Introduction to abdominal pain

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Pain

- The most important symptom

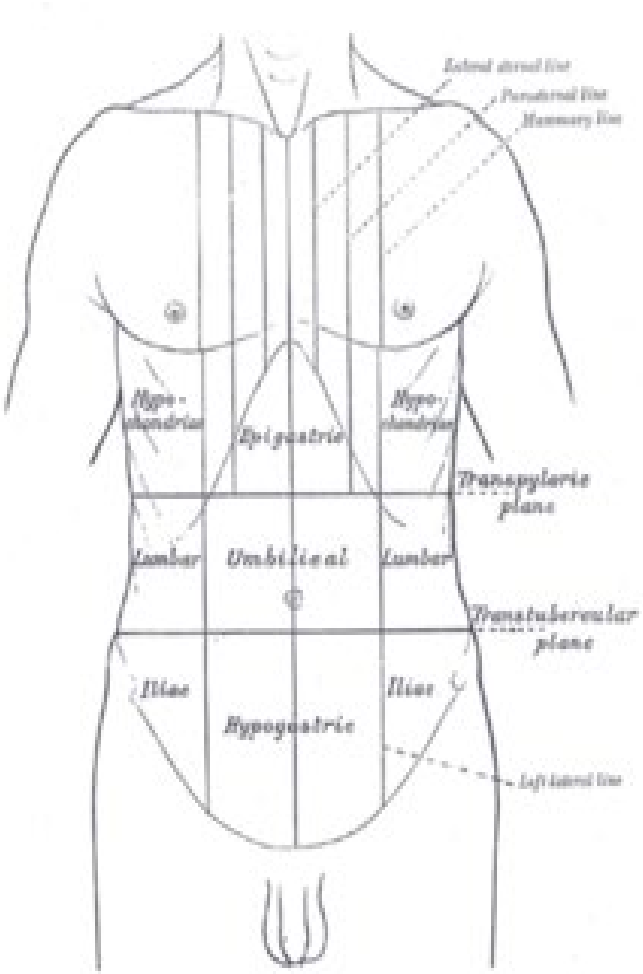
- History taking
- Red flag sign
- Differential diagnoses

Pain – History taking

1. Onset (hyperacute/ acute/ chronic)
2. Duration
3. Site
4. Radiation

   Epigastric pain > back pain > retroperitoneal pathology

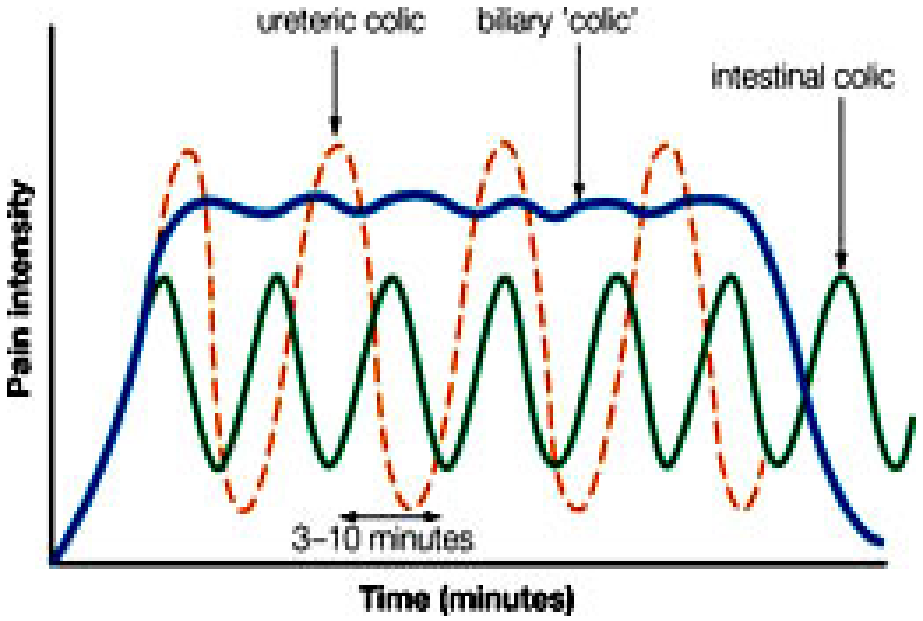
   RUQ pain > right shoulder > acute cholecystitis

