Preoperative Physical Therapy May Improve Pain and Function Following Total Joint Arthroplasty

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Disclosures: KTC has stock in Abbott Laboratories. Otherwise the authors have no relevant disclosures.

Introduction

The use of preoperative physical therapy (PT) programs has been recognized to decrease pain, reduce length of stay, and increase patient satisfaction, particularly prior to total joint arthroplasty (TJA). With longer wait times for surgery due to the COVID-19 pandemic contributing to the deterioration of function of patients, this study aims to assess the benefits of a new PT and home evaluation program at a single institution.

Methods

A retrospective review of 130 primary THA and 124 primary TKA patients at a single institution was performed to assess postoperative outcomes in those who had participated in a preoperative PT program. IRB approval was obtained. Pain levels were compared with inpatient/outpatient morphine milligram equivalent (MME) requirements and visual analog scores (VAS). Mobility was assessed using multiple measures by a physical therapist. Mean postoperative range of motion (ROM), overall complications, and non-home discharge was compared.

Results

Of the 254 TJA patients, 67 (26%) patients underwent the prehabilitation program. Prehabilitation THA patients had statistically significant greater pre-surgical ROM, Boston Activity Measure Post-Acute Care (AM-PAC) score on postoperative day 0, lower subjective VAS pain scores on day of discharge, and greater 3-month postoperative ROM measurements. Prehabilitation TKA patients had statistically significantly less outpatient opioid MME pain requirements ($p=0.001$). In bivariate logistic regression analysis, preoperative physical therapy in TKA patients was predictive of greater distance ambulated on discharge day ($p=0.045$) and greater ROM on the 12-week postoperative visit ($p=0.035$).

Discussion

These results are in line with what has been observed in similar studies. Physical therapy has been shown to be beneficial to ROM in both THA and TKA patients. Some studies have shown preoperative PT to decrease pain postoperatively in TJA patients, but others have shown no differences. The decreased outpatient opioid MME requirements in this study are encouraging that patients are able to recover more quickly. The main limitation of this study is its retrospective nature and the fact that data is limited by what is documented in the chart.

Clinical Relevance

Preoperative PT programs may be useful to patients prior to TJA to help increase mobility, range of motion, function, and pain relief in the postoperative period. Especially in individuals who have a longer wait time prior to surgery, these programs may be helpful to optimize function and improve recovery.