

RADIOLOGY REPORTS DO NOT ACCURATELY PORTRAY THE SEVERITY OF CERVICAL NEURAL FORAMINAL STENOSIS



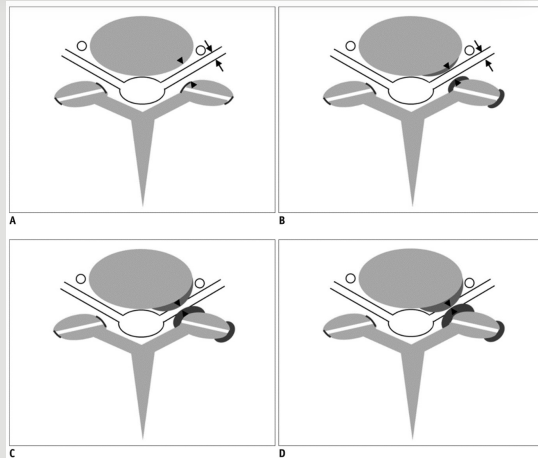
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OBJECTIVE

To compare a validated foraminal stenosis grading system to standard radiology reports for the assessment of cervical radiculopathy due to neural foraminal stenosis

Cervical Neural Foraminal Stenosis Grading

Grade 0 = No foraminal narrowing (A), or narrowing without abutment into nerve (B)



Kim et al, *Korean J Radiology*, 2015

Grade 1 = Nerve compression <50% of nerve width (C)

Grade 2 = Nerve compression >50% of nerve width (D)

METHODS

MRI of all patients undergoing ACDF for cervical radiculopathy were reviewed

Neural foramen at levels of construct were reported along with adjacent levels as non-radiculopathic controls

Bivariate analyses utilized to compare radiologist reports to grading system on an individual level basis

Bivariate regression analysis to assess PROMs compared to maximal neural foraminal stenosis severity

RESULTS

283 patients included (434 levels fused)

337 neural foramina without stenosis, 422 with moderate stenosis, and 239 with severe stenosis

Kappa coefficient between radiology reports and grading system was 0.248

No association between grading system or radiology reports with PROMs (VAS Arm, VAS Leg, MCS-12, PCS-12 or ODI) (all, $p < 0.05$)

	No Stenosis N = 337	Moderate Stenosis N = 422	Severe Stenosis N = 239	P-value
Radiologist Read				<0.001*
None/Mild	314 (93.2%)	207 (49.1%)	48 (20.1%)	
Moderate	19 (5.64%)	111 (26.3%)	102 (42.7%)	
Severe	4 (1.19%)	104 (24.6%)	89 (37.2%)	
Motor Strength				<0.001*
<4/5	0 (0.00%)	29 (6.87%)	22 (9.21%)	
4/5 or 5/5	337 (100%)	393 (93.1%)	217 (90.8%)	

CONCLUSIONS

Radiology reports of neural foraminal narrowing demonstrate little to no correlation with validated grading system, PROMs, or motor function

Cervical radiculopathy is a clinical diagnosis that warrants payers and clinicians to consider clinical symptoms than solely radiologist-determined severity when approving surgery