

Does Preoperative Self-Reported Disability Classification Impact Health Status Scores in Cervical Fusion Patients

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Background: The Oswestry Disability Index (ODI) and Patient Reported Outcomes Measurement Information Systems (PROMIS) domains are common patient-reported assessment tools used in the evaluation of spine interventions.

Research Question: Determine correlation of measures pre-operatively (pre-op) in patients undergoing spinal fusion for degenerative cervical disease and determine any patterns in demographics that could contribute to establishing benchmarking data that could aid in preoperative counseling and surgical decision making.

Methods: Analysis of 140 patients of patients completing pre-op ODI and PROMIS Physical Function (PF), Pain Interference (PI) and Satisfaction in Social Roles (SR) prior to cervical fusion for degenerative spine disease.

Results: Three cohorts were created based on the distribution of the ODI score (< 25th, 25th-75th and > 75th percentiles): Group I (ODI <36), Group II (36≥ODI≤58), and Group III (ODI>58). Group I consisted of 37 patients with a mean age 66.4 ± 11.9 years; Group II had 69 patients with a mean age of 68.1 ± 9.6 years; Group III had 34 patients with a mean age of 59.5 ± 11.3 years. Mean age of Group III was significantly younger than Groups I and II (p=0.023). In addition to the higher ODI scores, Group III had lowest mean PF (28.4± 4.4) and SR (31.6± 5.0) PROMIS scores as well as highest mean PI (72.4± 4.7) scores. Negative correlations existed, as expected, across all Groups between ODI vs. PF, and ODI vs. SR, whereas a positive correlation was observed between ODI vs. PI across all groups as well.

Discussion: Patients with the highest self-reported disability and pain interference scores, were significantly younger than patients with lower ODI and PI scores. These younger patients also reported lower physical function and dissatisfaction in social roles than the other patients. This study supports the observation that higher self-reported pain scores are increasingly being seen in younger spine populations.