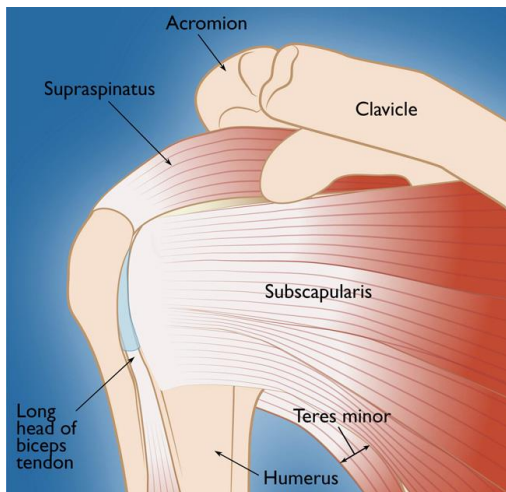


## Rotator Cuff and Biceps Shoulder Injuries

### What is the rotator cuff?

The shoulder is a ball and socket joint. The rotator cuff is formed from four muscles and tendons that attach your arm to your shoulder blade. These muscles help keep the ball centred in the socket and help to control shoulder movements. The biceps tendon runs into the shoulder between the rotator cuff, so can often be injured as well.

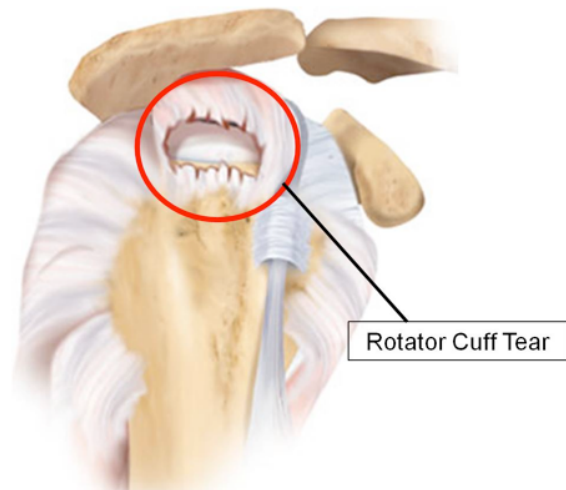


If the rotator cuff becomes weak or tears, you can get pain and weakness. The muscles can be torn through general wear and tear or after an accident/fall. The damage usually occurs in the tendon, the area where the muscle joins the bone of the ball. If one or more of these muscle tendons are torn, movement is no longer smoothly controlled and this can cause weakness and pain.

A tear of the rotator cuff often damages the biceps tendon, and this often will need to be addressed at your operation.

There are usually 3 types of damage that can happen to the rotator cuff causing pain

- Rotator-cuff tear
- Damage to the biceps tendon
- Impingement — The area where the rotator cuff moves is protected by soft tissue called the bursa. The rotator cuff and the bursa can rub on, or get squeezed by, the collarbone or shoulder blade.



### What are the benefits of surgery?

The aim is for you to have less pain and be able to use your shoulder more easily but you are unlikely to get back the same strength that you had before you damaged your shoulder.

## Are there any alternatives to surgery?

Most people with impingement or a small tear can get back good function in their shoulder by changing their activities, and with the help of exercises and physiotherapy.

Simple painkillers such as paracetamol and anti-inflammatory painkillers such as ibuprofen can also help.

A steroid and local-anaesthetic injection into your shoulder can sometimes reduce pain for several months but may cause side effects if repeated too often.

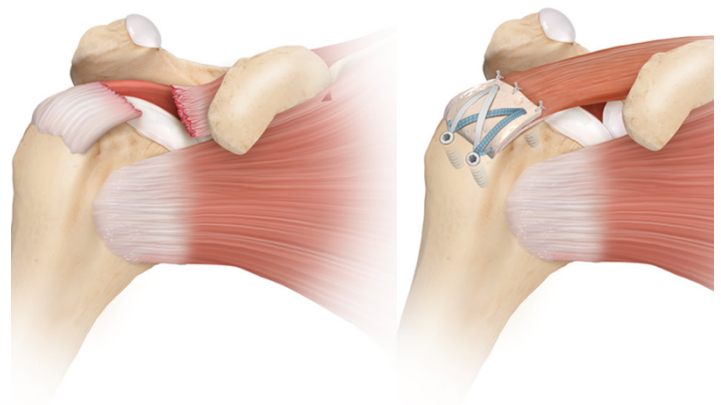
## What does the operation involve?

