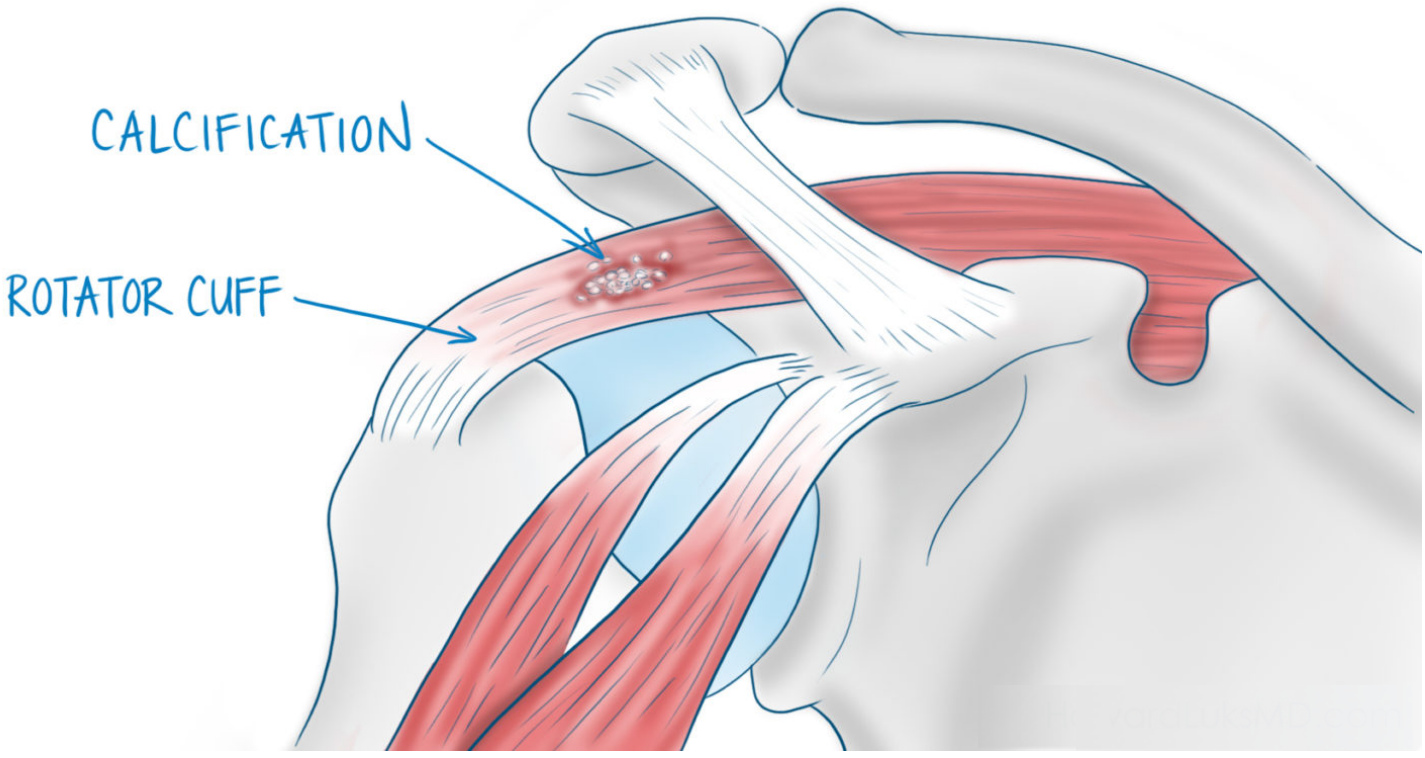
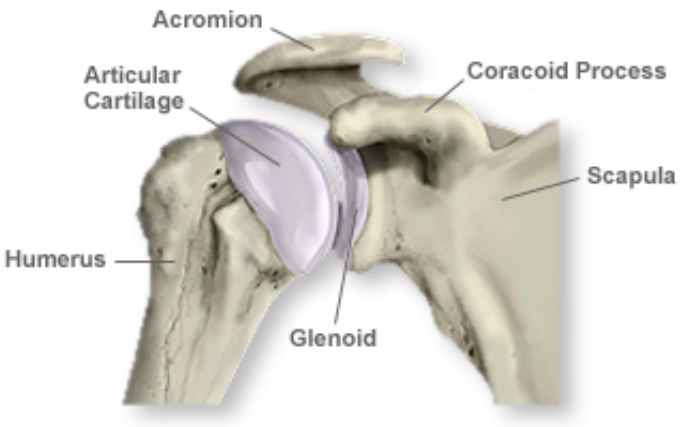
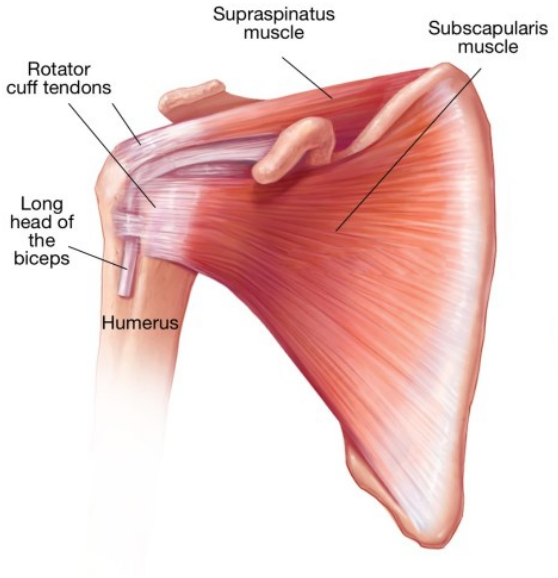
STEWART
ORTHOPAEDICS

