

PROTOCOL: All Sites **WO MRA Recon: Yes and No View (entire COW)**

MRA BRAIN **SIEMENS 3.0**

| IMAGE PLANE | PULSE SEQ | FOV | SLICE THK | GAP | C+ |
|-------------|-----------|-----|-----------|-----|----|
| SAG LOC | PC | 35 | 60 | 0 | |
| AX 3D | TOF | 20 | 1.6 | | |
| | | | | | |

PROTOCOL: MINS ONLY **W.WO MRA Recon: Yes and No View (entire COW)**

MRA BRAIN **SIEMENS 3.0**

| IMAGE PLANE | PULSE SEQ | FOV | SLICE THK | GAP | C+ |
|-------------|-----------|-----|-----------|-----|----|
| SAG LOC | PC | 35 | 60 | 0 | |
| AX 3D | TOF | 20 | 1.6 | | |
| TRICKS | SAG | 26 | 2.2 | 0 | X |

PROTOCOL: All Sites **WO MRV Recon: Yes and No View**

MRV BRAIN **SIEMENS 3.0**

| IMAGE PLANE | PULSE SEQ | FOV | SLICE THK | GAP | C+ |
|-------------|-----------|-----|-----------|-----|----|
| SAG 3D | INHANCE | 24 | 1.2 | 0 | |

PROTOCOL: All Sites **W/ MRV Recon: Yes and No View**

MRV BRAIN **SIEMENS 3.0**

| IMAGE PLANE | PULSE SEQ | FOV | SLICE THK | GAP | C+ |
|-------------|-----------|-----|-----------|-----|----|
| SAG 3D | TOF,SPGR | 30 | 1.4 | 0 | X |
| AX | BRAVO | 24 | 0.9 | 0 | X |

PROTOCOL: All Sites **W/WO - F/U Chronic Thrombus (Radiologist Preferred) MRV Recon: Yes and No View**

MRV BRAIN **SIEMENS 3.0**

| IMAGE PLANE | PULSE SEQ | FOV | SLICE THK | GAP | C+ |
|-------------|-----------|-----|-----------|-----|----|
| SAG | T1 FLAIR | 24 | 5 | 1 | |
| AX | SWI | 26 | 2.5 | 0 | |
| AX PROP | T2 | 24 | 5 | 1 | |
| SAG 3D | INHANCE | 24 | 1.2 | 0 | |
| SAG 3D | TOF,SPGR | 30 | 1.4 | 0 | X |
| AX | MPRAGE | 24 | 0.9 | 0 | X |
| AX | SWI | 26 | 2.5 | 0 | |

PROTOCOL: Siemens 1.5T and 3T, MINS **Carotid Recon: Full View, Rt and Lt Carotid, Bifurcations (turn), Axial MPR entire Carotids**

MRA CAROTID W/O

| IMAGE PLANE | PULSE SEQ | FOV | SLICE THK | GAP | C+ |
|---------------------|-----------|-----|-----------|-----|----|
| 3D BIFURCATIONS | | | | | |
| COR 3D MRA CAROTIDS | | | | | |
| OPTIONAL 2D TOF | | | | | |

PROTOCOL: All Sites Carotid **Recon: Full View, Rt and Lt Carotid, Bifurcations (turn), Axial MPR entire Carotids**

CE CAROTID ACR W/O

| IMAGE PLANE | PULSE SEQ | FOV | SLICE THK | GAP | C+ |
|--------------------|-----------|-----|-----------|-----|----|
| 3D BIFURCATIONS AX | | | | | |
| *IF FOR DISSECTION | | | | | |
| T1/AX/FS/PSAT | | | | | |
| 3D CAROTID PRE | | | | | |
| 2D BOLUSTRAK | | | | | C+ |
| 3D CAROTID | | | | | C+ |

PROTOCOL: All Sites

CE MRA RENAL ACR

W/ Recon: Yes and No View of bilateral renal arteries

| IMAGE PLANE | PULSE SEQ | FOV | SLICE THK | GAP | C+ |
|---------------|-----------|-----|-----------|-----|----|
| AXIAL 2D | | | | | |
| 3D COR PRE | | | | | |
| 2D BOLUS TRAK | | | | | C+ |
| 3D RENAL | | | | | C+ |

PROTOCOL: All Sites Recon: Yes and No View of entire thoracic aorta and Axial MPR

CE MRA THORACIC ANEURYSM

W/WO

| IMAGE PLANE | PULSE SEQ | FOV | SLICE THK | GAP | C+ |
|-------------------|-----------|-----|-----------|-----|----|
| AXIAL | T1 | | | | |
| BTFE BREATH HOLD | | | | | |
| 3D CANDY CANE PRE | | | | | |
| 2D BOLUS TRAK | | | | | C+ |
| 3D CANDY CANE | | | | | C+ |

