

# Minimal Requirements for Acceptable Scans

## Mt Sinai St Lukes/West EM Residency

### **ABDOMINAL FAST**

25 exams, 7 true positive studies (free fluid)

Show superior and inferior poles of kidney; clear interface between organs

- Hepatorenal space (Morison's Pouch) on the right
- Sub-phrenic space and splenorenal space on the left
- Pelvic (sagittal and transverse)

### **AORTA** (5 views with measurements)

25 exams, 2 true positive studies (abdominal aortic aneurysm)

Measure outer-wall to outer wall in the anterior-posterior diameter

- Longitudinal (normal <3cm)
- Transverse (proximal, middle, distal)
- Transverse iliac bifurcation (normal <1.5cm)

### **BILIARY**

25 exams, 12 true positive studies (cholelithiasis)

- Longitudinal gallbladder
- Transverse gallbladder
- Demonstrate relationship to portal vein
- Measure:
  - Anterior gallbladder wall thickness (normal <3mm)
  - Common bile duct (inner to inner wall, normal <6mm), necessary only if abnormality (stones, anterior GB wall measurement or LFTs)

### **CARDIAC FAST** (2 of 4 views)

25 exams, 2 true positive studies for effusion, 2 true positive for asystole

Show a clear pericardium-myocardium interface

- Subxiphoid (SX)
- Parasternal Long-Axis (PLA)
- Parasternal Short-Axis (PSA)
- Apical 4 Chamber (A4)
- Document asystole in M-mode

### **DEEP VEIN THROMBOSIS** (4 views)

25 exams, 7 true positive studies (deep venous thrombosis)

Show either complete or incomplete compressibility of the vessel

Show contralateral side for comparison when positive

- Common femoral vein
- Sapheno-femoral junction
- Confluence of the superficial and deep femoral veins
- Popliteal vein

## **LUNG (3 views)**

25 exams, 2 true positive studies for pleural effusion, 2 true positive for pneumothorax  
Three locations for each hemithorax

- Anterior lung (rib-intercostal space-rib) 2<sup>nd</sup> or 3<sup>rd</sup> intercostal space, midclavicular line  
Document in M-mode or with video clip
- Lateral lung axillary region  
Document in M-mode or with video clip
- Lung bases inferior region  
Demonstrate mirror image artifact/spine cut off sign

## **RENAL**

25 exams, 12 true positive studies (hydronephrosis)

- Longitudinal of each kidney
- Transverse of each kidney
- Sagittal and transverse of the bladder

## **OB-GYN**

25 exams of trans-abdominal, 12 true positive studies (intrauterine pregnancy)

25 exams of trans-vaginal, 12 true positive studies (intrauterine pregnancy)

Perform a trans-abdominal study before performing a trans-vaginal study

Show a clear posterior cul de sac

- Sagittal uterus (TA), coronal uterus (TV)
- Transverse uterus
- Measure endo-myometrial mantle at its minimal thickness ( $\leq 7$  mm is concerning) up to 20 weeks  
Document fetal heart rate in M-mode  
Show adnexa in trans-vaginal scans

## **VASCULAR ACCESS**

3 venous access exams, 2/3 central access

Show video clip of compressible vessel

## **SOFT TISSUE**

5 true positive cellulitis exams

5 true positive abscess exams

- Show in 2 planes
- Show contralateral side for comparison

## **INFERIOR VENA CAVA**

3 exams

- B mode – measure maximal diameter distal to the hepatic vein confluence
- M mode – visualize max and min during respiratory cycle and estimate degree of collapse

## **BLADDER VOLUME**

1 exam

- Bladder sagittal and transverse
- Measure width, height and depth in cm
- Calculate the bladder volume:  $(W \times H \times D \times 0.7 = \text{volume in ml})$

## **OCULAR**

5 exams, 3 true positive studies (FB, retinal detachment, vitreous hemorrhage, lens dislocation)

- Use the ophthalmology setting on the machine
- Globe in 2 planes
- Measure optic nerve sheath diameter, 3mm posterior to the retina
- Show contralateral side for comparison

## **PROCEDURAL GUIDANCE**

1 exam each, static or dynamic, show the area in two planes to evaluate surrounding structures

- Thoracentesis
- Pericardiocentesis
- Paracentesis
- Abscess drainage
- Foreign body localization