

# Study generally finds comparable outcomes for outpatient, inpatient orthopaedic surgeries

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As the effectiveness of anesthesia, pain management and rehabilitation continues to improve, more orthopaedic procedures are being done on an outpatient basis. In a new research study presented today at the 2014 Annual Meeting of the American Academy of Orthopaedic Surgeons (AAOS), same-day total joint replacement (TJR) patient outcomes were comparable to those of patients admitted to the hospital and staying at least one night following surgery. However, readmission rates, although statistically "non-significant," were higher for outpatient procedures. In a related study, a very low complication rate (.23 percent) was found in a review of more than 28,737 hand and upper extremity surgeries at an outpatient specialty clinic.

Many surgeons are now performing TJR as a same day procedure, with [patients](#) discharged within 24 hours of surgery. Outpatient TJR has "the potential benefit to cut costs and improve [patient satisfaction](#)," however, concerns for patient recovery, as well as increased Medicare scrutiny and financial penalties for unplanned [hospital](#) readmissions within 30 days of surgery, is deterring some doctors and hospitals from routinely performing outpatient surgeries, said David N. Vegari, MD, a Philadelphia orthopaedic surgeon and lead author of the study, "[Implications of Outpatient vs. Inpatient Total Joint Arthroplasty on Hospital Readmission Rates](#)."

In the study, researchers reviewed outcomes for 243 patients who

underwent either outpatient (137 patients) or inpatient (106 patients) total knee or total hip replacement surgery between September 2010 and May 2011. Patients receiving [outpatient surgery](#) had a body mass index (BMI)  $\leq 40$  kg/m<sup>2</sup>, as well as no cardiopulmonary issues, sleep apnea, history of deep venous thrombosis or pulmonary embolus (blood clots). To qualify for outpatient surgery, patients also had to live less than one hour from the hospital and have "good" family support. The inpatient group had comparable pre-surgical qualifications, but per surgeon preference, stayed in the hospital for two days.

Following the surgery, each patient completed a telephone survey consisting of 14 questions related to hospital readmissions, unplanned care and patient satisfaction.

Among the outcomes:

- Of the 137 outpatient procedures (THA and TKA), 14 patients (10.2 percent) were readmitted within a 30-day period following surgery while seven of 106 inpatient THA and TKA (6.6 percent) procedures (6.6 percent) required [hospital readmission](#) within 30 days. This difference was not statistically significant.
- When including emergency department (ED) visits and urgent care visits as unplanned care episodes to the readmission number, 17 (12.4 percent) of outpatients required either hospital readmission or an unplanned care episode compared to seven (6.7 percent) inpatient TJRs.
- Only one (2.2 percent) of the outpatient THA patients was readmitted within 30 days of surgery and no inpatient THAs required readmission.
- The length of hospital stay had no effect on patient satisfaction measurements.

Outpatient TJR has "the potential benefit to cut costs and improve

patient satisfaction," said Dr. Vegari. "With the trend toward higher readmissions in outpatient surgery, larger studies are needed to better understand the causes. By doing so, we can potentially help lower these rates to improve safety and efficacy of outpatient surgery."

In the related study, "[The Safety of Outpatient Hand and Upper Extremity Surgery – A Statistical Review of Complications in 28,737 Cases](#)," presented on Wednesday, March 12, adverse events were defined as those causing harm to a patient or leading to additional treatment. Using state reportable adverse events criteria as a guideline, the cases were divided into seven categories: infection, post-operative transfer to a hospital, wrong site surgery, retention of a foreign object, post-operative deep vein thrombosis, medication error and other "surgery-related complications." The adverse events were then analyzed to see if they led to additional laboratory testing, hospital admission, return to the operating room, emergency department visits, and/or physical or mental disability.

Among the findings:

- There were 65 reportable events for an overall complication rate of .23 percent. There were no mortalities.
- There were 21 infections (.7 percent), of which 10 were treated with antibiotics and one returned to the operating suite for incision and drainage. Seventeen patients (.06 percent) were transferred from the surgery center to the hospital post-operatively. The causes of the post-operative transfers included: irregular heart rhythms, uncontrolled hypertension, low-oxygen saturations, issues with pain control, drowsiness and generalized seizures.
- Twenty-one patients (.7 percent) were admitted to the hospital during the post-operative period, most often for poor pain control.

- There were no cases of wrong site surgery or retained foreign bodies.
- There was one case of post-operative pulmonary embolism, and one medication error that led to a rash.
- Four patients were returned to the operating room due to excessive bleeding or hematoma formation.

"With proper patient selection, extremely low complication rates can be achieved in hand and upper extremity surgery in outpatient surgery centers," said Sameer Jain, MD, a University of Pittsburgh orthopaedic surgeon specializing in sports medicine and hand and upper extremity surgery and lead study author of the study. "This is important, because as the cost of medicine rises and anesthesia continues to improve, more and more procedures are being completed on an outpatient basis.

"Our study supports the view that outpatient [surgery](#) can offer patients and physicians options for safe, cost-effective surgical care, offering improved patient comfort, increased efficiency and low complication rates," said Dr. Jain.

Provided by American Academy of Orthopaedic Surgeons

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