

No increased risk of complications for joint replacement in ambulatory surgery setting

March 14 2019

The typical length of stay in hospital after hip replacement and knee replacement procedures has decreased over the last decade from about four days to under two days.

"It's early in the trend, but there is a massive shift taking place toward more ambulatory hip and [knee](#) replacement surgeries that allow that [patients](#) go home on the same day of their operations," says Michael P. Ast, MD, a hip and knee replacement surgeon at Hospital for Special Surgery. "Currently, about 5% of total hip and knee replacement surgeries are performed on an ambulatory basis, but that figure is expected to rise to about 50% in the next five years."

Factors driving the trend to ambulatory total joint replacements include improvements in [surgical techniques](#), implant devices and pain control, as well as the potential for significantly reduced healthcare system costs. "But before the trend is adopted on a more widespread basis, we need to ensure that the risks of complications for patients do not increase," says Dr. Ast.

Dr. Ast and colleagues, including Alvin C. Ong, MD at the Rothman Orthopedic Institute, recently conducted a study to compare patient outcomes and costs for in-patient hip and knee replacement surgeries to those performed in an ambulatory [surgery](#) center. They found no increased risk of 90-day complication rates or readmission rates for patients who were discharged the same day compared to patients who had the same procedures and stayed in the hospital. An abstract of the

study was presented as a poster and included in the program book at the American Academy of Orthopaedic Surgeons 2019 Annual Meeting.

Dr. Ast performed the ambulatory surgeries at a community based [ambulatory surgery center](#) and Dr. Ong conducted the in-patient surgeries at a university medical center. They created a five-year prospective registry of all patients who received ambulatory hip or knee replacement surgeries starting in 2014. Results for 126 patients in the ambulatory group were matched to 126 patients in the in-patient group based on surgical procedure, age, sex, body mass index and health assessments. In each group, 77 patients underwent total hip replacements and 49 had total knee replacements.

The average length of stay in hospital was 8:09 hours for the ambulatory group, much shorter than 23:24 hours for the in-patient group. Overall, the rate of complications was low and there was no meaningful difference between groups: 3.9% for the in-patient group and 2.4% for the ambulatory group. There was also no significant difference between groups for readmission rates.

"I was very pleased to see there were no increased risks in complications or readmissions for ambulatory patients," says Dr. Ast. "But I didn't expect the cost difference would be so large—40% less for the ambulatory group compared to the in-patient group." Average costs per patient were \$11,677 for the ambulatory group and \$19,361 for the in-patient group. Costs included all costs associated with the surgery, such as the costs of the implant, staffing and medications, and immediate postoperative care.

Based on this pioneering work on an ambulatory surgical approach for hip and knee replacement surgery, Dr. Ast helped create the HSS outpatient joint program in partnership with other HSS surgeons. He explains that ambulatory surgery is best for patients who are relatively

healthy, have support at home after surgery, and have few risk factors like heart disease, a history of blood clots, untreated sleep apnea, or require special medications after surgery.

By the year 2030, there will be an estimated 635,000 hip replacements and 1.28 million knee replacements every year. "If up to half of those are ambulatory procedures, at a savings of 40%, the healthcare system will save billions," says Dr. Ast. "But patient outcomes are still our number one priority."

Provided by Hospital for Special Surgery

Citation: No increased risk of complications for joint replacement in ambulatory surgery setting (2019, March 14) retrieved 20 April 2024 from <https://medicalxpress.com/news/2019-03-complications-joint-ambulatory-surgery.html>

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