Durability of Lumbar Discectomy: A Survivorship Analysis Based on Reoperation Rates

Charles Hopkins Crawford, Steven D Glassman[1], Mladen Djurasovic, Roger Kirk Owens, Jeffrey Gum[2], Leah Yacat Carreon[2]
[1]Norton Leatherman Spine, [2]Norton Leatherman Spine Center

INTRODUCTION: Durability of surgical treatment is important to patients, providers, and payors. In addition to the obvious effect on clinical outcomes and satisfaction, durability is an important variable when evaluating cost-effectiveness. Therefore, studying reoperation rates following surgical procedures has great clinical and societal value. Lumbar discectomy is one of the most commonly performed spinal surgeries. The purpose of this study was to analyze the prevalence and indications for reoperation.

METHODS: A multi-surgeon, single-institution database was queried for reoperation following lumbar discectomy (CPT=63030) during the study period from 2014 to 2018 with a minimum follow-up of four years (N=1133). The mean patient age was 44.93 (14.97) years, mean levels decompressed was 1.08 (0.29), mean BMI was 30.45 (6.57) kg/m^2, mean ASA was 2.33 (0.62), mean length of stay was 0.44 (1.29) days, and mean OR time was 115.41 (33.62) minutes. Primary indication for reoperation was collected via medical record analysis.

RESULTS: A total of 185/1133 patients (16%) underwent unplanned reoperation during the study period. The most common indication for reoperation was repeat decompression (N=80, 7%) which occurred at a mean of 334.2 (594.12) days postop. The second most common indication was instability requiring fusion (N=53, 5%) which occurred at a mean of 640.89 (651.68) days postop. Operation for infection (N=22, 2%) occurred at a mean of 37.77 (33.01) days postop. Other indications for reoperation were less common (<1%) and included: adjacent segment disease (N=13) at a mean of 682.31 (701.93) days postop, durotomy repair (N=13) at a mean of 26.77 (12.74) days postop, evacuation of hematoma/seroma (N=4) at a mean of 6.75 (6.29) days postop.

DISCUSSION AND CONCLUSION: The results of the current study show that lumbar discectomy is a relatively durable procedure (84%) as currently indicated and performed in a large multi-surgeon spine center. Early reoperation (<90 days) for infection, hematoma/seroma or durotomy repair is rare. Late reoperation (>90 days) for same segment pathology including recurrent stenosis with or without instability is much more common than adjacent segment disease. These data can help guide clinicians and researchers in future quality improvement initiatives.