

## **Total Joint Arthroplasty Patients from Distressed Communities Return to Sports and Physical Activities at Lower Rates**

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**INTRODUCTION:** Patients often desire to return to sports and recreational physical activities following total hip arthroplasty (THA) and total knee arthroplasty (TKA), but may be limited both functionally and socioeconomically. The purpose of this study is to investigate the return to sport rates in total joint arthroplasty (TJA) patients based on their Distressed Communities Index (DCI), a validated tool to measure comparative economic wellbeing.

**METHODS:** Patients who underwent TJA at our institution from 2015-2020 were surveyed on sports/physical activity participation before and after TJA. In total, 2,335 patients were surveyed: 780 (33.4%) underwent THA, 1,158 (49.6%) underwent TKA, and 397 (17.0%) underwent both THA/TKA. Patients were grouped based on their DCI quintile into either the prosperous (DCI=1; N=1,126), comfortable (DCI=2; N=634), or mid-tier/at-risk/distressed (DCI=3-5; N=575) groups. Data was correlated with demographic and outcome scores.

**RESULTS:** Participation rates were 85.3%, 84.2%, and 77.7% at five years before TJA in the prosperous, comfortable, and mid-tier/at-risk/distressed groups, respectively ( $P < 0.001$ ). Participation rates were 74.2%, 70.7%, and 66.6%, at a mean 4.0 years postoperatively ( $P=0.004$ ). For all three groups, the most popular sports were recreational walking, swimming, cycling, and golf, and there were significantly lower preoperative and postoperative levels of participation in these physical activities in the more distressed groups. There were no significant differences in postoperative knee and hip specific functional outcome scores or changes in these scores. Multivariate logistic regression showed that a DCI quintile of three or higher significantly predicted the ability to return to sports ( $P=0.012$ ).

**DISCUSSION AND CONCLUSION:** While return to sports rates/physical activities are high in most TJA patients, those who are from more distressed communities report lower sports participation and return rates while experiencing similar functional outcomes. The DCI score is composed of measures that reflect education level, employment, housing, and poverty, therefore, surgeons should understand that social stressors can limit sports/physical activity participation.