

The parameters for non conventional MRI sequences used are given in the table below:

	Head (brain/dural sinuses)			Neck (jugular/azygous)	
	3D SWI	2D MRV	Flow Quantification *	3D MRV (Dynamic)	(Hi-res MRA) ***
				<i>Inject Contrast after 1st measurement for the 3D MRV</i>	
Sequence	gre	Fl 2d_tof	fl_fq_retro	fl3d_ce	Fl 3d_tof
Orientation	Axial	Axial	Axial*	Coronal	Coronal
TR (ms)	29	23	42.15	3.41	15
TE (ms)	20	5.02	4.14	1.27	3.77
FA (degree)	15	60	25	20	30
FOV (mm ²)	256x192	256x256	256x256	340x255	400x400
Matrix size	512x256	512x256	448x448	384x384	640x640
Nz/TH (mm)	128/2	128/2.5	1/4	96/0.9	144/0.63
Voxel size (mm ³)	0.5x1x2	0.5x1x2.5	0.57x0.57x4	0.9x0.9x0.9	0.63x0.63x0.63
Ave./Meas.	1	1	1	1/15	1
Phase oversmpl.	0	0	0	0	10%
Slice oversmpl				8.3%	22.2%
Dist. factor	N/A	-33.0%	0	20%	N/A
Phase Enc. Dir	R>>L	A>>P	A>>P	R>>L	R>>L
iPAT	2/24	2/24	2/24	3/24	2/32
BW (Hz/pixel)	120	217	531	590	182
Flow Comp	Yes	Yes	No	Yes	Yes
Special Sat.		Tracking F	No		
Pre Saturation		Gap10mm; TH 40mm			
Flow Mode			Single Dir.		
Venc. (cm/s)			50		
1 st Signal/Mode			Pulse/Retro		
Coils	Head+Neck + SP1	Head+Neck + SP1	Head+Neck + SP1	Head+Neck + SP1	Head+Neck + SP1
Time	06:39	7:08	1:21 (x7)**	4:18	(7:10)
Total Time	06:39	13:47	23:14	27:32	(34:42)

Note: For MS patient, please add your institutional MS protocol.

* Should put pulse trigger on the patient's finger.

**Flow quantification will be done through and parallel the straight sinus, two trans, sag, the jugular vein on its upper and lower part, which leads to a total of 7 acquisitions.(Please use venc. of 10 for parallel to the straight sinus.)

*** It is an option that if you have time.