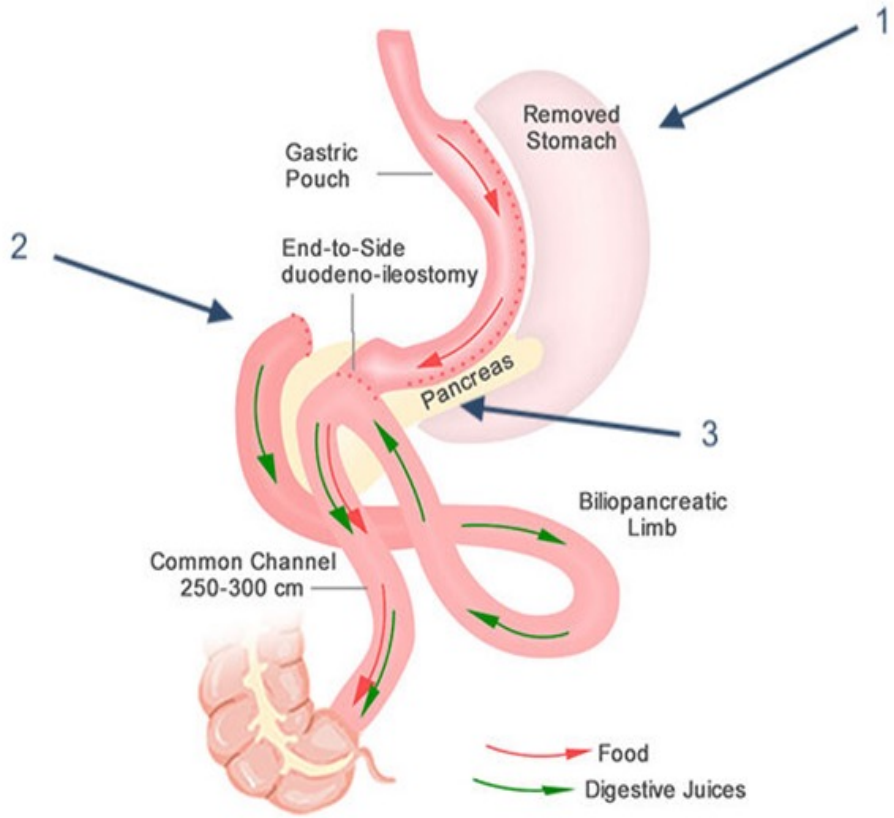
TRICKY CONCEPTS

SURGERY / ORTHOPEDICS/ RADIOLOGY

SURGERY

Identify the procedure shown

a) SADI-S
b) Sleeve gastrectomy
c) Roux-en-Y gastric bypass
d) Biliopancreatic diversion with duodenal switch



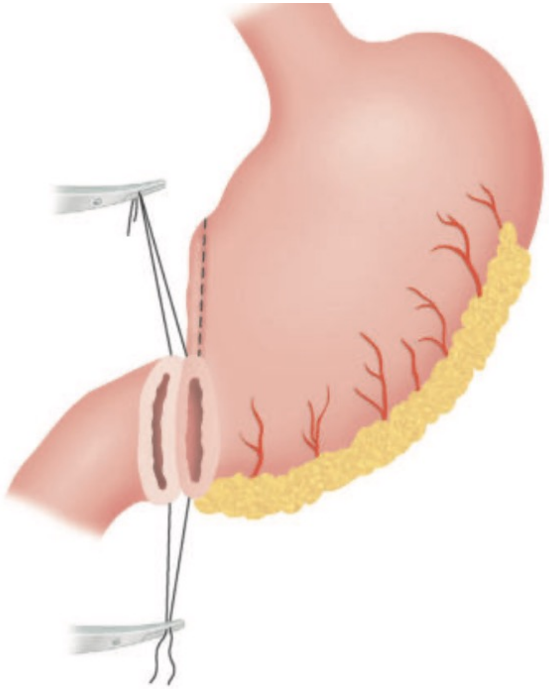


Figure 67.14 Billroth I gastrectomy. The lower half of the stomach is removed and the cut stomach anastomosed to the first part of the duodenum.

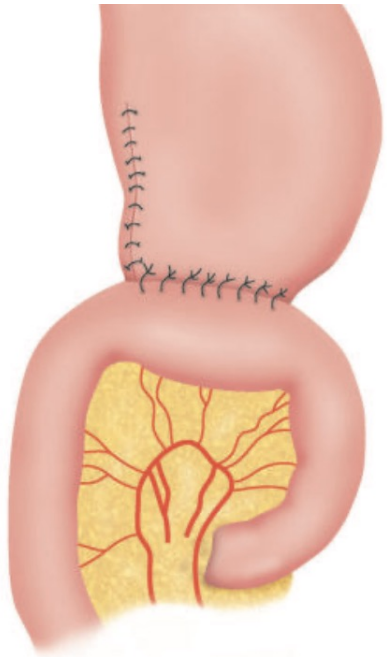


Figure 67.15 Billroth II. Two-thirds of the stomach is removed, the duodenal stump is closed and the stomach anastomosed to the jejunum.

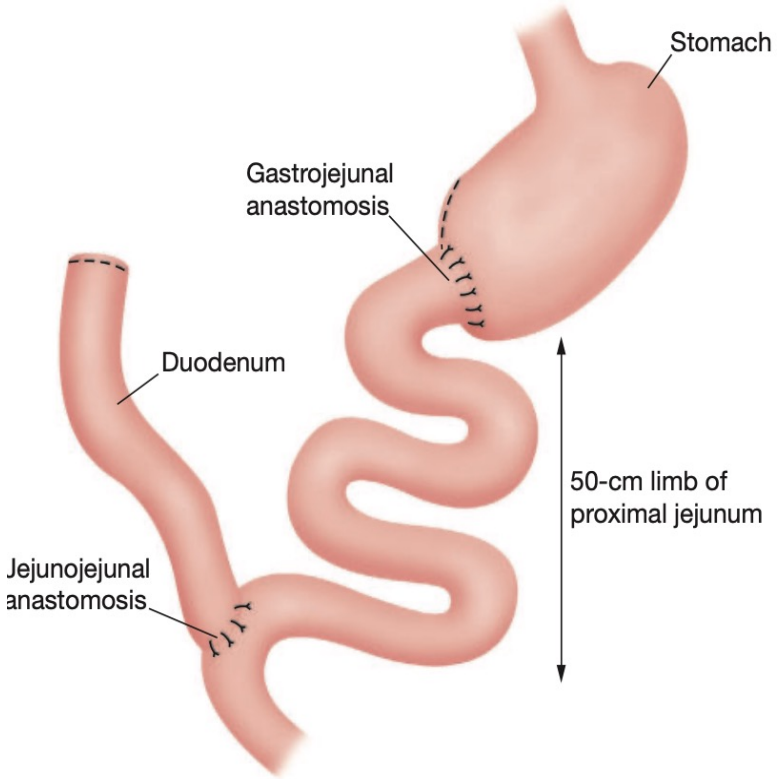


Figure 67.20 Roux-en-Y reconstruction following Billroth I gastrectomy. Note the length of the proximal jejunal limb required to minimise bilious reflux.

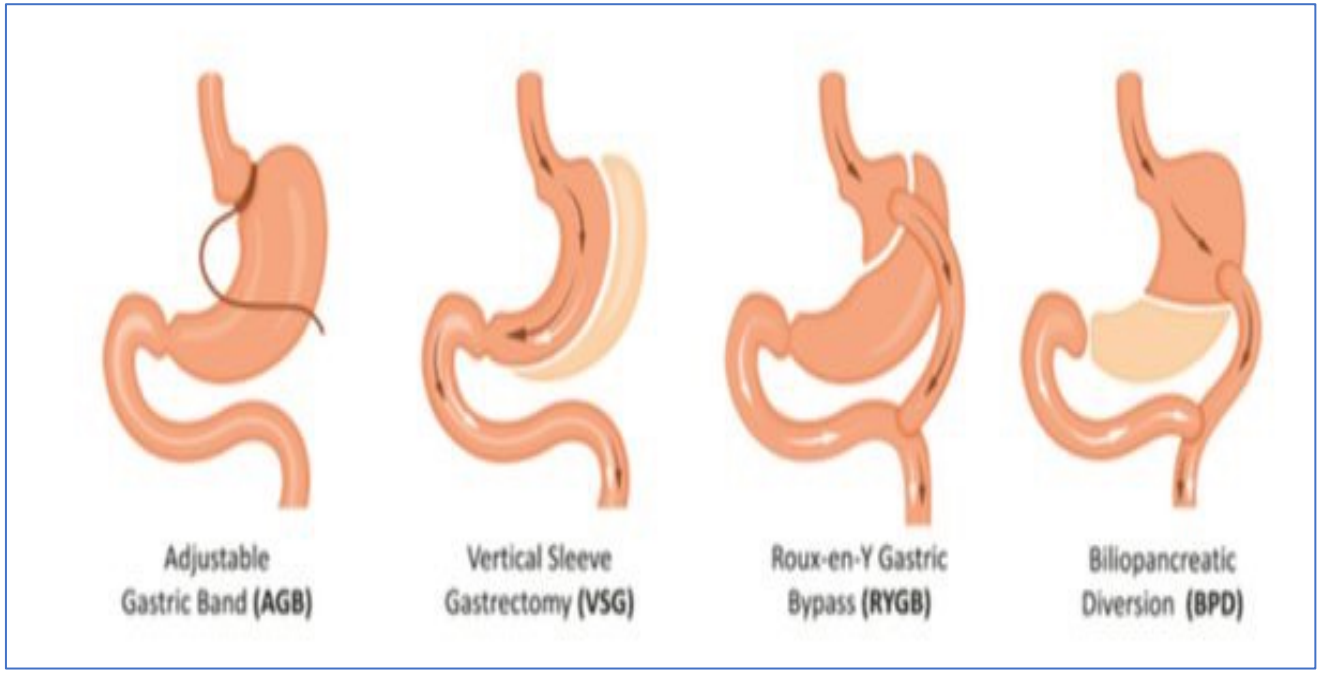
Nutritional deficiencies: Iron deficiency > Vitamin B12, Vitamin D3
Internal hernia

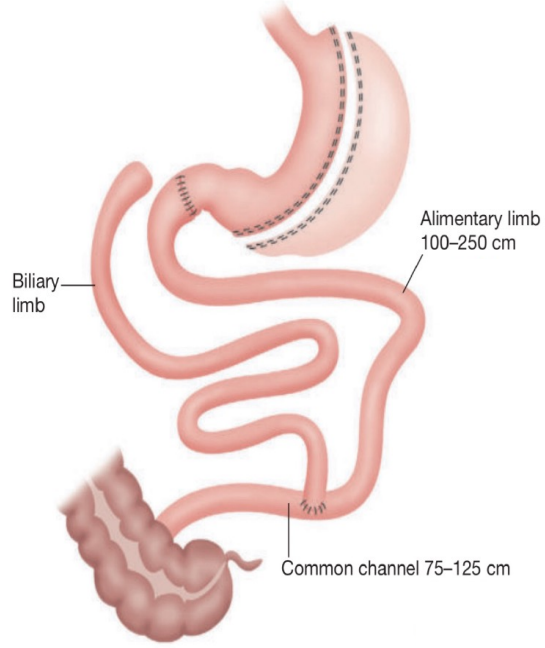
- **Petersen's hernia**: Bowel loop herniates behind Roux limb
  - *Antecolic reconstruction*
- **Stemmer hernia**: Bowel loops herniate through the transverse mesocolon
  - *Retrocolic reconstruction*

