

Active Treatment of Preoperative Depression Leads to Functional Outcomes Comparable to Non-Diagnosed Patients After Lumbar Fusion.

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Introduction: Patients with depression are overrepresented among those undergoing lumbar fusion surgery. While screening can often identify these patients, there is limited evidence to suggest that active screening and treatment can improve patient reported outcomes (PROMS). As a result, this study aimed to compare the effects of treated and untreated mental health diagnosis on lumbar fusion outcomes.

METHODS: A retrospective review of lumbar fusions was performed at a single tertiary care center (2017 to 2021). 977 patients (51.3% Female) were included and stratified into Untreated (n=94), Treated (n=232), and No Diagnosis (n=651) groups. A SQL search was used to collect patient demographics and PROMs. Mental health diagnosis and treatments were confirmed with manual chart review. Descriptive statistics were used to compare baseline demographics and outcomes between groups.

RESULTS SECTION: When comparing PROMs between groups, all groups showed improvement after surgery. However, at 3 months, the Untreated group had worse ODI scores than both the treated ($P=0.017$) and no diagnosis groups ($P<0.001$). The untreated group's VAS Back score was worse than the treated group's ($P=0.003$), and the no diagnosis group's ($P=0.001$). However, at the 3 months postoperative point there were no significant differences between the Treated and No diagnosis group in ODI ($P=0.121$), VAS Back ($P=0.749$) or VAS Leg ($P=0.749$). This similarity persisted throughout the 12 month follow up period. Meanwhile, the Untreated group worse pain and disability scores persisted throughout the 12-month period. Regarding MCS scores, the No Diagnosis group reported significantly better mental health scores than both the Untreated and Treated groups at each point, both preoperatively and postoperatively ($p<0.001$).

DISCUSSION: These findings show that patients with treated conditions achieve surgical outcomes comparable to those without a mental health diagnosis, and greater than those without treatment, suggesting a benefit to screening and treatment of these conditions.

SIGNIFICANCE/CLINICAL RELEVANCE: This study helps fill a gap in the current body of literature by suggesting that active screening treatment of depression and anxiety can improve lumbar fusion recovery. Patients with treated conditions achieved physical and functional outcomes comparable to those without a mental health diagnosis, providing a strong rationale for the utilization of preoperative screening and management to improve successful outcomes.