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For more information, contact:

Kristina Goel	847-384-4034	312-388-5241	goel@aaos.org
Lauren Pearson Riley	847-384-4031	708-227-1773	pearson@aaos.org

Infection is the Leading Cause of Failed Prosthetic Knee Joints
Optimizing patient health before surgery may reduce need for revisions

NEW ORLEANS—The number of [total knee replacement](#) (TKR) procedures continues to climb, as does the number of revision total knee replacement (RTKR) surgeries. In the study, [“The Epidemiology of Revision Total Knee Arthroplasty in the United States,”](#) presented today at the 2014 Annual Meeting of the [American Academy of Orthopaedic Surgeons](#) (AAOS), researchers used the Nationwide Inpatient Sample (NIS) to evaluate the cause of knee failure for 301,718 revision RTKR surgeries performed between 2005 and 2010.

Revision surgeries were more common in women (58 percent) and most often performed in patients, ages 65 to 74. A moderate severity of illness score (related to patient comorbid illness) was identified in more than 60 percent of patients. Infection in the prosthetic knee joint (periprosthetic joint infection) was the most common reason for revision (25 percent of patients), and mechanical loosening was the cause in 18.5 percent of patients. Revision TKR procedures were more commonly performed in large, urban non-teaching hospitals in the Southern and Midwestern regions of the United States. Revisions due to periprosthetic fractures were associated with the longest length of hospital stay (up to seven days), with an average hospitalization cost of \$35,000.

Elderly and female patients with a moderate number of comorbidities represented the largest proportion of the revision population. The authors suggest that optimizing patient health before surgery and paying meticulous attention to efforts by the surgical team to minimize the risk of periprosthetic joint infection may decrease the number of knee replacement revisions.

In a related study, [“The Incidence of and Risk Factors for 30-Day Surgical Site Infections following Total Joint Arthroplasty”](#) (Embargo: March 11), researchers found that patient characteristics and comorbidities, especially morbid obesity, were associated with a dramatic increase in infection risk.

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