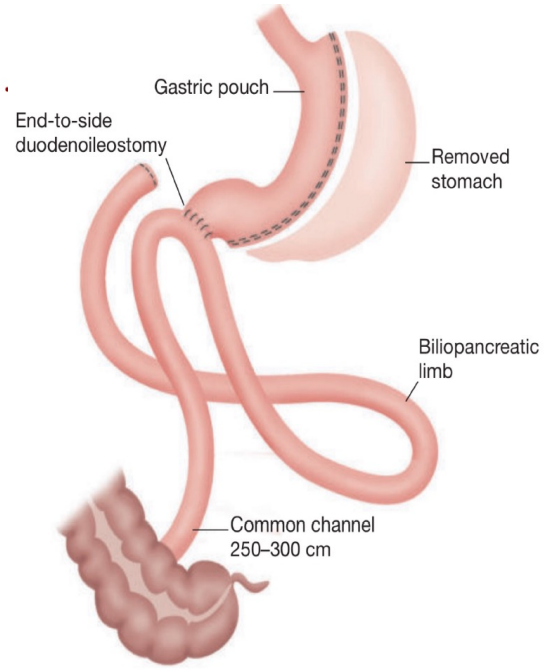
BARIATRIC SURGERY

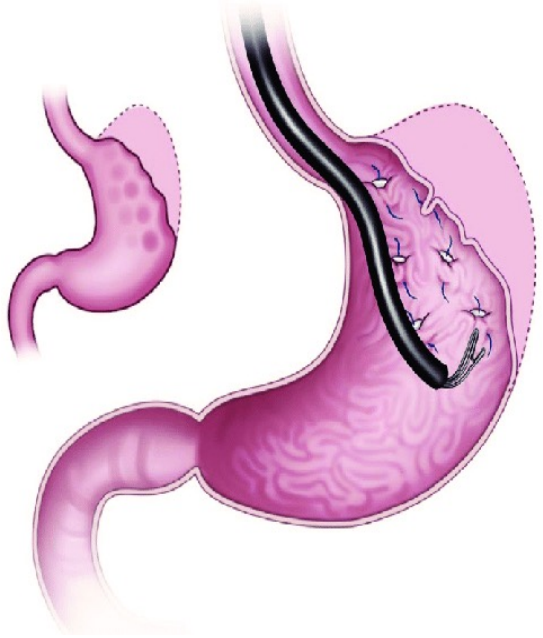
Classification	Procedures
Restrictive	• Vertical band gastroplasty • Adjustable band gastroplasty • Sleeve gastrectomy
Malabsorptive and restrictive (ideal balanced)	• Roux-en-Y gastric bypass
Mainly malabsorptive and mildly restrictive	• Biliopancreatic diversion • Duodenal switch (DS–BPD) • SADI-S (Single anastomosis duodenal–ileal sleeve gastrectomy)

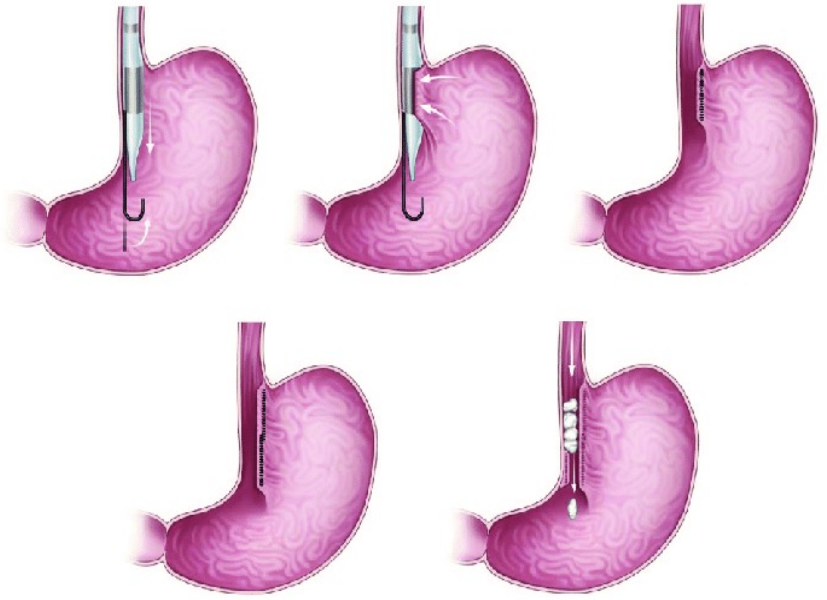
EDMONTON SCORE:



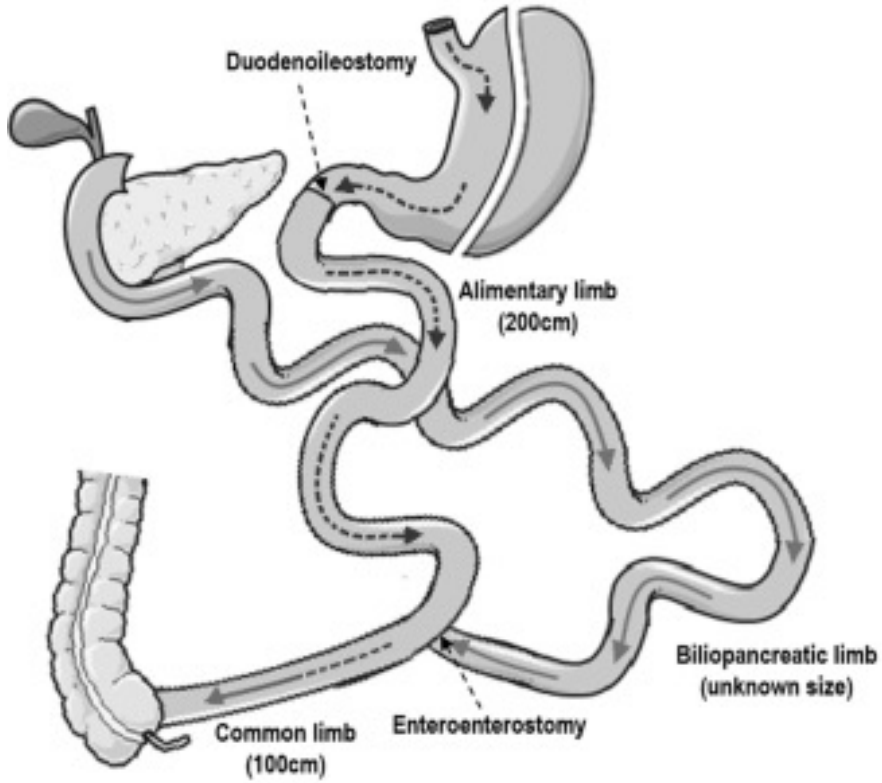


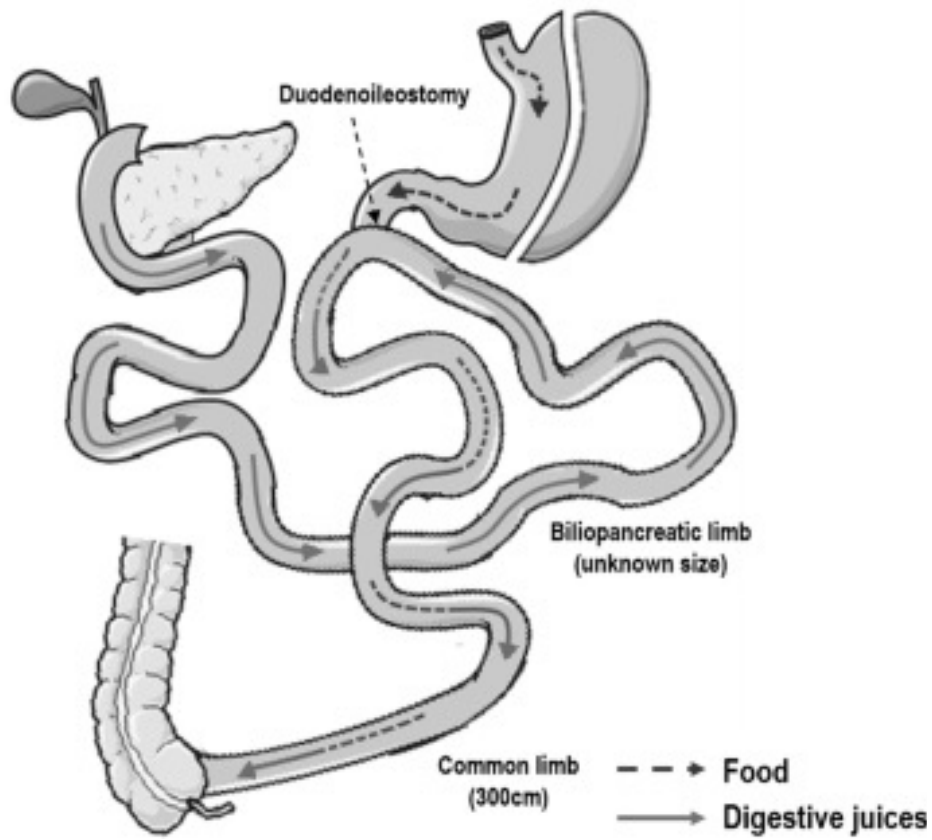






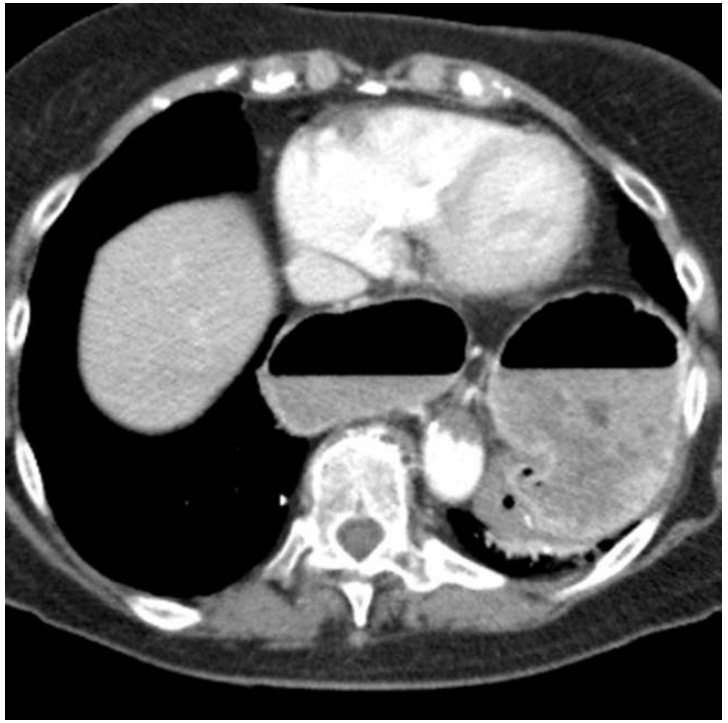
Acronym	Full Form
POSE	Primary Obesity Surgery Endoluminal
ROSE	Restorative Obesity Surgery Endoluminal
ESG	Endoscopic Sleeve Gastroplasty
TOGA	Transoral Gastroplasty


