

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

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## **INTRODUCTION:**

The COVID-19 pandemic ushered in a new paradigm for many components of care for orthopaedic patients. Telemedicine has long been used as a convenient, cost-effective modality to care for patients, though its use has dramatically increased since the start of the pandemic. Previous literature is mixed regarding its clinical efficacy and if it is capable of meeting the same standards that are met with traditional in-person orthopaedic consultation. Therefore, the purpose of this study was to evaluate medical and surgical complications, as well as healthcare utilization following primary total hip arthroplasty (THA) in patients that utilized telemedicine in the global period following surgery compared to those who did not.

## **METHODS:**

A national insurance database was retrospectively reviewed to identify all primary THA 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 1,039 patients who underwent primary THA with postoperative telehealth evaluation and 769,036 patients who underwent THA without telehealth were identified. Patients with postoperative telemedicine were at increased risk of 90-day medical complications including acute kidney injury (OR 2.06; p=0.002), pneumonia (OR 1.78; p = 0.04), sepsis (OR 2.86; p=0.03), and wound disruption (OR 2.21; p=0.006). Patients with postoperative telemedicine evaluation were also at increased risk of 90-day return to the ED (OR 1.72; p<0.001) and readmission (OR 1.44; p=0.01).

## **DISCUSSION AND CONCLUSION:**

Patients who underwent postoperative evaluation via telehealth following primary THA were at increased risk of early medical complications and healthcare utilization. Though telemedicine may be cost-effective and convenient for both providers and patients, it should be carefully utilized in a select cohort of patients to avoid under-surveillance of THA patients in the early postoperative period.