



Ultrasound guided Barbotage/lavage procedure for rotator cuff calcific tendonitis

Patient information leaflet

What is calcific tendonitis?

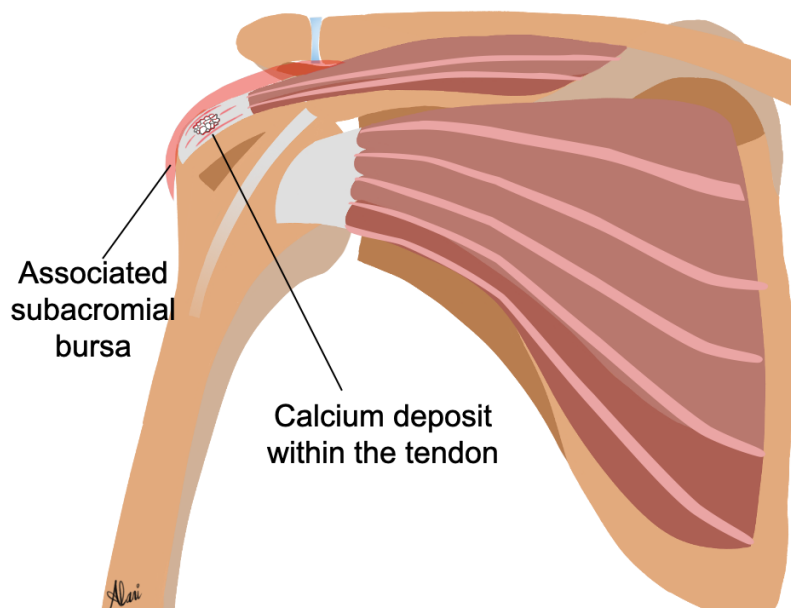
Calcific tendonitis (also known as calcific tendinopathy) results from deposition of calcium material within the rotator cuff tendons. The rotator cuff tendons consist of 4 tendons (the supraspinatus, infraspinatus, subscapularis and teres minor tendons). They form a complete cuff of tissue that surrounds the shoulder joint and play a vital role in shoulder movement and stability.

The exact aetiology of calcific tendinitis is not fully understood. One school of thought believes it is caused by transformation of the cells that produce tendon tissue into a different type of cells that produce cartilage. This in turn can result in calcium deposition within the tendon. It is more common in diabetic patients and in women between the age of 40 and 60 years. It is also more common in people who use their arms excessively like manual workers and athletes. Deposition of calcium is also reported following trauma.

What are the symptoms of calcific tendonitis?

Calcific tendonitis can result in sudden onset, severe pain in the shoulder especially when the calcium material irritates the subacromial bursa. The pain can refer down the arm and interfere with sleep. It can also cause severe restriction to movement in all directions, and therefore it can mimic frozen shoulder.

Rotator cuff calcific tendonitis





What is ultrasound?

Ultrasound is high frequency sound waves produced by a special machine. They can penetrate the skin providing very useful images of the deep tissues within the body. It is a harmless way of imaging and it is extremely useful in assessing various musculoskeletal conditions that can involve tendons, muscles, joints and the adjacent soft tissues. Unlike x-rays, ultrasound does not involve exposure to radiation or any harmful side effects.

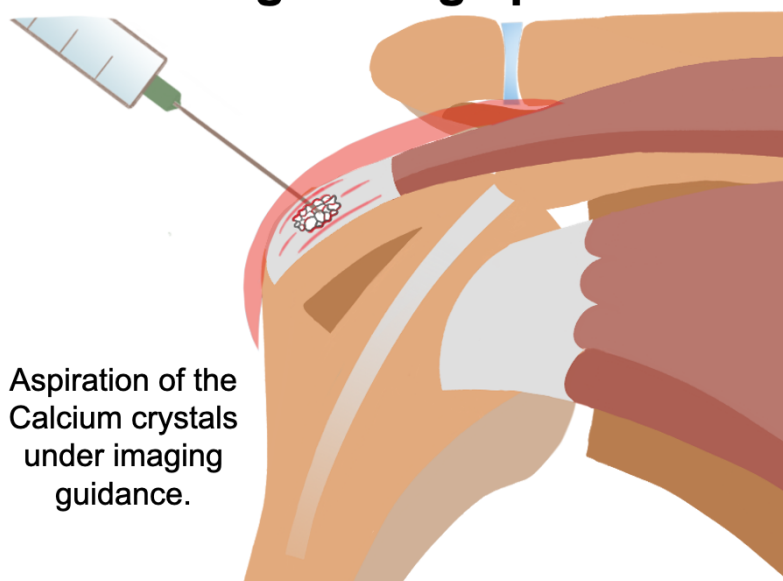
What is ultrasound guided barbotage-lavage?

