

RENAL SONOGRAM

Recommended Transducer(s):

GE 700: 3.5 or 5 MHz Curved linear probe

Acuson Sequoia: 4C I or 4VI

GE Logiq 9: 3.5 curved or 4 sector

Right kidney

Position: An oblique LLD position is usually sufficient for subcostal imaging of the right kidney.

Images:

Sagittal Lateral segment.
Mid segment.
Lateral segment.
Right kidney with liver.
Mid segment with longitudinal measurement.

Transverse Upper pole.
Upper mid segment.
Mid segment.
Mid lower segment.
Lower pole.

Left kidney

Position: Right lateral decubitus.

Images:

Sagittal Posterior segment.
Mid segment.
Anterior segment.
Mid segment with longitudinal measurement.

Transverse Upper pole.
Mid upper segment.
Mid segment.
Mid lower segment.
Lower pole.

Urinary bladder

Survey the entire bladder and document any abnormalities. Measure wall thickness if it appears prominent. Take representative sagittal and transverse Images.

Notes:

Make sure that entire kidney, including both poles are clearly seen. Intercostal scanning may be needed to image the upper pole. If lower pole is not clearly seen, try prone scanning.

If evidence of hydronephrosis is found evaluate the bladder for the presence of ureteral jets. In pregnant patients with hydronephrosis measure the RI of the interlobar arteries at the upper, mid and lower segments. Measure the RI of the other kidney for comparison.

If indicated, evaluate cystic lesions with color Doppler to exclude a pseudoaneurysm (e.g. history of prior penetrating injury to the kidney, prior renal biopsy, renal bruit etc).

In the lateral decubitus position, the kidney sometimes shifts inferiorly and rotates on the AP axis. Scan the patient in the supine position to differentiate nephroptosis (mobile kidney) from an ectopic kidney.