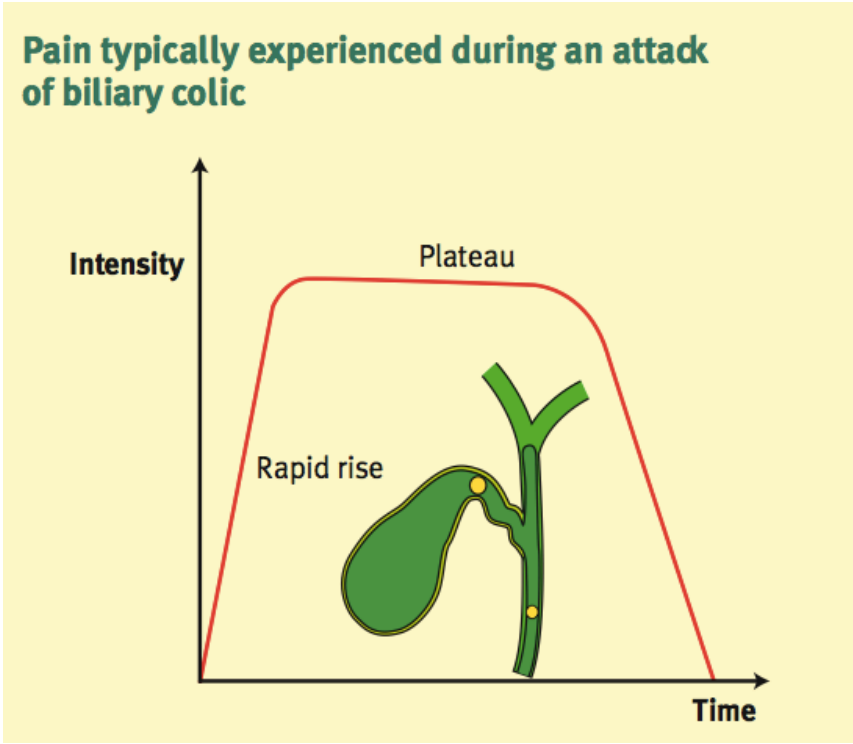


Pain – History taking

5. Character

   Dull/ Stabbing/ Numbness/burning/tingling/ Colicky





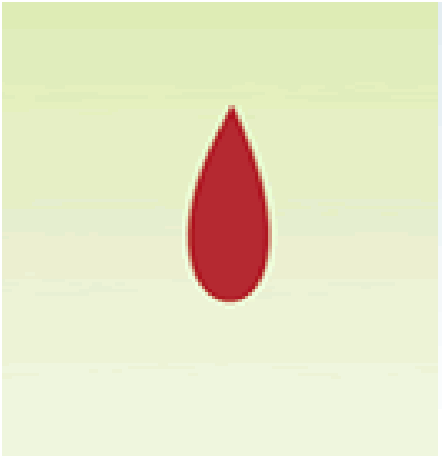
Pain – History taking

6. Severity
7. Aggravating/ Relieving factors

   Movement/ Posture/ Food intake/ Bowel motion/ Medication
8. Associated symptoms
9. Constitutional symptoms

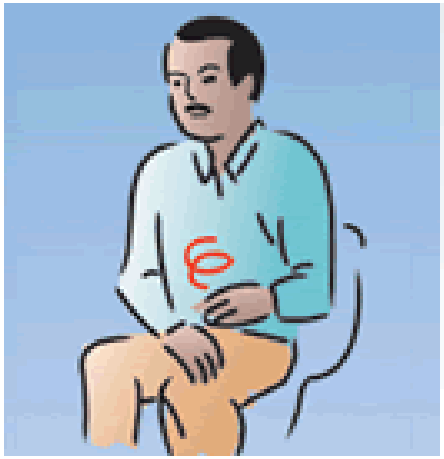
   Lethargy/ Loss of appetite/ Nausea/ Weight loss
10. Quality of life

Associated symptoms

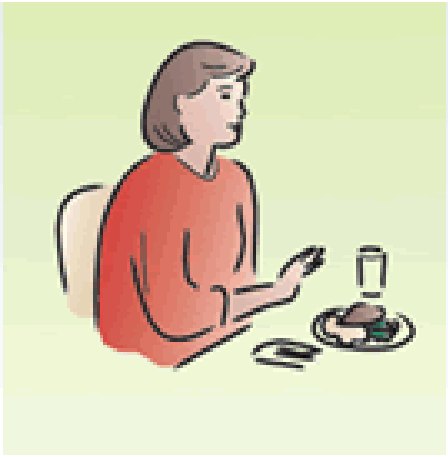


Rectal bleeding or blood in the stool

Cramping or steady abdominal pain



A change in bowel habits such as diarrhea, constipation, or stool consistency changes or narrowing of stool that lasts more than a few days. Unable to empty the bowel



Loss of appetite or sudden weight loss


Vomiting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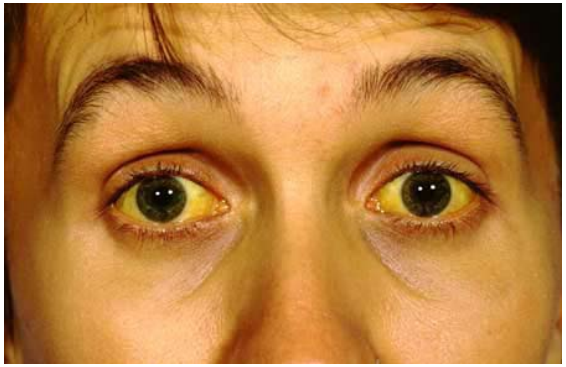
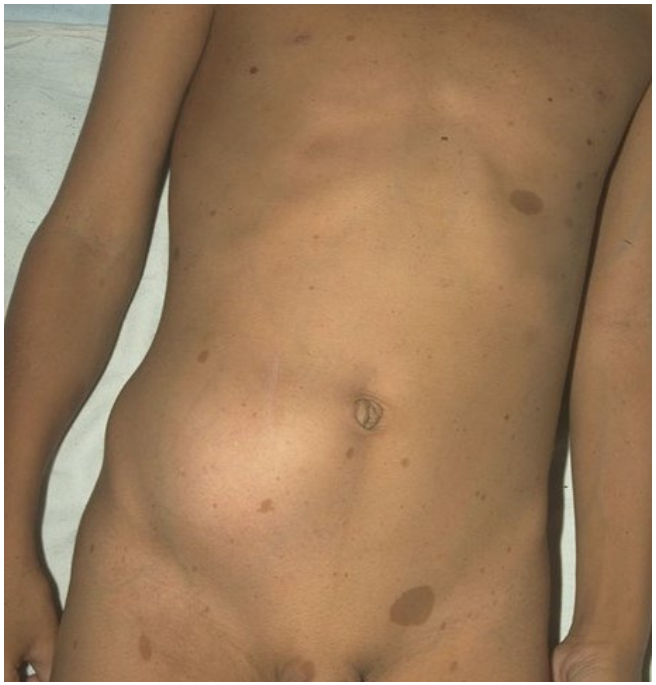
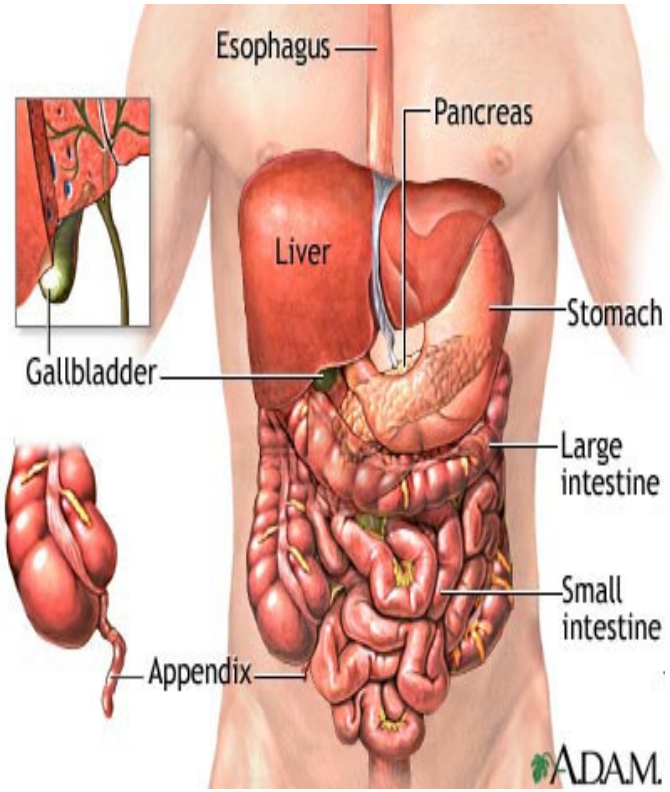


