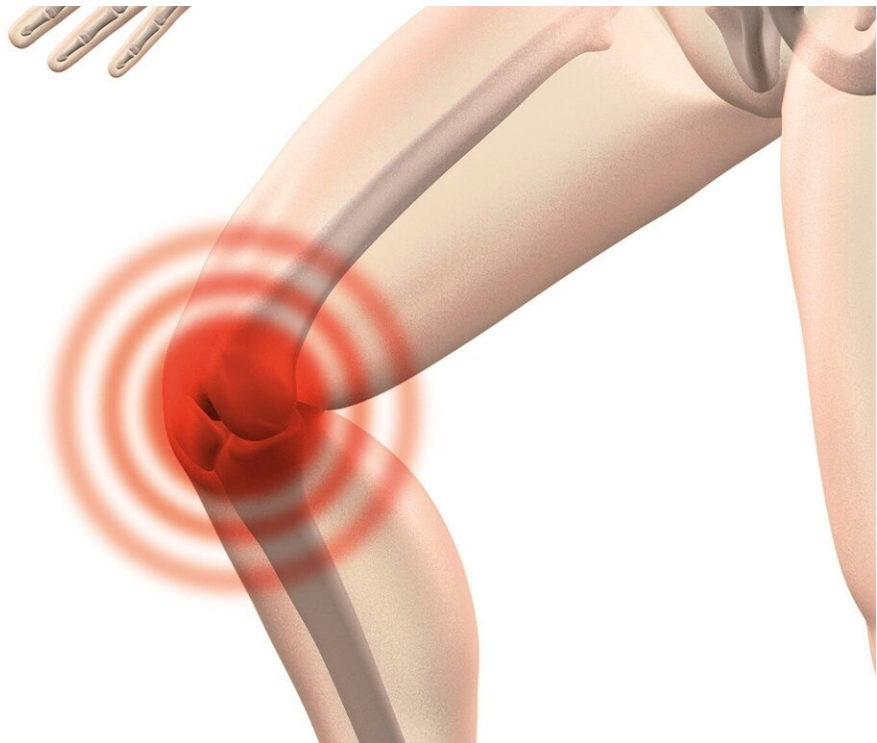


Study reveals unnecessary stress testing performed prior to knee and hip replacement surgeries

October 1 2020, by Kat Carlton



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A new study out of the University of Chicago Medicine shows the overall rate of preoperative stress testing for hip and knee replacements is and has been decreasing consistently since 2006. Still, researchers

found, 30,000 out of every 100,000 stress tests performed each year were unnecessary, as the tests didn't decrease the frequency of complications such as heart attacks or stopped hearts.

Titled "Frequency and Outcomes of Preoperative Stress Testing in Total Hip and Knee Arthroplasty from 2004-2017," the study was published today in *JAMA Cardiology*.

Preoperative cardiac stress testing is used to assess the risk for heart problems, such as heart attacks, in patients scheduled for non-cardiac surgeries. Researchers analyzed the IBM MarketScan 2004-2017 Commercial and Medicare Supplemental Databases, which represent the [health services](#) of about 185 million employees, dependents and retirees in the United States.

Each year in the United States during the study period, more than one million knee and hip replacements were performed. These are two of the most common surgeries done in the country, trailing only cesarean sections and cataract surgeries.

"Stress testing is expensive," said Daniel Rubin, MD, UChicago Medicine Associate Professor of Anesthesia and Critical Care and study first author. "It can also delay the knee or hip replacement surgery and lead to other unnecessary tests that may not help a patient, overall."

According to Rubin, cardiac stress testing was introduced prior to surgery to improve outcomes in patients who may be more likely to have heart attacks or stopped hearts. But over time, research has indicated that an increased amount of [stress](#) testing hasn't led to a change in the outcomes of these patients.

And while most researchers who have studied this area agree that routine testing isn't indicative of improved outcomes, many physicians continue

to administer these tests in spite of existing guidelines to the contrary from the American College of Cardiology and American Heart Association.

"Even though there may be clear guidelines," Rubin said, "you may find practitioners are unlikely to adhere to them because they don't know the information, they have outdated guidelines, or they feel their experience is better attuned to a specific patient's needs."

According to Rubin and co-authors, while there has been progress in reducing the number of tests since 2006, the study's findings suggest a continued opportunity for educational initiatives to improve the utilization of medical resources and reduce costs associated with unnecessary testing.

More information: Daniel S. Rubin et al. Frequency and Outcomes of Preoperative Stress Testing in Total Hip and Knee Arthroplasty from 2004 to 2017, *JAMA Cardiology* (2020). [DOI: 10.1001/jamacardio.2020.4311](https://doi.org/10.1001/jamacardio.2020.4311)

Provided by University of Chicago Medical Center

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