

# Pain and Disability in Patients Treated for Cervical Stenosis by Laminoplasty: A Prospective Study

Glenn Buttermann MD, MS, FAAOS, Thomas Rieser MD, FAAOS and Eric Salman PA-C

## BACKGROUND

Cervical laminoplasty is effective in relieving stenosis. Pain relief and disability improvement related to pain relief in prior studies are inconclusive.

## PURPOSE

To determine whether cervical stenosis patients treated with laminoplasty had not only improved neurological function but also improved outcomes in terms of pain and disability.

## STUDY DESIGN/ SETTING

Prospective clinical study of cervical laminoplasty patients with 1 to 5 year follow-up.

## PATIENT SAMPLE

Patient (n=29) who had decompressive open-door laminoplasty with an age range was 33 to 83 years old.

## OUTCOME MEASURES

Neurological function, neck and arm VAS pain scales, Oswestry Disability Index, pain medication use, and over-all opinion of treatment success. Radiographic canal measurements.

## METHODS

All patients completed outcomes surveys preoperatively and post-operatively up to 5 years. Patients were categorized as to their primary diagnosis, degenerative disc disease, additional surgery, work-comp/litigation status, and smoking status.

## RESULTS

The most stenotic levels were C4-5 (n= 11) and C5-6 (n= 11) with the preoperative AP diameter of  $6.5 \pm 1.6$  mm which increased to  $10.9 \pm 1.6$  mm postoperatively. Myelopathy was present preoperatively in 21 patients and radiculopathy in 4. Four patients had additional surgery (one or two level ACDF). There was resolution of neurological deficits or improvement in all patients. Significant improvement in VAS neck and arm pain scales was seen over the follow-up periods ( $p < 0.01$ ), however, disability scores improved only slightly. There was a decrease in pain medication use.

## Neck Pain Severity

## CONCLUSIONS

The results of this prospective study support prior reports of neurological improvement with laminoplasty for patients with cervical stenosis. Pain may be due to stenosis or discogenic in nature or

both. Pain improvement in laminoplasty patients is modest and some patients may benefit from evaluation for cervical discogenic pain.

**DISCLOSURES**

No Disclosures.

**CONFLICT OF INTEREST**

No Conflicts.