

Smith Robinson Technique

Smith and Robinson ¹⁾ 's technique had been the "gold standard" for the surgical treatment of cervical disc disease. However, anterior cervical plates with iliac bone grafts lead to chronic iliac pain ²⁾.

With the patient prepped in the [supine position](#) a [anterior cervical discectomy](#) is performed, and a horseshoe graft is placed in the intradiscal space.

Case series

1992

Fifty-one consecutive patients with cervical radiculopathy or spondylosis were treated with single or multilevel anterior discectomy and fusion using a modified Smith-Robinson procedure. There were 33 single-level fusions, 16 two-level fusions, and 2 three-level fusions. The three modifications included: 1) the endplates at the fusion level were completely removed with a high-speed bur to exposed bleeding cancellous bone in parallel planes; 2) the Caspar distractor (Aesculap, Burlingame, CA) was used to increase distraction and improve visualization; 3) the tricortical autologous iliac crest bone graft was placed in reverse position, that is, with the cortical cross-section facing posteriorly, creating a stabilizing strut in the middle column. With an average follow-up of 1 year, the fusion rate was 94% (67 of 71 levels). The single-level fusion rate was 97%, the two-level fusion rate was 94%, and the three-level fusion rate was 83%. Of the four nonunions, only two were symptomatic. Results by clinical examination revealed 36 (71%) excellent, 11 (21%) good, 3 (6%) satisfactory, and 1 (2%) poor outcomes. There were no significant disc collapses or extrusions. One patient had an increase in kyphotic deformity of > 5 degrees, none with > 10 degrees kyphosis. There were no wound infections or neurologic complications. The modified Smith-Robinson procedure for anterior cervical discectomy and fusion has led to the successful treatment of cervical radiculopathy and spondylosis with improved results and few complications ³⁾

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Smith GW, Robinson RA: The treatment of certain cervical- spine disorders by anterior removal of the intervertebral disc and interbody fusion. J Bone Joint Surg Am 40-A:607-624, 1958

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Banwart JC, Asher MA, Hassanein RS: Iliac crest bone graft harvest donor site morbidity. A statistical evaluation. Spine (Phila Pa 1976) 20:1055-1060, 1995

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Brodke DS, Zdeblick TA. Modified Smith-Robinson procedure for anterior cervical discectomy and fusion. Spine (Phila Pa 1976). 1992 Oct;17(10 Suppl):S427-30. PubMed PMID: 1440038.

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