

CCSVI MS MRI Protocol: Tier II(a)

Head and Neck without Contrast

Sequence	Time (approx.)
Axial T2 Head	4:30
Sagittal FLAIR Head	5:30
Axial T1 Head (prefer 3D)	4:30
Sagittal T2/PD Cspine	3:40
Sagittal T1 Cspine	3:30
Select Axial T2 Cspine through lesions	4:00*
2D TOF MRV Neck	7:00
Flow Quantification at C2/C3 and C6/C7 with Venc = 50cm/s	3:00
Total Time	31:40 (35:40*)

Notes: An extra flow quantification can be added for CSF with a Venc of 10cm/s at C2/C3 and/or dural sinuses with a Venc of 50cm/s. This would take an extra 1.5 to 3.0 minutes. *An extra T2 sequence can be added for lesions in C-Spine.

CCSVI MS MRI Protocol: Tier II(b)

Head and Neck with Contrast and without 2D TOF MRV

Sequence	Time (approx.)
Axial T2 Head	4:30
Sagittal FLAIR Head	5:30
Axial T1 Head (prefer 3D)	4:30
Sagittal T2/PD Cspine	3:40
Sagittal T1 Cspine	3:30
Select Axial T2 Cspine through lesions	4:00*
3D CE MRAV Neck	2:30
Flow Quantification at C2/C3 and C6/C7 with Venc = 50cm/s	3:00
Axial T1 Head post Gad	4:30
Cspine T1 FS post Gad	3:40
Total Time	35:20 (39:20*)

Notes: An extra flow quantification can be added for CSF with a Venc of 10cm/s at C2/C3 and/or dural sinuses with a Venc of 50cm/s. This would take an extra 1.5 to 3.0 minutes. *An extra T2 sequence can be added for lesions in C-Spine.

CCSVI MS MRI Protocol: Tier III(a)

Head and Neck without Contrast

Sequence	Time (approx.)
Axial T2 Head	4:30
Sagittal FLAIR Head	5:30
Axial T1 Head (prefer 3D)	4:30
3D SWI – 1x0.5x2 mm ³ (Dual Echo is preferred)	3:20
Sagittal T2/PD Cspine	3:40
Sagittal T1 Cspine	3:30
Select Axial T2 Cspine through lesions	4:00*
2D TOF MRV Neck	7:00
Flow Quantification at C2/C3 and C6/C7 with Venc = 50cm/s	3:00
Total Time	35:00 (39:00*)

Notes: An extra flow quantification can be added for CSF with a Venc of 10cm/s at C2/C3 and/or dural sinuses with a Venc of 50cm/s. This would take an extra 1.5 to 3.0 minutes. If time permits, run 3D SWI 0.5x0.5x2 mm³ instead. This would add extra 2.5 minutes.

CCSVI MS MRI Protocol: Tier III(b)

Head and Neck with Contrast and without 2D TOF MRV

Sequence	Time (approx.)
Axial T2 Head	4:30
Sagittal FLAIR Head	5:30
Axial T1 Head (prefer 3D)	4:30
3D SWI – 1x0.5x2 mm ³ (Dual Echo is preferred)	3:20
Sagittal T2/PD Cspine	3:40
Sagittal T1 Cspine	3:30
Select Axial T2 Cspine through lesions	4:00*
3D CE MRAV Neck	2:30
Flow Quantification at C2/C3 and C6/C7 with Venc = 50cm/s	3:00
Axial T1 Head post Gad	4:30
Cspine T1 FS post Gad	3:40
Total Time	38:40 (42:40*)

Notes: An extra flow quantification can be added for CSF with a Venc of 10cm/s at C2/C3 and/or dural sinuses with a Venc of 50cm/s. This would take an extra 1.5 to 3.0 minutes.

If time permits, run 3D SWI 0.5x0.5x2 mm³ instead. This would add extra 2.5 minutes.

*An extra T2 sequence can be added for lesions in C-Spine.

Additional Protocol: Imaging Azygos Vein

Sequence	Time (approx.)
2D TOF MRV (azygous)	10:39
2D TOF MRV (azygous arch)	5:12
FLOW QUANTIFICATION	1:42
Total Time	17:33