



Quality of Life Outcomes following Revision Lumbar Discectomy

Daniel Lubelski; Nilgun Senol; Michael Silverstein; Matthew D. Alvin MBA, MA; Edward C. Benzel MD; Thomas E. Mroz MD;

Richard P. Schlenk MD

Cleveland Clinic Lerner College of Medicine



Cleveland Clinic

Introduction

5-14% of patients undergo revision discectomy for recurrent herniation and symptoms. No studies have quantified quality of life outcomes following primary versus revision discectomy.

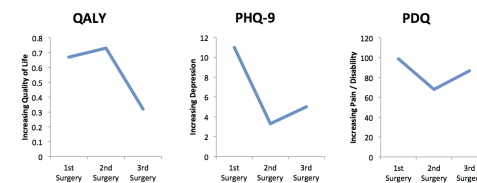
Methods

- A retrospective review of all patients who underwent a primary versus revision discectomy between January 2008 and December 2011 at a single tertiary-care institution was performed.
- We identified those that required a second revision discectomy procedure.
- Patient QOL measures were recorded pre- and postoperatively. QOL measures included, EQ-5D and Quality Adjusted Life Year (QALY), Patient Health Questionnaire-9 (PHQ-9), and Pain and Disability Questionnaire (PDQ).
- Cohorts were compared using independent sample t-tests and Fisher's exact tests for continuous and categorical variables. Multivariable logistic regression was performed to adjust for confounding.

Results

- 196 patients were identified (116 for primary discectomy and 80 for revision discectomy) with average follow-up of 150 days.
- Postoperatively, both groups had significant improvements in all QOL measures. For QALY, the primary discectomy group improved by 0.25 points ($p < 0.001$) and the revision discectomy group improved by 0.18 points ($p < 0.001$). A significantly greater percentage of patients showed improvement in QALY for the primary discectomy group (76% vs. 59%, $p = 0.02$), and improvement that exceeded the MCID (62% vs. 45%, $p = 0.03$).
- Of the patients that underwent a revision discectomy, 14 (17.5%) had yet another recurrent herniation (3rd herniation). Four patients (5%) chose to undergo a 2nd revision discectomy and the other 10 (12.5%) underwent conservative management. Those that underwent a 2nd revision discectomy had worsening QOL in all questionnaires.

Figure 1



Change in Quality of Life for primary vs 2nd and 3rd revision discectomy

Table 1

Variable	Odds Ratio (95% CI)	p-value
Primary Surgery	3.7 (1.7, 8.4)	0.001*
Age	1.0 (0.97, 1.03)	0.5
Sex (M/F)	1.4 (0.7, 3.0)	0.3
L2-3	0.3 (0.02, 7.7)	0.5
L3-4	1.9 (0.2, 21.4)	0.6
L4-5	0.9 (0.1, 9.9)	0.9
L5-S1	1.5 (0.2, 16.4)	0.7
Total Levels	1.3 (0.1, 10.3)	0.8
Pre-op QALY	139 (20.4, 1145)	<0.0001*

Multivariable logistic regression analysis of successful surgery (as defined by QALY improvement exceeding the MCID)

Conclusions

- Quality of life, pain and disability, and psychosocial outcomes improve following both primary and revision discectomy, but that the improvement is diminished following revision discectomy.

Learning Objectives

- To understand the quality of life outcomes following primary discectomy versus 1st time revision discectomy versus second time revision discectomy.