

# Treatment of Adjacent Vertebral Fractures Following Multiple-level Spinal Fusion

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摘要

## Abstract

**Background** Posterolateral fusion with cages and posterior instrumentation is an accepted method in the treatment of lumbar instability associated with spinal stenosis or scoliotic deformity, but with modest results. We propose hereby an alternative, simple method to treat kyphosis due to the vertebral fracture which has brought about comparable outcomes.

**Methods** Three patients with documented adjacent segment compression fractures were treated. Vertebroplasty was performed with polymethylmethacrylate (PMMA), either using the transpedicular route at the adjacent level or via the route of the previous transpedicular screw at the top level of the long-segment fixation construct. Outcomes were measured by the visual analogue scale of pain and the kyphotic angle of the adjacent segment.

**Results** The maximal kyphotic angle was 30.6 degrees preoperatively and the reduction rate averaged 69.6%. The pain scale improved from the mean of 9.3 to 1.7. No further progression of compression was noted in the follow-up of more than 6 months after the vertebroplasty in these cases.

**Conclusion** Vertebroplasty at either the adjacent level or the top level of the previous internal fixation construct may be a feasible alternative to treat the adjacent level fracture after long segment internal fixation of the spine.