# Utilizing PROMIS to compare ACDF vs posterior cervical foraminotomy for unilateral cervical radiculopathy

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## BACKGROUND

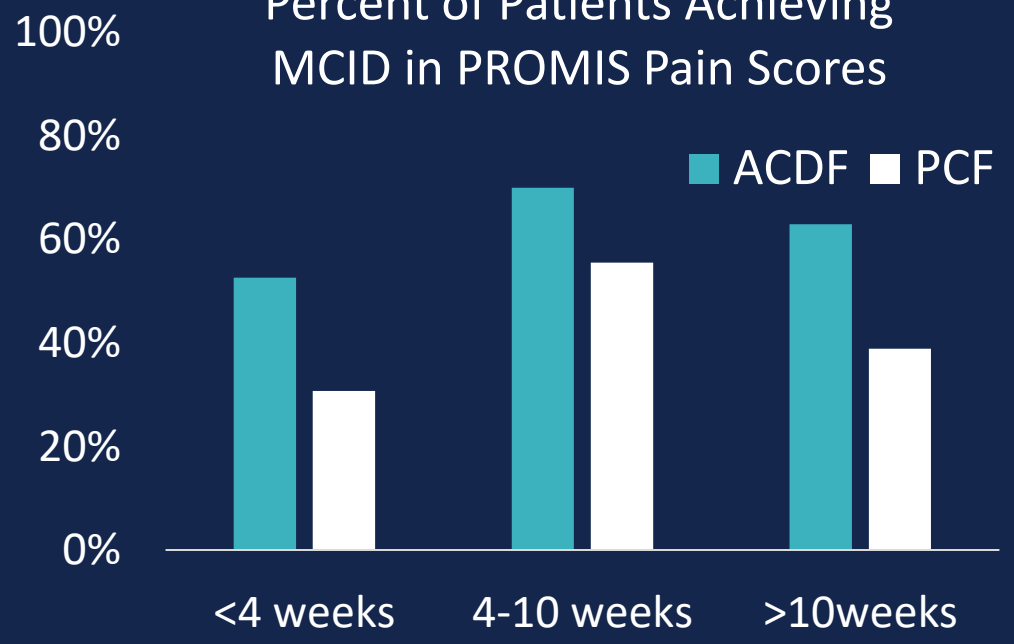
Both posterior cervical foraminotomy (PCF) and anterior cervical discectomy and fusion (ACDF) have been used to treat cervical radiculopathy. Surgeons debate which procedure is superior. This is the first study to utilize Patient-Reported Outcomes Measurement (PROMIS) to compare results across PCF and ACDF for unilateral radiculopathy.

## METHODS

32 ACDF and 32 PCF patients with unilateral cervical radiculopathy were retrospectively matched across age, sex, spinal level, comorbidity, BMI, smoking status, & preoperative PROMIS pain, physical function, & depression scores. Revision rates, complications, PROMIS scores, numeric pain scores, & physical exam findings of weakness & sensory loss were assessed postoperatively. Implant costs of ACDFs were obtained from operative notes.

## RESULTS

- ACDF patients had a 31.3% greater probability of achieving MCID in PROMIS pain scores than PCF ($p<0.001$).
- 63% of ACDF and 56% of PCF patients reported pain resolution (pain scores ≤1).
- The revision rate was 6.25% for the ACDF group; 0% for PCF group.
- ACDF and PCF medical record review averaged 6.15 and 5.99 years postop ($p<0.662$); in person follow-up averaged 399 and 181 days ($p<.019$).
- 40% of ACDFs reported mild dysphagia
- 3% of ACDFs had vocal cord paralysis.
- No statistical difference in time to achieve MCID across pain, function, & depression.
- Mean ACDF wholesale implant costs were $1,836.37 and $2,773.44 for one and two level ACDFs respectively.




## CONCLUSION

When matched by demographics, comorbidities, & preoperative symptom severity, PCF and ACDF have similar rates of pain resolution and surgical revisions for unilateral cervical radiculopathy. ACDF may provide a higher probability of providing MCID for pain while PCF may offer cost advantages & fewer complications.