Duodenoileostomy
Alimentary limb
(200cm)
Biliopancreatic limb
(unknown size)
Enteroenterostomy
Common limb
(100cm)

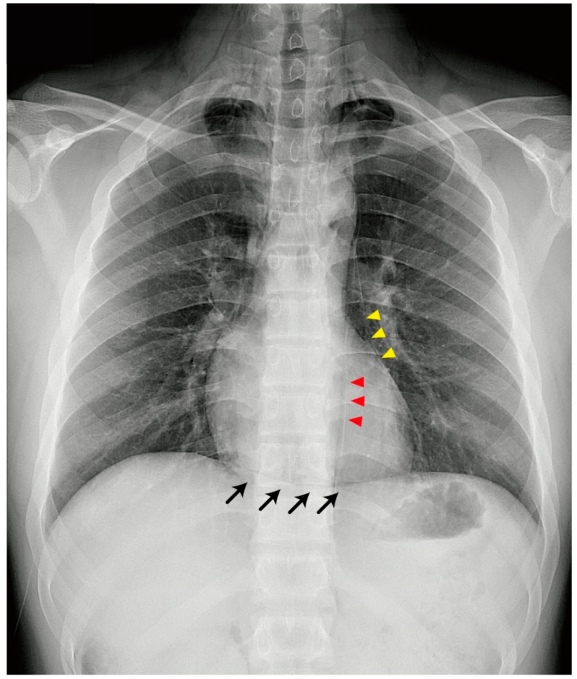

Duodenoileostomy
Biliopancreatic limb
(unknown size)
Common limb
(300cm)
Food
Digestive juices

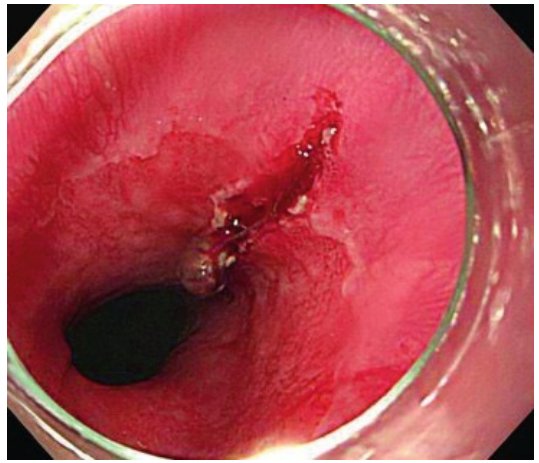
A 58-year-old man presents to the emergency department with severe epigastric pain that began suddenly after an episode of forceful retching following alcohol intake. He now complains of persistent nausea but says he “cannot vomit anything out” despite repeated efforts. He also reports difficulty swallowing even liquids. On examination, he is tachycardic, mildly hypotensive, and has upper abdominal distension with marked epigastric tenderness. CECT with oral contrast is shown below. Which of the following classic clinical triads best explains his current condition?

a) Gastric volvulus
b) Boerhaave syndrome
c) Mallory-Weis tear
d) Congenital diaphragmatic hernia



BOERHAAVE / MALLORY WEISS/ BORCHARDT





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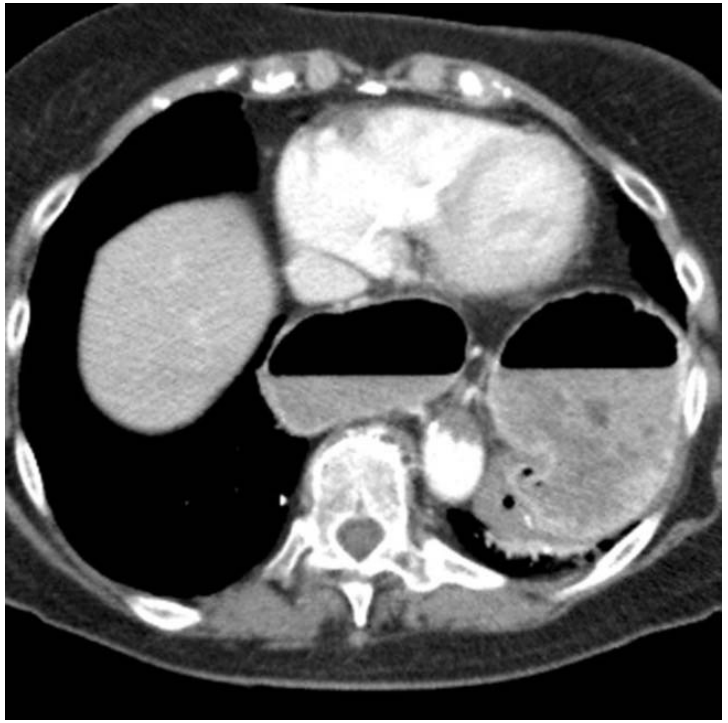


HERNIA SURGERY

A trainee is observing a hernia surgery where the **conjoint tendon is sutured to the inguinal ligament**, creating a tensioned repair. No layered reconstruction is done, and no mesh is used.
This describes:
A. Shouldice
B. Bassini
C. Desarda
D. Lichtenstein

A 38-year-old man undergoes open repair of an inguinal hernia. During surgery, the surgeon performs **four-layer imbrication of the transversalis fascia**, followed by reconstruction of the posterior wall without using mesh.
Which hernia repair is being performed?
A. Bassini
B. Desarda
C. McVay
D. Shouldice

A 32-year-old man undergoes a non-mesh hernia repair where the surgeon creates a **strip from the external oblique aponeurosis**, uses it as a **dynamic posterior wall**, and avoids fascial imbrication.
Which technique is this?
A. Bassini
B. McVay
C. Shouldice
D. Desarda

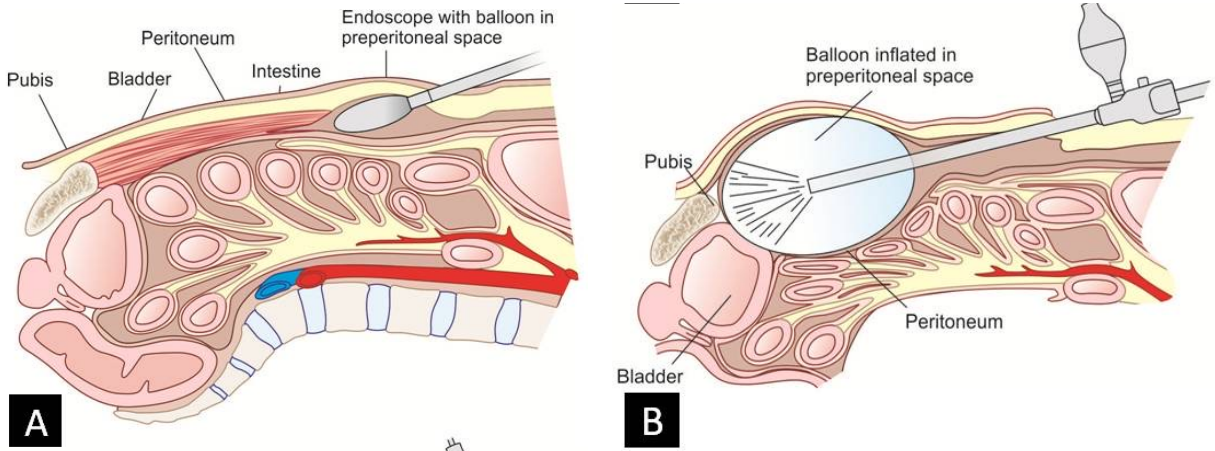
A 55-year-old man is advised to undergo a repair that is **tension-free**, involves suturing the **mesh to the inguinal ligament and conjoint tendon.** Which technique is this?
A. Bassini
B. Desarda
C. Lichtenstein
D. Shouldice

During repair of a femoral hernia, the surgeon performs a **Cooper's ligament repair**, suturing the transversus abdominis aponeurosis to Cooper's ligament.
Which repair is this?
A. Desarda
B. Shouldice
C. Bassini
D. McVay

A 69-year-old man presents with **bilateral direct inguinal hernias**. The surgeon chooses a technique where a **large mesh is placed in the pre-peritoneal space**, reinforcing the visceral sac using **Pascal's law**.
Which repair is being performed?
A. Shouldice
B. Lichtenstein
C. Nyhus
D. Stoppa

A repair is planned through a **posterior approach**, with exposure of the **internal ring from behind**, allowing anatomical narrowing of a widened deep ring in a recurrent indirect hernia.
Which repair matches this?
A. Bassini
B. Shouldice
C. Lichtenstein
D. Nyhus

Congenital inguinal hernia
Congenital hydrocele



BILE LEAKS

A 45-year-old woman undergoes laparoscopic cholecystectomy for acute cholecystitis. On postoperative day 2, she develops increasing abdominal pain, low-grade fever, tachycardia, and bilious output of 200 mL/day from the drain. Laboratory tests show mild leukocytosis, but bilirubin is normal. Ultrasound reveals a localized collection near the gallbladder bed.
The surgical team suspects a postoperative bile leak.
Which of the following is the most appropriate next step in management?

A. Re-exploration laparotomy
B. Immediate percutaneous drainage of the collection
C. ERCP with sphincterotomy
D. Expectant management with antibiotics alone

A 47-year-old woman is post–lap chole day 1. Drain output is **600 mL of pure bile**, and she has fever, tachycardia, diffuse peritonitis, and rising WBC. ERCP with sphincterotomy and stenting was attempted but cannulation failed.
What is the next best step?
A. Repeat ERCP
B. Broad-spectrum antibiotics only
C. Percutaneous drainage
D. Immediate surgical re-exploration

OBSTRUCTIVE JAUNDICE

A 58-year-old man presents with **progressive jaundice**, dark urine, pale stools, pruritus, and weight loss for 1 month. He has no history of alcohol use. Examination shows scratch marks and a palpable, nontender gallbladder.
Laboratory tests show:
•Total bilirubin: 14 mg/dL (direct: 11 mg/dL)
•ALP: markedly elevated
•ALT/AST: mildly elevated
Ultrasound reveals **dilated intrahepatic and extrahepatic ducts**, but the lower CBD is **not well visualized** due to bowel gas. Which of the following is the **next BEST diagnostic investigation?**
A. ERCP
B. CT abdomen with contrast
C. HIDA scan
D. Percutaneous transhepatic cholangiography (PTC)
E. Endoscopic ultrasound (EUS)

A 67-year-old female presents with painless jaundice. US shows **normal CBD**, but MRCP reveals **intrahepatic duct dilatation.** Most likely cause?
A. CBD stone
B. Ampullary carcinoma
C. Distal cholangiocarcinoma
D. Klastiskin tumor

Q. A 56yrs old male with obstructive jaundice reveals dilated CBD and intrahepatic biliary radicles on USG. No stone was identified. CT confirmed the findings. Which of the following investigation would be most useful to localize the cause?

