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Review Article

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# Cervical Total Disc Arthroplasty

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## Abstract

Symptomatic adjacent segment degeneration of the cervical spine remains problematic for patients and surgeons alike. Despite advances in surgical techniques and instrumentation, the solution remains elusive. Spurred by the success of total joint arthroplasty in hips and knees, surgeons and industry have turned to motion preservation devices in the cervical spine. By preserving motion at the diseased level, the hope is that adjacent segment degeneration can be prevented. Multiple cervical disc arthroplasty devices have come onto the market and completed Food and Drug Administration Investigational Device Exemption trials. Though some of the early results demonstrate equivalency of arthroplasty to fusion, compelling evidence of benefits in terms of symptomatic adjacent segment degeneration are lacking. In addition, non-industry-sponsored studies indicate that these devices are equivalent to fusion in terms of adjacent segment degeneration. Longer-term studies will eventually provide the definitive answer.

## Keywords

ACDF - cervical fusion - cervical arthroplasty - adjacent segment

## 頸椎人工椎間盤置換術

頸椎的症狀性相鄰節段退變對患者和外科醫生都仍然是個問題。儘管在手術技術和設備的進步下，解決的辦法仍然是難以捉摸的。在成功的髖關節和膝關節的全關節置換術帶動下，外科醫生和業內人士紛紛轉向保留頸椎活動的儀器。藉著保持病變節段的活動能力，希望可以預防相鄰節段退變。多個頸椎間盤置換術的儀器已投放市場，並完成食品和藥物管理局（FDA）的執行醫療器材臨床試驗。雖然一些早期的結果證明置換術與融合有相等的效果，但對症狀相鄰節段退變仍缺乏有說服力的結果。此外，非業內贊助的研究顯示，對於相鄰節段退變，使用這些儀器是等同融合。長期的研究將最終提供明確的答案。