



# Does pre-operative Oxford Knee Score (OKS) predict patient reported success six months after total knee arthroplasty?



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Total knee replacement is a surgical procedure which has revolutionised the treatment of knee osteoarthritis. However, some patients undergoing total knee replacement surgery are not satisfied with the outcome. It is possible that these patients may have received surgery too early or too late in the disease process.

The purpose of this study was to determine whether the Oxford Knee Score can be used as a predictive tool for patient-reported success post total knee replacement. It was hypothesized that patients with a high Oxford Knee Score before surgery, which indicates mild symptoms of disease, were more likely to report poorer patient-reported post-operative success.

This study used a retrospective cohort of prospectively collected data of total knee replacement recipients. Analysis investigated the possible correlation between patient-reported success at six months after surgery with the patients' pre-operative Oxford Knee Score. De-identified dataset of unilateral total knee replacement patients were provided by the Arthroplasty Clinical Outcomes Registry. Overall, 2458 patient records were available for analysis. Estimation of the association between pre-operative Oxford Knee Score and patient-reported success six months post-operatively was performed using logistic regression. Four different models were used for analysis, with Oxford Knee Score treated as continuous and categorical variable; and patient-reported success dichotomised at "much better" and "slightly better". Area Under the Curve were calculated for these models to determine the predictive power. A subsequent secondary analysis was performed investigating correlation between pre-operative Oxford Knee Score and EQ-5D-5L patient-reported Quality of Life measure at six months after surgery using logistic regression analysis. Pre-operative Oxford Knee Score was again treated as a continuous and categorical variable.

Pre-operative Oxford Knee Score was not a significant predictor of patient-reported success (Model 1:  $P=0.42$ , Model 2:  $P=0.51$ , Model 3:  $P=0.48$ , Model 4:  $P=0.67$ ). Area Under the Curve demonstrated that there was little predictive power in all four models. However, the Oxford Knee Score was a significant predictor of four EQ-5D-5L domains ( $P<0.001$ ), but not "anxiety and depression". The low Oxford Knee Score group had significantly poorer outcomes ( $P<0.001$ ) compared to the medium Oxford Knee Score group as reflected in the EQ-5D-5L domains of pain, mobility and usual activities.

This study has demonstrated that pre-operative OKS is not a predictor of patient-reported success at six months. However, patients with a lower Oxford Knee Score pre-operatively are more likely to have poorer results as defined by the EQ-5D-5L. Patients waiting for Total Knee Replacement surgery should avoid deterioration in symptoms to below 26 points as measured by the Oxford Knee Score. Measures should be taken in the pre-operative period to minimise deterioration in disease symptoms.

*For the full report on this project visit our website, follow the link to the Rural Research Capacity Building Program and click on 'view'*

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