An Information Booklet

The Painful Shoulder

Committed to curing arthritis

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Introduction

Shoulder problems are common. Most cases of shoulder pain only last for a short while and are not caused by arthritis.

This booklet explains why people get shoulder pain and discusses the usual conditions which cause problems. Most shoulder problems settle with simple treatments, but more complex treatments, such as *arthroscopy* and other forms of surgery, are also discussed. Words which first appear in *italics* are explained in the glossary at the back of the booklet.

How does the shoulder work?

The shoulder is the most mobile joint in the body and is often affected by painful problems which limit movement. Figure 1 shows the main parts of the shoulder. Movement takes place at the main shoulder joint (*glenohumeral joint*) as well as the shoulder blade

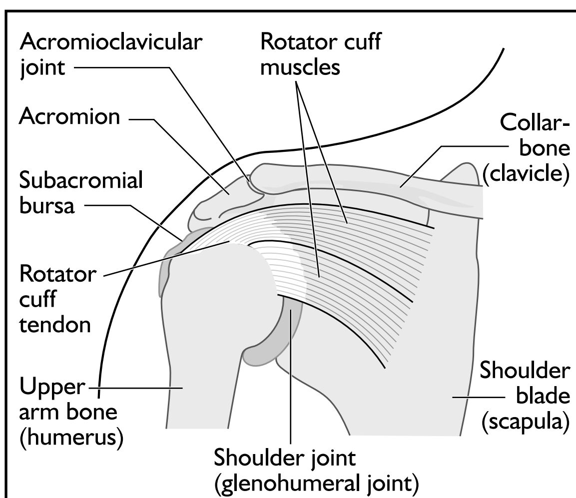

Figure 1. Shoulder joint region showing rotator cuff muscles and tendons

(*scapula*) which moves over the back of the chest. A group of muscles called the *rotator cuff* plays a very important part in the working of the shoulder, helping to move it and hold the joint together. Problems with the rotator cuff can cause several painful conditions.

Where is the pain coming from?

Not every pain felt in the shoulder region is actually caused by a problem in the shoulder joint. When the problem is in the shoulder joint the pain is often felt over the front of the shoulder or in the upper part of the arm. It can appear to spread down the arm to the elbow (known as referred pain). But if the pain spreads further, or if you have tingling or pins and needles, the pain probably comes from a problem in the neck. Pain at the top of the shoulder may come from the small joint at the end of the collarbone (the *acromioclavicular joint* or *ACJ*). However, if the pain is more towards the side of the neck or over the shoulder blade then this problem too is often in the neck.

Pain from the shoulder joint itself is often caused by inflammation, either around a *tendon* or around the outer coating (capsule) of the joint. Arthritis in the shoulder joint is uncommon, although minor degrees of arthritis are often found in the acromioclavicular joint.

Each shoulder problem has its own pattern. Most conditions cause pain with use and movement, and it is worth noting which movements give most pain because this will be a good indication of where the problem is. Most shoulder problems do not give much pain when the shoulder is at rest, other than at night, which can be a particularly difficult time. Some people cannot lie on the affected side and find it better to be propped up in bed.

What can I do?

Unless the pain is extremely bad or you have had a definite injury, you do not need to see your doctor straight away. Simple painkillers or anti-inflammatory tablets and creams that can be bought at the chemist's can be helpful, but only use them for a few days. You should aim for a balance between rest and activity to prevent the shoulder from stiffening. One good exercise for all shoulder problems is called a pendulum exercise (see Figure 2). Stand with your good hand resting on a table. Let your other arm hang down and try to swing it gently backwards and forwards and in a circular motion. Another good exercise is to use your good arm to help lift up your painful arm.

Figure 2. Pendulum exercise. Stand supporting yourself on a table with your good hand. Let your other arm hang down and swing it backwards and forwards and in a circular motion.

Try to avoid the movements that are most painful, especially those that hold your arm away from your body and above shoulder height for prolonged periods. When lifting your arm up you can reduce the strain or pull on your shoulder by remembering the following points:

- Keep your elbow bent and in front of your body.
- Keep your palm facing the ceiling when you reach up.
- To lower your arm, bend your elbow, bringing your hand nearer your body.

Check your posture. It can be tempting to sit leaning forwards with the arm held tightly by your side. This position can make the problem worse, especially if some of the pain is coming from your neck. When sitting, try to keep a pillow or cushion behind your lower back and your arm supported on a cushion on your lap. Some people find that placing a cushion or rolled towel under the armpit and gently squeezing onto it can ease some of their pain.

If your shoulder is painful to lie on, try the following positions to reduce the discomfort:

- Lie on your good side with a pillow under your neck. Use a folded pillow to support your painful arm in front of your body. Another pillow behind your back can stop you rolling back onto your painful side.
- If you prefer to sleep on your back, use one or two pillows under your painful arm to support it off the bed.

What if the pain continues?

If the problem continues for more than a few weeks, or gets worse, you should see a doctor. You will be asked how the problem started, how it has developed and how it interferes with your life. Your doctor will examine you to see which movements are painful or stiff.

Do I need tests?

For most shoulder problems blood tests are not helpful. However, your doctor might ask for them to rule out other conditions or as part of an investigation of arthritis.

What about x-rays?

