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Frozen shoulder

Frozen shoulder (in medical terms, adhesive capsulitis of the shoulder) is a condition where the shoulder becomes painful and stiff, often for no particular reason. Shoulder movements become reduced, sometimes completely 'frozen'. It usually only affects one shoulder but can affect both.

It is thought to be due to scar-like tissue forming in the shoulder capsule. Without treatment, symptoms usually go away but this can take a long time, up to three years in some cases. Various treatments may ease the pain and improve the movement of your shoulder.

What is frozen shoulder?

Frozen shoulder is the medical term for a painful and stiff shoulder.

It affects about 3 in 100 of adults at some stage in their lives. It usually affects people between the ages of 40 and 60 and is more common in women. People with diabetes are slightly more likely to get frozen shoulder.

Either shoulder can be affected but most commonly it is the non-dominant shoulder - that is, the left shoulder in a right-handed person or vice versa. In about 1 in 5 cases the condition also develops in the other shoulder at some stage.

In frozen shoulder it is only the shoulder that is affected. It does not cause pain at any other joints. If other parts of the body are affected, like the knee joint or hands, it is not likely to be a frozen shoulder and medical advice should be sought.

Frozen shoulder symptoms

The typical symptoms are pain, stiffness and limitation in the range of movement of one of the shoulders. Frozen shoulder symptoms typically have three phases:

Phase one - the 'freezing', painful phase
This typically lasts between 2 and 9 months. The first symptom is usually pain. Stiffness and limitation in movement then also gradually build up. The pain is typically worse at night and when lying on the affected arm.

Phase two - the 'frozen', stiff (or adhesive) phase
This typically lasts for between 4 and 12 months. The pain gradually eases but stiffness and limitation in range of motion remain and can become worse. All movements of the shoulder are affected. However, the movement most severely affected is usually rotation of the arm outwards. The muscles around the shoulder may get smaller as they are not used.

Phase three - the 'thawing', recovery phase
This typically lasts between one and three years. The pain and stiffness gradually go and movement gradually returns to normal, or near normal.

Frozen shoulder symptoms often interfere with everyday tasks such as driving, dressing, or sleeping. Even scratching the back, or putting the hand in a rear pocket, may become impossible. Work may be affected in some cases.

There is wide variation in the severity and length of symptoms. Untreated, on average the symptoms last between 2 and 3 years in total before going. In some cases, it is much less than this. In a minority of cases, symptoms last for several years.

What causes frozen shoulder?

No one quite knows the cause of frozen shoulder. It is thought that scar tissue develops inside the shoulder, in the capsule that lines the shoulder joint. The scar tissue may cause the capsule to thicken, contract and limit the movement of the shoulder. The reason why the scar tissue forms is not known. In many cases there seems to be a reduction in the amount of lubricating fluid (synovial fluid) in the affected shoulder joint.

A frozen shoulder occasionally follows a shoulder injury. However, this is not usual and most cases occur for no apparent reason.

Frozen shoulder risk factors

Although frozen shoulder usually arises with no obvious reason, the following are risk factors that increase the chances of developing a frozen shoulder:

- Diabetes.
- Previous shoulder surgery.
- A previous shoulder injury.
- Thyroid disorders.
- Being female.
- Prolonged immobility.

How is a frozen shoulder diagnosed?

The diagnosis of frozen shoulder is usually made by examination. It is rare to need an X-ray or an MRI scan of your shoulder joint. Occasionally, an ultrasound scan might be used to assess the shoulder joint.

What else could frozen shoulder be?

It is important to diagnose frozen shoulder correctly from the start, as the treatment options are different for different shoulder conditions. Other conditions that mimic frozen shoulder are:

- Rotator cuff injury: in this condition it is only painful when doing the movements (what doctors call active movement) but not when the arm is moved by another person (called passive movements). For people with frozen shoulder both active and passive movements are painful.
- Osteoarthritis of the shoulder.
- Tendonitis of the biceps tendon.

- Inflammation of the bursa under the collarbone around the shoulder (called subacromial bursitis).
- Rheumatoid arthritis of the shoulder.

Frozen shoulder treatment

Even with no treatment at all, there is a very high chance the shoulder will return to normal in time. If desperate for something to try, here are some options:

Ordinary painkillers

Paracetamol may be advised first to try to control the pain.

Anti-inflammatory painkillers

Examples of anti-inflammatory painkillers include ibuprofen and naproxen. These medicines work by helping to ease pain and also by reducing any inflammation in the shoulder.

Side-effects sometimes occur with anti-inflammatory painkillers: they can affect the kidneys and stomach. A short course of anti-inflammatories is usually recommended: perhaps a week or two. Prolonged use, even of something that can be bought over the counter like ibuprofen, can be very harmful to the kidneys and stomach. Sometimes longer term use might be recommended but often with a medication prescribed to protect the stomach (such as omeprazole or lansoprazole).

Shoulder exercises

These are commonly advised. The aim is to keep the shoulder from 'stiffening up' and to move the shoulder as much as possible. For most benefit, it is important to do stretching exercises regularly as instructed by a doctor or physiotherapist. Shoulder exercises are unlikely to do any harm and may help a lot.

Physiotherapy

Many people are referred to a physiotherapist who can give expert advice on the best exercises to use. Also, they may try other pain-relieving techniques such as warm or cold temperature packs and transcutaneous electrical nerve stimulation (TENS) machines.

A steroid injection

A steroid injection into, or near to, the shoulder joint can bring good relief of symptoms for several weeks in some cases. Steroids reduce inflammation. It is not a cure as frozen shoulder symptoms tend to return gradually.

However, many people welcome the relief that a steroid injection can bring. Steroid injections can cause harm - for example, by damaging the tendons inside the shoulder, introducing infection or causing bleeding.

Surgery for frozen shoulder

An operation is sometimes considered if other treatments do not help. Techniques that are used by orthopaedic surgeons include:

- **Manipulation.** This is a procedure where the shoulder is moved around by the surgeon whilst under anaesthetic. It can loosen up the adhesions but can risk damaging other parts of the shoulder.
- **Arthroscopic capsular release.** This is a relatively small operation done as 'keyhole' surgery. It is often done as a day-case procedure. In this procedure, the tight capsule of the joint is released with a special probe.

Surgery can help but can also risk damage to the shoulder. It is best avoided in frozen shoulder unless all other options have been tried and the shoulder is still very painful. Some studies have shown that the quickest and fullest recovery is achieved with just shoulder exercises alone.

Note: it is really important to avoid immobilising the shoulder - for example, with a sling or even a plaster cast. This will actually make recovery more difficult and will take longer to improve.

What is the outlook?

Frozen shoulder symptoms can continue for 18 months to 3 years or more. However, the vast majority of people with a frozen shoulder do recover to normal levels of function and movement by two years, even without any treatment.

It is very uncommon to have frozen shoulder more than once in the same shoulder.

Preventing frozen shoulder

There is no good way to prevent a frozen shoulder from developing as the cause is usually unknown. Regular exercise of all joints would be recommended. Daily gently stretching of the shoulders might reduce the risk of developing a frozen shoulder.

Further reading

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