Emergency U/S: Minimum Imaging Guidelines

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Minimum Aorta Imaging Guidelines:

Images to obtain:
1. Aorta transverse HIGH with anterior to posterior (AP) caliper measurement (high in the mid-epigastrium).....Fig A
2. Aorta transverse MID.....Fig B
3. Aorta transverse LOW with anterior to posterior (AP) caliper measurement (just above the bifurcation).....Fig C
   • Normal aorta diameter is generally considered < 3cm
4. Aorta in longitudinal (sagittal).....Fig D

How you might label the images:
1. AO TR HIGH
2. AO TR MID
3. AO TR LOW
4. AO LONG

Note: My preference is that you also obtain video clips of the transverse and longitudinal aorta.....though this is not necessary for billing/documentation.....(click here to link to normal aorta videos)
Minimum Gallbladder Imaging Guidelines:

Images to obtain:
1. Gallbladder in longitudinal.....Fig A
2. Gallbladder transverse HI (near the neck) +/- calipers.....Fig B
   • Calipers should be on the liver side......normal, though debatable, is generally considered < 4mm
   • Only one of the transverse views needs to have the GB wall measured
3. Gallbladder transverse MID (body) +/- calipers.....Fig C
4. Gallbladder transverse LOW (fundus) +/- calipers.....Fig D
5. Common bile duct measurement (calipers) in transverse or longitudinal (inside to inside wall).....Figs E & F
   • Normal is generally considered ≤ 4mm....or 1mm per decade of life
6. Liver in transverse.....Fig G

How you might label the images:
1. GB LONG
2. GB TR (reasonable to use this same label for the high, mid, and low portions)
3. CBD
4. LIVER

Note: My preference is that you also obtain video clips of the GB long and short views.....though this is not necessary for billing/documented.....(click here to link to normal biliary videos)
Minimum Urinary Bladder Imaging Guidelines:

Images to obtain:

1. Bladder in transverse with caliper measurements....Fig A
   • Measuring anterior/posterior and right-to-left dimensions of the bladder
2. Bladder in longitudinal with caliper measurements.....Fig B
   • Measuring cranial-to-caudal dimension of the bladder
   • YOU SHOULD USE THE VOLUME CALCULATION ON THE MACHINE, OTHERWISE [X x Y x Z]

How you might label the images:

1. BL TR
2. BL LONG

Note: My preference is that you also obtain video clips of the urinary bladder in either transverse or longitudinal.....though this is not necessary for billing/documentation.....(click here to link to normal bladder videos)
Minimum Cardiac Imaging Guidelines:

The 4 views (+ IVC) of the cardiac study should be a series of VIDEOS rather than images.....the images below are simply to give you an idea of what to look for when performing cardiac imaging (for examples of cardiac videos, click here)

Videos to obtain:

1. Subxiphoid view.....Fig A
2. Parasternal long axis view.....Fig B
3. Parasternal short axis view.....Fig C
4. Apical 4 chamber view.....Fig D
5. IVC view in longitudinal.....Fig E

How you might label the videos:

1. SX
2. PSLA
3. PSSA
4. A4CH
5. IVC

**At a minimum, try to obtain 3 of the 4 listed CARDIAC views**
Minimum Lower Extremity DVT Imaging Guidelines:

Images to obtain (for each leg):

1. Dual screen of the Common Femoral Vein without/with compression (calipers over compressed vein).....Fig A
2. Dual screen of the Superficial Femoral Vein (mid-thigh) without/with compression (calipers over compressed vein).....Fig B
3. Dual screen of the Popliteal Vein without/with compression (calipers over compressed vein).....Fig C

**Note....Figure B is the best example of the way the exam should be documented, with dual screen and calipers

How you might label the images:

1. CFV
2. SFV
3. PV

Note: My preference is that you also obtain video clips of the upper thigh and popliteal fossa with dynamic compression.....though this is not necessary for billing/documentation.....(click here to link to normal venous compression videos)
Minimum FAST Imaging Guidelines:

Images to obtain:
1. RUQ (one or more views to show pleural space, subphrenic space, Morison’s, and inferior pole of the kidney).....Fig A
2. LUQ (one or more views to show pleural space, subphrenic space, splenorenal space, and inferior pole of the kidney; this may not be possible in the LUQ).....Fig B
3. Subxiphoid view (save video clip).....Fig C (Alternative if SX not available: Parasternal long axis....click her for example)
4. Suprapubic view in transverse.....Fig D

**You should log the PTX portion of the study under “Thoracic”, though do not bill separately for the PTX study

How you might label the images:
1. RUQ
2. LUQ
3. SX
4. SP (for suprapubic)

Note: My preference is that you also obtain video clips of the 4 views (the cardiac view SHOULD have a video).....though this is not necessary for billing/documentation.....(click here to link to normal FAST videos)
Minimum OB Transabdominal U/S Imaging Guidelines:

Images to obtain:
1. Uterus in longitudinal.....Fig A
2. Uterus in transverse HI.....Fig B
3. Uterus in transverse MID.....Fig C
4. Uterus in transverse LOW.....Fig D
5. Right ovary with calipers (if seen).....Fig E
6. Left ovary with calipers (if seen).....Fig E
7. Gestational age measurement using “calcs”:
   - Crown rump length.....Fig F
   - Biparietal diameter.....Fig G
8. Fetal heart rate (in M-mode).....Fig H

How you might label the images:
1. UT LONG
2. UT TR (reasonable to use this same label for the high, mid, and low portions)
3. R OV
4. L OV

Note: My preference is that you also obtain video clips of the uterus in transverse and longitudinal, as well as each ovary that is visualized.....though this is not necessary for billing/documentation (click here to link to normal TAUS OB videos)
Minimum OB Transvaginal U/S Imaging Guidelines:

