## PHQ-2

## https://www.hiv.uw.edu/page/mental-health-screening/phq-2

The Michigan Spine Surgery Improvement Collaborative (MSSIC) is a prospective, longitudinal, multicenter, quality-improvement collaborative. Using MSSIC, Zakaria et al. sought to identify the relationship between a positive Patient Health Questionnaire-2 (PHQ-2) screening, which is predictive of depression, and patient satisfaction, return to work, and achieving Oswestry Disability Index (ODI) minimal clinically important difference (MCID) scores up to 2 years after lumbar fusion.

Data from a total of 8585 lumbar fusion patients were analyzed. Patient satisfaction was measured by the North American Spine Society patient satisfaction index. A positive PHQ-2 score is one that is  $\geq$  3, which has an 82.9% sensitivity and 90.0% specificity in detecting major depressive disorder. Generalized estimating equation models were constructed; variables tested include age, sex, race, past medical history, severity of surgery, and preoperative opioid usage.

Multivariate analysis was performed. Patients with a positive PHQ-2 score (i.e.,  $\geq$  3) were less likely to be satisfied after lumbar fusion at 90 days (relative risk [RR] 0.93, p < 0.001), 1 year (RR 0.92, p = 0.001), and 2 years (RR 0.92, p = 0.028). A positive PHQ-2 score was also associated with decreased likelihood of returning to work at 90 days (RR 0.76, p < 0.001), 1 year (RR 0.85, p = 0.001), and 2 years (RR 0.82, p = 0.031). A positive PHQ-2 score was predictive of failure to achieve an ODI MCID at 90 days (RR 1.07, p = 0.005) but not at 1 year or 2 years after lumbar fusion.

A multivariate analysis based on information from a large, multicenter, prospective database on lumbar fusion patients was performed. The authors found that a positive score ( $\geq$  3) on the PHQ-2, which is a simple and accurate screening tool for depression, predicts an inability to return to work and worse satisfaction up to 2 years after lumbar fusion. Depression is a treatable condition, and so in the same way that patients are medically optimized before surgery to decrease postoperative morbidity, perhaps patients should have preoperative psychiatric optimization to improve postoperative functional outcomes <sup>1)</sup>.

## 1)

Zakaria HM, Mansour TR, Telemi E, Asmaro K, Macki M, Bazydlo M, Schultz L, Nerenz DR, Abdulhak M, Schwalb JM, Park P, Chang V. Use of Patient Health Questionnaire-2 scoring to predict patient satisfaction and return to work up to 1 year after lumbar fusion: a 2-year analysis from the Michigan Spine Surgery Improvement Collaborative. J Neurosurg Spine. 2019 Aug 23:1-8. doi: 10.3171/2019.6.SPINE1963. [Epub ahead of print] PubMed PMID: 31443085.

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