

Researchers develop new anatomically based classification for diagnosing cervical spinal stenosis

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Physician-researchers at the Rothman Institute at Jefferson have developed a new, clinically meaningful scale of severity for diagnosing patients with cervical spinal stenosis. Their goal was to create a more accurate scale than the current "mild, moderate or severe" designations used for patients with this condition, a narrowing of the spinal canal in the neck. Researchers sought to create a reproducible, clinically validated classification of central cervical stenosis.

The group will present their results on Wednesday, March 20th at the annual American Association of [Orthopedic Surgeons](#) (AAOS) meeting in Chicago.

The current scale, researchers contend, does not carry any clinical or anatomical correlation. The presence or absence of cerebrospinal fluid (CSF) around the spinal cord is used as an important [clinical decision](#) making factor.

"We wanted to make a scale that defined more accurately the clinical decision making of the [cervical spine](#)," says Kristen E. Radcliff, M.D., assistant professor at Jefferson Medical College and lead researcher on the study.

Five fellowship-trained surgeons, three [spine surgery](#) fellows and three orthopedic residents reviewed a series of 46 cases and were asked to

score each according to the following scale: Grade 0: no loss of CSF; Grade 1: Some loss of CSF; Grade 2: complete loss of CSF space; Grade 3: Loss of CSF space and deformation of the spinal cord greater than 25 percent; Grade 4: Loss of CSF space and signal change in spinal cord, the most severe case.

"CSF space is an important marker for appropriate spinal cord perfusion and presence or absence of compression," says Dr. Radcliff.

Each rated the level of [spondylolisthesis](#), slippage of the bone (vertebrae) onto the bone below; kyphosis, the over curvature or hunching of the upper back; and any symptoms of myelopathy, damage to the spinal cord.

Researchers found a statistically significant number of patients on whom spinal decompression was recommended in higher grades, with 83 percent in Grade 2, 95 percent in grade 3, and 100 percent (44/44) in grade 4.

The result is a new anatomically-based, clinically validated classification of cervical stenosis that aids the surgical decision-making process and allows for swift diagnosis and the most urgent surgical intervention for those with symptomatic Grade 2-4 stenosis. Patients with lower grade stenosis are first recommended and often better suited for nonsurgical treatment.

"It is our hope that this study allows for a more complete diagnosis, improves the accuracy of research and aids in improving communication regarding the severity of patients' conditions," adds Radcliff.

Provided by Thomas Jefferson University

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