Calcific tendonitis



Normal anatomy of the shoulder





The shoulder is made up of three bones: The upper arm bone (humerus), the shoulder blade (scapula), and the collarbone (clavicle). The shoulder is a ball-and-socket joint: the ball, or head, of the humerus fits into a shallow socket (glenoid) in your shoulder blade.

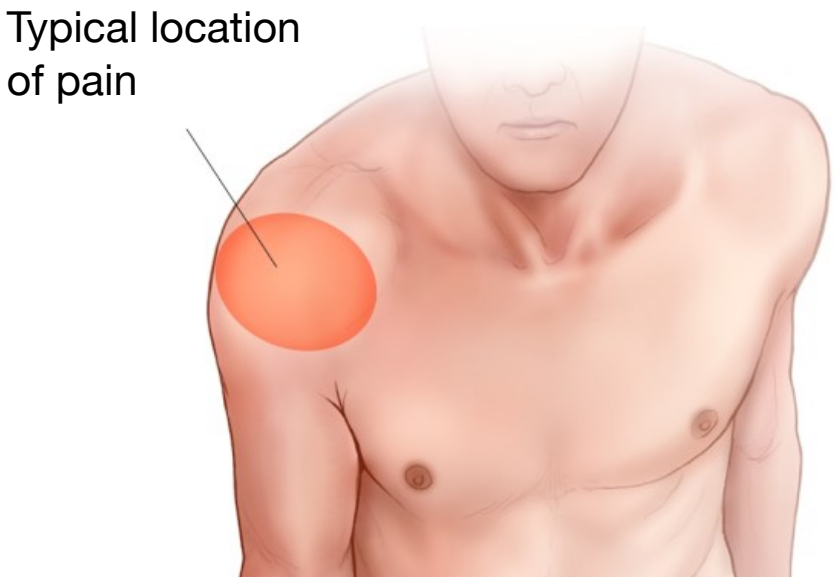
The rotator cuff is a group of four muscles that come together as tendons to form a covering around the head of the humerus. The rotator cuff attaches the humerus to the shoulder blade and helps to lift and rotate your arm. Your rotator cuff also helps to secure the humeral head within the shoulder socket.

There is a lubricating sac called a bursa between the rotator cuff and the bone on top of your shoulder (acromion). The bursa allows the rotator cuff tendons to glide freely when you move your arm. When the rotator cuff tendons are injured or damaged, this bursa can also become inflamed and painful.

In calcific tendonitis, deposits of calcium form in the tendons of the rotator cuff. The area around the calcium deposit may become very inflamed causing pain and weakness of the shoulder.
It is a common condition which occurs usually between the ages of 30 - 60 years old and more often in females. It can occur in both shoulders but it is more commonly found in the dominant arm and it may re-occur after surgical or non-surgical management.

The exact cause of the calcium deposits is unknown, however, various theories have been proposed. It is believed that a poor oxygen supply to the tissues of the rotator cuff tendon lead to calcium production. A poor oxygen supply may be precipitated by age, smoking, ‘wear and tear’ or increased pressure on the tendon.

