Abdominal Examination

- **Intro (WIIPPPPE)**
  - **W**ash your hands
  - **I**ntroduce yourself
  - **I**dentity of patient –confirm
  - **P**ermission (consent and explain examination)
  - **P**ain?
  - **P**osition
    - Initially at 45^{o} but *must* be lying flat to palpate abdomen. A pillow under the head or raising knees slightly might help this.
  - **P**rivacy
  - **E**xpose fully (nipples to knees). Important to see hernial orifices.

- **General Inspection**
  - *Surroundings*
    - Monitoring:
      - Catheter +/- urometer (inspect for quantity and colour)
      - Pulse oximeter
      - Surgical drains
    - Treatments
      - Oxygen specs/mask (method of delivery, rate, SATs)
      - NG tube, IV fluids/ antibiotics
      - TPN lines
      - Central lines
      - PCA pump
      - Ensure drinks
      - Bottles of Creon
    - Paraphernalia:
      - Food and drink
      - Nil by mouth (NBM) signs
      - Vomit bowels
  - *Patient*
    - Well/ unwell
    - Alert/ drowsy
    - Orientated/ confused
    - Comfortable at rest/ writhing around in pain/ peritonitic
    - Cachexia (look for temporalis wasting or skin fold thickness)/ obesity
    - Tachypnoea
    - Skin colour
      - Jaundice (seen when bilirubin >40)
      - Anaemic
      - Bronze diabetes (hereditary haemochromatosis)
    - Obvious scars

- **Hands**
  - *Inspect:*
    - Clubbing (4 C's)
      - Cirrhosis, Crohn's disease, Coeliac disease, ulcerative Colitis
    - Koilonychia (iron deficiency)

        - Leuconychia
            - Hypoalbuminaemia secondary to liver disease, nephrotic syndrome, malnutrition or protein-losing enteropathy
        - Palmar erythema
            - Chronic liver disease, thyrotoxicosis, pregnancy
        - Dupuytren's contracture (idiopathic, alcoholic liver disease)
    - *Palpate:*
        - Capillary refill
        - Pulse
        - Check for asterixis
            - Sign of hepatic encephalopathy, or any other type of encephalopathy. Usually bilateral unless due to a neurological lesion.

- **Arms**
    - Bruises – coagulopathy (liver disease)
    - Excoriations - pruritus (↑bilirubin / uraemia/ anaemia)
    - Tattoos
    - Needle track marks
    - Cannulae
    - PIC lines
    - AV fistula scars
        - In use? Look for needle marks.
        - Patent? Feel for a thrill, auscultate for bruit.
        - Kidney transplant? Pay attention when palpating abdomen!

- **Eyes**
    - Scleral icterus
    - Conjunctival pallor (anaemia)
    - Kayser-Fleischer rings
        - Sign of Wilson's disease - these can only be seen with a slit lamp.

- **Mouth**
    - Angular stomatitis (B12 or iron deficiency)
    - Macroglossia (B12 or folate deficiency)
    - Dry mucous membranes
    - Oral candidiasis (immunosuppression)
    - Gingival hypertrophy (immunosuppression)
    - Aphthous mouth ulcers (IBD , coeliac)
    - Patient's breath
        - Alcohol
        - Pear drops in DKA
        - Fetor hepaticus in liver failure)

- **Neck**
    - JVP
        - Raised in RHF leading to liver failure
    - Cervical lymphadenopathy
        - The GI tract begins in the mouth!
    - Virchow's node

        - Left supraclavicular fossa - if palpable this is Troisier's sign.

