

On lumbar spine stabilization

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71 consecutive posterolateral lumbar fusions without decompression or internal fixation were evaluated with a mean follow-up time of 3.5 (2–7) years. The diagnoses were spondylolysis-olisthesis in 43 cases, degenerative disc disease and/or facet joint arthrosis in 16 cases and pain post laminectomy/decompression in 12 cases. 54/70 patients had a solid fusion. In the group with spondylolysis-olisthesis, 29 patients were good and clinical improvement correlated with solid fusion. For both the other diagnostic groups, the clinical outcome was inferior and less correlated to the radiographic result.

In 50 patients scheduled for lumbar fusion, spinal immobilization in a lumbar orthosis had some pain relieving effect registered before surgery, but this pain relief could not predict the clinical outcome of subsequent surgery. External pedicular fixation provided an adequate mechanical basis for the prognostic external fixation test in lumbar fusion studied by roentgen ste-

reophotogrammetric analysis (RSA) in 7 patients.

Fusion of the olisthetic lumbosacral segment transformed mobility to the juxta-fused level inducing relative hypermobility in this segment in 2 out of 6 patients examined by RSA.

The healing rate of noninstrumented posterolateral lumbar fusion was increased by extending the postoperative immobilization period from 3 to 5 months. A lumbar orthosis, soft or rigid, could not stabilize the intervertebral translations studied by RSA without active mobility provocation, consistent with the postoperative regimen when the patient cooperates to minimize gross body motions and keeps the trunk straight. Adding unilateral hip fixation to the orthosis yielded a tendency towards intervertebral stabilization however not shown important for the postoperative situation after fusion. During this period any lumbar support can be used as long as it reminds the patient of the regimen to avoid all active movements of the spine.