A. Endoscopic USG

B. ERCP

C. MRI

D. PET scan

Q. A 48-year-old lady presents with right upper quadrant abdominal pain. USG reveal multiple GB calculi but no wall thickening, CBD diameter 12mm, gamma glutamyl transferase 5times increased, alkaline phosphatase was high also 400IU. Other parameters are normal. What is the next step ?

A. MRCP

B. ERCP

C. Semi-urgent cholecystectomy

D. EUS

Q. 40 year old female presents with jaundice and pain abdomen. LFT reveals raised bilirubin and GGT. USG reveals scleroatrophic GB with dilated CDB with impacted calculi. What is the next step of management?

A. Cholecystectomy

B. ERCP

C. PET scan

D. MRCP

TRAUMA APPROACH

A 24-year-old male is brought to the emergency department after a high-speed road-traffic accident. He is conscious but restless. Peripheral pulses are weak, BP is 120/80 mmHg, HR 140/min, and capillary refill time is > 3 seconds. FAST shows free fluid in the abdomen. Which of the following is the MOST appropriate next step in the management of this patient?

A. Needle thoracostomy on the left side
B. Immediate whole-body CT scan
C. Start IV crystalloids through two large-bore cannulas **(Correct)**
D. Apply pelvic binder

28-year-old man is brought to the trauma bay after a stab injury to the left chest. On arrival, he is anxious and tachypneic (RR 36/min). Airway is patent. Trachea is central. On the left side, breath sounds are markedly reduced, percussion note is dull, and there is decreased chest expansion. HR 132/min, BP 88/54 mmHg. Neck veins are flat. eFAST is positive. According to the ABCDE trauma protocol, what is the MOST appropriate next step?

A. Immediate needle decompression in the 2nd intercostal space
B. Urgent thoracotomy
C. Insert an intercostal chest drain (tube thoracostomy)
D. Perform whole-body CT scan

A 45-year-old man is rushed to the emergency department following a high-speed road traffic collision. His heart rate is 124/min and BP is 78/56 mmHg in the right arm. A portable chest X-ray shows a widened mediastinum with normal lung and cardiac silhouette. What is the investigation of choice for this patient?

A) Transesophageal echocardiography
B) CT angiography
C) MR angiography
D) Transthoracic echocardiography

A 12-year-old child presents with abdominal pain following a road traffic accident. Vitals are stable, and tenderness is present in the left lumbar region. Urine analysis shows >50 RBC/hpf. What is the investigation of choice?

A) Contrast-enhanced CT scan
B) Retrograde urethrogram
C) Wait and watch
D) Emergency laparotomy

A 38-year-old man with renal laceration and urine extravasation initially managed conservatively now presents with a persistent urinoma after a few days. What is the next best management?

A) Ureteral stenting
B) Surgical repair and exploration
C) Observation
D) Percutaneous drainage

A 10-year-old child presents with Grade 3 splenic injury following blunt abdominal trauma. There are no signs of active bleeding. What is the most appropriate management?

A) Conservative management
B) Splenectomy
C) Embolization
D) Splenorrhaphy

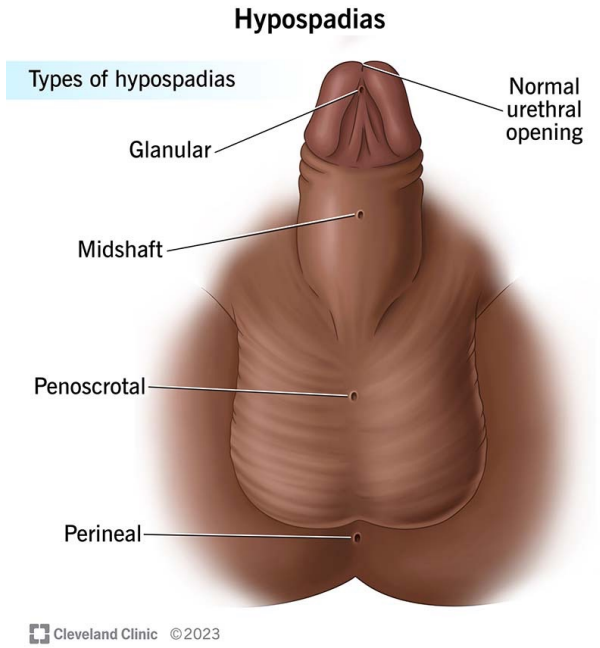
Q. A 25-year-old man was stabbed in the chest during a street fight. Blood pressure is 90/58 mm Hg, pulse is 124/min, and respirations are 30/min. The patient is in severe respiratory distress. Breath sounds are present on the left and absent on the right. Heart sounds are normal. The neck veins are distended. The patient becomes obtunded during examination. Which of the following is the best next step in management?

A. Cricothyroidotomy
B. Needle thoracostomy
C. Endotracheal intubation
D. Rapid volume resuscitation

A 60-year-old man is brought to the emergency department by ambulance for right-sided weakness and slurred speech that started 30 minutes ago. The wife reports that her husband said he was dizzy, and shortly after, he developed acute right arm and leg weakness and was unable to speak. Medical history includes hypertension, for which he takes amlodipine. The patient also takes an aspirin daily. Blood pressure is 225/110 mm Hg, pulse is 90/min, and respirations are 20/min. On examination, the patient is alert but aphasic with 0/5 strength in the right upper and lower extremities. Examination of the left upper and lower extremities is normal. A nicardipine infusion is started and CT scan of the head is performed. After returning from the CT scanner, the patient is minimally responsive and has developed hyperextension of all four extremities. CT scan shows a left-sided intracerebral hemorrhage with a 5-mm midline shift to the right.
Which of the following is the best next step in management of this patient?

A. Administer intravenous corticosteroids
B. Decompressive craniectomy
C. Burr-hole
D. Intubate and mechanically ventilate

HYPOSPADIAS



- **Do NOT circumcise** (foreskin needed for repair)
- Age: **6–18 months** (preferred)

Orthoplasty-Urethroplasty-> Meatoplasty -> Glanuloplasty-> Skin cover

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

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

FLAPS

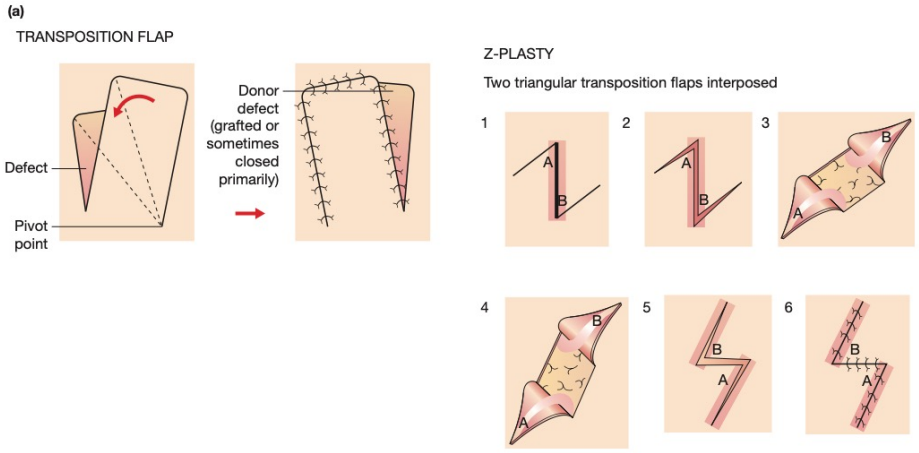
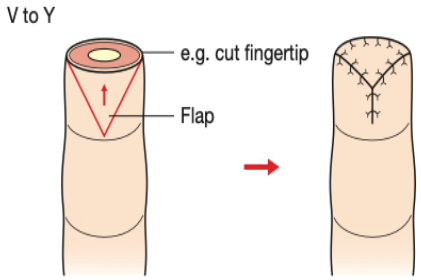


Figure 47.12 Local flap diagrams. (a) Transposition and Z-plasty flaps. (b) Bilobed and bipedicled flaps. (c) Rhomboid and rotation flaps. (*continued overleaf*)



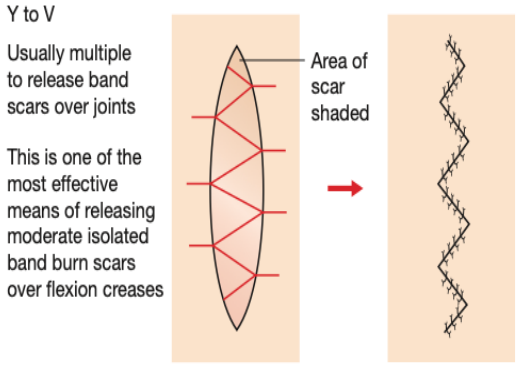
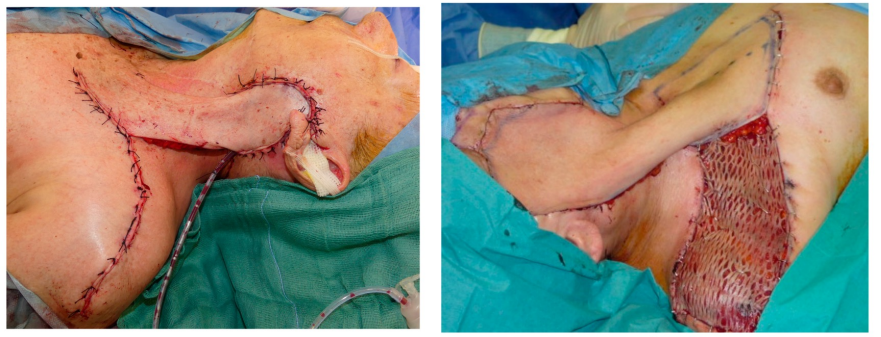


Figure 47.13 Bilobed flap reconstruction of a nasal defect following excision of a basal cell carcinoma. **(a)** Excision markings. **(b)** Bilobed flap raised. **(c)** Transposition of bilobed flap. **(d)** Immediate postoperative appearance.



