

Minimum four-year follow-up of spinal stenosis with degenerative spondylolisthesis treated with decompression and dynamic stabilization

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STUDY DESIGN: Prospective clinical study. **OBJECTIVE:** To test whether posterior dynamic stabilization in situ with Dynesys (Zimmer Spine, Minneapolis, MN) can maintain enough stability to prevent progression of spondylolisthesis in long-term follow-up. **SUMMARY OF BACKGROUND DATA:** In spinal stenosis with degenerative spondylolisthesis, decompression and fusion are widely recommended. However, drawbacks of fusion remain length of surgery, blood loss, possible adjacent segment disease, errant instrumentation, nonunion, and pain at the bone donor site. The Dynesys system was introduced to stabilize the spine without adding bone graft for fusion. Excellent 2 years results have been reported. **METHODS:** Twenty-six consecutive patients (mean age, 71 years) with symptomatic lumbar spinal stenosis and degenerative spondylolisthesis underwent interlaminar decompression and stabilization with Dynesys. Patients were evaluated clinically and radiologically after a minimum follow-up of 4 years. **RESULTS:** Nineteen of 26 patients could be evaluated with a mean follow-up of 52 months (range, 48-57 months). Pain on VAS and walking distance improved significantly ($P < 0.001$) at 2 years and remained unchanged at 4 years follow-up. Radiographically, spondylolisthesis did not progress and the motion segments remained stable, even in the 3 patients who showed slight screw-loosening at 2 and 4 years follow-up. One patient showed screw breakage with low back pain and motion at the instrumented level in flexion/extension views. At 4 years follow-up, 47% of the patients showed some degeneration at adjacent levels. Overall, patient satisfaction remained high as 95% would undergo the same procedure again. **CONCLUSION:** In elderly patients with spinal stenosis and degenerative spondylolisthesis, decompression and dynamic stabilization lead to excellent clinical and radiologic results. It maintains enough stability to prevent progression of spondylolisthesis. Because no bone grafting is necessary, donor site morbidity, which is one of the main drawbacks of fusion is eliminated. However, the degenerative disease still is progressive and degeneration at adjacent motion segments remains a problem.

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