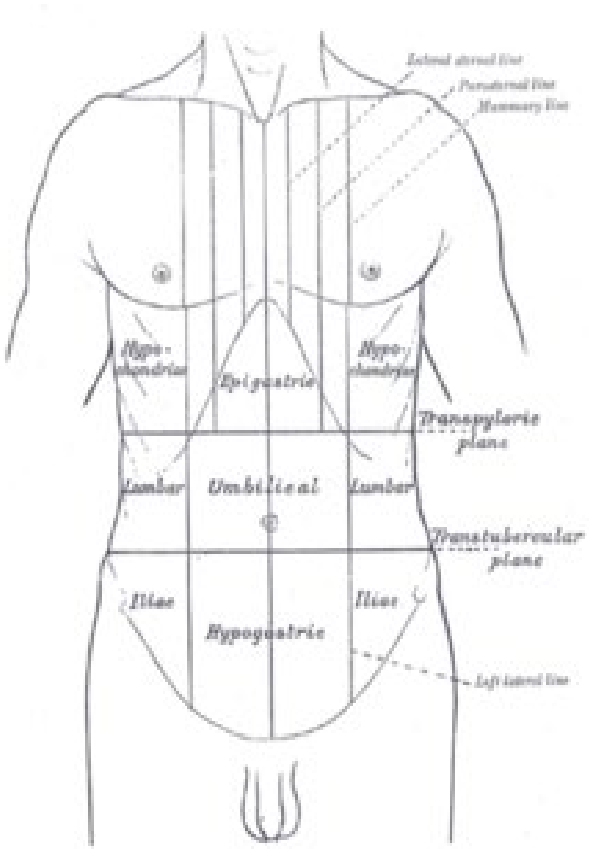

Constipation

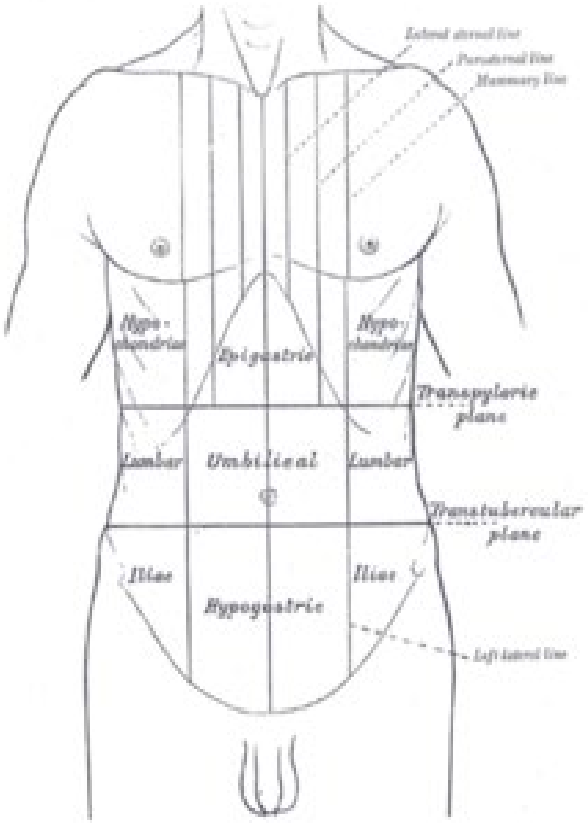


Differential diagnoses

- Based on anatomy
- Based on etiology







= Visceral

= Somatic

= *Referred*

Acute cholecystitis
Perforated DU

Perforated DU
Splenic rupture

Esophagitis

Epigastric region
PUD
Pancreatitis
Esophagitis
Angina, MI
Aneurysm

RUQ
Cholecystitis
Pneumonia/pleurisy
Pyelonephritis

LUQ
PUD
Splenic infarct
Pancreatitis
Pneumonia
Pyelonephritis

Umbilical region
Appendicitis (early)
SBO
Mesenteric ischemia
AAA

RLQ
Cholecystitis
Appendicitis (late)
IBD
OB/GYN
Pyelonephritis
Hernia

LLQ
IBS
OB/GYN
Pyelonephritis
Diverticulitis
Hernia

Hypogastric region
IBD
OB/GYN
diverticulitis
UTI

Diverticulitis

Renal Colic

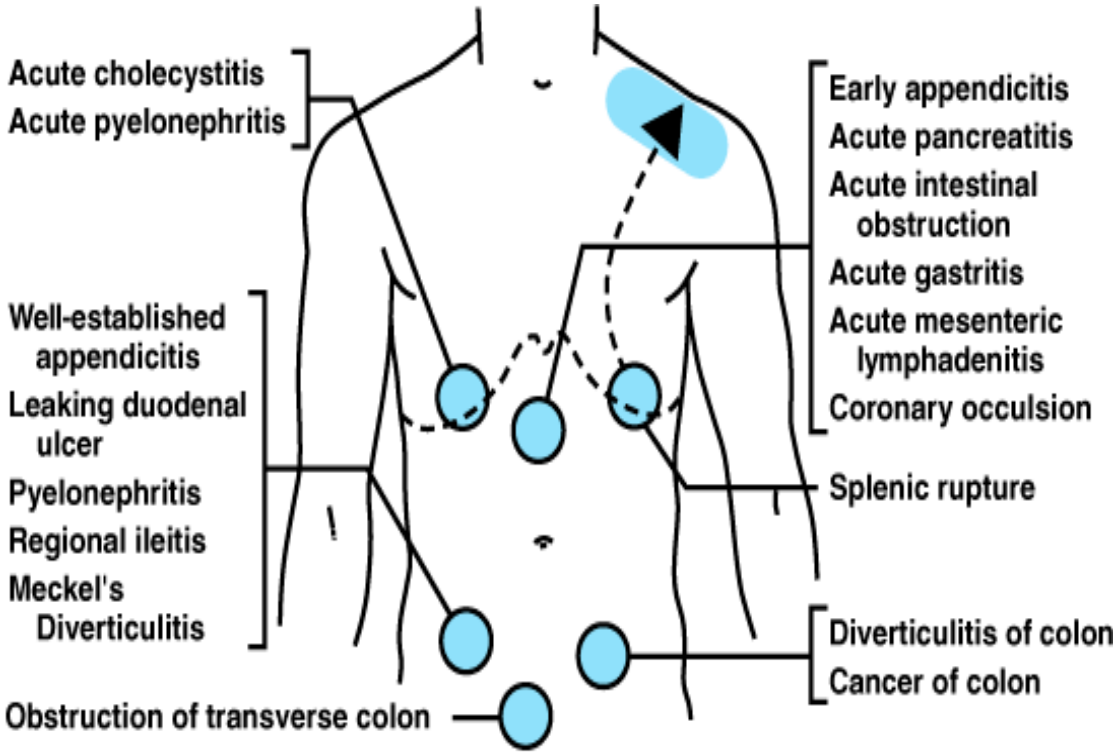
Sepsis

- Majority of abdominal pain arise from intra-abdominal sepsis
- Sign of sepsis

  Fever or hypothermia

  Tachycardia

  Tachypnoea



Hyperacute abdominal pain

- Perforated peptic ulcer disease
- Ruptured abdominal aortic aneurysm
- Ruptured hepatocellular carcinoma

