



MRI Abdomen - Adrenal

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Standard uses: Evaluation of adrenal lesion(s)

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

Oral contrast: None

- **Coverage:** **Axial** must cover both adrenal glands entirely.
Coronal must cover both adrenal glands anterior to posterior.

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. Cor In and Out
5. Ax T2 HASTE
6. Ax T2FS HASTE
7. Ep2d Diff
8. Ax T1 Ultra-fast 3D Pre
9. Ax T1 Ultra-fast 3D arterial
10. Ax T1 Ultra-fast 3D Venous
11. Ax T1 Ultra-fast 3D Delay
12. 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.
- 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. Coronal In and Out of Phase GRE

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

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

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

7. Axial DWI with ADC map

- a. Free breathing
- b. FOV to patient anatomy. Slices extend from above the adrenal glands to below.
- c. Goal parameters
 - i. B-values of 50, 800
 - ii. Slice thickness 3mm, 1mm Gap

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

- a. Breath hold
- b. Slices extend from above the adrenal glands to below
- c. Goal parameters
 - i. Slab slices ≤ 3 mm, (ACR Slice thickness ≤ 5.0 mm, Gap ≤ 1.5 mm, Pixel area ≤ 2.4 mm²)

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

- a. Goal parameters
- b. Copy pre-contrast
- c. Arterial phase, trigger off aorta if possible, otherwise time at 25 seconds



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

- a. Goal parameters
- b. Copy pre-contrast
- c. Venous/Equilibrium phase, 2 minutes

11. 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

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

- a. Breath hold
- b. Slices extend to cover the entire adrenal gland. 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)