

Cervical disc space

The cervical [intervertebral disc space](#)

There is a significant decrease of the [facet joint](#) overlap in the [sagittal](#) plane and an increase in the facet joint space following an increase in the cervical disc space. The inappropriate increase of the disc space height may result in facet joint subluxation and could lead to the accelerated failure of the artificial disc ¹⁾.

Computer-assisted simulation of C4-C5, C5-C6, and C6-C7 intervertebral disc space narrowing was performed on 16 anatomic specimen cervical spines to determine the relationship of the cross sectional foraminal areas with the degree of narrowing of the cervical intervertebral disc space. Compared with normal foraminal area values, reduction of 20% to 30% of the foraminal area was found after 1 mm narrowing of the intervertebral disc spaces; reduction of 30% to 40% of the foraminal area was found after 2 mm narrowing of the intervertebral disc space; and reduction of 35% to 45% of the foraminal area was found after 3 mm narrowing of the intervertebral disc space. Statistically significant differences were found among the remaining cross sectional foraminal areas after different degrees of intervertebral disc space narrowing. Compression of the nerve root within the intervertebral foramina after the collapse of the intervertebral disc space cannot be ignored, and an appropriate surgical procedure to maintain the normal height of the disc space is essential. The size of the intervertebral foramen is related directly to the height of the intervertebral disc space. A 3-mm vertical reduction of the intervertebral disc space is associated more frequently with severe narrowing of the neuroforamen ²⁾.

¹⁾

Liu J, Ebraheim NA, Haman SP, Sanford CG Jr, Sairyo K, Faizan A, Woldenberg L, Goel VK. How the increase of the cervical disc space height affects the facet joint: an anatomy study. Spine (Phila Pa 1976). 2006 May 20;31(12):E350-4. PubMed PMID: 16721278.

²⁾

Lu J, Ebraheim NA, Huntoon M, Haman SP. Cervical intervertebral disc space narrowing and size of intervertebral foramina. Clin Orthop Relat Res. 2000 Jan;(370):259-64. PubMed PMID: 10660721.

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