**ABDOMINAL EXAMINATION**

1. **INTRODUCTION AND CONSENT**
* Might be to parents depending on age of the child
* Ask child’s name and age
1. **ADEQUATE EXPOSURE**
* Correct exposure from the sternum (nipple line) to the pubic symphysis
* Cover genital area for the interest of privacy
* Anatomical position
1. **INSPECTION**
* Observe from the foot of the bed
* Mental status and state of wellness: Awake and alert
* Sex, childhood group, posture and body proportions
* Degree of **Cardio-Respiratory Distress**
	+ Supportive therapy – O2 (how many litres) via facemask, nasal cannula, O2 tanks, IV, wheelchair
	+ Must look at watch before commenting on no obvious CPD
* **Nutritional status** – skin and hair changes, subcutaneous tissue, muscle (wasting): temporal region, pelvic and shoulder girdle, insertion of deltoids, infrascapular, Quads Gluteal region, calves
	1. Must ask for patient’s **Anthropometry** (Growth Parameters: age, weight, height) in order to plot growth charts
	2. Ask for child’s **Blood Pressure**
	3. Appears small for age
	4. **Oedema**
* **Skin**: scratch marks, jaundice, bleeding, neurocutaneous lesions, after puberty: gynaecomastia, hair loss
* **Abdomen**: Size, shape (scaphoid), symmetry
	+ Distension – uniformed/globally or localized
	+ Moves with respiration
	+ Umbilicus – inverted, flat or everted (ascites)
	+ Scars- Horizontal Sx scar: Wilm’s tumour, Sickle Cell patient with Splenectomy, Appendicectomy, Midline laparotomy
	+ Striae, Spider naevi
	+ Peristaltic waves
	+ Distended Veins – Caput Medusa
* **Dysmorphisms** – Prune-Belly Syndrome (undescended testes, laxity f abdominal wall)
1. **PALPATION/PERCUSSION**
* **Hands**
	+ Flapping tremor – Asterixis (Say you will do at the end)
	+ Clubbing – Loss of nail bed angle and fluctuance
	+ Leukonychia – whitening of the nails: hypoalbuminemia
	+ Koilonychia – spooning of the nails: iron deficiency anaemia
	+ Palmer erythema
	+ Dupytrens contracture (usually adult men, associated with liver disease, familial, 4th and 5th digits)
* **Lymph Nodes**
	+ Epitrochlear, All 5 groups in axilla (Anterior, Posterior, Medial, switch hands for Apical and Lateral groups)
	+ Ask patient to sit up:
		- exam Anterior nodes (submental, submandibular, preauricular, anterior cervical,) from behind and
		- Posterior nodes (posterior cervical, occipital, postauricular, suprclavicular- Virchows node on left) from infront
* **Mucous Membranes**
	+ Exam the eyes and comment on pallor, state of hydration and icterus
* **Mouth**
	+ MUST SHOW PATIENT WHAT TO DO!
	+ Ask patient to open the mouth and stick the tongue out and up to the roof of the mouth
		- Look for ulcers (IBD), dental caries, Leukoplakia (white tongue: can’t scrape off), Candidiasis/Thrush (can scrape off), tongue (beefy red), angular stomatitis (cracks at the corner of the mouth: iron deficiency)
* **Light Palpation**
	+ **MUST ASK PATIENT IF THERE IS ANY PAIN ANYWHERE**
	+ Start furthest away from the site of pain/tenderness
	+ This is done to elicit any tenderness
	+ MUST OBSERVE THE PATIENT’S FACE
	+ Describe and masses felt
* **Deep Palpation**
	+ This is for Masses/Organomegaly
	+ MUST OBSERVE THE PATIENT’S FACE
	+ Describe any masses felt: Site, Shape, Size, Surfaces, Consistency, Warmth, Tenderness, Mobility, Fluctuance, Pulsatility, Describe edges

**ORGANS**

1. **Liver**
* Palpate and percuss the liver
* Measure liver span (report total liver span and from below the costal margin)
* If the liver edge is felt: describe it like how you would describe any mass

 **Normal Liver Sizes**

Preterm - 4-5 cm

Healthy Term - 5-6.5 cm

1-5 years - 6-7 cm

5-10 years - 7-9 cm

Neonates - 5.5 cm

<1 year - 6.5 cm

1-5 years - 6-7 cm

5-7 years - 8-9 cm

10 -16 years - 8-10 cm

1. **Spleen**
* Start in the right iliac fossa and towards the left upper quadrant (palpating in the direction the organ is expected to enlarge)
* Palpate vertically as well starting in the right iliac fossa (as the spleen may enlarge vertically)
* Remember to percuss the spleen
* Turn the patient on the right side and palpate diagonally if the spleen not felt – percuss over left lower ribs
* Describe and measure spleen from MCL vertically or obliquely

**Characteristics of the Spleen:**

* Enlarges diagonally across abdomen
* Notch
* Not ballottable
* Dull Percussion
* Can’t get above it
1. **Kidney**
* Ballot both kidneys
* Maybe ballotable but not enlarged especially in a thin child

**Ascites:**

* **Shifting Dullness:** Percuss below any enlarged organs. Start at the umbilicus (resonant) then towards you (dull), then percuss away from you on other side (dull), ask patient to turn on the side towards you and wait for a few seconds (look up in the ceiling!), then percuss at the spot (resonant) and then towards the umbilicus (dull), ask the patient to lie flat again, wait a few seconds (look up in the ceiling!) and then percuss at the midline again (resonant)
	+ Aim is to demonstrate dullness, then resonance, then dullness, then resonance
	+ It is normal to have flank dullness, however should essentially be resonant throughout
	+ More sensitive than fluid thrill
* **Fluid Thrill:** Ask patient to place their hand in the midline and stabilise the left flank while flicking the right to feel any thrill on the left
* **Percuss Bladder**
	+ Start from below the umbilicus to towards the pubic symphysis
	+ > 2 years bladder is a pelvic organ
	+ < 2 years bladder is an abdominal organ
1. **AUSCULTATION**
* **Renal bruits** 🡪Renal stenosis: use the Bell of the stethoscope, listen 2cm later and superior of the umbilicus
* **Bowel sounds**: Bowel sounds heard and are normal
* Ideally should auscultate any masses appreciated for bruits (including hepatomegaly)
1. **Hernia**
* Ask patient to turn their head to the side and cough: Observe for any umbilical or inguinal hernia
* Ask the patient to cough again this time with your hand over the umbilicus lightly to feel for any hernia

**Can ask the patient to sit up, check for:**

* Renal angle tenderness
* Look at the spine, sacral dimple, tuft of hair (pull down to below the gluteal cleft)
* Check for sacral oedema
1. **FEET**
* Check for clubbing
* Pitting oedema
1. **OTHER**
* Say at the end of your examination: **“I would like to examine the genitalia, hernia orifices (if not already done), inspect the perineum, checking the anus (also position of anus, tone/wink, patency, tags, tears, fissures, masses, worms) and stool and check for sacral oedema and renal angle tenderness (if both not already done)**