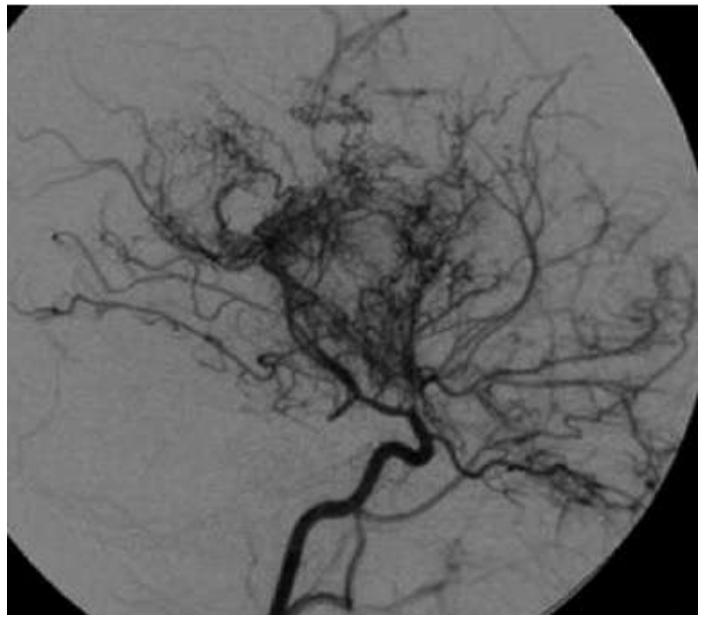
D. MCU with vesico-ureteric reflux

pyelography



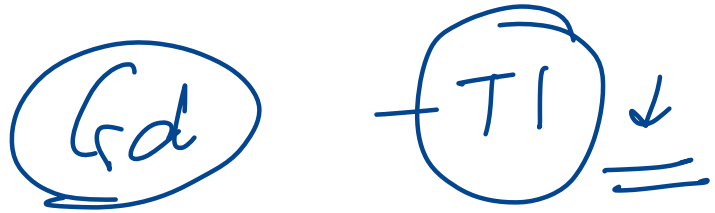
74. A 6-year-old child with a history of transient ischemic attacks and several episodes of weakness is referred for diagnostic evaluation. On physical examination, there is a noticeable murmur around the child's temple. Digital Subtraction Angiography (DSA) is performed, revealing the characteristic imaging shown. The following appearance of DSA is seen in:

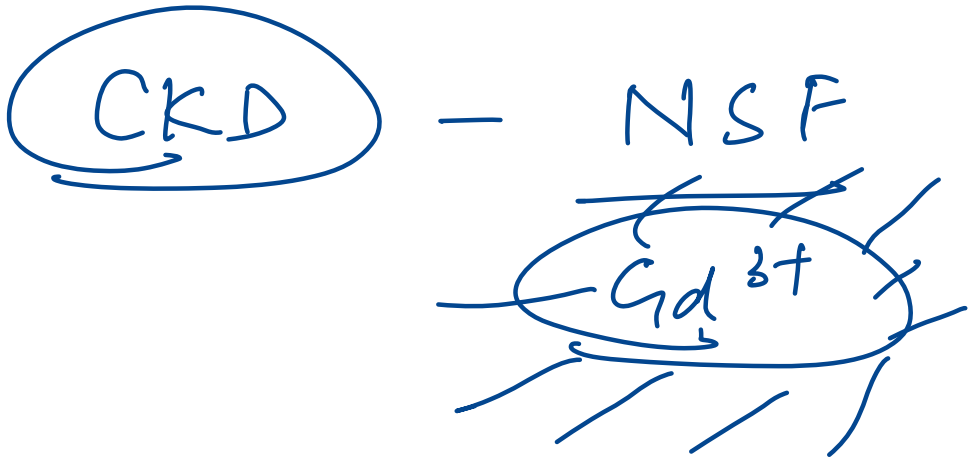
A. ICA aneurysm
B. Moya-Moya disease
C. Cerebral infarction
D. Carotid artery thrombosis



98. During a radiology department seminar, a discussion focuses on the properties and safety of gadolinium-based contrast agents. Which of the following statements about gadolinium is false?

A. It can cross the blood-brain barrier (BBB)
B. Paramagnetic material which can shorten the T1 relaxation time
C. Long-term studies show gadolinium deposition in the basal ganglia at high doses
D. Injected as gadolinium chelates





134. A 30-year-old multiparous woman presents with chronic lower back pain. The pain is non-radiating, worse with activity, and improves with rest. There are no neurological deficits. X-ray pelvis shows bilateral symmetric sclerosis of the iliac side of the sacroiliac joints, with joint spaces preserved. What is the most likely diagnosis?