Perforated peptic ulcer

Peptic ulcer disease

- A common health problem: 20-60/ 100,000 populations
- Risk factors:

  Helicobactor pylori

  Aspirin/ Non steroidal anti-inflammatory drugs (NSAID)

  Smoking

Table 2 Characteristics and clinical parameters of patients with perforated peptic ulcer (PPU)

Characteristics	Number (percentage)
Male	119 (78)
Age >60 years	53 (35)
Body mass index <20 kg/m^2	65 (47)
Laborer or unemployed person	93 (61)
History of peptic ulcer diseases	35 (23)
History of previous operation for PPU	7 (5)
Regular alcohol consumer	87 (57)
Active smoker	80 (53)
Current NSAID or steroid user	36 (24)
Pneumoperitoneum detected by plain x-ray	125 (82)
Preoperative hemodynamic instability	20 (13)
Duration of perforation longer than 24 h	26 (17)
Boey score of 2 or more	25 (16)

NSAID, Nonsteroidal anti-inflammatory drug

Complications of peptic ulcer diease

- **Bleeding**

  Chronic, slow: anaemia

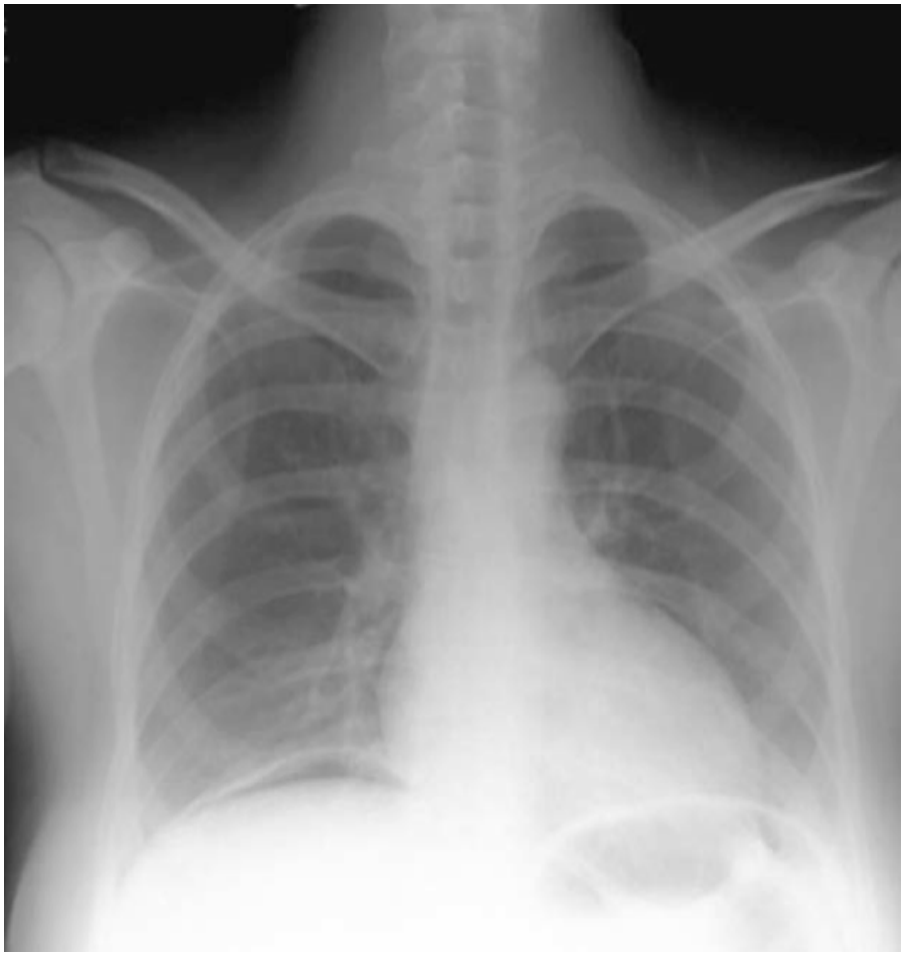
  Acute, fast: melaena/ hematemesis
- **Perforation**
- **Obstruction** i.e. Gastric outlet obstruction