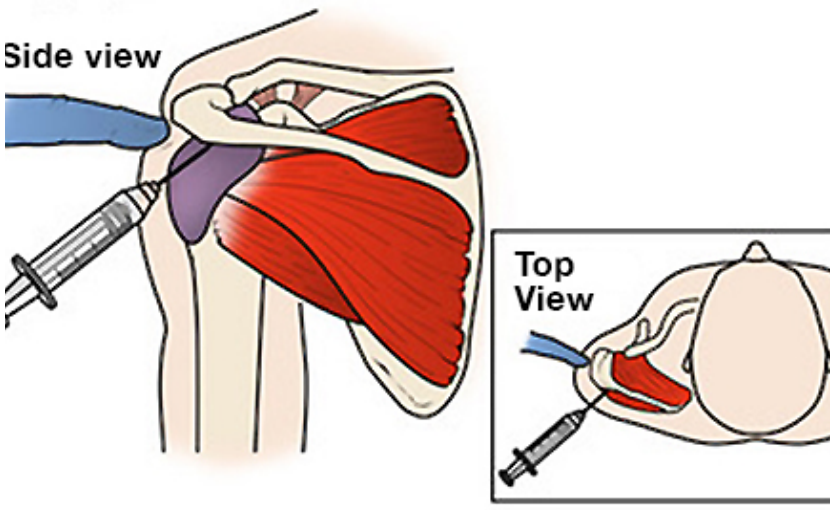
Pain and weakness are the most common symptoms associated with calcific tendonitis, however, some patients will be asymptomatic. The initial phase of calcium production may be excruciating and can develop very quickly, but usually lasts about 72 hours. Complete resolution of the calcium deposits can take 12-18 months.

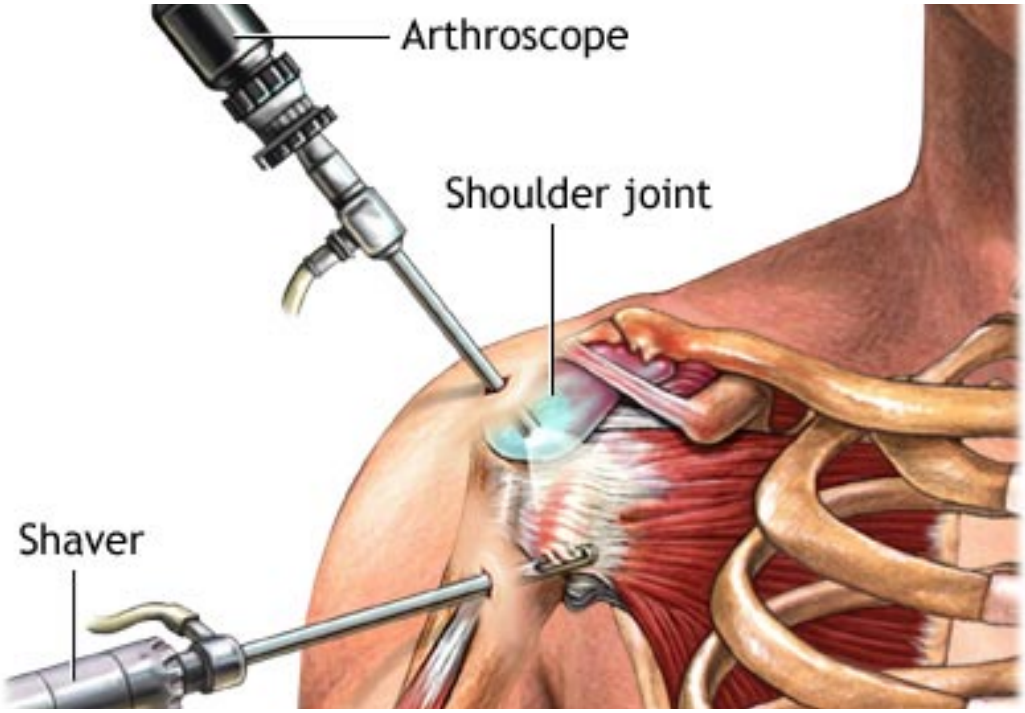


Treatment

In most patients', non-surgical treatment will alleviate pain and restore normal function to the shoulder. Non-surgical treatment options include:

- **Rest**
- **Activity modification -** Avoid activities that cause shoulder pain
- **Non steroidal anti-inflammatory medication -** Medication such as Voltaren and Naproxen can reduce pain and inflammation of the bursa
- **Physiotherapy -** Specific therapies such as **Shockwave** can help to break down the calcium deposit so the body can reabsorb it.
- **Steroid injection -** If rest, medication, and physical therapy do not relieve your pain, an injection of a local anaesthetic and a cortisone around the tendons may be helpful. Cortisone is a very effective anti-inflammatory medicine; however, it is not effective for all patients and should be used with caution in diabetics
- **Ultrasound-guided needle barbotage -** A needle is inserted into the calcium deposit under local anaesthetic and the calcium deposit is 'flushed' out with a combination of saline and local anaesthetic.





