

# Timing of steroid shots before rotator cuff surgery affects infection risk

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For patients undergoing arthroscopic surgery to repair a torn rotator cuff, previous steroid injections into the shoulder don't increase the risk of surgical-site infection—unless the injection is administered within one month before surgery, reports a study in the April 17, 2019 issue of *The Journal of Bone & Joint Surgery*.

"Infection following arthroscopic rotator cuff repair occurred at a 65 percent to 75 percent greater rate when patients received a [shoulder](#) injection within one month of the surgical procedure," according to the new research by Brian Forsythe, MD, of Rush University Medical Center, Chicago, and colleagues. But the study finds no increase in [infection](#) risk associated with [steroid injections](#) at any other time during the year before surgery.

## Increased Infection Risk with Shoulder Injection One Month Before Surgery

The study included data on more than 60,000 patients who had arthroscopic surgery to repair a torn rotator cuff between 2007 to 2016, identified from a large insurer database. About 12,000 patients received a steroid injection in the year before surgery. The remaining 48,000 patients had no shoulder injection during that time. The overall infection rate was almost identical between groups: 0.7 percent for patients who had received a shoulder injection at any time in the year before surgery, and 0.8 percent in those who did not.

However, among patients who had a steroid injection one month or less before surgery, the infection rate was significantly higher than that in the control group: 1.3 percent. Injections received at any other interval during the year before rotator cuff repair—from two to 12 months—did not affect the postoperative infection risk.

After the authors adjusted for other factors, steroid injection in the month before surgery was the single strongest predictor of postoperative infection. Other [risk factors](#) identified were consistent with findings from previous studies: male sex, smoking, obesity, and diabetes.

Symptomatic rotator cuff tears are common, occurring in more than 30 percent of the population. Steroid injections can reduce pain and inflammation in patients with rotator cuff tears. If this and other "conservative" treatments (such as physical therapy) don't provide enough improvement, rotator cuff surgery may be recommended.

Due to concern over the risk of infection, surgeons may delay rotator cuff repair in patients who have undergone shoulder injection. However, until now there was little evidence on the risks of infection after a preoperative injection.

The new findings suggest that infection risk is increased only for patients who have a steroid injection within one month before rotator cuff surgery. Thereafter, the timing of shoulder injections seems to have no effect on the risk of infection.

For orthopaedic surgeons, that's an important piece of information, as many patients opt for—and insurers may require—a period of conservative treatment before [surgery](#) for rotator cuff tears. Dr. Forsythe and coauthors conclude, "If [patients](#) receive a corticosteroid [injection](#) to treat symptomatic [rotator cuff](#) tears, the results of this study suggest that physicians allow at least one month prior to proceeding with operative

management to reduce postoperative infections."

**More information:** "The Timing of Injections Prior to Arthroscopic Rotator Cuff Repair Impacts the Risk of Surgical Site Infection", [DOI: 10.2106/JBJS.18.00631](https://doi.org/10.2106/JBJS.18.00631) , [journals.lww.com/jbjsjournal/FullText/2019/04000/Arthroscopic.3.aspx](https://journals.lww.com/jbjsjournal/FullText/2019/04000/Arthroscopic.3.aspx)

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