In this procedure, Aspiration or breaking down of the calcium material is accurately attempted under ultrasound guidance using a special large needle. This is combined with a subacromial bursa steroid and local anaesthetic injection. The lavage and breaking down of the calcification will help the body to get rid of the calcium deposit, and the subacromial bursa injection will help settle down the bursal inflammation. Numbing medication (local anaesthetic) injection is usually used before the procedure to numb the skin and the subacromial bursa.

What is steroid/cortisone?

Steroids are strong anti-inflammatory medicines that can help relieve pain and inflammation. The commonly used types of steroid injections are hydrocortisone, triamcinolone (Kenalog) and methylprednisolone (Depo-medrone).

Barbotage/Lavage procedure





How is ultrasound guided barbotage-lavage done?

Your doctor will speak to you on the day about the procedure and answer your questions. Then you will be positioned appropriately on the examination table. The area of calcification will be assessed with ultrasound to determine the exact site and best approach. Then, the skin will be cleaned and prepared and a numbing medication will be administered to the skin using a small needle. Numbing medication will be also injected into the space overlying the area of calcification (called the subacromial bursa). This will minimise the pain you feel during the procedure. Then, a special needle will be inserted into the area of calcification and aspiration or breaking down of the calcium material is accurately attempted under ultrasound guidance. Following this, the subacromial bursa will be injected with steroid to reduce the bursal inflammation.

A small plaster is usually applied to the site of injection. You can remove this later during the same day. You can eat and drink normally before and after the procedure. You can shower as usual but avoid very hot showers/steam rooms. It's advised not to drive immediately after the procedure. Rest the area and avoid extraneous activities for at least 1 week following the procedure.

How long does the procedure take?

The length of the procedure depends on the difficulty of the case and the experience of the doctor. Usually, 30-45 minutes is a reasonable time for the whole procedure (including explanation to the patient and preparation).

Can ultrasound guided barbotage-lavage be repeated?

Yes, the procedure can be repeated after a few months (or sometimes we just repeat the subacromial bursa injection) if there is recurrent of symptoms, to help the body get rid of the calcification and help the rehab program.

What are the possible complications from an ultrasound guided barbotage-lavage procedure for calcific tendonitis?

Generally, serious complications are very rare.

- There is a small risk of "infection", similar to any other steroid injection. This is very rare but important to be aware of. It is reported to happen in less than 1 in 10000 of the cases. The symptoms of infection are pain, swelling and redness at the site of injection. Sometimes patients may also develop a fever. Get medical advice as soon as possible if you have these symptoms.
- Shoulder pain and discomfort for a few days. This is sometimes referred to as a "steroid flare" and also the calcium may cause local irritation to the area. Simple painkillers like paracetamol can help with this. The pain usually gets better after a few days.
- There is a small possibility of weakening of the rotator cuff tendon since the needle used is large. Therefore, adequate resting of the shoulder for at least 1 week following the procedure is advised.



- The area will be sore for 1-2 weeks following the procedure. After which, patients should start noticing improvement in the symptoms.
- Temporary bruising due to small blood collection under the skin at the site of injection.
- If you have diabetes, your blood sugar level may temporarily increase secondary to the steroid injection. Similarly, if you have high blood pressure, your blood pressure may temporarily increase.
- Temporary facial flushing. This is a rare side effect secondary to a steroid injection.
- Other side effects like mood changes, increased appetite, difficulty in sleeping and menstrual disturbance are very rare.

A specialist musculoskeletal radiologist consultant will see you on the day, discuss the procedure with you and address your questions. You can find more information about your procedure on our website www.mskultrasoundinjections.co.uk



Steroids injections and COVID 19

Steroid injections may reduce a person's immunity for 2-4 weeks following injection. The reduction in immunity for most people is likely to be small and it is unclear if this has any impact on their risk of contracting COVID-19. The emerging data now suggests that the risks are probably very low.

The British Society of Rheumatology have published their guidelines on 20th November 2020 regarding the treatment of patients using corticosteroid injections to support clinicians and patients in the clinical decision making.

The aim of ultrasound guided intra-articular injections is to deliver a small and effective dose of the medicine accurately and directly into the site of pain, thus minimising the side effects.

However, there remains a theoretical risk that a steroid injection could:

- Increase the likelihood of contracting COVID-19 due to its immunosuppressant effect
- Reduce the body's ability to fight the COVID-19 virus
- Potentially make the patients more contagious to people around them, following a corticosteroid injection.

We screen our patients for any high-risk factors for COVID-19 (patients over the age of 70, BMI>40, BAME, diabetes, ischaemic heart disease, chronic respiratory disease or hypertension).

Because the size of risk is unknown, it is recommended that patients and clinicians should reach a shared decision weighing up the risks and benefits of proceeding with steroid injection treatment.