- **Chest**
    - Central lines
    - Scars
    - Gynaecomastia (chronic liver disease)
    - Spider naevi in SVC distribution
        - >5 is pathological and suggests chronic liver disease

- **Abdomen**
    - *Position*
        - Ensure the patient is lying flat at this point
    - *Screening*
        - Ask patient to take a deep breath in (peritonism)
        - Ask the patient to lift their head off the bed looking for divarication of rectus abdominis
        - Ask the patient to turn their head and cough whilst palpating hernial orifices
    - *Inspection*
        - Distension (6Fs):
            - Fat
            - Foetus
            - Fluid
            - Flatus
            - Faeces
            - Fulminant tumour
        - Scars
            - Take some time over this, particularly when looking for small paracentesis or biopsy scars.
        - Striae
            - Pregnancy, rapid growth during puberty, medications e.g. steroids
        - Stoma + stoma bag
            - Position
            - Flush/ spouted
            - Contents of bag
        - Caput medusae
            - = Umbilical recanalisation due to portal HTN. Flow is away from umbilicus.
        - Grey-Turner's sign
            - = Bruising of the flanks. Signs of retroperitoneal haemorrhage e.g. due to severe pancreatitis.
        - Cullen's sign
            - = Periumbilical bruising. Also a sign of retroperitoneal haemorrhage.
    - *Palpation*
        - Same level as patient
            - 9 areas to palpate
            - Least painful → most painful area
            - Watching the patient's face
            - Lightly then more deeply
                - Lightly – guarding, rigidity?
                - Deeply for organomegaly

            - Liver – start in RIF, towards RUQ
            - Spleen – start in RIF, towards LUQ
        - Ballot kidneys (upper hands still, bottom hand moves)
    - AAA – gently (above umbilicus!)
- *Percussion*
    - Liver (from RIF to RUQ and from clavicle down)
    - Spleen
    - Bladder
    - Shifting dullness if distended and suspect ascites (offer if not distended)
- *Auscultate*
    - Bowel sounds:
        - Tinkling = mechanical bowel obstruction
        - Absent = ileus or peritonism
    - Bruits: AAA, renal

- **Legs**
    - Peripheral oedema (right heart failure, pregnancy, hypoalbuminaemia secondary to liver disease or nephrotic syndrome)
    - Bruising
    - Erythema nodosum (IBD)

- **Closure**
    - Thank patient
    - Patient comfortable?
    - Help getting dressed?
    - Wash hands

Turn to examiner, hands behind back, holding stethoscope (try not to fidget!) before saying:

- "**To complete my examination**, I would like to…"
    - Fully examine
        - Hernial orifices
        - Inguinal lymph nodes
        - External genitalia
    - Perform a DRE (important, don't forget this one!)
    - Bedside Invx:
        - Look at obs chart and repeat set of obs
        - Urine dip
        - Pregnancy test
    - If ascites is found, do a full cardiac exam –need to examine volume status.

Questions about the abdominal examination

- Causes of cirrhosis
  - Alcohol
  - Viral
  - NAFLD/NASH
  - Autoimmune
    - PBC, PSC, AI
  - Genetic
    - CF, HH, Wilsons
    - Glycogen storage diseases
  - Drugs
    - Isoniazid
    - methotrexate, amioderone, phenytoin, nitrofurantoin
  - Vascular
    - Budd-Chiari
  - Idiopathic
- Why oedema in liver disease
  - Low albumin
  - Stimulation of RAAS
- Signs of ETOH
  - Cachexia, tremor, parotid enlargement, dupytrens, cerebellar dysfunction, peripheral neuropathy and myopathy
- Complications of cirrhosis
  - Liver failure
    - Coagulopathy and encephalopathy
  - Portal HTN
    - Ascites
    - Varices
    - Hypersplenism
  - Jaundice
  - HCC
- Causes of decompensation
  - Infection
  - SBP
  - GI bleeding
  - Sedatives
  - HCC
- Classify severity
  - Child-Pugh (severity and prognosis)
    - Bilirubin, PT, albumin
    - Ascites, encephalopathy
  - Score 5-6 = A (90% 5-year survival)
  - Score 7-9 = B (80% 5-year survival)
  - Score 10 and up = C (33% 1 year)
- How do you manage cirrhosis
  - Slowing disease
    - Antiretrovirals, immunosuppression in autoimmune
  - Prevent more damage
    - Stop ETOH, vaccinate against Hep B and C, and pneumovax
  - Look for complications
    - 6-monthly USS and AFP for HCC
    - Endoscope

- Varices plus C-P grade C get beta-blocker
- ABx following SBP
- Liver transplant
  - 6 months abstinence, age <65