

QUANTUM IMAGING AND UPMC- PINNACLE ULTRASOUND IMAGING PROTOCOLS

Procedure: Abdomen Complete Sonogram

Pt. Prep: NPO for at least **6** hours (4 hours NPO for emergent pts.)

Diabetic pts./pts. that need morning meds may have CLEAR LIQUIDS ONLY

Required Images:

LIVER

Annotation	Image Description
LONG LT LIVER	Lt Lobe inferior and superior margins & aorta
LONG LT LIVER	Lt Lobe/diaphragm & caudate lobe
LONG RT LIVER	Rt Lobe/IVC where it passes through liver
LONG RT LIVER	Rt Lobe to include porta hepatis
LONG RT LIVER	Rt Lobe length in mid clavicular plane with & w/o measurement
LONG RT LIVER	Rt Lobe images medial to lateral to include part of the right kidney for parenchyma comparison
LONG RT LOBE	Rt Lobe/dome & adjacent pleural space
TRV LT LIVER	Lt Lobe/lateral margin with transverse images throughout Lt. lobe including ligamentum teres
TRV RT LIVER	Rt Lobe/dome & adjacent pleural space
TRV RT LIVER	Rt Lobe/hepatic veins with transverse images throughout right liver including Right and Left branches of portal vein and main portal vein
TRV RT LIVER	Rt lobe images superior to inferior lobe

AORTA

Annotation	Image Description
LONG AO PROX	Longitudinal proximal aorta with AP measurement (outer to outer)
LONG AO MID	Longitudinal mid aorta with AP measurement
LONG AO DISTAL	Longitudinal distal aorta at the bifurcation with AP measurement
TRANS AO	Proximal, mid, distal and bifurcation

INFERIOR VENA CAVA

Annotation	Image Description
LONG IVC PROX	Inferior vena cava as passes through RT lobe of liver

GALLBLADDER AND BILIARY TRACT

Annotation	Image Description
LONG GB SUPINE	Longitudinal image of Gallbladder (evaluate for sonographic Murphy's sign)
TRV GB SUPINE	Transverse image of the gallbladder
LONG CBD	Common hepatic/common bile duct with and without measurement

GALLBLADDER AND BILIARY TRACT - SECOND POSITION/LEFT LATERAL DECUBITUS

Annotation	Image Description
LONG GB LLD	Longitudinal images of gallbladder to include neck, body and fundus (measure all GB polyps)
TRV GB LLD	Transverse images of neck, body and fundus of gallbladder
LONG CBD LLD	Longitudinal images of the common duct at level of PV & through the head of pancreas with and without AP measurement

PANCREAS

Annotation	Image Description
TRV PANC	Transverse images of pancreas head {to include GDA/CBD relationship}, uncinata, body, tail and pancreatic duct [measure duct if enlarged >2mm.]
LONG PANC	Longitudinal images of the pancreatic head/distal common bile duct, body and tail

KIDNEYS – RIGHT /LEFT KIDNEY

Annotation	Image Description
LONG RT/LT KID	Mid RT/LT Kidney with and without long & AP measurements include liver or spleen for parenchyma comparison
LONG RT/LT KID LAT, MID & MED	Longitudinal images of RT/LT Kidney lateral to medial
TRV RT/LT KID SUP, MID & INF	Transverse RT/LT Kidney images superior to inferior
TRV RT/LT KID	Transverse RT/LT Kidney mid- portion to include hilum with and without transverse measurement

SPLEEN

Annotation	Image Description
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LONG SPL	Longitudinal images of the spleen including adjacent pleural space with Max longitudinal (ML) spleen measurement and cranio-caudal length (CCL)
TRV SPL	Spleen/both anterior & posterior margins with splenic hilum w/ thickness and width measurement for volume calculation

$$.524 \times W \times T \times [(ML+CCL)/2] = .524 \times \text{width} \times \text{thickness} \times [\{\text{avg. length}\}/2]$$

Normal volume < 400 mL

***IF FREE FLUID IDENTIFIED... IMAGE ALL 4 QUADRANTS**

Procedure: Abdomen Limited/RUQ Sonogram/Appendix/Hernia/Spleen**Pt. Prep:** NPO for at least 6 hours for RUQ studies.

Diabetic pts./pts. who need morning meds may have CLEAR LIQUIDS ONLY

Required Images:**LIVER**

Annotation	Image Description
LONG LT LIVER	Lt Lobe inferior and superior margins & aorta
LONG LT LIVER	Lt Lobe/diaphragm & caudate lobe
LONG RT LIVER	Rt Lobe/IVC where it passes through liver
LONG RT LIVER	Rt Lobe to include porta hepatis
LONG RT LIVER	Rt Lobe in mid clavicular line w & w/o measurement of cephalo-caudal length
LONG RT LIVER	Rt Lobe/part of the right kidney for parenchyma comparison
TRV LT LIVER	Lt Lobe/lateral margin with transverse images throughout left lobe including ligamentum teres
TRV RT LIVER	Rt Lobe/dome & adjacent pleural space
TRV RT LIVER	Rt Lobe from hepatic veins to inferior lobe with transverse images of right liver to include Right and Left branches of portal vein

PANCREAS

Annotation	Image Description
TRV PANC	Transverse images of pancreas head (to include GDA and CBD), uncinata, body, tail and pancreatic duct [measure duct if enlarged >2mm.]
LONG PANC	Longitudinal images of pancreatic head/distal common bile duct, body and tail.

GALLBLADDER AND BILIARY TRACT

Annotation	Image Description
LONG GB	Longitudinal image of the gallbladder. Measure all polyps
TRV GB	Transverse images of gallbladder.
LONG CBD	Common bile duct with and without measurement.

GALLBLADDER AND BILIARY TRACT - SECOND POSITION / LEFT LATERAL DECUBITUS

Annotation	Image Description
LONG GB LLD	Longitudinal images of neck/ body/ fundus of the gallbladder in LLD position. (evaluate for sonographic Murphy's sign)
TRV GB LLD	Transverse images of neck/ body/fundus of Gallbladder in LLD position.
LONG CBD LLD	Images of common bile duct at level of PV/HA with and without AP measurement.
LONG CBD	Longitudinal image of CD through head of the pancreas

***IF FREE FLUID IDENTIFIED... IMAGE ALL 4 QUADRANTS**

Procedure: Spleen Sonogram – [Charge as Abdomen Limited]

Pt. Prep: NONE

Required Images:

Annotation	Image Description
LONG SPL	Longitudinal images of the spleen laterally, mid and medially including diaphragm, pleural space and left kidney
LONG SPL	ement and cranio-caudal length (CCL) at level of splenic hilum
TRV SPL	Transverse images of spleen superior to inferior to include Width and Thickness measurements with volume calculation

Equation for spleen volume = $.524 \times W \times T \times [(ML+CCL)/2] = .524 \times \text{width} \times \text{thickness} \times [\{\text{avg. length}\}/2]$
< 400 mL/normal