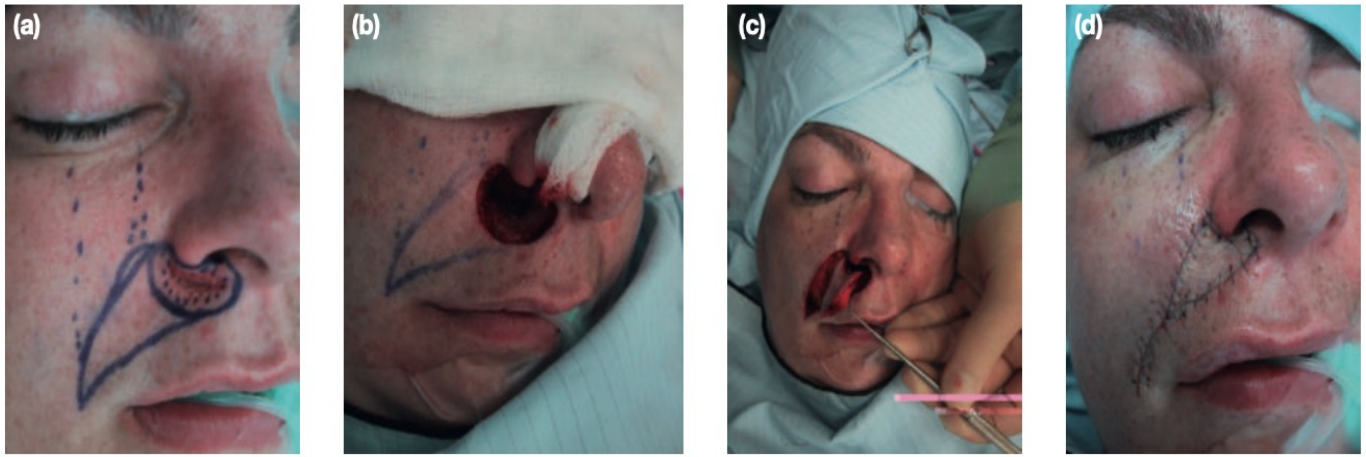
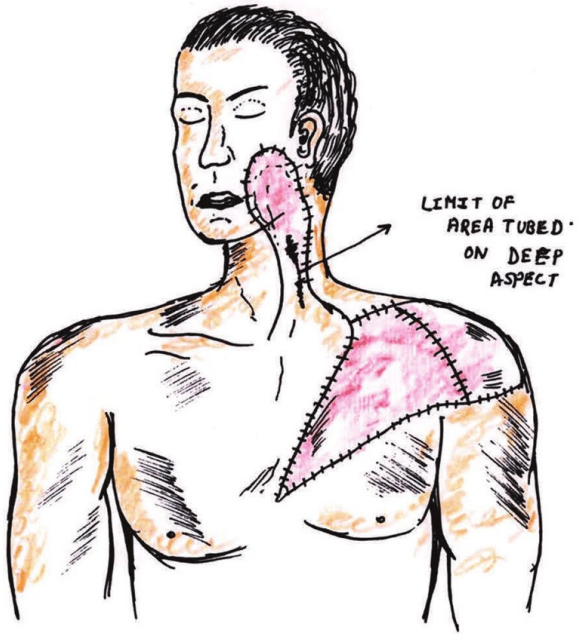


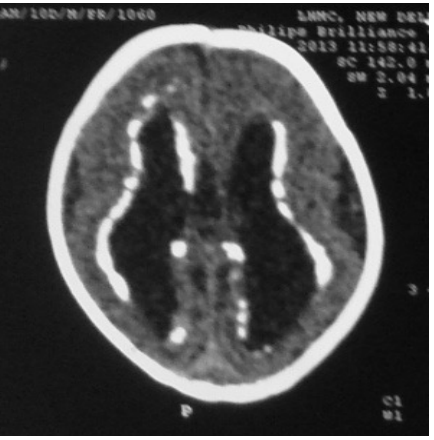
Figure 47.18 Excision of a basal cell carcinoma of the right alar groove and reconstruction with a V-to-Y nasolabial advancement flap. **(a)** Tumour excision margins and flap design markings. **(b)** The defect following excision of the basal cell carcinoma. **(c)** Raising the nasolabial flap. **(d)**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

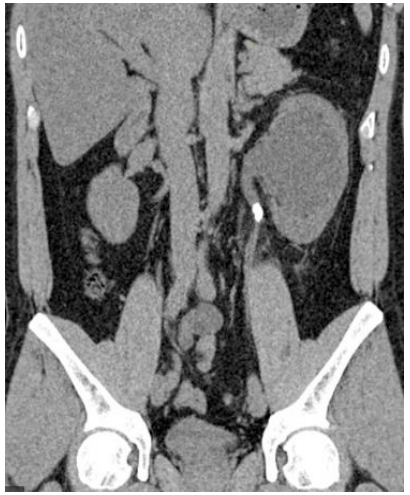


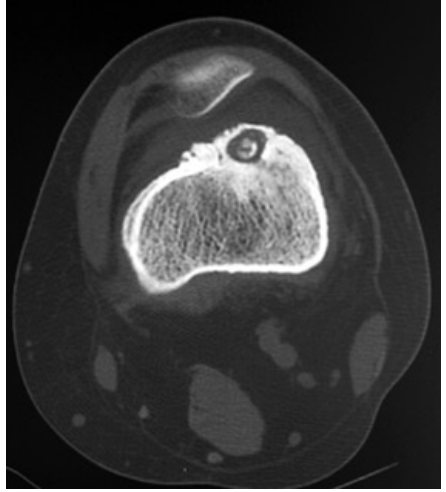
RADIOLOGY

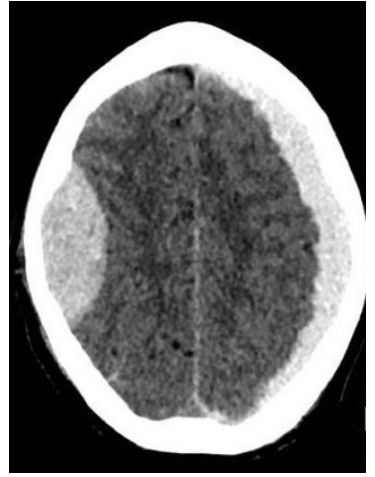
INVESTIGATION

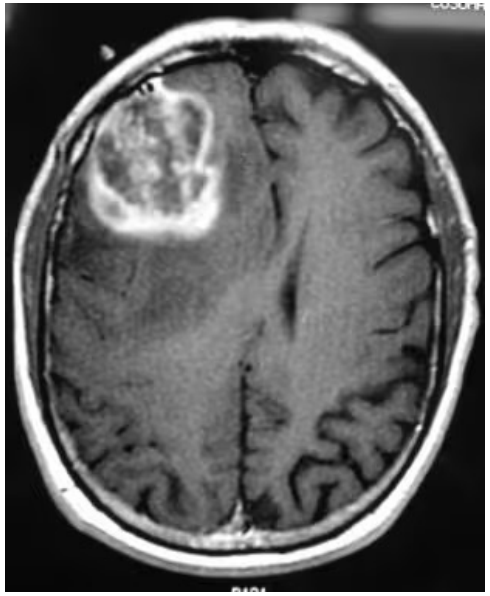
- Cortex
- Bone marrow
- Cartilage
- Ligaments/ soft tissue
- Bone tumors
- Calcification
- Calculi
- Brain tumors
- Spinal cord
- Nerves
- Fluid/ cyst
- Gall bladder
- Foreign body
- Head trauma
- Stroke
- Acute pancreatitis
- Chronic pancreatitis
- DVT, varicose vein