Perforated peptic ulcer disease

- Sudden onset severe epigastric pain
- Patient often remember the exact onset time of pain

- Broad like rigidity
- Fever/ Sepsis
- Shock

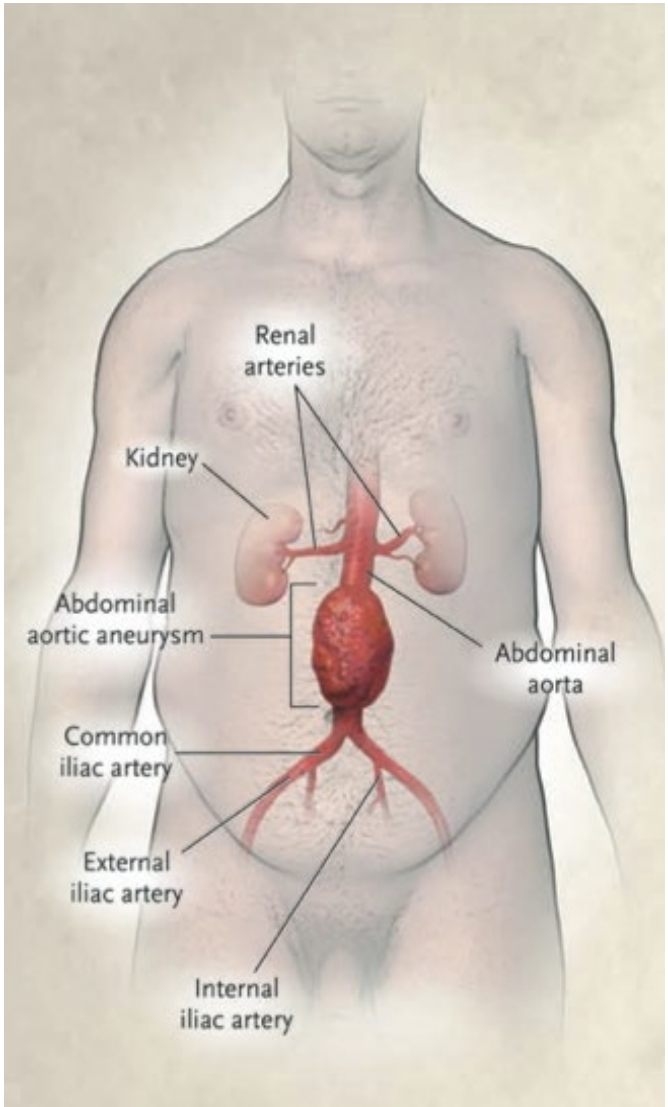
Diagnosis



- Typical history and physical sign
- Erect CXR
- Free gas under diaphragm occurs in 70%
- If in doubt, diagnostic laparoscopy or computed tomography

Ruptured
abdominal aortic aneurysm

Ruptured abdominal aortic aneursym (AAA)



- Aortic aneurysm:

