

Cervical Spine MRI



The [cord](#) is unremarkable in calibre and appearance from the base of [skull](#), with no abnormal enhancement or regions of high [T2 signal](#) to suggest [demyelination](#). The canal is capacious at all levels with no cord compression.

No significant degenerative change.

Alignment, vertebral height in bone marrow signal unremarkable.

Incidentally noted C5 and T7 vertebral body [hemangiomas](#).

Angulated projections are used in radiography to show the cervical [cervical intervertebral foramen](#). Imaging the coronal oblique planes in an [cervical spine MRI](#) should therefore improve visualization of neural foramen pathology.

A multi-center investigation of 40 patients with mono[radiculopathy](#) and 10 healthy controls was undertaken. T2-weighted [sagittal](#), [coronal](#) oblique and [axial](#) slices were individually and separately examined by four readers blinded to the diagnosis. The statistical evaluation compared against the clinical gold standard of the neurological diagnosis of a single nerve root irritation or lesion.

The sensitivity/specificity required to detect the relevant neural foramen pathology was 0.47/0.60 for axial, 0.57/0.90 for sagittal and 0.55/0.70 for coronal oblique scans. The readers felt significantly more confident in attributing the cause of pathology using coronal oblique planes. Interreader reliability was moderate to substantial, with the highest values for the sagittal planes (0.39-0.76) and

lower values for the transversal and coronal oblique planes (0.15-0.63). Intrareader reliability was substantial, with values between 0.53 and 0.88. Reading the axial planes was significantly more time consuming than reading the other planes.

The use of coronal oblique planes in cervical spine MRIs increases sensitivity and confidence in attributing the cause of neural foramen obstruction. They are easy to interpret and demand less reading time than axial planes, and so the inclusion of coronal oblique planes in the workup of cervical spine MRI is recommended, at least when neural foramen pathology is suspected ¹⁾.

¹⁾

Freund W, Weber F, Hoepner G, Meier R, Klessinger S. Coronal oblique orientation of the neural foramen improves cervical spine MRI: A comparison of the sensitivity of different angulations. Clin Imaging. 2018 Oct 13;53:162-168. doi: 10.1016/j.clinimag.2018.10.011. [Epub ahead of print] PubMed PMID: 30343168.

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