



Sonographer Scanning Cheat Sheet: Retroperitoneal US

Procedure Overview: A retroperitoneal ultrasound assessment can be utilized to evaluate the renal parenchyma, aorta, and bladder to detect the presence, severity, and location of any retroperitoneal pathology.

Required Pre-Procedure Prep:

- Obtain patient verbal consent.
- Obtain patient history including, but not limited to symptoms, medication usage, and previous retroperitoneal surgery.
- Instruct the patient to lie supine or in the right/left lateral decubitus position based on his/her body habitus.

Proper Probe: Convex or sector probe with a frequency of 2.5 - 5 MHz that has tri-duplex capabilities.

Protocol for Retroperitoneal Ultrasound (76770)

This protocol aligns with the Mindray I-Works protocol: Imagen Retroperitoneal

You may “Suspend” the protocol at any time to take additional images or handle pathology, then restart I-Works.

*****Document pathology with and without measurement in two planes, Sag and Trv measuring the length, height, & width. Be sure to also include images with and without color Doppler.***

*****FOR Retroperitoneal “LIMITED” Exam, Focus on Bladder images only***

Cine Clips should be taken to help prove pathology and provide context for Remote Radiologists when appropriate. Please be mindful of not taking too many cine clips, just show what’s most important.

1. Prox Aorta Sag (above the SMA)
2. Prox Aorta Sag with A/P measurements (be sure to INCLUDE WALL in measurement)
3. Mid Aorta Sag (between SMA and Renal Arteries)
4. Mid Aorta Sag with A/P measurements (be sure to INCLUDE WALL in measurement)
5. Distal Aorta Sag
6. Distal Aorta Sag with A/P measurements (be sure to INCLUDE WALL in measurement) (*note: If any level of the Aorta is dilated, suspend protocol and take additional images and measurements in TRV and with color*)
7. Rt Kidney Sag Mid
8. Rt Kidney Sag Mid with measurements (length and height,& Cortex)
9. Rt Kidney Sag Mid Add COLOR (adjust color scale or PRF to show good perfusion)
10. Rt Kidney Sag Medial
11. Rt Kidney Sag Lateral
12. Rt Kidney TRV Mid
13. Rt Kidney TRV Mid w/measurement (width)
14. Rt Kidney TRV Mid w/color flow over hilum
15. Rt Kidney TRV Upper Pole
16. Rt Kidney TRV Lower Pole



17. LKidney Sag Mid
18. Lt Kidney Sag Mid with measurements (length and height, & Cortex)
19. Lt Kidney Sag Mid Add COLOR (adjust color scale or PRF to show good perfusion)
20. Lt Kidney Sag Medial
21. Lt Kidney Sag Lateral
22. Lt Kidney TRV Mid
23. Lt Kidney TRV Mid w/measurement (width)
24. Lt Kidney TRV Mid w/color flow over hilum
25. Lt Kidney TRV Upper Pole
26. Lt Kidney TRV Lower Pole
27. Bladder TRV Mid (*PATIENTS BLADDER SHOULD BE FULL!*)
28. Bladder TRV Mid w/measurement (width)
29. Bladder TRV Superior
30. Bladder TRV Inferior
31. Bladder TRV w/ Color flow showing Right ureteral jet
32. Bladder TRV w/ Color flow showing Left ureteral jet
33. Bladder Sag Mid
34. Bladder Sag Mid w/measurement (length and height)
35. Bladder Sag to Left
36. Bladder Sag to Right (at this point, ask the patient to go empty their bladder completely)
37. For MEN: Trv Prostate
38. For MEN: Trv Prostate w/measurement (width)
39. For MEN: Sag Prostate
40. For MEN: Sag Prostate w/measurement (length and height)
41. Post-Void Bladder TRV mid
42. Post-Void Bladder TRV mid w/measurement (width)
43. Post-Void Bladder Sag mid
44. Post-Void Bladder Sag mid w/measurement (length and height)

**** Calculate Post-Void Residual:** Bladder Post-Void Volume/ Bladder Pre-Void Volume = Percent Remaining or residual percentage. **REPORT this value in your Comments on the Report Page!**

Example: if pre-void volume is 300 ml and post-void volume is 60 ml. $60/300 = 0.20$ or 20% residual.

Anatomy	Normal Measurements
Kidney Length	9-13 cm females to 10-14 cm males
Kidney Height	1.3 to 1.8 cm
Kidney Width	1.0 to 2.5 cm
Renal Cortex	>1.0 cm
Prostate Volume	< 30 ml



Common Pathologies

- Nephrolithiasis: Presents as an echogenic foci with posterior shadowing artifact. Document the nodule's location and if it is non-obstructing or obstructing in nature.
- Renal Cysts: Commonly present as hypoechoic lesions with well defined borders and posterior enhancement artifact. Document the location and cyst classification as simple or complex.
- Hydronephrosis: Appears as a dilated fluid filled renal pelvis. Confirm by verifying the absence of blood flow through power Doppler evaluation. Examine the renal pelvis again post void to rule out pseudo-hydronephrosis.
- Renal Carcinoma: Appears with a taller-than-wider presentation, microcalcifications, irregular borders, and internal vascularity. Most commonly located on the left side.
- Bladder Mass: Fan through the entire bladder to rule out internal debris, stones, or masses along the bladder wall.
- Hydroureter: Dilated ureter. Be sure to check the ureteral jets for patency using color flow
- Prostate Enlargement or Mass: Evaluate for size, cysts, or masses in male patients.