  A permanent localized dilatation of aorta
- Normal ~2cm
- Aneurysmal if >3cm

AAA

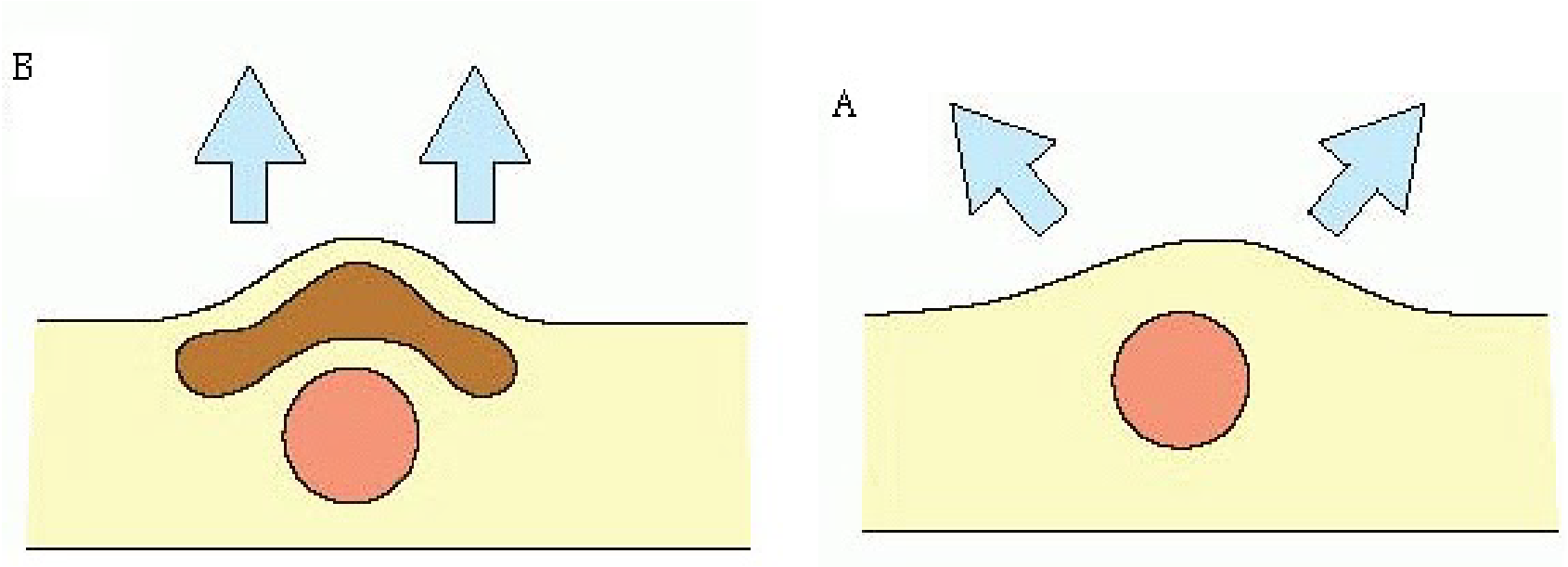
- Infrarenal AAA affect 5-7.5% of men >65 years old
- 7 male : 1 female
- Associated with smoking, hypertension, and COPD
- Account of 2% of deaths in men >65years of age
- Increase risk x 10 if 1st degree male relative
- Risk of rupture depends on size

Size	Rupture risk / year
<5cm	<2%
5-5.9cm	5%
6-6.9cm	6.6%
7-7.9cm	19%

Presentation

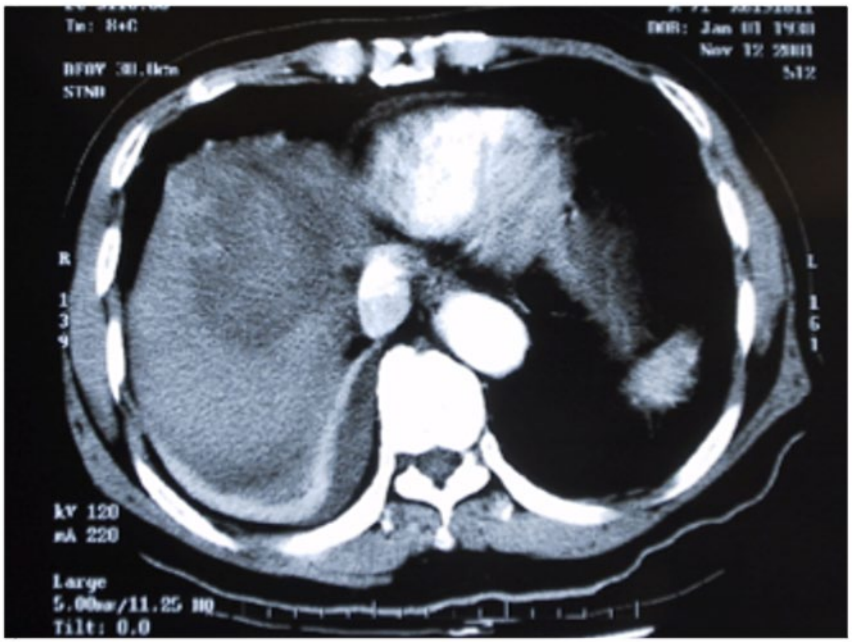
- Sudden onset very severe abdominal pain
- Sometimes radiates to back
- Shock
- Pallor
- Abdominal distension
- Expansile abdominal mass

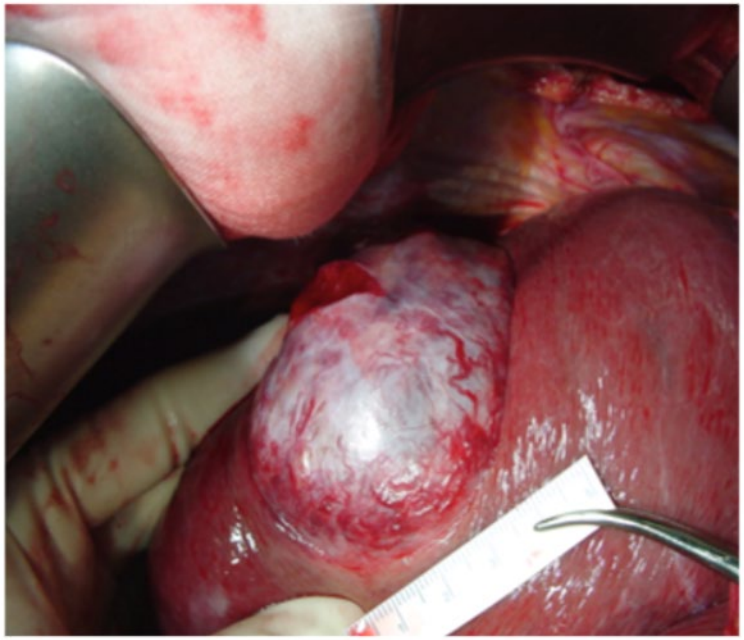
Pulsatile vs Expansile



Please send the patient to AED!