The operation is usually performed under a general anaesthetic but various anaesthetic techniques are possible.

The operation usually takes one to two hours. We aim to perform the operation through a keyhole surgery, but some tears require a slightly bigger surgical incision. The goal is to reattach the rotator cuff to the bone. A video is available at <https://www.orthoillustrated.com/shoulder/tears#RotatorCuffTear>.

The biceps tendon is often damaged in rotator cuff injuries, and we will discuss the different options for treatment of this, which usually include a tenodesis or tenotomy. Biceps tenodesis involves cutting the biceps tendon and reattaching it to the humerus (upper arm bone). Biceps tenotomy means cutting off one tendon and not reattaching it, allowing it to heal to the humerus over a few weeks. The biceps will still function well after tenotomy, but there may be a change in the appearance of the arm with some flattening of the biceps and a small risk of cramping.

A biceps tenodesis is a larger procedure that can take 6 months to recover, and is usually reserved for patients who do activities that stress the biceps or involves heavy lifting, both of which can cause biceps spasm.



## Complications

Some of these can be serious and can even cause death. General complications of any shoulder surgery include:

- **Pain** levels felt after surgery vary depending on the type of surgery, individual pain thresholds, nature of the problem for which surgery was done and various other factors. Pain beyond 2-3 months may indicate ongoing inflammation which may need injections to help improve.
- **Stiffness** after shoulder surgery is common and occurs as a result of preexisting pathology, surgical scarring and prolonged post-operative protection in a sling. Most stiffness improves by 6 months, however some patients may require injections or further procedures to help the stiffness.
- **Bleeding** during or after surgery is very uncommon, occurring in less than 1% of patients. It is common to have oozing from the arthroscopic wound ports after surgery as the blood-stained sterile water used during surgery drains out.
- **Infection** of the surgical wound is rare with arthroscopic surgery. Early diagnosis of post-operative infection has a significantly better outcome compared to delayed diagnosis. After your operation, you should contact the rooms immediately if you get a temperature, become unwell, notice pus in your wound, or if your wound becomes red, sore or painful.
- **Unsightly scarring** of the skin is uncommon and most surgical scars have disappeared to a thin pale line by one year after surgery. If you are concerned about your scar please discuss treatments to improve scar healing.
- **Nerve injury** is rare (less than 0.5%) with most shoulder operations, but some larger operations have a higher risk and this will be discussed with you by your surgeon.
- **Vascular injury** is very rare (less than 0.5%) after shoulder surgery.
- **Anaesthetic related** complications such as sickness and nausea are relatively common. Heart attacks, lung infections and neurological problems such as strokes are rare, occurring at less than 1 person in 1,000, but have been reported to occur.

## Specific complications of this operation

- Stiffness after rotator cuff surgery is common and occurs as a result of the healing process. It is very uncommon to see significant stiffness at 1 year after arthroscopic shoulder surgery. Some patients may require injections or a further procedure to get movement back, however stiffness is often indicates the tendon is healing
- Blood clot (thrombosis) in the axillary vein, which is just under your shoulder joint
- The rotator cuff tearing again or the tear failing to heal. Despite the patient satisfaction rate of over 95%, approximately 15 to 20% of repaired tendons do not fully heal or re-tear.
- Biceps complications such as cramping, fatigue and weakness are uncommon but can occur. Cosmetic deformity in the form of the 'Popeye' deformity often occurs after biceps release/tenotomy.

## How soon will I recover?

You should be able to go home the same day or the next morning. It can take up to a year to get back enough strength in your shoulder to return to normal activities. Regular exercise should help you to return to normal activities as soon as possible. Before you start exercising, ask for advice.

You may not get back the same strength that you had before you damaged your shoulder.