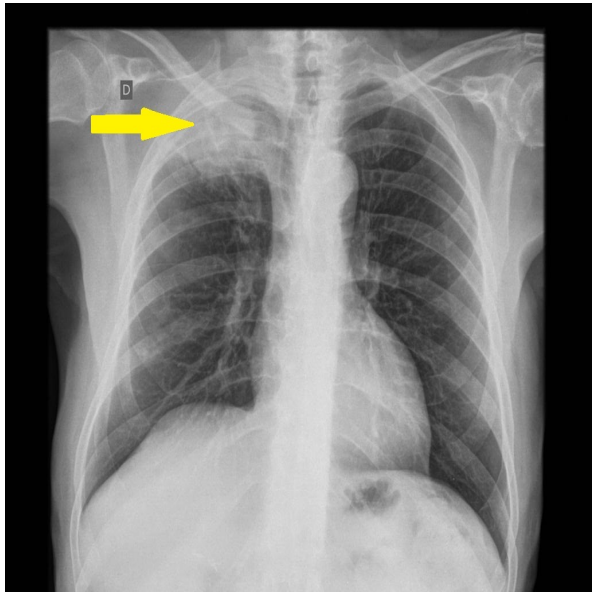


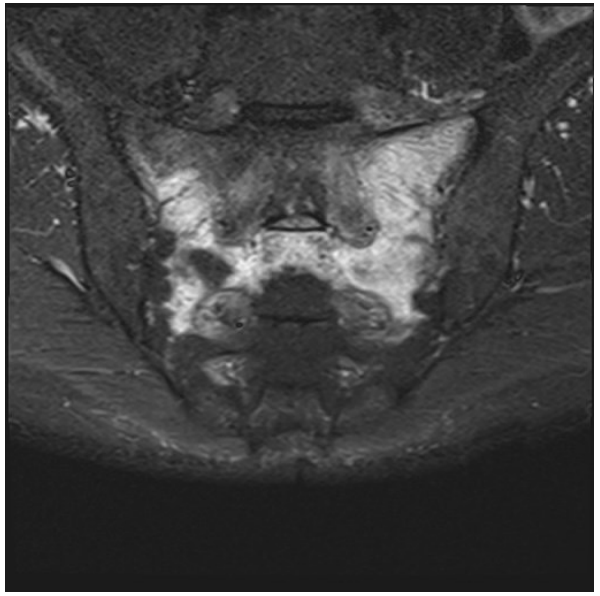




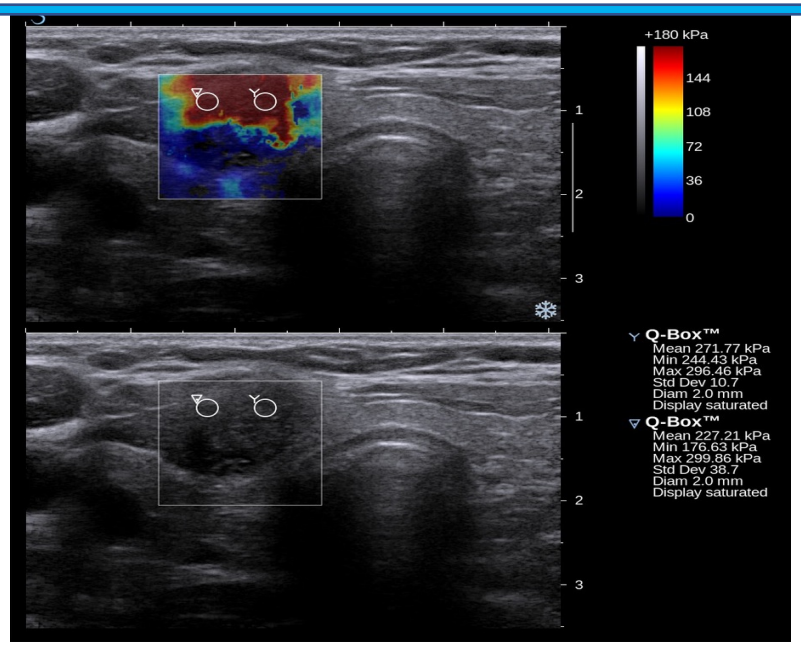


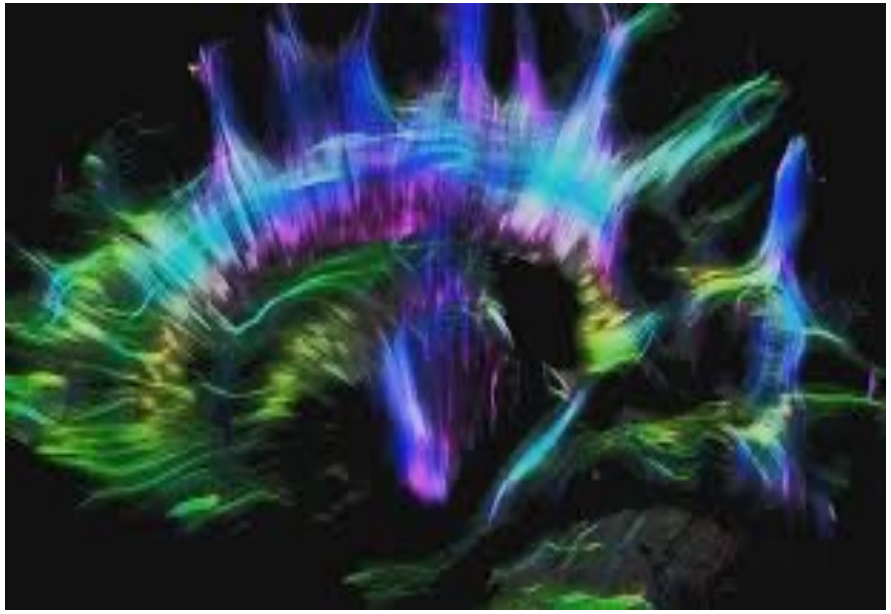




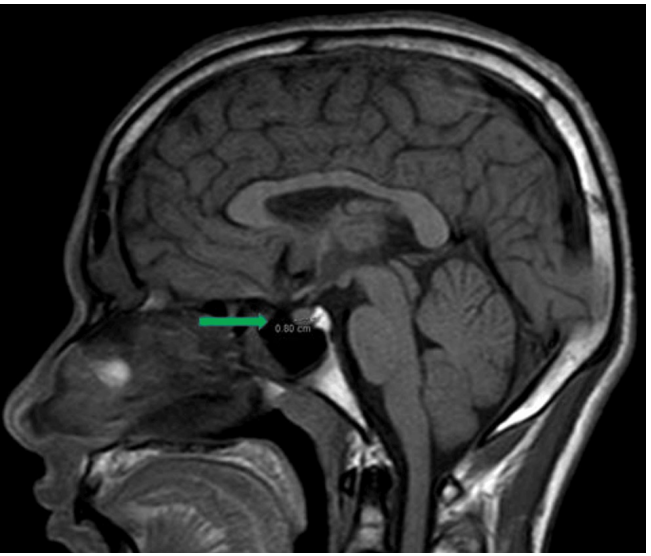


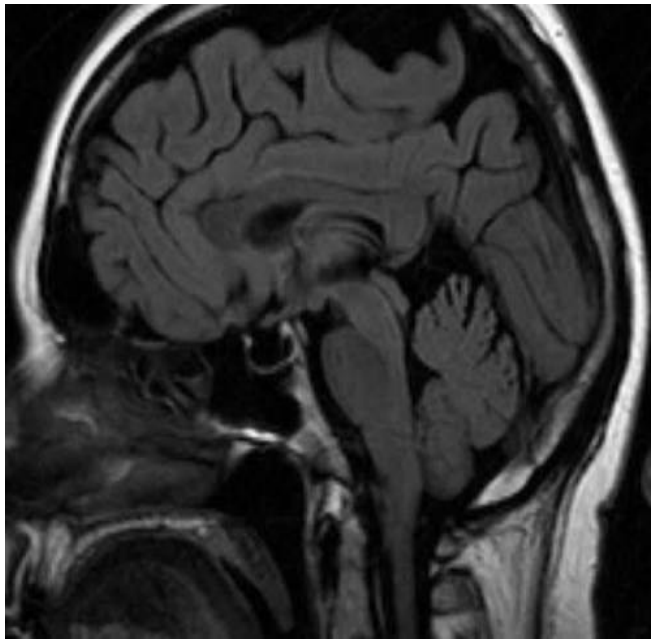
COLOURS IN RADIOLOGY

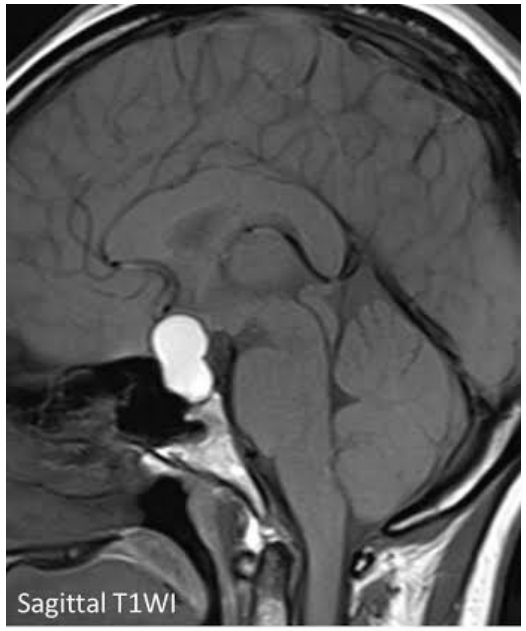


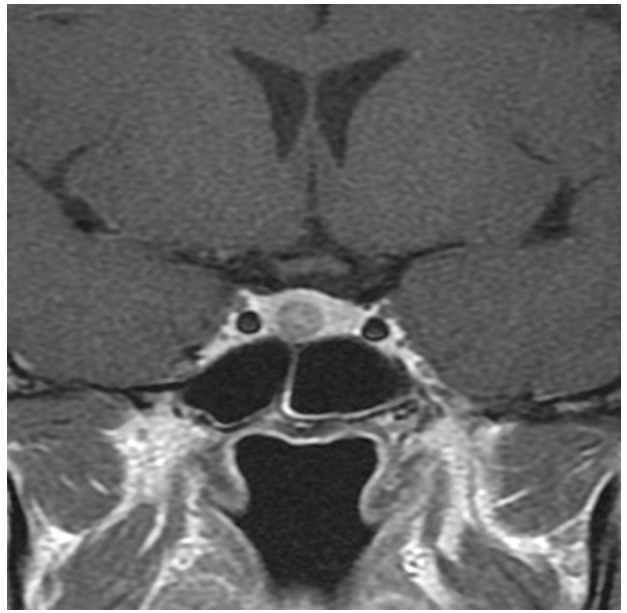


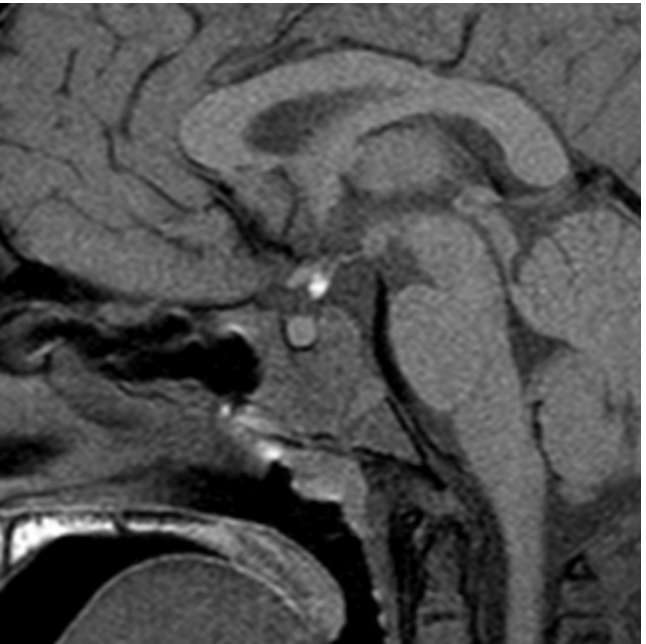
SELLA LESIONS

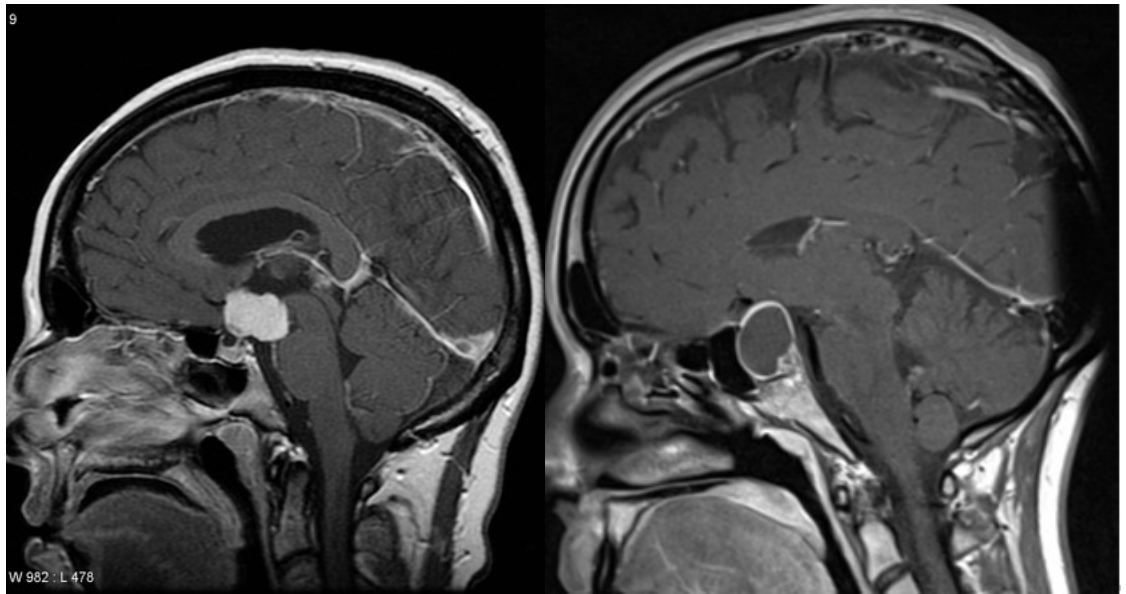


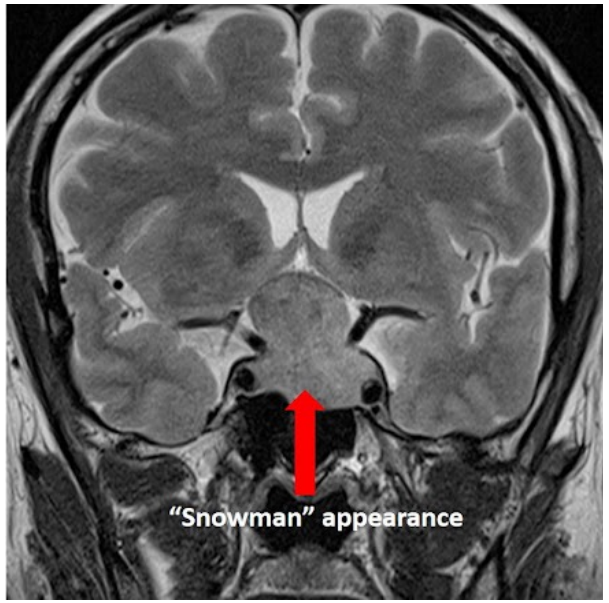




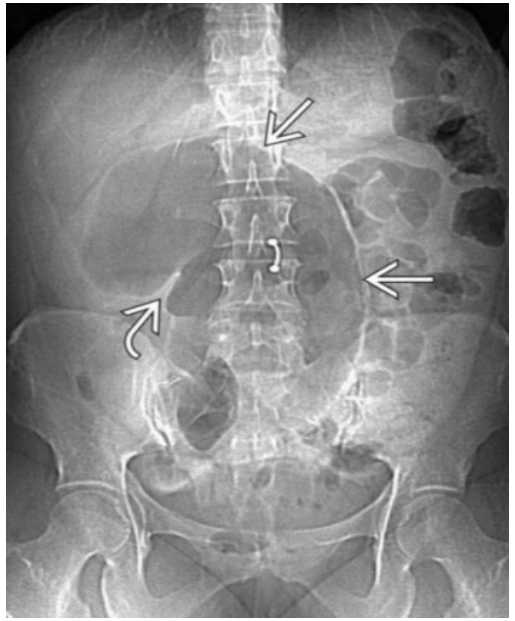




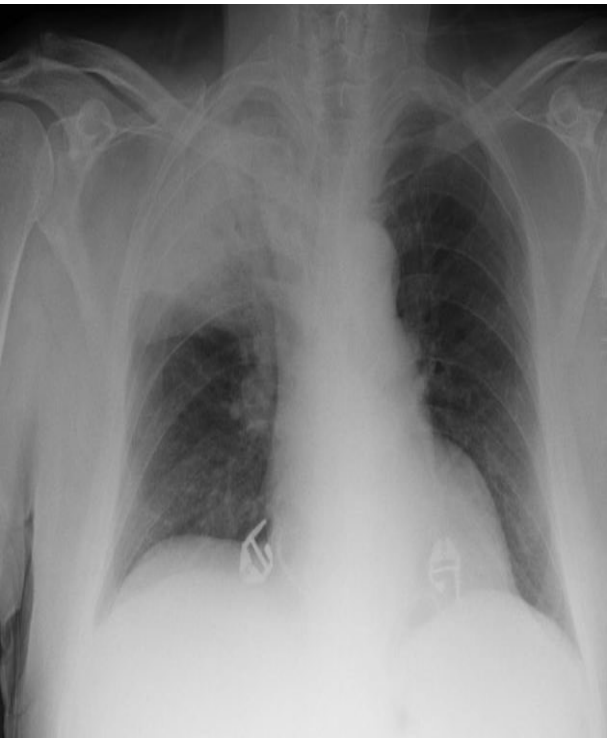


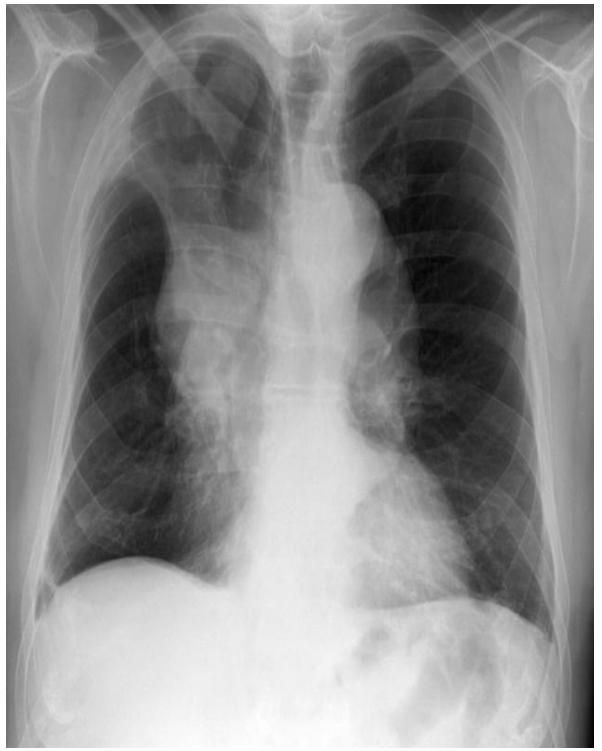