Ruptured hepatocellular carcinoma





Hepatocellular carcinoma

- 2nd leading cause of cancer death
- > 1600 new cases per year
- Male : female = 3 : 1
- High risk group

  - Hepatitis B viral infection

  80% (8% population are hepatitis B carriers, vertical transmission)

  - Hepatitis C viral infection

  <5% (sexual transmission, intravenous drug abuse, history of transfusion, tattoo)

  - Alcoholic related liver disease: 5%

  - Metabolic dysfunction steatotic liver disease (MASLD) 10-15%

Ruptured hepatocelluar carcinoma

- Sudden onset very severe RUQ pain/ generalized abdominal pain
- Abdominal distension
- Shock
- Jaundice
- Stigmata of chronic liver disease
- Hepatomegaly
- History of hepatitis

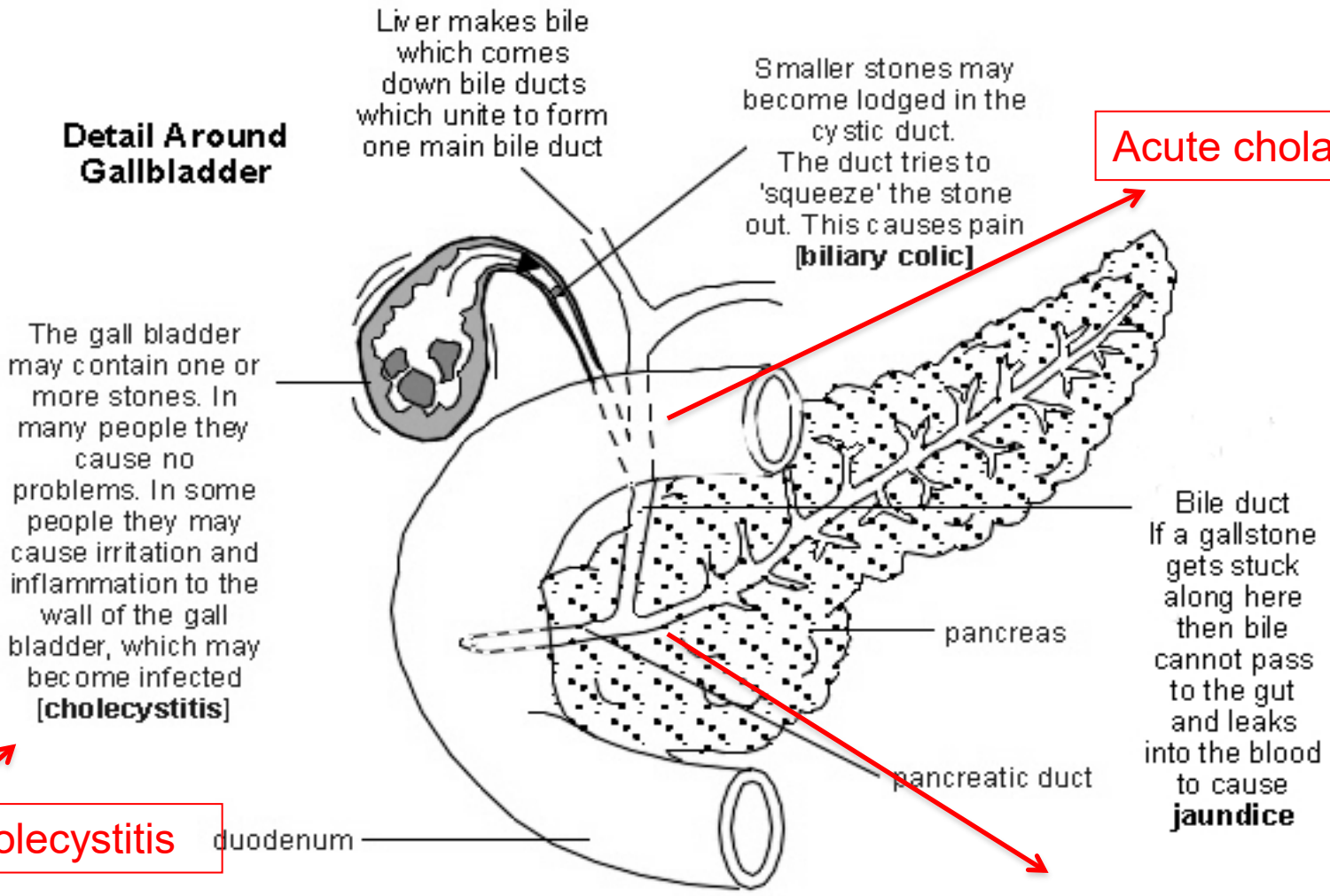
What you should do…

- In patient with jaundice and abdominal pain
  +/- fever

- Send the patient to AED

Acute cholecystitis

Acute cholecystitis



Acute cholecystitis

- Acute onset RUQ pain
- Fever
- Jaundice
- History of gallstone
- Murphy sign

Management

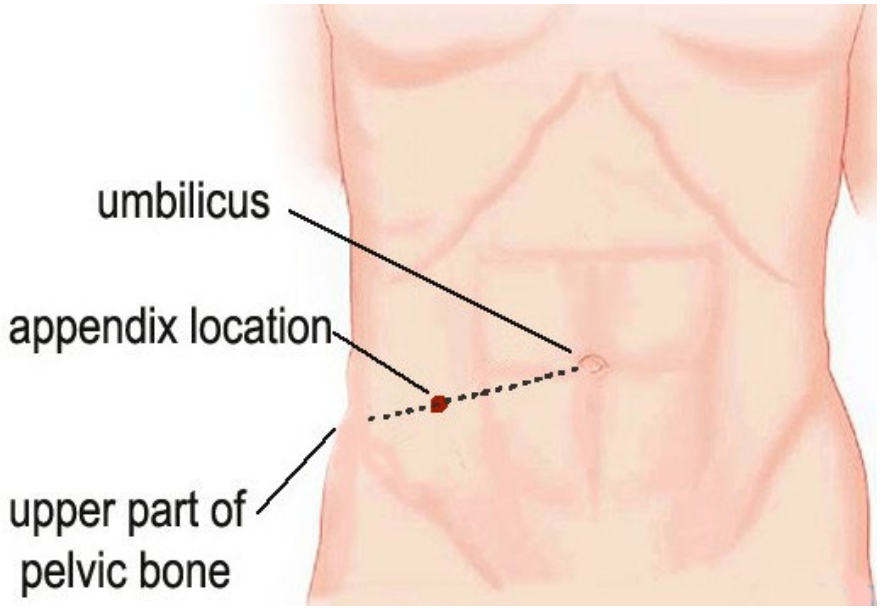
- Biliary colic > usually self limiting, avoidance of fatty food
- Acute cholecystitis >

