

**UC Davis**  
**Orthopaedic Surgery**

**Title**

Retrospective Comparison of Two Posterior Spinal Decompression Procedures for Cervical Spondylotic Myelopathy

**Permalink**

<https://escholarship.org/uc/item/2w4821sk>

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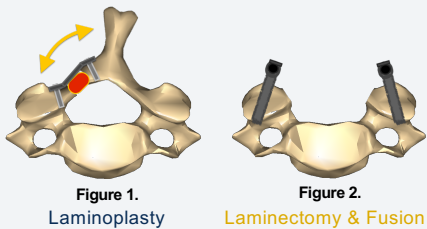
**Data Availability**

The data associated with this publication are not available for this reason: N/A

## Background | Methods

Are laminoplasty and laminectomy & fusion equally effective treatments for CSM?

Does laminoplasty lead to increased axial neck pain?



144 Total Procedures

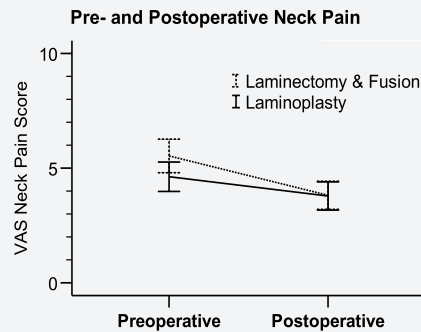
Follow-up length: 12-16 months (average)

80 Laminoplasty

64 Laminectomy & Fusion

Surgical Invasiveness
Hospital Stay   Mobility   Discharge
Complications
Opioid Requirements
<b>Patient-Reported Scales   Function, Pain (presented here)</b>
Radiographic Measurements
Costs Analysis

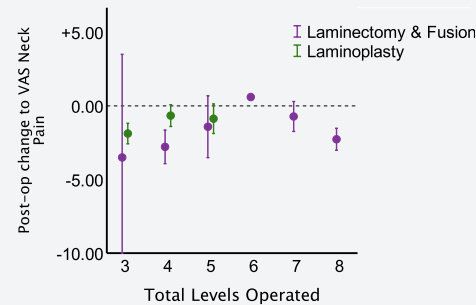
## Results



**Figure 3.** Patients reported neck pain using a 0-10 Visual Analog Scale (VAS). Error bars represent 95% confidence intervals.

- The average neck pain reported during the postoperative period (12-16 months) was significantly below preoperative levels in both groups (paired t-tests).
- Laminectomy & fusion group: pain decreased from  $5.53 \pm .37$  to  $3.82 \pm .31$ ,  $p < .001$ , Cohen's  $d = .745$
- Laminoplasty group: pain decreased from  $4.63 \pm .32$  to  $3.78 \pm 0.31$ ,  $p = .003$ , Cohen's  $d = .345$ .

## Effect of Surgery Size on Change to Neck Pain



**Figure 4.** The mean change in reported neck pain following surgery was plotted as a function of the total operative (vertebral) levels. Error bars represent 95% confidence intervals. No laminoplasty procedures were performed at 6 or more levels.

- There was no statistical difference in change to neck pain between treatment groups when 3, 4, or 5 vertebral levels were involved (unpaired t-tests,  $p > .05$ ).

## Conclusions

Both surgeries significantly improved neck pain.

For procedures involving 3-5 levels, both techniques improve pain similarly.

When C7 is involved, laminectomy and fusion may be more beneficial for reducing pain.

Laminoplasty is not associated with a greater incidence rate of new onset neck pain.

Radiographic, opioid data may help identify other differences relating to pain.

## References

Figures 1 and 2. Images of cervical vertebrae adapted and altered by Oussama Bakr from [www.anatomography.com](http://www.anatomography.com) under CC BY-SA 2.1 JP.