



Abdominal Ultrasound

OVERALL STANDARD ALGORITHM



Niko Mayr

Consistency

The most important thing to remember when performing abdominal ultrasound is consistency.

An ultrasound examination should always be performed the same way! By being consistent, no organ structures will be overlooked.

Imaging of the upper abdominal organs requires deep inspiration—always have the patient take, and hold, a deep breath!

Also, remember to let the patient exhale when you freeze the image to document, as it is unnecessary to breath-hold during this time.

Always report in the same order you used for the examination!

Algorithm

Ultrasound examinations should always be performed using the same sequence. My algorithm for performing a standard abdominal ultrasound, using the curved array ultrasound probe, is as follows:

1. Start with your probe in the right hypochondriac region to image the right liver lobe in cross section (right liver lobe transverse view). Move your probe to capture an image of the left liver lobe in cross section (left liver lobe transverse view), then perform long section scans of the left and right liver lobes.
2. Continue with the gallbladder, scanning in long and short axis. Next, locate the common biliary duct using the shoulder umbilical line.
3. Then, examine the right kidney, in long and short axis.
4. Move over to the left hypochondriac region, for the long-axis view of the spleen. While there, document the pancreas tail in the splenic hilum.
5. Next, tilt the probe slightly caudally and dorsally, to obtain the long-axis view of the left kidney. Turn the probe 90 degrees to obtain the short-axis view.
6. Next, move back into the median line over the epigastrium. Hold the probe in line with the main axis of the pancreas, and examine the pancreas in long-axis.
7. Turn the probe 90° to scan the pancreas body from head to tail in cross section.
8. Move the probe back over the medial epigastrium orienting the probe horizontally. Move the probe slowly down to the pelvis to examine the main vessels in cross section.
9. Rotate the probe 90 degrees to scan the main vessels in long section.
10. Next, examine the gastrointestinal tract.
11. Still using the curved array probe, examine the left upper quadrant (LUQ) to investigate the jejunum.
12. Following that, move into the right lower quadrant to scan the ileum.
13. Then, perform a clockwise movement on the colon frame, always taking care to maintain a cross section of the colon. This means the probe will be positioned longitudinally with the patient's body, when looking at the transverse colon.
14. If any pathology is present, use the linear probe to investigate the colon or small bowel pathology further.