  Fever & jaundice are red flag sign, might need cholecystectomy (i.e. surgery to remove the gall bladder)

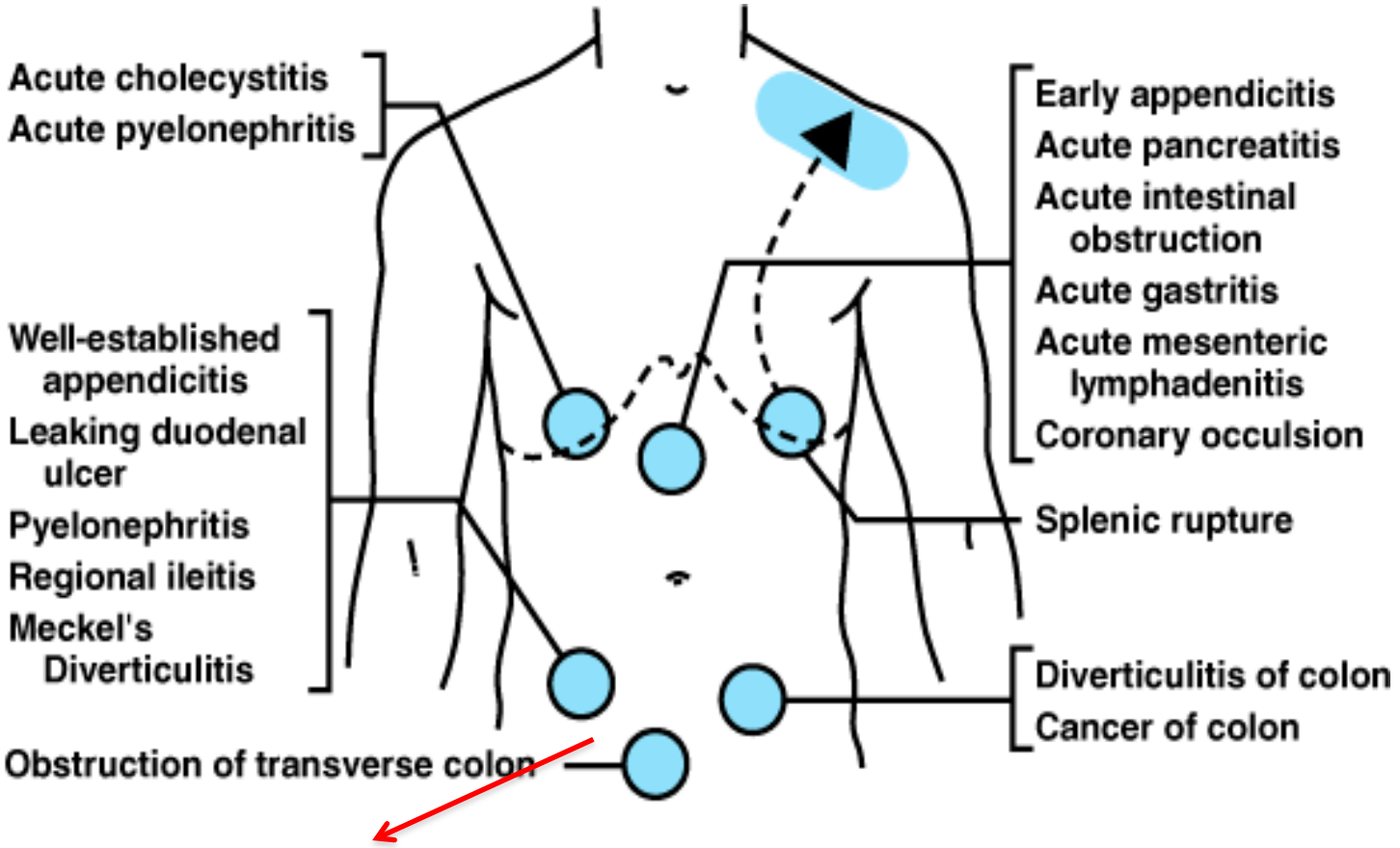
Acute appendicitis

Acute appendicitis

- The commonest abdominal surgical emergency with lifetime incidence 7.6%, most common in patients <30 year old
- Risk of perforation 10-33% esp in age <5 or >65 year old
- Classical presentation: acute onset periumbilical pain and migrates to RLQ (McBurney's point) with fever and GI symptoms



In female patients, Don’t Forget



Pelvic inflammatory disease
Ectopic pregnancy
Complication of ovarian cyst

Gynaecological history

- Last menstrual period
- History of dysmenorrhoea
- Sexual history
- No of sexual partner

- PV discharge, foul smelling
- Always perform pregnancy test

Investigation for RLQ pain

- Blood test for leucocystosis

- Ultrasound
- Computed tomography

- Mid stream urine for microscopy & culture
- Pregnancy test in female patients

Summary: abdominal pain

- An important symptom, a careful history taking is crucial and helpful to derive differential diagnoses
- Please refer patient to surgeon

  Abdominal pain and sepsis (very common)

  Severe abdominal pain and shock (do it without delay)
- Chronic abdominal pain with symptoms/ sign of malignancy, need further workup