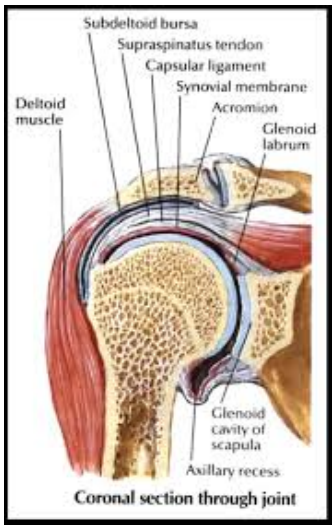
Rotator Cuff Disease

The Anatomy

The rotator cuff is comprised of the tendons in your shoulder that allow you to

- elevate your arm (supraspinatus)
- touch your back (subscapularis)
- touch your head (infraspinatus / teres minor)

These muscles and tendons also have the important function of stabilising your arm bone (humerus) on your shoulder blade (glenoid and scapula) to allow your powerful deltoid muscle to do most of the work with arm elevation.

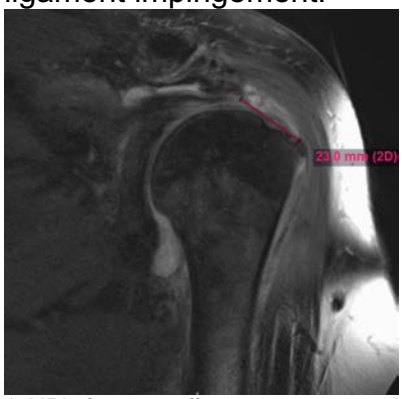


The Disease Process

Most commonly the rotator cuff has a slow degeneration over years. This can lead to abnormalities of the tendon tissue or even a chronic tear. Over 50% of people over the age of 80 have a rotator cuff tear. Many people have a tear of the rotator cuff without any symptoms at all.

The rotator cuff can also be torn by a sudden injury. Sometimes a minor incident leads to development of pain in a long-standing tear.

Chronic tears can develop because the blood supply and healing ability of the cuff is reduced due to medical conditions such as diabetes or smoking. Chronic tears can also occur due to external impingement from bone spurs or ligament impingement.



1. MRI of rotator cuff tear.

Investigation

We start with an x-ray to look for bone spurs, deposits of calcium within tendons and any underlying arthritis. As the tendon cuff tissue cannot be seen on routine x-rays, we then order an ultrasound or an MRI scan. For the most part, ultrasound scans are adequate for diagnosis. Occasionally your surgeon may decide an MRI is required if the ultrasound is inconclusive.

Sometimes the imaging doesn't tell the full story and arthroscopy is used to confirm what surgery is required.

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Non-Operative Treatments

If a trial of physiotherapy, pain relievers and anti-inflammatory tablets settle the pain and weakness - then monitoring the size of the tear over time may be all that is required. Sometimes a steroid injection to settle the inflammatory component of your pain may be a helpful addition.

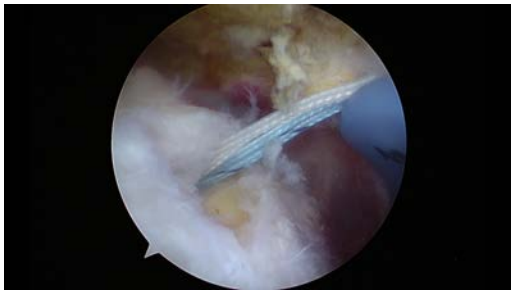
If a chronic tear fails to respond to these non-operative treatments then surgery is an option to help improve your pain.

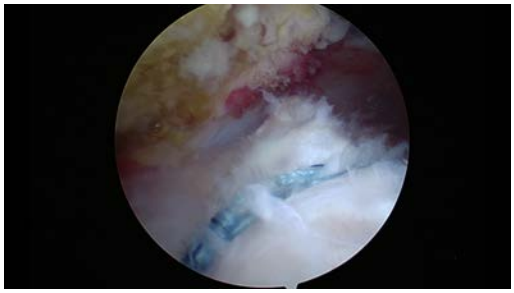
Operative Treatments

Keyhole surgery is the mainstay for the treatment of shoulder tendon surgery. After confirming whether the joint is normal, the next step is to remove bone spurs and make space for the tendons.