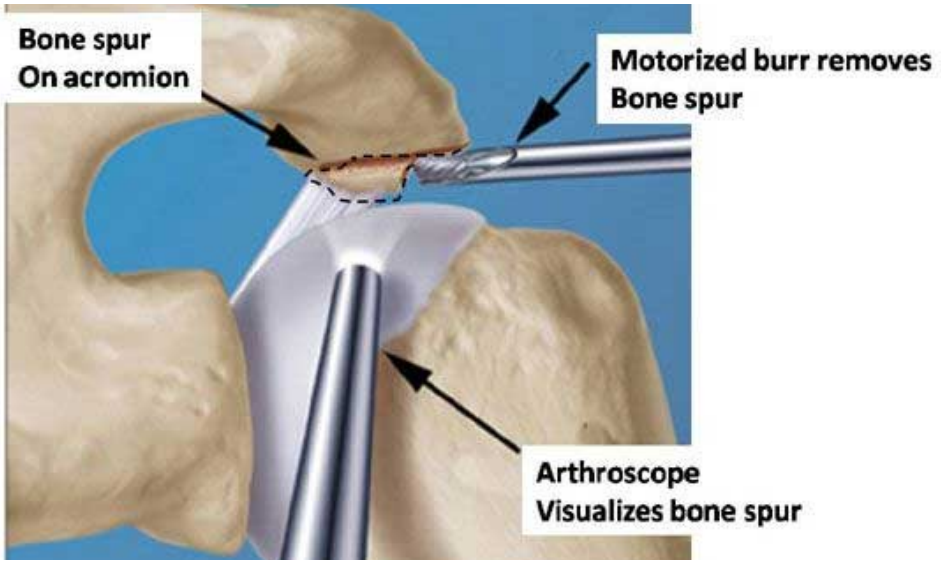
Surgery

Occasionally surgery is required when symptoms are severe or persist for more than 6 - 12 weeks despite adequate non-surgical management.

The surgery which is performed is done using a minimally invasive “keyhole” technique. Keyhole surgery, also known as arthroscopy, allows the surgeon to look inside the joint using a camera, and repair any structures through very small incisions. Minimally invasive surgery typically results in less injury to surrounding tissues, resulting in less postoperative pain, a shorter hospital stay and a quicker recovery time than traditional “open surgery”.

At the time of surgery a needle is placed into the calcium deposit which is then flushed with water to help soften the calcium. The calcium is then squeezed out through the needle hole without damaging the integrity fo the rotator cuff tendons. It is often necessary to perform an **acromioplasty** at the same time to increase the space available for the tendons and reduce impingement.

- **Acromioplasty** - The acromion is the bone at the top of the shoulder, which projects off the shoulder blade. The rotator cuff tendons run underneath this bone before attaching onto the humeral head. Often, with age, the acromion develops a bony spur which reduces the amount of space for the tendons to slide - resulting in the tendons getting squeezed between the humeral head and the acromion with shoulder movement. This is the main cause of a degenerative rotator cuff tear. The acromioplasty procedure is performed to remove any bony spur and increase the amount of space available for the tendons to move.



Acromioplasty

Should you decide on surgical management you will be admitted into the hospital on the morning of the surgery.

Please take note of the following:

- Ensure that you do not eat or drink anything on the day of surgery, unless otherwise instructed by Dr. Stewart or his receptionist. You can drink a small amount of water to take your chronic medicine on the day of surgery
- Remember to bring all your chronic medication with you for your hospital stay
- If you are taking any “blood thinners” such as Warfarin, Ecotrin, Plavix or Xarelto - please inform Dr. Stewart of this and please consult with your physician or cardiologist who prescribed the medication. This medication needs to be stopped five days prior to surgery.
- Please ensure that you have received medical aid pre-authorisation prior to the day of surgery. It is your responsibility to contact your medical aid to obtain pre-authorisation. Please forward the authorisation number to admin@stewartorthopaedics.co.za at least one day before admission.

On the day of surgery you will be seen by an anaesthesiologist who will discuss the anaesthetic with you. The surgery takes approximately 1,5 hours, depending on exactly what procedures are being done. After the surgery you will overnight in hospital and physiotherapy will commence the following day.

During keyhole surgery your shoulder is ‘inflated’ with water so that the surgeon can see inside the joint with the camera. This water leaks out into the surrounding tissues and results in some swelling of the shoulder post operatively. This swelling takes approximately 24-48 hours to subside and will either be absorbed by your body or leak out through the small incisions. You may wake up with a compression bandage around the shoulder to assist with absorption of the water. Do not worry if the bandages are wet or slightly blood

stained when you wake up - this is normal, and the dressings will be changed before you go home.