PROTOCOL: MINS ONLY

CE PELVIC VENOGRAM

W/WO

| IMAGE PLANE | PULSE SEQ | FOV | SLICE THK | GAP | C+ |
|----------------|-----------|-----|-----------|-----|----|
| AX | BTFE | | | | |
| COR | BTFE | | | | |
| AX | THRIVE | | | | |
| PELVIC 3D PRE | | | | | |
| 2D BLOUS TRAK | | | | | |
| PELVIC 3D ART | | | | | |
| AX | THRIVE | | | | C+ |
| VENOUS 1ST RUN | 3D | | | | C+ |
| VENOUS 2ND RUN | 3D | | | | C+ |
| VENOUS 3RD RUN | 3D | | | | C+ |

PROTOCOL: N/A IN OUTPATIENT

W/

| | | | | | |
|-------------------------|--|--|--|--|--|
| <u>CE RUNOFF</u> | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SIEMENS 1.5

| PULSE SEQ | FOV | SLICE THK | GAP |
|-----------|-----|-----------|-----|
| T1 | 24 | 5 | 2 |
| TOF | 21 | 1.2 | 0 |
| | | | |

GE 1.5

| PULSE SEQ | FOV | SLICE THK |
|-----------|-----|-----------|
| T1 | 24 | 5 |
| TOF | 20 | 1.2 |
| | | |

SIEMENS 1.5

| PULSE SEQ | FOV | SLICE THK | GAP |
|-----------|-----|-----------|-----|
| 3D PCA | 21 | 2 | 0 |

GE 1.5

| PULSE SEQ | FOV | SLICE THK |
|-----------|-----|-----------|
| INHANCE | 24 | 1.4 |

SIEMENS 1.5

| PULSE SEQ | FOV | SLICE THK | GAP |
|-----------|-----|-----------|-----|
| SAG 3D | 25 | 1.1 | 0 |
| T1 3D FFE | 24 | 1.6 | 0 |

GE 1.5

| PULSE SEQ | FOV | SLICE THK |
|-------------|-----|-----------|
| TOF | 30 | 1.5 |
| T1 3D FSPGR | 26 | 2 |

SIEMENS 1.5

| PULSE SEQ | FOV | SLICE THK | GAP |
|-----------|-----|-----------|-----|
| T1 | 24 | 5 | 2 |
| FFE | 24 | 5 | 2 |
| T2 | 24 | 5 | 2 |
| 3D PCA | 21 | 2 | 0 |
| SAG 3D | 25 | 1.1 | 0 |
| T1 3D FFE | 24 | 1.6 | 0 |
| FFE | 24 | 5 | 2 |

GE 1.5

| PULSE SEQ | FOV | SLICE THK |
|-------------|-----|-----------|
| T1 | 24 | 5 |
| SWI | 26 | 2.5 |
| T2 | 24 | 5 |
| INHANCE | 24 | 1.4 |
| TOF | 30 | 1.5 |
| T1 3D FSPGR | 26 | 2 |
| SWI | 26 | 2.5 |

Carotid Recon: Full View, Rt and Lt Carotid, Bifurcations (turn), Axial MPR entire Carotids

PROTOCOL: MINS ONLY Recon: Yes and No View of bilateral renal arteries

NON CON MRA RENAL ACR W/ O

| IMAGE PLANE | PULSE SEQ | FOV | SLICE THK | GAP | C+ |
|-------------|-----------|-----|-----------|-----|----|
| AX | BTFE | | | | |
| COR | BTFE | | | | |
| BTFE RENAL | | | | | C+ |
| 3D PCA DGS | | | | | C+ |

PROTOCOL:

| NON CON MRA CHEST | | | | | |
|--------------------------|-----------|-----|-----------|-----|----|
| IMAGE PLANE | PULSE SEQ | FOV | SLICE THK | GAP | C+ |
| | | | | | |
| | | | | | |
| | | | | | |

FUJI 1.2

| GAP | | PULSE SEQ | FOV | SLICE THK | GAP |
|-----|--|-----------|-----|-----------|-----|
| 2 | | T1 SAG | 23 | 5 | 2 |
| 0 | | TOF AX 3D | 18 | 0.45 | 0 |
| | | | | | |

FUJI 1.2

| GAP | | PULSE SEQ | FOV | SLICE THK | GAP |
|-----|--|-----------|-----|-----------|-----|
| 0 | | | | | |

FUJI 1.2

| GAP | | PULSE SEQ | FOV | SLICE THK | GAP |
|-----|--|-----------|-----|-----------|-----|
| 0 | | | | | |
| 0 | | | | | |

FUJI 1.2

| GAP | | PULSE SEQ | FOV | SLICE THK | GAP |
|-----|--|-----------|-----|-----------|-----|
| 2 | | T1 SAG | 23 | 5 | 2 |
| 0 | | T2 AX FFE | 23 | 5 | 1 |
| 2 | | T2 AX | 23 | 5 | 1 |
| 0 | | 3D PCA | 21 | 2 | 0 |
| 0 | | SAG 3D | 25 | 1.1 | 0 |
| 0 | | T1 AX 3D | 23 | 1.1 | 0 |
| 0 | | T2 AX FFE | 23 | 5 | 1 |

C+

C+