

# ARTICLE IN REVIEW:

## Successful spinal fusion using ViviGen® in complex cases

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**TITLE:** Multilevel instrumented posterolateral lumbar spine fusion with an allogeneic cellular bone graft.

**AUTHORS:** Hall JF, McLean JB, Jones SM, Moore MA, Nicholson MD, Dorsch KA.

**STUDY DESIGN:** Retrospective, one surgeon, 150 consecutive patients.

**RESULTS:** This retrospective study evaluated the fusion results of 150 patients who had undergone instrumented posterolateral fusion (IPLF) surgery using ViviGen and local bone to enhance fusion. Six-hundred thirteen levels were treated, with greater than 3 levels treated in 59.3% of patients. The median age of patients at the time of surgery was  $70 \pm 9$  years. Many patients had comorbidities including: diabetes (29%), history of tobacco use (51%), current tobacco use (12%), previous cancer diagnosis (13%), and previous spinal fusion (9%). Fusion was evaluated by the Lenke scale with A and B defined as “definitely solid” and “possibly solid” fusion, respectively. C and D were defined as pseudoarthrosis. 148 out of 150 (98.7%) of patients achieved a Lenke score of A or B and considered successful fusions. Post-operative reported VAS scores ranged from 0 to 4, and patients with successful fusion reported high satisfaction. This study demonstrates ViviGen can support successful fusion in IPLF operations involving multilevel fusion and multiple comorbidities.

### Multilevel fusion in lumbar spine:

As many as 11 levels were successfully fused using ViviGen and instrumentation. The majority of patients (59.3%) had more than 3 levels treated.

### Fusion despite comorbidities:

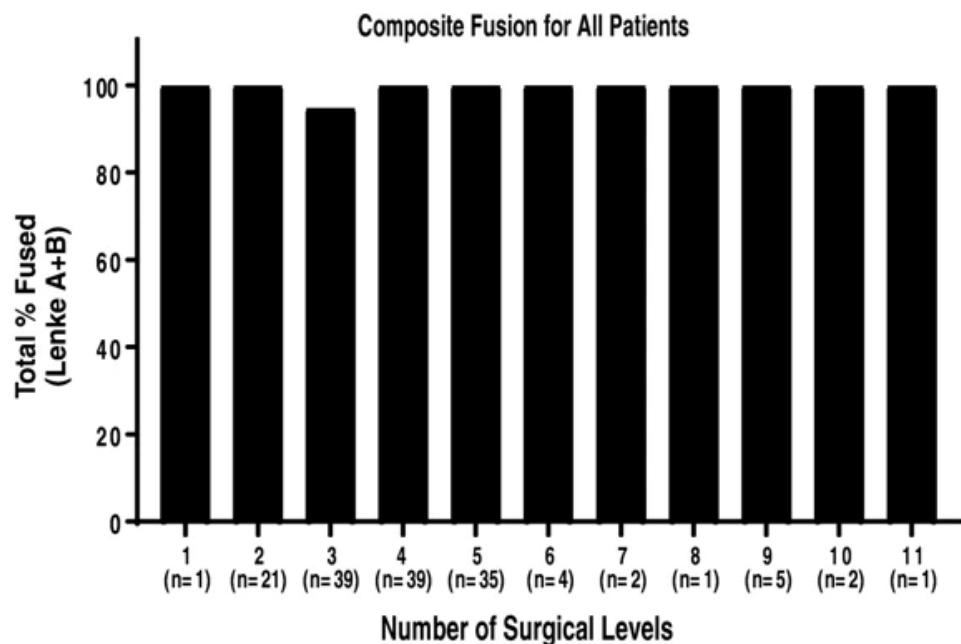
98.7% of patients achieved successful fusion at an average of 12 months despite comorbidities such as diabetes, tobacco use, and previous cancer diagnosis.

The median age for patients at the time of surgery was  $70 \pm 9$  years.

### Patient Satisfaction:

Regardless of number of surgical levels fused, patients reported post-operative VAS scores between 0 and 4. Satisfaction was high among almost all patients.

Successful fusion  
in 98.7% of patients



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