After Surgery

After surgery you will wake up in the ward and your arm will be in a sling. You will have a waterproof dressing on the shoulder and you will be allowed to shower or bath, however do not submerge the dressing for a prolonged period of time. When showering or bathing take the sling off and let your arm hang at the side. Do not attempt to lift or rotate your arm. Lean forward and let your arm hang forward in order to wash under your arm. Make sure this area is thoroughly dry afterwards to avoid the risk of a sweat rash or infection.
A physiotherapist will see you in the ward after your surgery where they will teach you exercises which you are required to do at home approximately 3 - 4 times per day.

You will be discharged from hospital the day after surgery provided your pain is well controlled. In the immediate post operative period you will experience some pain and discomfort in the shoulder which can last up to 6 weeks, however it should improve after the first 2 weeks. After surgery you will be discharged with medication prescribed for the pain, please ensure that you take it as prescribed. Should you require additional analgesia then you can either contact Dr. Stewart's rooms or your GP.
You will be given an Ice-pack during your hospital stay. Please ice your shoulder 5 - 6 times per day for a 20 minute duration.
You may notice some swelling of your hand, fingers and forearm. This is normal and should resolve by doing the exercises prescribed by the physiotherapist.

Wearing your sling - Your sling will need to remain on for 2 weeks, it is recommended to wear it at night while you are sleeping, however, you may remove your sling to shower and do your physiotherapy exercises.

Driving - You are not permitted to drive a vehicle while wearing a sling. Therefore driving is not recommended for 2 weeks after the surgery.

Follow up - Please make an appointment between 10-14 days after the surgery to see Dr. Stewart in the rooms for a wound inspection and to remove the stitches. Please do not remove your wound dressing until Dr. Stewart has seen you. If the dressing comes loose then a similar wound dressing can be purchased from your nearest pharmacy.
Dr. Stewart will review your progress every 6-8 weeks for approximately 6 months, or longer if required.

Returning to work - Most patients will be able to return to light office work between 4-7 days after the surgery. If your job requires any manual labour or repetitive overhead lifting then it is unlikely you will be able to return to normal duty within 3 months. If you are

required to perform these duties at work then you should discuss the availability of 'light duty' or a temporary alternative role at the workplace with your employer.

Complications

All surgeries carry the risk of potential complications. In most cases the decision to proceed with surgery is made because the advantages of surgery outweigh the potential disadvantages.
The potential complications associated with arthroscopic shoulder surgery are exceptionally rare, however, in order to make an informed decision the following complications are the most common:

Shoulder stiffness - This is the most common complication. Almost all patients will experience some degree of stiffness, mostly mild and lasting only a few weeks. Severe or prolonged stiffness can be prevented by strict adherence to the physiotherapy protocol.

Infection - All efforts are made to minimise the risk of infection, however, some patients, especially diabetics and smokers, are at an increased risk of getting an infection. In order to prevent the risk of infection the surgical procedure is performed in a sterile environment. Antibiotics are given at the time of the procedure and occasionally for 24 hours afterwards and occlusive dressings are used until the wound has healed.
Post surgical infection may be a simple infection involving only the skin and wound edges, but sometimes it may involve the bone or joint. Despite adequate antibiotic treatment, a post surgical infection often requires additional surgical procedures in order to remove any infected tissue or fluid.

Deep Vein Thrombosis (DVT) - This term refers to a blood clot which forms in the deep veins of your leg. Risk factors include smoking, being overweight, the use of the oral contraceptive pill and prolonged periods of inactivity. Blood clots are incredibly uncommon after shoulder surgery. Treatment of a DVT involves taking blood thinning medication for between 3 - 6 months to try and dissolve the clot.
Anaesthetic complications - Your anaesthesiologist will explain the most common potential complications.

Nerve damage - This rare complication is usually a result of 'bruising' to the nerves and can result in some numbness, tingling or weakness around the shoulder or in the arm and hand. In most cases it will resolve completely within 6 - 12 weeks.

Other rare or unusual complications which haven't been discussed here can result from surgery or anaesthesia. If you are concerned about any specific complication or the advantages and disadvantages of the decision to proceed with surgery you can discuss these with Dr. Stewart before the operation.

Recovery

In order to ensure the best possible outcome following surgery, it is essential that you visit a physiotherapist regularly as well as doing a home based rehabilitation program on a daily basis. A physiotherapist and biokineticist play a vital role in ensuring that your shoulder returns to normal function. A complete recovery can expect to take in excess of 6 months.