

# Post-surgical Readmissions High Among Orthopaedic Oncology Patients

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## PAPER PRESENTATION HIGHLIGHTS

The Centers for Medicare & Medicaid Services often uses 30- and 90-day post-surgical unplanned readmission rates as quality metrics, and financial penalties are imposed for failure to meet certain standards. There are limited data regarding causes and rates of unplanned readmissions for orthopaedic oncology patients who have high risks of postoperative complications. Researchers sought to determine the 30- and 90-day unplanned readmission rates in patients treated surgically for bone and soft tissue sarcomas, the causes for those readmissions, and potentially modifiable risk factors associated with those readmissions. Sandra A. Miskiel, MD, research fellow at the Bone and Joint Institute at Cooper University Hospital in Camden, N.J., presented the data yesterday.

Researchers conducted a retrospective review of patients surgically treated for a bone or soft tissue sarcoma at a single, tertiary-level hospital between January 2012 and December 2016. “An index admission was considered as an admission for radical resection or wide excision of the tumor,” the authors reported. “If a patient had an additional one of the two procedures outside the 90-day readmission window, the admission was considered a new, distinct

index admission.” Univariate and multivariate regression analyses to analyze demographics, comorbidities, and index admission details (including medical and surgical complications).

A total of 170 patients yielded 227 distinct index admissions. The 30- and 90-day unplanned readmission rates were 7.0 percent (n = 16) and 15.4 percent (n = 35), respectively. The 30-day readmission rates were “nearly double that of unplanned readmission rates for total joint arthroplasty (TJA),” according to the authors. These rates “[exceed] readmission rates of nononcologic orthopaedic services, which are reported between 3.1 percent and 12.3 percent,” said senior author Tae Won Benjamin Kim, MD, assistant professor at Cooper Medical School of Rowan University in Camden, N.J., as well as division head of orthopaedic oncology and assistant program director for the orthopaedic residency program at Cooper University Hospital.

Surgical site infection was the most common reason for unplanned readmission at both 30 (88 percent) and 90 days (77.1 percent). Specifically, wound dehiscence was the primary reason for readmission in both cohorts (38.0 percent and 37.1 percent, respectively), according to Dr. Kim.

According to multivariate regression, a surgical complication at the index admission increased

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the risk of an unplanned 30-day readmission by 9.0 times (odds ratio [OR], 9.000; 95 percent confidence interval [CI], 2.345-34.546;  $P = 0.001$ ); however, this was not a risk factor for 90-day unplanned readmission. Prolonged index hospitalization length of stay increased the risk for a readmission within 90 days (OR, 1.07; 95 percent CI, 1.014-1.127;  $P = 0.01$ ).

“Our readmission rates are closer to other surgical oncology specialties; 30-day unplanned readmission rates for patients undergoing surgical procedures for pancreatic, hepatic, or colorectal cancer have ranged from 7.8 percent to 13.7 percent,” the authors said. “Additionally, the risk factors identified for readmission are not easily modifiable, and due to the nature of the disease,

orthopaedic oncology patients may not be as medically optimized as patients undergoing procedures such as TJA. Careful consideration with appropriate risk adjustment must be conducted to ensure that tertiary care hospitals and orthopaedic surgery departments with an orthopaedic oncology service are not unfairly penalized.”

“It appears that the risk factors associated with the readmissions are inherent in this patient population either due to their exposure to necessary radiation and/or chemotherapy or poor general health,” said Dr. Kim. “As such, readmission rates should not be utilized to determine the quality of care an orthopaedic oncologist delivers to patients, and orthopaedic departments [with] oncology divisions should be given secondary considerations related to this high-risk patient population when determining quality. We hope that the study will raise awareness of the need to evaluate orthopaedic oncology patients and orthopaedic oncologists differently than other orthopaedic surgeons. We hope that the study initiates further studies on the cost of care and identifies areas for improvement that can help these patients and the healthcare system.”

The study is limited by its small sample size. In addition, some readmission rates were estimated, and direct comparisons between healthcare systems complicate the findings. 

Dr. Miskiel's coauthors of “Surgical Treatment of Bone and Soft Tissue Sarcomas: Unplanned Readmissions and Risk Factors” are Dr. Kim; Karina Willin Lo, BS; Gabriel Makar; and John Gaughan, PhD.

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## SCENES FROM THE AAOS 2019 ANNUAL MEETING



## Society Presidents from Around the World Convene at Special Event

Yesterday's International Presidents Breakfast and World Opinion Forum brought together orthopaedic society presidents from nations around the world. AAOS President David A. Halsey, MD, acknowledged this year's Guest Nation—the Republic of Korea—and presented a ceremonial award to Won Yong Shon, MD, PhD, president of the Korean Orthopaedic Association.