



MRI Abdomen - Renal

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Standard uses: Renal Mass. Evaluate indeterminate renal lesions.

Patient prep: NPO for 4 hours prior to study is possible

Oral contrast: None

- **Coverage:** **Axial** must cover both adrenal glands and kidneys entirely.
Coronal must cover both kidneys anterior to posterior.
- Contact rad as necessary.

Intravenous contrast: Single dose gadolinium.
Adult - 0.5 mmol/mL, maximum 20mL. Administer 2mL per second, example - MultiHance/ProHance/Doterem
0.25 mmol/mL, maximum 10mL, Administer 1.5mL per second, example - Gadavist

Anti-peristaltic agent: None.

SUMMARY:

1. Localizer
 - a. Breath hold
 - b. Free Breathing
2. Cor T2 HASTE
3. Ax In and Out
4. Ax T2 HASTE
5. Ax T2FS HASTE
6. Ep2d Diff
7. Ax T1 Ultra-fast 3D Pre
8. Ax T1 Ultra-fast 3D Arterial
9. Ax T1 Ultra-fast 3D Nephrogenic
10. Ax T1 Ultra-fast 3D Delay
11. Cor T1 Ultra-fast 3D post

SEQUENCES:

1. Localizer
 - a. Breath hold
 - b. Free Breathing



2. Coronal T2 HASTE Ultra-fast SE (HASTE, SSFSE, FASE)

- a. Breath hold, concatenation/multi-breath hold is less desirable than single breath hold
- b. Large FOV. Complete front to back coverage.
- c. Goal parameters
 - i. Slice thickness 3mm, 1mm Gap. (ACR Slice thickness ≤ 7.0 mm, Gap ≤ 1.5 mm, Pixel area ≤ 3.75 mm²)

3. Axial In and Out of Phase GRE

- a. Multiple breath holds
- b. FOV to patient anatomy. Slices extend from above the adrenal glands to below the kidneys
- c. Goal parameters
 - i. Slice thickness 3mm, 1mm Gap. (ACR Slice thickness ≤ 7.0 mm, Gap ≤ 1.5 mm, Pixel area ≤ 7.2 mm²)

4. Axial T2 Ultra-fast (HASTE, SSFSE, FASE)

- a. Multiple breath holds
- b. FOV to patient anatomy, Slices extend from above the adrenal glands to below the kidneys
- c. Goal parameters
 - i. Slice thickness 3mm, 1mm Gap. (ACR Slice thickness ≤ 7.0 mm, Gap ≤ 1.5 mm, Pixel area ≤ 3.75 mm²)

5. Axial T2FS Ultra-fast (HASTE, SSFSE, FASE)

- a. Multiple breath holds
- b. FOV to patient anatomy, Slices extend from above the adrenal glands to below the kidneys
- c. Goal parameters
 - i. Slice thickness 3mm, 1mm Gap. (ACR Slice thickness ≤ 7.0 mm, Gap ≤ 1.5 mm, Pixel area ≤ 3.75 mm²)

6. Axial DWI with ADC map

- a. Free breathing
- b. FOV to patient anatomy, Slices extend from above the adrenal glands to below the kidneys
- c. Goal parameters
 - i. B-values of 0, 600, 800, 1000
 - ii. Slice thickness 3mm, 1mm Gap

7. Axial T1 Ultra fast 3D-GE with fat suppression (VIBE, LAVA, TIGRE) pre-contrast

- a. Breath hold
- b. Slices extend from dome of liver to inferior aspects of liver and pancreas to include all intrahepatic biliary tree, extrahepatic biliary tree and pancreatic duct.
- c. Goal parameters
 - i. Slab slices ≤ 3 mm, (ACR Slice thickness ≤ 5.0 mm, Gap ≤ 1.5 mm, Pixel area ≤ 2.4 mm²)

8. Axial T1 Ultra fast 3D-GE with fat suppression (VIBE, LAVA, TIGRE) Arterial contrast

- a. Goal parameters
- b. Copy pre-contrast
- c. Arterial phase, trigger off aorta if possible, otherwise time at 15 seconds

9. Axial T1 Ultra fast 3D-GE with fat suppression (VIBE, LAVA, TIGRE) Nephrogenic Phase

- a. Goal parameters
- b. Copy pre-contrast
- c. Nephrogenic phase, 100-120 seconds



10. Axial T1 Ultra fast 3D-GE with fat suppression (VIBE, LAVA, TIGRE) Delayed Phase

- a. Goal parameters
- b. Copy pre-contrast
- c. Delayed phase, 5 minutes (minimum of 3 minutes delay)

NOTE: Add Subtractions for all phases

11. Coronal T1 Ultra fast 3D-GE with fat suppression (VIBE, LAVA, TIGRE) post-contrast

- a. Breath hold
- b. Slices extend to cover the entire liver. Sort Anterior to Posterior
- c. Goal parameters
 - i. Slab slices ≤ 3 mm, (ACR Slice thickness ≤ 5.0 mm, Gap ≤ 1.5 mm, Pixel area ≤ 2.4 mm²)