Occasionally conversion to an open repair is required for treating other concurrent conditions about the shoulder, such as a biceps tendon tear. Arthroscopic cuff repairs do have a lower infection rate.

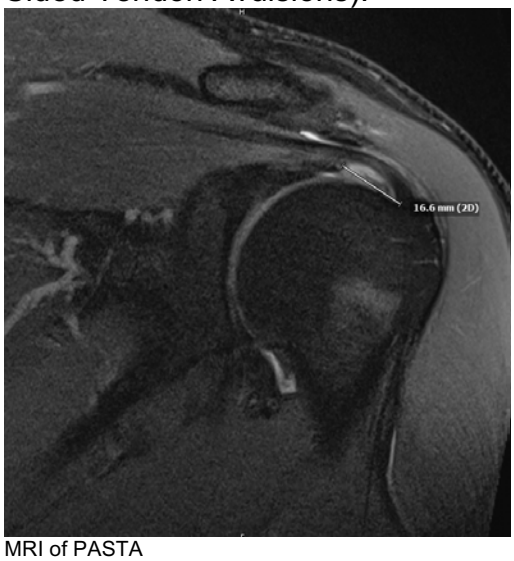
Tendons are repaired to bone utilising keyhole techniques to re-approximate the torn tendons to the bone. This uses anchors in the bone to allow the tendon to be sutured.





Tears are small, medium, large, massive or irreparable. Sometimes the tear is just too large to be repaired. Unfortunately dermal allograft patches (for massive or irreparable tears) are not available in Australia at this time. Artificial patches are not routinely recommended.

Often the cuff tissue is not completely torn and can be repaired utilising arthroscopic techniques. These are called PASTA lesions (Partial Articular Sided Tendon Avulsions).



MRI of PASTA

This allows the majority of the intact tendon to remain attached to bone, with repair of only the torn component. This is not possible by open techniques, which require removing the remaining tendon

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from the bone and then refixing the entire tendon.

PASTA – Partial thickness articular surface tear.

Symptoms of pain and weakness can take 6-12 months to settle completely.

Surprisingly, even in patients whose pain and weakness settles completely, not all cuff tears heal. If symptoms settle, then we do not chase things further. Cuff repair failure usually occurs between 6 weeks and 6 months.

Anaesthetic

The anaesthetist may offer you a nerve block, which provides excellent pain relief for a period of 8 hours after the surgery. This block slowly wears off and can take up to 24 hours for movements to return back to normal. Your anaesthetist can talk to you about the risks of this form of analgesia. Most patients have a general anaesthetic at the time of the procedure.

Position during surgery

Shoulder surgery is performed either lying on your side with the arm in a traction device, or in the sitting position with the arm in an arm holder. The position depends on the procedure performed.

Rehabilitation / Recovery

The repair of the rotator cuff must be protected until your tissues have a chance to heal strongly back onto the bone. This takes at least 3 months. During this time we protect your repair with a sling, pillow and restrict your arm movements to avoid the tendon pulling back off the bone. A prolonged course of physiotherapy will be required. Over the first 6 weeks you perform passive movements (no use of your repaired muscles). After 6 weeks you begin to use your arm muscles to lift your arm, assisted by ropes and using your hand to walk your arm up the wall. After 3 to 4 months you commence work on a strengthening program to return the muscles and cuff to their previous strength level.

Evidence shows that slower rehabilitation leads to improved healing rates of rotator cuff tendons

Complications of Rotator Cuff tears

Stiffness is an occasional problem after rotator cuff repairs. This usually recovers with 4 to six months of physiotherapy. If stiffness does not completely recover then motion can be restored through further keyhole surgery to release scarred tissues, once the rotator cuff is healed.

Infection is rare, but may require further operation and antibiotics

Failure of cuff repair occurs in (5-20%). Revision cuff repair is required only occasionally.

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Nerve damage can occur during any operation. Particularly around the wound sites, there can be areas of numbness. Rarely nerves can take longer to recover, with problems with weakness or numbness in the hand. Very rarely such damage can be permanent.

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