1: 44 yo MVA, ejected driver blunt trauma to abdomen and chest. Vital signs 106/54, 110, 32, 92% on RA, afebrile. Decreased breath sounds in the right lung field, + peritoneal signs.

Must obtain following views:

- a. sub-xiphoid
- b. hepatorenal
- c. subphrenic / splenorenal
- d. bladder / cul de sac
- e. anterior and lateral thorax for sliding or M-mode clip
- f. lung bases for pleural fluid

Must be able to obtain ultrasound guided:

- a. peripheral IV access
- b. internal jugular and femoral central IV access
- 2: 25 yo female G2P1, positive pregnancy test one month ago at home, no prenatal care presenting with sudden onset R lower quadrant abdominal pain and vaginal bleeding. Vitals 106/54, 120, 27, 98%, 99.2°. Pt is diaphoretic, appears to be in mild distress, abdomen is diffusely tender with rebound. Mild amount of vaginal bleeding on exam.

Must obtain the following views:

- a. Morison's pouch view
- b. transabdominal pelvic (transverse and sagittal)
- c. transvaginal pelvic (coronal and sagittal)
- d. identification of gestational sac
- e. identification of intrauterine pregnancy (yolk sac, fetal pole)
- f. fetal heart rate
- g. measurement of endomyometrial mantle
- h. evaluation of the posterior cul-de-sac for free fluid
- i. left adnexa
- j. right adnexa

1. 82 yo male with history of CAD, COPD worsening shortness of breath over the last 2 hours. Vitals 95/77, 110, 25, 83%, 100.4°. Mild distress, lungs with bilateral rales and rhonchi. Bilateral lower ext edema, but R leg is grossly more edematous than the L.

Must be able to obtain all four cardiac views:

- a. sub-xiphoid
- b. parasternal long
- c. parasternal short
- d. apical four chamber
 - identify: relative chamber size, estimated ejection fraction

Must be able to obtain measurements of IVC and calculate caval index

Must be able to obtain bilateral views of:

- a. anterior and lateral thorax
- b. lung bases

Must be able to evaluate bilateral compressibility of:

- a. femoral veins from the common femoral to deep / superficial femoral vein confluence
- b. popliteal vein to distal confluence
- 2. 74 yo female h/o uncontrolled HTN back pain that began at 3am and awoke patient from sleep. Vitals 140/40, 120, 20, 98%, 99.1°. Icteric sclera. Palpable pulsatile abdominal mass, RUQ pain.

Must be able to obtain images to evaluate abdominal aorta (proximal, mid, distal, bifurcation, longitudinal)

Must be able to obtain RUQ views of GB:

- a. transverse and longitudinal views of GB
- b. measurements of anterior wall thickness
- c. common bile duct internal diameter
- 3. 54 yo male presenting with worsening vision loss in R eye over last 2 hours. Vitals wnl. 20/50 vision in L eye, can identify light / dark but no color perception in R eye. EOMI, pupils 3mm and reactive, no conjunctival injection.

Must be able to obtain:

- a. transverse and sagittal views of both eyes
- b. measurement of optic nerve sheath diameter