

TRA-MINW

MRA Chest, Abdomen & Pelvis

Formally Reviewed: 2014 (Jigish Patel, MD)

Minimally Modified: December 2017 (Anna Ellermeier, MD; Brett Mollard MD)

Contact: (866) 761-4200, Option 1

NOTE: THESE WILL BE FORMALLY MODIFIED SOON

MR Angiography

1. SVC Occlusion
2. Renal Artery
3. Thoracic Aorta
4. Abdominal Aorta
5. Thoracic & Abdominal Aorta
6. Pelvic Arteries & Veins
7. Pulmonary
8. Aorta & Runoff

***Check with radiologist before using below protocols**

1. SVC Occlusion – MRA chest without and with (optional)

Superior Extent: Jaw

Inferior Extent: through the heart

IV contrast: Optional (YES If GFR >60; GFR 30-60 check with Radiologist)

Sequences:

1. 3 plane localizer
2. Axial 2D Time of Flight for SVC (blood flow will be in the superior to inferior direction); start from base of neck through heart
3. Axial Balanced GRE T2 (aka TrueFISP)
4. Coronal Balanced GRE T2 (Aka TrueFISP)
5. Axial T1 in phase out of phase
6. Axial HASTE (aka Single Shot Fast Spin Echo)
7. Sagittal Time of Flight 2D (check with Rad as to which side R vs. L to do this on; depends on where the tumor is and whether the R or L subclavian vein is involved)

TRA-MINW

8. Axial 3D GRE T1 Fat Sat pre and postcontrast images - inject at 3 cc/sec; pre, 20 sec, 1 min, 3 min (NOTE times are from start of injection)
-

2. Renal Artery – MRA abdomen with and without contrast (can be without only)

Superior Extent: Diaphragm
Inferior Extent: Femoral Arteries
IV contrast: YES

Sequences:

1. 3 plane localizer
 2. Axial TOF scout
 3. Axial SSFP
 4. Axial STIR or good quality fat suppressed T2
 5. Sagittal T1
 6. Dynamic coronal 3D MRA – **exclude this sequence if done without only**
 7. Axial 3D phase contrast
-

3. Thoracic Aorta – MRA chest without and with contrast

Superior Extent: Lung Apices
Inferior Extent: Kidneys
IV contrast: YES

Sequences:

1. 3 plane localizer
 2. Axial TOF scout
 3. Axial SSFP
 4. Axial Respiratory Triggered T1
 5. Axial STIR or good quality fat suppressed T2
 6. Dynamic coronal 3D MRA
 7. Axial 2D TOF
-

4. Abdominal Aorta – MRA abdomen without and with contrast

TRA-MINW

Superior Extent: Diaphragm
Inferior Extent: Femoral Arteries

IV contrast: YES

Sequences:

1. 3 plane localizer
 2. Axial TOF scout
 3. Axial SSFP
 4. Axial Respiratory Triggered T1
 5. Axial STIR or good quality fat suppressed T2

 6. Dynamic coronal 3D MRA
 7. Axial 2D TOF
-

5. Thoracic and Abdominal Aorta – MRA Chest + MRA Abdomen without and with contrast

Superior Extent: Top of Aortic Arch
Inferior Extent: Femoral Arteries
IV contrast: YES

Sequences:

1. 3 plane localizer
 2. Axial TOF scout
 3. Axial SSFP
 4. Axial Respiratory Triggered T1
 5. Axial STIR or good quality fat suppressed T2
 6. Dynamic oblique sagittal 3D MRA
 7. Axial 2D TOF
-

6. Pelvic Arteries and Veins – MRA/MRV pelvis without and with contrast

Superior Extent: Diaphragm
Inferior Extent: Femoral Arteries
IV contrast: yes

Sequences:

TRA-MINW

1. 3 plane localizer
 2. Axial TOF scout
 3. Axial SSFP
 4. Axial STIR or good quality fat suppressed T2
 5. Axial 2D TOF MR Venogram
 6. Dynamic coronal 3D MRA
 7. Axial and Coronal post contrast 3D fat suppressed GRE
-

7. Pulmonary – MRA chest without and with contrast

Superior Extent: Thoracic inlet

Inferior Extent: Diaphragm

IV contrast: YES

Sequences:

1. 3 plane localizer
 2. Axial TOF scout
 3. Axial SSFP
 4. Dynamic coronal 3D MRA
-

8. Aorta and Runoff – MRA abdomen + pelvis without and with contrast

Superior Extent: Diaphragm

Inferior Extent: Pedal Arteries

IV contrast: YES

Sequences:

1. Multi-station axial TOF scout
2. 3 station timing bolus
3. High resolution TOF of the calves
4. 3 station moving table dynamic 3D contrast-enhanced MRA