A. Ankylosing spondylitis
B. Osteitis condensans ilii
C. Sacroiliitis
D. Metastatic bone disease

179. All of the following radioisotopes have a half-life of less than 1 day, except:

A. Iodine 132
B. Technetium 99m
C. Iodine 125
D. 18 FDG

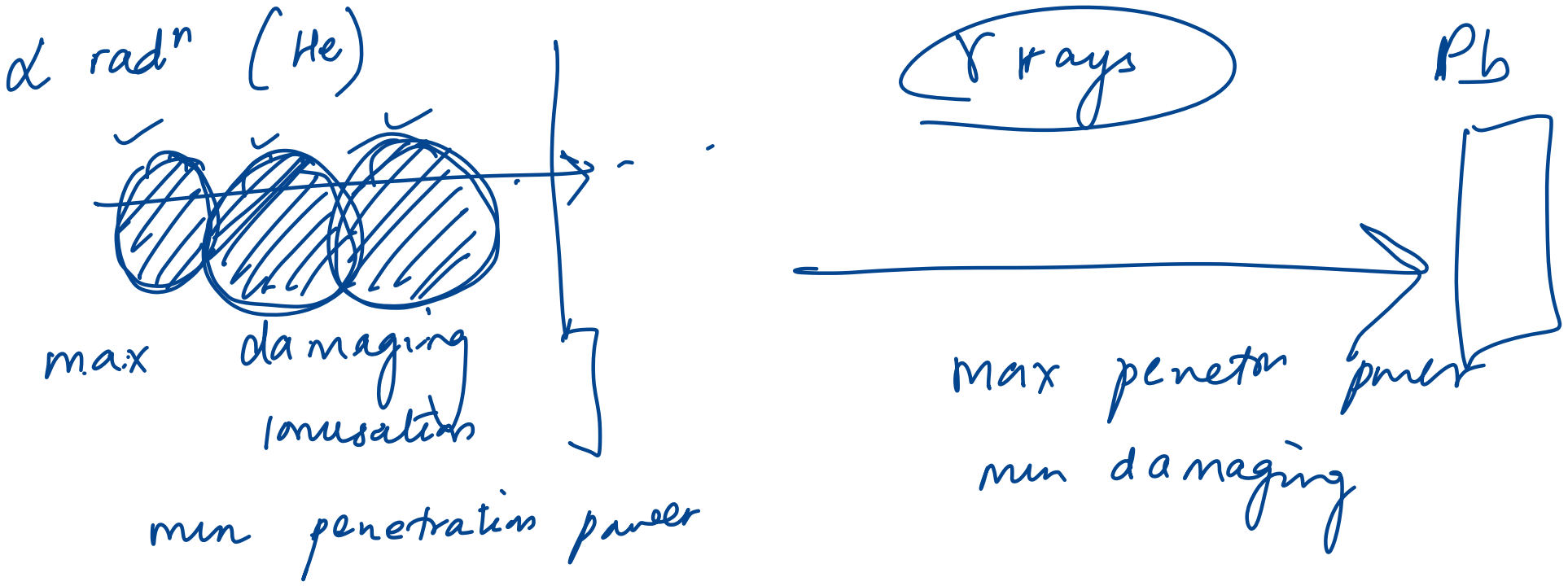
3hr
6hr
dx ✓ I - 123 → 13 hrs
prostate ca ✓ I - 125 → 60d
110min
Thyroid ca ← I - 131 → 1+3+1+3 = 8d.
I - 132 → 3hr.
B + γ rays

181. All of the following are considered radioprotectors, except:

A. Zinc oxide
B. Amifostine
C. Melatonin
D. Cisplatin

182. All of the following statements about alpha radiation are correct, except:

A. Alpha particles have high ionisation ability
B. Alpha particles have highest molecular mass among radiations
C. Alpha particles are the most penetrating form of radiation
D. Alpha radiation is blocked by paper



184. All of the following are correct differences between normal radiography and mammography, except:

A. Radiography uses tungsten as the target, while mammography uses molybdenum
B. Beryllium is used as the exit window in mammography
C. Mammography uses Bremsstrahlung radiation for better tissue contrast
D. Aluminum filter is used in radiography, while molybdenum is used in mammography