## Summary

Rotator-cuff and biceps problems can cause pain and weakness in your shoulder. An operation can help to reduce any pain and to get back some strength in your shoulder if non operative treatment doesn't work.

Any further questions do not hesitate to contact Mr Owen Mattern

### Secure/Small Rotator Cuff Repair

	Rehabilitation
<b>On Discharge – 4 Weeks</b>	<ul style="list-style-type: none"> <li>• Sling for 4 weeks</li> <li>• Advice on sling management</li> <li>• Neck, elbow, wrist &amp; hand exercises</li> <li>• Postural awareness and scapula control</li> <li>• Active assisted closed chain ROM in safe zone</li> <li>• Kinetic chain rehabilitation</li> <li>• Thoracic spine ROM</li> <li>• Avoid combined abduction and external rotation and hand behind back</li> </ul>
<b>4-6 Weeks</b>	<ul style="list-style-type: none"> <li>• Progress from active assisted to active ROM (short to long lever)</li> <li>• HBB within limits of pain</li> <li>• Begin cuff control exercises and sub maximal isometric strengthening approx. 30% through available range</li> </ul>
<b>6-12 Weeks</b>	<ul style="list-style-type: none"> <li>• Commence open chain rotator cuff strengthening (short to long lever)</li> <li>• Kinetic chain functional rotator cuff and scapula control</li> <li>• Begin stretching into combined movement ranges</li> <li>• Patient specific functional/sports training</li> <li>• Full kinetic chain rehab</li> </ul>
<b>Week 12</b>	<ul style="list-style-type: none"> <li>• Begin combined abduction and external rotation</li> <li>• Manual therapy to address and ROM deficits</li> </ul>

### Milestone

<b>Week 4</b>	Can return to driving as able and sedentary work
<b>Week 6</b>	Active assisted movement at least 80% of normal, sling discarded.
<b>Week 12+</b>	Full AROM, normal function, can consider return to contact sport, manual work and lifting

<b>Sling</b>	Sling 4 weeks
<b>Physiotherapy Follow Up</b>	Within 2 weeks post op

Patient Specific Instructions/Requirements

### Insecure/Large Rotator Cuff Repair

	Rehabilitation
<b>On Discharge - 4 Weeks</b>	<ul style="list-style-type: none"> <li>• Sling 6 weeks, if abduction wedge then reduce to standard sling at 2-3 weeks</li> <li>• Advice on sling management</li> <li>• Neck, elbow, wrist &amp; hand exercises</li> <li>• Postural awareness and scapula control</li> <li>• Active assisted closed chain ROM in safe zone (short lever)</li> <li>• Kinetic chain rehabilitation</li> <li>• Thoracic spine ROM</li> <li>• Avoid combined abduction and external rotation and hand behind back</li> </ul>
<b>4-6 weeks</b>	<ul style="list-style-type: none"> <li>• Light proprioceptive exercises</li> <li>• Remain in sling</li> </ul>
<b>6-8 Weeks</b>	<ul style="list-style-type: none"> <li>• Wean from sling</li> <li>• Begin isometric strengthening in neutral - sub maximal isometric strengthening approx. 30%)</li> <li>• Progress active assisted ROM beyond safe zone</li> </ul>
<b>8-12 weeks</b>	<ul style="list-style-type: none"> <li>• Begin early rotator cuff strengthening through range</li> <li>• Active short lever kinetic chain rehab' of the affected arm progressing to long lever function movement</li> </ul>
<b>12 Weeks</b>	<ul style="list-style-type: none"> <li>• Patient specific functional/sports training</li> <li>• Begin combined abduction and external rotation</li> <li>• Full kinetic chain rehab</li> <li>• Manual therapy to address and ROM deficits</li> </ul>

<b>Sling</b>	Sling 6 weeks: Possible abduction sling
<b>Physiotherapy Follow Up</b>	Within 2 weeks post op

Milestones	
<b>Week 8</b>	ROM 75%-80% of normal, sling discarded, return to driving as able, return to sedentary work
<b>3-6 months</b>	Full ROM, return to swimming, golf and lifting. Return to manual work as guided by surgeon/physiotherapist
<b>6 months</b>	Unrestricted activity

Patient Specific Instructions/Requirements