

The Use of Telemedicine in the Global Period for Postoperative Orthopaedic Care following Total Knee Arthroplasty is Associated with Increased Medical Complications and Healthcare Utilization: A National Database Study

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INTRODUCTION:

Telemedicine is described as a medical practitioner performing clinical evaluation of a patient from a remote area. In recent years the use of telemedicine has skyrocketed in no small part due to the COVID-19 pandemic. Though it is touted as a convenient and cost-effective alternative to traditional in-person evaluation and generally achieves excellent patient satisfaction scores, the literature is mixed regarding its clinical efficacy value. Therefore, the purpose of this study was to evaluate medical and surgical complications, as well as healthcare utilization in patients that utilized telemedicine in the global period following total knee arthroplasty (TKA) compared to those who did not.

METHODS:

A national insurance database was retrospectively reviewed to identify all primary TKA patients from 2010 to 2019. Patients who underwent a telehealth virtual visit within 90 days of their operation were identified, as were those who had no such documentation of a telehealth visit within the 90-day period. We compared medical and surgical complication rates, emergency room visits, readmissions, and 90-day cost of care between the groups. Multivariate regression analysis was performed to determine the independent effect of telehealth postoperative evaluation on all outcomes.

RESULTS:

A total of 1,683 patients who underwent primary TKA with postoperative telehealth evaluation and 1,439,658 patients who underwent TKA without telehealth were identified. Patients with postoperative telemedicine evaluation were at increased risk of 90-day return to the ED (OR 1.88; $p < 0.001$) and readmission (OR 1.35; $p = 0.02$). Patients who received postoperative telehealth evaluation were not at increased risk of early medical or surgical complications.

DISCUSSION AND CONCLUSION:

Patients who underwent postoperative evaluation via telehealth following primary TKA were at increased risk of healthcare utilization by return to the ED and readmission. The utilization of telemedicine and telehealth visits should be carefully considered in postoperative arthroplasty patients to avoid healthcare overutilization while still monitoring patients in the early period following surgery.