

Degenerative cervical myelopathy treatment

The choice of [cervical spondylotic myelopathy](#) treatment and prognostic factors are controversial.

Operative versus nonoperative management for patients with mild CSM, optimal surgical approaches for CSM, the utility of intraoperative monitoring, and radiographical prognostic indicators for outcome following surgery for CSM.

A current review reveals several areas where Class I evidence exists regarding these controversies. However, many other studies consist contain Class III or weaker data, thereby making it difficult to draw any definitive conclusions. Despite the lack of a consensus in some areas, it appears that CSM patients can often achieve satisfactory treatment through a variety of different options.

CSM remains a challenging clinical problem where several areas of controversy still exist. Large, multi-center, randomized prospective trials will be required to help resolve some of the controversies ¹⁾.

Surgery

[Degenerative cervical myelopathy surgery](#).

Cell replacement therapy for the treatment of degenerative cervical myelopathy

Whilst surgery can prevent further deterioration, biological therapies may be required to restore neurological function in advanced disease. Cell replacement therapy has been inordinately focused on treatment of traumatic spinal cord injury yet holds immense promise in DCM. We build upon this thesis by reviewing the pathophysiology of DCM as revealed by cadaveric and molecular studies. Loss of oligodendrocytes and neurons occurs via apoptosis. The tissue microenvironment in DCM prior to end-stage disease is distinct from that following acute trauma, and in many ways more favourable to receiving exogenous cells. We highlight clinical considerations for cell replacement in DCM such as selection of cell type, timing and method of delivery, as well as biological treatment adjuncts. Critically, disease models often fail to mimic features of human pathology. We discuss directions for translational research towards clinical application ²⁾.

¹⁾

Chang V, Holly LT. Controversies in the management of cervical spondylotic myelopathy. J Neurosurg Sci. 2013 Sep;57(3):241-52. Review. PubMed PMID: 23877269.

²⁾

Shea GKH, Koljonen PA, Chan YS, Cheung KMC. Prospects of cell replacement therapy for the treatment of degenerative cervical myelopathy. Rev Neurosci. 2020 Dec 18. doi: 10.1515/revneuro-2020-0075. Epub ahead of print. PMID: 33661584.

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