

Overall risks of shoulder surgery low, but study finds significant risk of reoperation

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Rates of serious complications associated with shoulder surgery are low, but one in 26 patients need further surgery within a year, finds a study in

The BMJ today.

The use of keyhole (arthroscopic) surgery has increased rapidly during the past two decades, particularly of the knee and [shoulder](#). Common arthroscopic shoulder procedures include rotator cuff repair and frozen shoulder release, yet there is still a lack of accurate data on their risks.

To fill this knowledge gap, researchers used NHS hospital data for England to estimate the risks of complications within 90 days of the most common elective shoulder arthroscopy procedures, and reoperation within one year.

Their findings are based on 288,250 arthroscopic shoulder procedures performed in 261,248 [patients](#) aged 16 years and over between 1 April 2009 and 31 March 2017.

Serious adverse events needing inpatient care within 90 days of surgery were death, blood clot in the lung (pulmonary embolism), pneumonia, [heart attack](#), [acute kidney injury](#), stroke, and [urinary tract infection](#), and reoperations (including for deep infection) within one year.

The overall rate of complications within 90 days after arthroscopic [shoulder surgery](#) (including reoperation) was low at 1.2%, with one in 81 patients at risk.

Complication rates varied according to type of procedure, but these differences disappeared after accounting for age, sex and underlying conditions (comorbidities).

The most common adverse event was pneumonia (one in 303 patients at risk), while [pulmonary embolism](#) was rare (one in 1,428 patients).

One in 26 patients underwent reoperation within one year, suggesting

either an ineffective procedure or a complication. Reoperation due to infection was low (one in 1,111 patients) but was higher for rotator cuff repair (one in 526 patients).

Particularly high reoperation rates were found after frozen shoulder release surgery, which probably highlights the poorly understood and unpredictable nature of this condition, note the researchers.

Over the study period, the number of arthroscopic shoulder procedures increased, except for subacromial decompression (surgery to treat shoulder impingement), which decreased.

This is an observational study, so can't establish cause, and the researchers acknowledge that they did not capture complications that were mild enough to be treated in [primary care](#).

Nevertheless, the results are based on a large sample of population level data, ensuring more precise estimates of adverse events and reoperation rates.

As such, the researchers conclude: "The findings of this study suggest that risks of serious adverse events associated with common shoulder arthroscopy procedures are low. Nevertheless, serious complications do occur, and include the risk of reoperation in one in 26 patients within one year."

They add: "As the numbers of other arthroscopic shoulder procedures continue to increase, this study provides [real world](#) generalisable estimates of serious adverse events and reoperation rates that should better inform surgeons and patients."

Safety data are welcome, but do these procedures work? ask two [orthopedic surgeons](#) in a linked editorial.

They point out that recent trials have shone the light of science on arthroscopic shoulder procedures, typically finding most of them to be no better than non-surgical care for most patients. "If arthroscopic shoulder surgery is to continue, high quality research must be done to find out which procedures are truly effective, and work according to patients and their conditions," they write.

In the meantime, they say this study "gives clinicians and patients confidence that if an arthroscopic shoulder procedure is known to be effective, it is likely to be safe as well."

More information: Serious adverse event rates and reoperation after arthroscopic shoulder surgery: population based cohort study, [DOI: 10.1136/bmj-2021-069901](https://doi.org/10.1136/bmj-2021-069901)

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