Images to obtain:
1. Uterus in longitudinal.....Fig A
2. Uterus in transverse HI.....Fig B
3. Uterus in transverse MID.....Fig C
4. Uterus in transverse LOW.....Fig D
5. Right ovary with calipers (if seen).....Fig E
6. Left ovary with calipers (if seen).....Fig E
7. Gestational age measurement using “calcs”:
   • Crown rump length (if you’re able to measure BPD, it probably shouldn’t be doing a transvaginal...just saying).....Fig F
8. Fetal heart rate (in M-mode).....Fig G

How you might label the images:
1. UT LONG
2. UT TR (reasonable to use this same label for the high, mid, and low portions)
3. R OV
4. L OV

Note: My preference is that you also obtain video clips of the uterus in transverse and longitudinal, as well as each ovary that is visualized.....though this is not necessary for billing/documentation.....(click here to link to normal TVUS OB videos)
Minimum Ocular Imaging Guidelines:

Images to obtain:
1. 1 view of the globe to include the lens and retina.....Fig A
2. Measurement of the optic nerve sheath diameter.....Fig B
   • 3mm from the retina, then measure across

How you might label the images:
1. R/L GLOBE
2. ONSD (optic nerve sheath diameter)

Note: My preference is that you also obtain a video clip of the orbit (click here to link to normal eye videos).....though this is not necessary for billing/documentation
Minimum Renal Imaging Guidelines:

Images to obtain:

1. Right kidney in longitudinal.....Fig A
2. Left kidney in longitudinal.....Fig B
3. Right or left kidney (depending on symptomatic side) transverse HI +/- calipers.....Fig C
4. Right or left kidney (depending on symptomatic side) transverse MID +/- calipers.....Fig C
5. Right or left kidney (depending on symptomatic side) transverse LOW +/- calipers.....Fig C
6. Urinary bladder in transverse.....Fig D & E (male and female)
7. Urinary bladder in longitudinal.....Figs F & G (male and female)

**Note that I’ve only included one figure to represent the transverse images....you will need to document all 3 levels

How you might label the images:

1. R/L K LONG
2. R/L K TR (reasonable to use this same label for the high, mid, and low portions)
3. BL TR
4. BL LONG

Note: My preference is that you also obtain video clips of the kidneys and bladder.....though this is not necessary for billing/documentation.....(click here to link to normal Renal videos)
Minimum Soft Tissue Imaging Guidelines:

Images to obtain:

1. Any cellulitis or foreign body (Fig A) or cellulitis (Fig B) or fracture (Fig C) or other soft tissue finding like a lymph node (Fig D) should be obtained in 2 orthogonal planes (with consideration of caliper measurements as indicated)....which means 2 images at least....

Note: My preference is that you also obtain video clips of any soft tissue pathology.....though this is not necessary for billing/documentation.....(click here to link to normal soft tissue videos)
Minimum Thoracic Imaging Guidelines:

Images to obtain:

1. Still image of affected lung.....Figs A-B  (A coronal view of the lung, with the probe placed along the lateral thoracic wall, allows visualization of the diaphragm and is an additional recommended image.....Fig C)

2. M-mode if looking for pneumothorax.....Fig D

Note: My preference is that you also obtain video clips of the lung exam(s).....though this is not necessary for billing/documentation.....(click here to link to normal thoracic videos)
Minimum U/S-Guided Abscess Drainage Imaging Guidelines:

**Images to obtain:**

1. ONE image of the abscess, preferably with caliper measurements (not necessary to do orthogonal planes).....Figs A-D

*Note: My preference is that you also obtain a video clip of the abscess.....though this is not necessary for billing/documentation.....* (click here to link to abscess drainage videos)
Minimum U/S-Guided Arthrocentesis Imaging Guidelines:

Images to obtain:

1. ONE image of the joint effusion, preferably with caliper measurements (not necessary to do orthogonal planes).....Fig A

Note: My preference is that you also obtain a video clip of the joint effusion.....though this is not necessary for billing/ documentation.....(click here to link to arthrocentesis videos)
Minimum U/S-Guided Central Line Imaging Guidelines:

Images to obtain:

1. ONE image of the catheter or needle in the vessel, either in transverse or longitudinal. Fig A

Note: You might try to get a video, always nice to have those for lectures. Again, this is not necessary for billing/documentation. (click here to link to central line videos)
Minimum U/S-Guided Peripheral Line Imaging Guidelines:

Images to obtain:

1. ONE image of the catheter or needle in the vessel, either in transverse or longitudinal.....Figs A-B

Note: You might try to get a video, always nice to have those for lectures.....again, this is not necessary for billing/documentation.....
(click here to link to peripheral line videos)

A

B
Minimum U/S-Guided Paracentesis Imaging Guidelines:

Images to obtain:

1. ONE image of the ascites (not necessary to do orthogonal planes).....Fig A

Note: My preference is that you also obtain a video clip of the ascites.....though this is not necessary for billing/documentation.....
(click here to link to paracentesis videos)
Minimum U/S-Guided Pericardiocentesis Imaging Guidelines:

Images to obtain:

1. ONE image of the pericardial effusion (not necessary to do orthogonal planes).....Fig A

Note: You also need to obtain a video clip of the pericardial effusion (the drainage should really occur WHILE using dynamic ultrasound guidance).....though this is not necessary for billing/documentation.....(click here to link to pericardiocentesis videos)
Minimum U/S-Guided Thoracentesis Imaging Guidelines:

Images to obtain:

1. ONE image of the pleural effusion (not necessary to do orthogonal planes)....Fig A

Note: My preference is that you also obtain a video clip of the pleural effusion.....though this is not necessary for billing/ documentation.....(click here to link to thoracentesis videos)