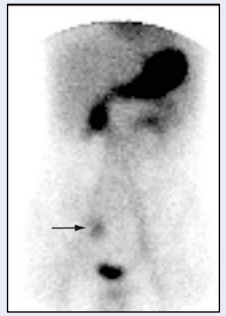
SIGMOID VS CECAL VOLVULUS

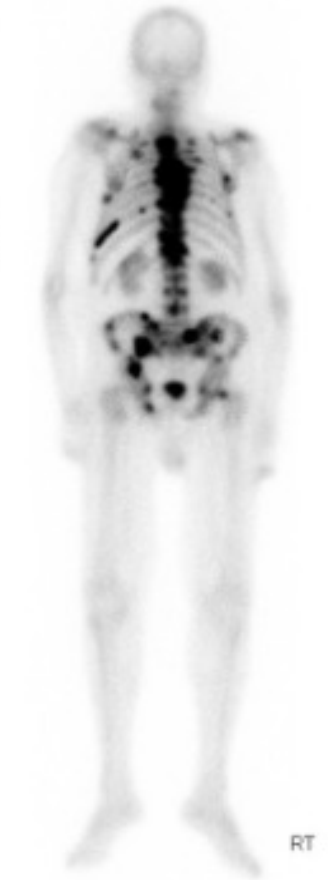


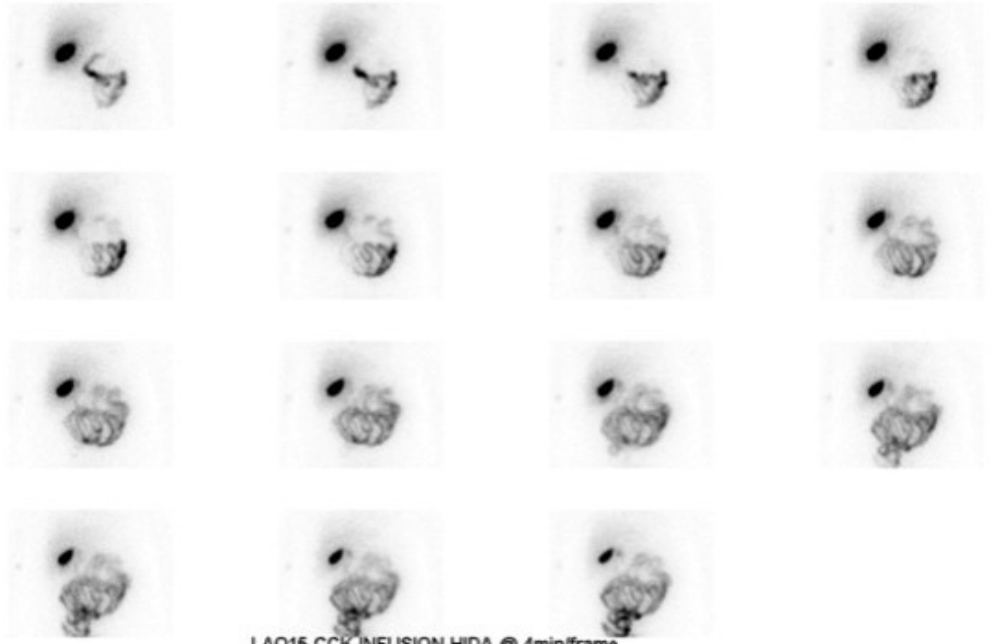
CONSOLIDATION VS COLLAPSE

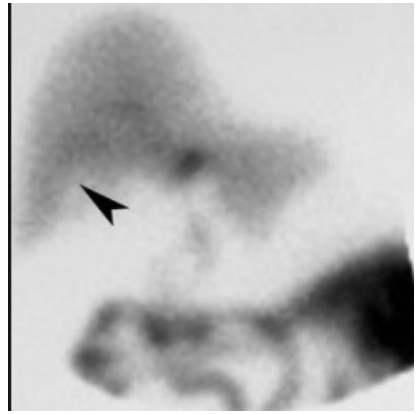


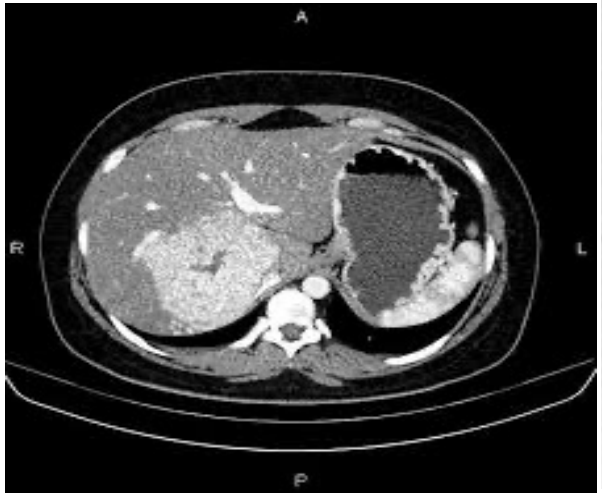


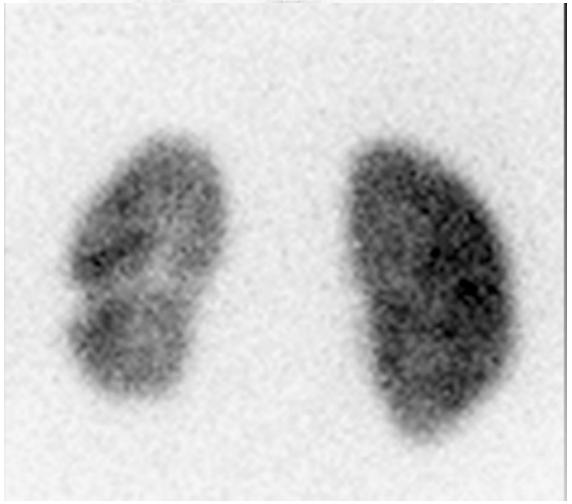
Radioisotope	Test
Tc99m-MDP (methylene diphosphonate)	Hot spot: Triple phase (flow, blood pool, bone): Cold spot:
Tc99m-HIDA	Bile leaks- EHBA - Acute cholecystitis-
Tc99m Sulphur colloid	
Tc99m pertechnate	Meckel's diverticulum: Rule of 2: Thyroid imaging Salivary gland hot spot: 
Tc99m DMSA	
Tc99m DTPA / MAG3	
Captopril renography	

