

Intervertebral disc degeneration surgery

This may be **decompression** (to remove tissue such as the **disc**, **bone**, or hypertrophic **ligaments** impinging on nerves) or **fusion** of the normally mobile intervertebral joint to immobilize it and so reduce pain. These used to involve fairly major surgical procedures, but in the past decade, there has been much progress to make the surgery more refined and less invasive, for example using **endoscopic** approaches. Simultaneously, the research world has been studying and developing **tissue engineering** and cellular techniques for attempting to regenerate the **intervertebral disc**, whether simply the central **nucleus pulposus** or a complete intricate assembly to replicate the native structure of this and the surrounding **annulus fibrosus**, cartilage endplate, and bone. To date, none of the complex entities have been trialed, while cellular approaches are easier to utilize, have progressed to clinical trials, and may offer a better solution ¹⁾.

Current surgical treatment provides relief to the accompanying pain and disability but does not restore the biological function of the intervertebral disc. **NOVOCART™** Disc plus, an autologous cell compound for autologous disc chondrocyte transplantation, was developed to reduce the degenerative sequelae after lumbar disc surgery or to prophylactically avoid degeneration in adjacent discs.

¹⁾

Eisenstein SM, Balain B, Roberts S. Current Treatment Options for Intervertebral Disc Pathologies. Cartilage. 2020 Apr;11(2):143-151. doi: 10.1177/1947603520907665. Epub 2020 Feb 19. PMID: 32075408; PMCID: PMC7097980.

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