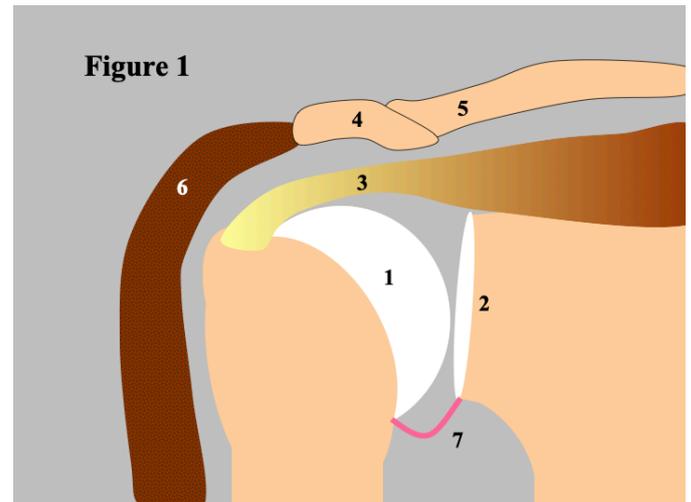


## Frozen shoulder and its treatment

Figure 1 is a cartoon diagram looking directly at a right shoulder:

- 1 - humeral head, the ball of the main ball & socket joint of the shoulder
- 2 - glenoid, the socket of the main joint
- 3 - rotator cuff, the strong tendons around the shoulder from the shoulder blade muscles
- 4 - acromion, the bony roof of the shoulder which is part of the shoulder blade
- 5 - clavicle - the collar bone which joins to the acromion as the acromioclavicular joint or ACJ
- 6 - deltoid, the big muscle around the outside of the shoulder which gives its shape
- 7 - capsule, the deepest lining of the shoulder



[Frozen shoulder](#) is the term used to describe a stiff painful shoulder with normal X-rays and is also known as 'adhesive capsulitis' which means sticky inflammation of the capsule, the lining of the ball and socket joint (7). Stiffness is a restriction of movement of the shoulder both actively when the patient moves it themselves and passively when the shoulder is moved for them.

It is a biological condition at a cellular level and has a self-limiting natural history. That means it does get better on its own with time. However, we know that it takes on average over a year to resolve completely and some patients still have some symptoms several years later.

There are three classic phases of the condition:

1. The Freezing Phase when the pain develops and the shoulder starts to stiffen up
2. The Frozen Phase when the shoulder is stiff but the pain begins to settle
3. The Thawing Phase when the stiffness gradually eases.



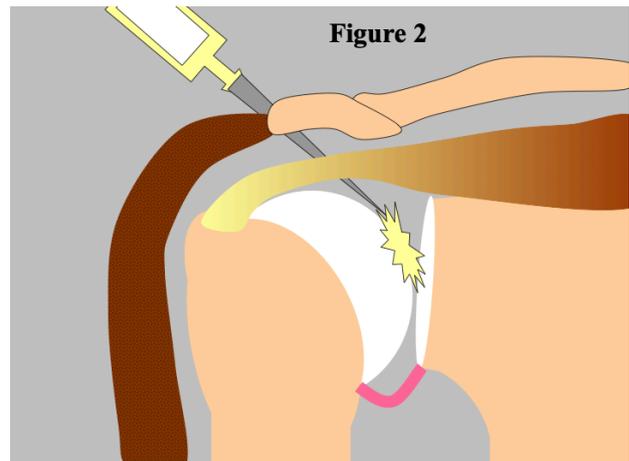
Patients describe pain at the front of the shoulder radiating down towards the elbow which is worse with activities particularly repetitive movements. The most noticeable manifestation of stiffness is difficulty rotating the hand and elbow away from the body or reaching the thumb up the back. Patients often describe terrible 'jerk pain' whereby sharp movements of the shoulder such as moving quickly to catch something falling off a kitchen worktop or swatting a fly causes them to double up in severe pain which brings tears to the eyes. Sleep is almost always affected which makes life miserable and some patients experience odd sensations down the arm such as electric shock type pains or tingling and pins & needles into the hand.

There are many different treatment options available for frozen shoulder ranging from herbal remedies, osteopathic, chiropractic and physio techniques including acupuncture through different types of injections, manipulations and the last resort of surgery.

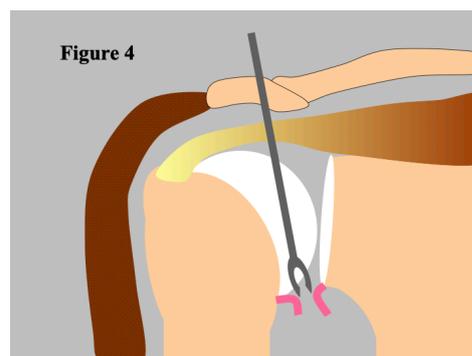
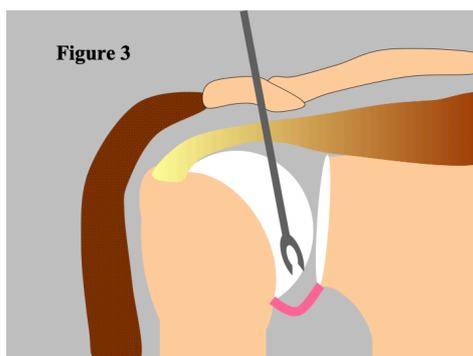
Treatment should always start with simple measures such as activity modification (avoiding the actions that bring on the pain), rest, tablet painkillers (eg paracetamol 1g = 2 tablets four times per day) and anti-inflammatories (eg ibuprofen 400mg = 2 tablets three times per day after food) and simple exercises. These measures in isolation or more often in combination can all help break the painful cycle and allow movement, strength and function to return to normal.

The next stage is to consider a steroid and local anaesthetic injection into the glenohumeral joint. Figure 2 shows a thickened pink capsule and the injection of steroid into the ball & socket joint.

Steroid is a strong anti-inflammatory which bathes the inflamed capsule tissue. This injection has very few minor risks and potential complications or side effects and can be performed in the outpatient consultation room with a clean and blind technique or in the radiology department by a radiology doctor under X-ray control with a large volume as the so-called 'hydrodilatation' injection with aim to stretch the capsule as well as deliver the anti-inflammatory.



If the beneficial effect of an injection is good for several months it could be repeated but if only short-lived or transient then there may be a case for surgical intervention. This can be either a simple manipulation under anaesthetic where the [shoulder surgeon](#) pushes the shoulder through a range of motion to stretch and tear the capsule whilst the patient is asleep under general anaesthetic. The alternative is to cut the capsule with keyhole arthroscopic surgery called a capsular release as shown in Figures 3 and 4.



Cutting the capsule under direct vision is analogous to making a scissor cut in the rolled edge of a newspaper to facilitate tearing it. This operation is almost always performed as a daycase under a short general anaesthetic although can sometimes be performed under a nerve block anaesthetic whilst the patient remains awake.

After an operation for frozen shoulder physiotherapy is really important to maintain the range of movement achieved under anaesthetic whether by simple manipulation or arthroscopic capsular release or a combination of the two.

The risks and potential complications of such surgery are small but include failure to achieve the desired outcome with persistent pain, weakness, stiffness, nerve or blood vessel damage (some bruising is normal), fracture, numbness, infection, further surgery for whatever reason, prolonged rehabilitation, the medical risks of any operation such as blood clots in the legs or lungs (DVT or PE), heart attack (MI) or stroke (CVA).