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

Department of Orthopaedic Surgery

Sammy Baker, M.S.
Rolando F. Roberto, M.D.

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.

Results

![Pre- and Postoperative Neck Pain](image)

**Pre- and Postoperative Neck Pain**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Preoperative</th>
<th>Postoperative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laminectomy &amp; Fusion</td>
<td>7.0 ± 0.31</td>
<td>4.0 ± 0.25</td>
</tr>
<tr>
<td>Laminoplasty</td>
<td>5.0 ± 0.32</td>
<td>3.0 ± 0.25</td>
</tr>
</tbody>
</table>

**Effect of Surgery Size on Change to Neck Pain**

![Effect of Surgery Size on Change to Neck Pain](image)

**Effect of Surgery Size on Change to Neck Pain**

<table>
<thead>
<tr>
<th>Total Levels Operated</th>
<th>Laminectomy &amp; Fusion</th>
<th>Laminoplasty</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>+5.00</td>
<td>+3.00</td>
</tr>
<tr>
<td>4</td>
<td>+4.00</td>
<td>+2.00</td>
</tr>
<tr>
<td>5</td>
<td>+3.00</td>
<td>+1.00</td>
</tr>
<tr>
<td>6</td>
<td>+1.00</td>
<td>-1.00</td>
</tr>
<tr>
<td>7</td>
<td>-2.00</td>
<td>-3.00</td>
</tr>
<tr>
<td>8</td>
<td>-3.00</td>
<td>-5.00</td>
</tr>
</tbody>
</table>

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.

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

References

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