

Surgery for rotator cuff disease

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Summary

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This summary of a Cochrane review presents what we know from research about the effect of surgery for rotator cuff disease. The review shows that surgery:

may not lead to any difference in pain compared with different exercise programs.

The review shows that arthroscopic surgery:

may not lead to any difference in outcome in the long run compared with open surgery but people might recover sooner.

There was not enough information in the included studies to tell whether surgery would make a difference in the ability to use your shoulder normally, your quality of life, your shoulder's range of motion, your strength, the chance that your symptoms might come back, the time it takes to return to work or sports and whether people are satisfied with surgery.

Side effects that occurred in the studies included pain, infection, difficulty moving the shoulder after the operation, wasting of the shoulder muscle, and the need to have another surgical procedure. There were no differences in side effects in the people who had arthroscopic surgery compared with those who had open surgery.

What is rotator cuff disease and what is surgery?

The rotator cuff is a group of tendons that hold the shoulder joint in place. The rotator cuff lets people lift their arm and reach overhead. In a lot of people, wear and tear of the rotator cuff tendons is a normal part of ageing and they may not have symptoms. However many people will develop pain in their shoulder at some time as the tendons degenerate further and tears in the rotator cuff tendons develop. There may also be inflammation of the shoulder tendons or bursa (another part of the shoulder that helps it move). Often the pain is made worse by sleeping on the affected shoulder and moving the shoulder in certain directions. Often there will be pressure on the tendons by the overlying bone when lifting the arm up. This is called impingement. It may become difficult to use the shoulder in every day activities, sports or work.

To diagnose rotator cuff disease, a doctor will examine your shoulder and ask you questions about your ability to move it, and the situations that cause pain.

If the pain does not go away by itself or with various treatments like steroid injections or physiotherapy or both, surgery can be performed. Surgery on your rotator cuff may include removing part of your bone to take the pressure off the rotator cuff tendons (acromioplasty), removing any swollen or inflamed bursa (the small sack of fluid around the joint), and removing any damaged tissue to help heal the remaining tissue.

This is called a 'decompression'. If one of the tendons of the rotator cuff is torn, the doctor might use special stitches to repair it. This is called a 'repair'.

Some procedures can be performed arthroscopically (surgical instruments are inserted through a small incision or key hole and an endoscope to visualise the area and to guide the doctor is inserted through another incision), which can mean a shorter recovery time.

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Abstract

Background

This review is one in a series of Cochrane reviews of interventions for shoulder disorders.

Objectives

To determine the effectiveness and safety of surgery for rotator cuff disease.

Search strategy

We searched the Cochrane Controlled Trials Register, (*The Cochrane Library* Issue 1, 2006), MEDLINE, EMBASE, CINAHL, Sports Discus, Science Citation Index (Web of Science) in March 2006 unrestricted by date or language.

Selection criteria

Only studies described as randomised or quasi-randomised clinical trials (RCTs) studying participants with rotator cuff disease and surgical interventions compared to placebo, no treatment, or any other treatment were included.

Data collection and analysis

Two independent review authors assessed methodological quality of each included trial and extracted data.

Main results

We included 14 RCTs involving 829 participants. Eleven trials included participants with impingement, two trials included participants with rotator cuff tear and one trial included participants with calcific tendinitis. No study met all methodological quality criteria and minimal pooling could be performed. Three trials compared either open or arthroscopic subacromial decompression with active non operative treatment (exercise programme, physiotherapy regimen of exercise and education, or graded physiotherapy strengthening program). No differences in outcome between these treatment groups were reported in any of these trials. One trial which also included a placebo arm (12 sessions detuned soft laser) reported that the Neer score of participants in both active treatment arms improved significantly more than those who received placebo at six months.

Six trials that compared arthroscopic with open subacromial decompression reported no significant differences in outcome between groups at any time point although four trials reported a quicker recovery and/or return to work with arthroscopic decompression. Adverse events, which occurred in three trials and included infection, capsulitis, pain, deltoid atrophy, and reoperation, did not differ between surgical groups.

Authors' conclusions

Based upon our review of 14 trials examining heterogeneous interventions and all susceptible to bias, we cannot draw firm conclusions about the effectiveness or safety of surgery for rotator cuff disease. There is "Silver" (www.cochranemsk.org) level evidence from three trials that there are no significant differences in outcome between open or arthroscopic subacromial decompression and active non-operative treatment for impingement. There is also "Silver" level evidence from six trials that there are no significant differences in outcome between arthroscopic and open subacromial decompression although four trials reported earlier recovery with arthroscopic decompression.

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