On plain radiographs, a decrease of 50 percent in vertebral body height, an increase of interspinous distance, and greater than 30 to 35 degrees of kyphotic deformity are suggestive of posterior ligament complex injury.

Progressive kyphotic deformity of the lumbar or thoracolumbar spine may lead to back pain, cosmetic deformity, and risk of neurological compromise. The authors describe a series of patients in whom they performed a single-stage, posterior reduction ("eggshell") osteotomy procedure to improve sagittal contour by creating lordosis within a single vertebral body. METHODS:

From 1995 to 1997 the authors performed 12 osteotomy procedures in 11 patients with thoracolumbar or lumbar kyphosis. Seven patients presented with iatrogenic deformity, three with deformity secondary to traumatic injury, and one patient with ankylosing spondylitis. Their mean age at time of surgery was 46.6 years (range 23-78 years). All patients suffered from back pain and were unable to stand upright, but in only one patient were neurological findings demonstrated. The mean preoperative deformity was -26 degrees (range -90 to 0 degrees). At 6-month follow-up examination the mean sagittal contour measured 17.5 degrees (range - 17 to 44 degrees), indicating that the mean surgical correction was 40.1 degrees (range 25 to 58 degrees). All patients reported decreased back pain at follow up, and none required narcotic analgesic medication. Complications included a dense paresis that developed immediately postoperatively in a patient who was found to have residual dural compression, which was corrected by emergency decompressive surgery. One elderly patient suffered a perioperative cerebrovascular accident, and three patients suffered neurapraxia with transient muscle weakness of the quadriceps. There was one case of a dural tear. There were no deaths, and prolonged intensive care stays were not required. CONCLUSIONS:

Single-level posterior reduction osteotomy provides excellent sagittal correction of kyphotic deformity in the lumbar region, with a risk of cauda equina and root and plexus compromise due to the extensive neural exposure  $^{1)}$ 

## 1)

Danisa OA, Turner D, Richardson WJ. Surgical correction of lumbar kyphotic deformity: posterior reduction "eggshell" osteotomy. J Neurosurg. 2000 Jan;92(1 Suppl):50-6. PubMed PMID: 10616058.

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