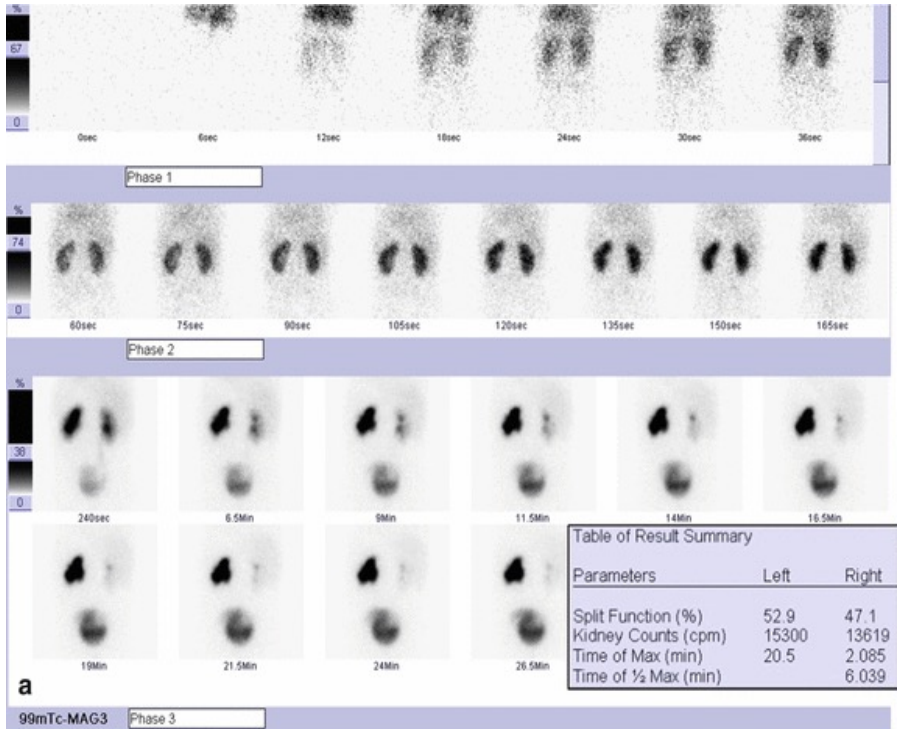

RT

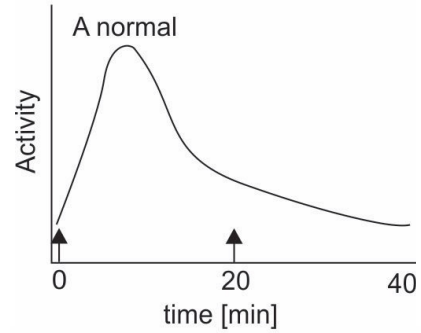

LAO15 CCK INFUSION HIDA @ 4min/frame

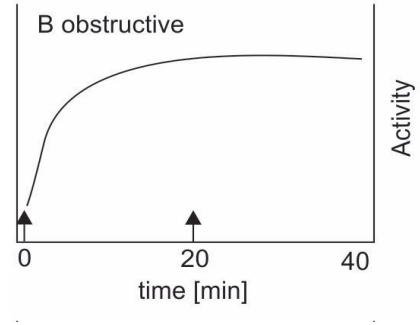



A
R
L
P



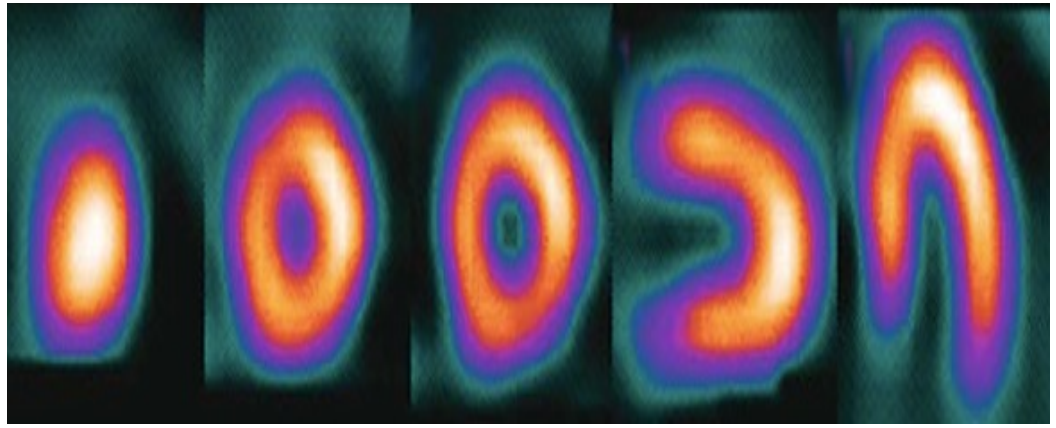

Phase 1
Phase 2
Table of Result Summary
Parameters Left Right
Split Function (%) 52.9 47.1
Kidney Counts (cpm) 15300 13619
Time of Max (min) 20.5 2.085
Time of ½ Max (min) 6.039
a
99mTc-MAG3
Phase 3

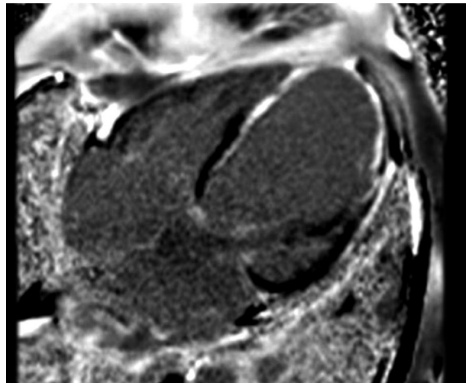

A normal
Activity
0
20
40
time [min]


B obstructive
Activity
0
20
40
time [min]

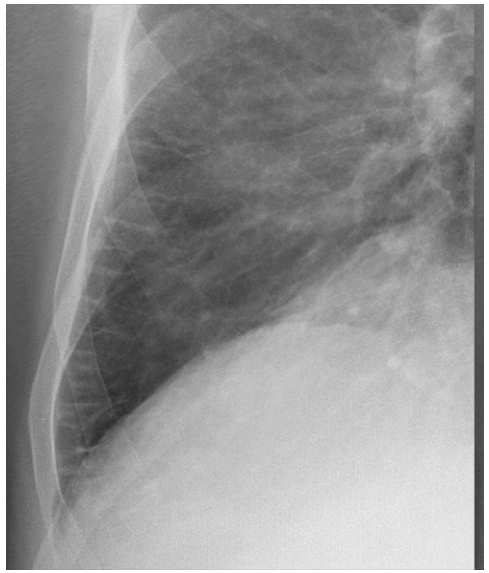
Cardiac imaging

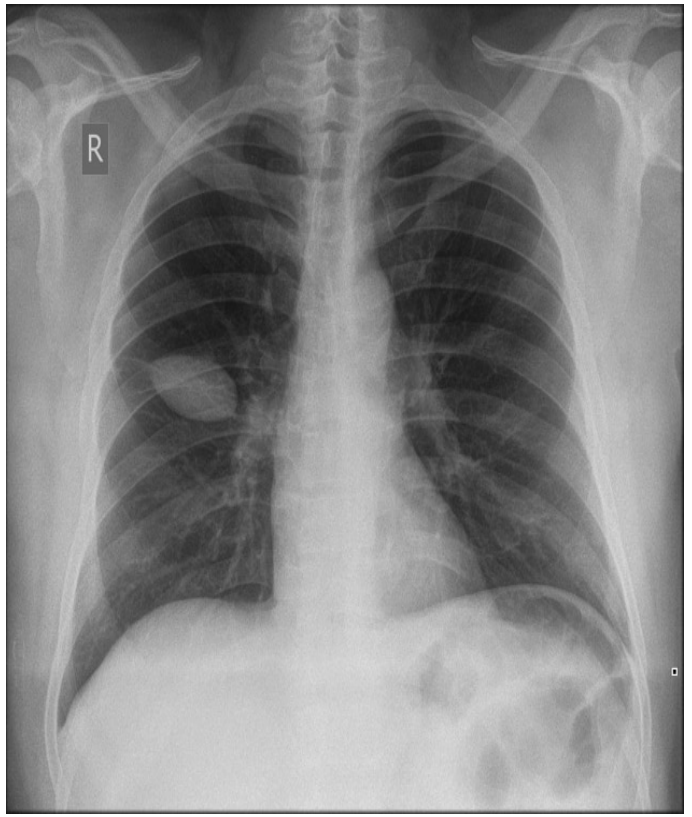
Scan	USE
Thallium-201 Tc99m-tetrafosmin Tc99m-Sestamibi	
Tc99m-pyrophosphate scan	
18-FDG PET	
MRI Tc99m-MUGA ECHO	





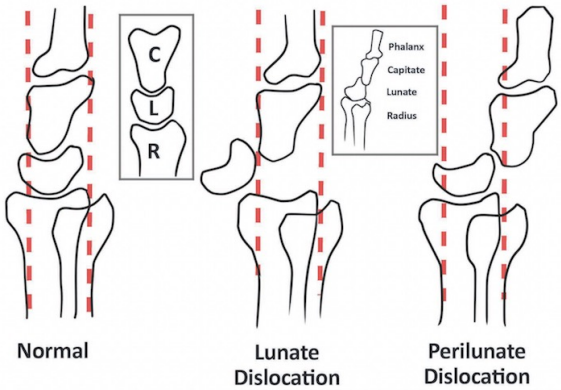
PULMONARY EDEMA





ORTHOPEDICS

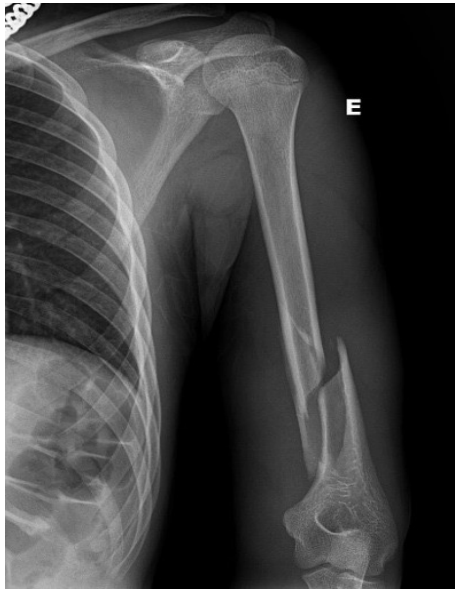
Colles': FOOSH in
Deformity:
Smith: FOOSH in
Deformity:



IMPORTANT



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