## MRA neck w/o and w

- Cover from aortic arch to petrous ridges
- 2D TOF axial WITH sat band
- Axial T1FS 5 mm whole neck
- Flash 3D pre-contrast
- Bolus timing axial
- Flash 3D+C 1-3 measurements
- Inject 1.2-2.0 mL per second
- Ask patient not to swallow to reduce motion
- Subtract the phase that has the least venous contamination and best contrast
- MIP right and left sides separately (post-contrast only)