For most people, an x-ray is not needed to diagnose a shoulder problem. X-rays can be very useful in certain cases, but they need to be interpreted carefully. They can be normal even if you have severe pain. This may mean that the pain is coming from the soft tissues around the joint (muscles, tendons, cartilage and so on). An x-ray may show minor changes, especially in the acromioclavicular joint (see Figure 1). These changes are quite common but rarely cause much of a problem.

An x-ray may show a deposit of calcium in the tendons. Sometimes the deposit does not cause any symptoms, but occasionally calcium in the tendon can cause a most intense pain due to inflammation. This is called *acute calcific tendinitis*. There are treatments which usually work very well for this (see 'Where is the injection given?').

Do I need a scan?

Magnetic resonance imaging (MRI) and ultrasound scans are only needed in certain situations. Usually your description of your symptoms and the doctor's examination of your shoulder will give all the information needed to plan your treatment. Scans may be carried out when the doctor suspects a complex problem in the shoulder, or when further, more specialised, treatment is planned. They have the advantage over x-rays that they allow the soft tissues around the shoulder to

be seen (including muscles, tendons and cartilage). One of the most common reasons to have a scan is to see if there is a tear in the rotator cuff tendons.

Can physiotherapy help?

Yes it can. A physiotherapist will make a detailed assessment of your condition and put together a treatment programme for your specific problems. This may include:

- ultrasound or other local treatment, such as transcutaneous electrical nerve stimulation (TENS) or heat/cold therapy, of an inflamed tendon, muscle or joint (the use of TENS is described in the section 'What is a frozen shoulder?')
- information on how to control the shoulder and shoulder blade muscles when moving the arm to prevent the pain coming back
- applying adhesive tape to the skin to reduce the strain on the tissues and to help increase your awareness of the position of the shoulder and shoulder blade
- exercises to stop the shoulder stiffening up
- exercises to strengthen weakened muscles and to get them working together efficiently
- advice on improving neck and spine posture to reduce pressure on the various parts of the shoulder.

Will an injection help me?

Injections of steroids (cortisone) help many shoulder problems. The injections work by reducing the inflammation and allowing you to move your shoulder more comfortably. Be careful not to use your shoulder for anything too strenuous in the first 2 weeks after an injection. Sometimes the pain may be worse the night following the injection. This does not mean that it has gone wrong. You only need to seek advice if the pain

continues. For many people an injection is all that is needed to allow recovery, but for some people the problem can come back and in this case you may need more investigations. There are usually very few side-effects from steroid injections and the injections can be repeated if necessary. (See **arc** leaflet 'Local Steroid Injections'.) A few people may have some thinning of the skin at the site of the injection, but this will gradually return to normal with time.

Where is the injection given?

This depends on what condition you have. If your rotator cuff tendons are inflamed (variously called *impingement*, *painful arc syndrome*, *tendinitis* or *bursitis*) then the injection is given at the tip of your shoulder in the tissue called the *bursa*. If the problem is in your main shoulder joint (glenohumeral joint) then the injection is given in that joint from the front, side or back of the shoulder. If you have problems in the acromioclavicular joint then the injection is given into this joint on the top of your shoulder.

Injections are particularly helpful for acute calcific tendinitis. An injection into the bursa outside the tendons can allow this to settle down completely.

What is a 'frozen' shoulder and how is it treated?

A *'frozen' shoulder* is where the tissues tighten around the joint and stop you from moving the shoulder – the medical name for this is adhesive capsulitis. There is no actual change in temperature – 'frozen' means that the joint cannot be moved. Frozen shoulders may just happen, but sometimes they follow an injury. They can also occur after a stroke and are more common in people with diabetes.

Frozen shoulder usually lasts for 18 months to 2 years and treatment is unlikely to shorten this period. The main aim of treatment is to reduce the pain and give you back the movement after the pain has gone. Pain can be particularly bad at night and you may need painkillers and sedatives to deal with this. You can also try a transcutaneous electrical nerve stimulation (TENS) machine: small pads are placed over the painful area and connected to a small battery-driven device, and low-voltage stimulation produces a pleasant tingling sensation and reduces the pain. Your local physiotherapy department may have one of these machines which you can borrow on a temporary basis. Sometimes an injection of steroid may help but generally this has to be given within the first 3 months. Once the pain begins to lessen it is important to regain your shoulder movement, and you will probably need physiotherapy at this point. If your shoulder movement remains very restricted then manipulation under a general anaesthetic can help.

What other help is available?

If your shoulder problem is interfering with daily activities, such as driving and washing, you may find it useful to see an occupational therapist (OT). Your GP or hospital consultant can refer you to the OT. If you are having problems at work, talk to your employer or, if there is one, the occupational health team at your place of work. Help is also available from your local Disability Employment Adviser (DEA), who can be contacted via the Jobcentre or Jobcentre Plus office (see 'Useful addresses').

What operations are possible on the shoulder?

Most shoulder problems improve without the need for surgery, at least to a point where they do not cause too

much pain or interfere too much with your daily life. But some conditions can be helped by surgery. If an operation is needed it can be performed using either conventional or 'keyhole' techniques. Keyhole techniques allow an investigation, or the treatment itself, to be carried out through a smaller incision than with normal surgery (see below).

Can I have keyhole surgery?

Keyhole techniques (also called arthroscopy) can be used to find out more about your problem (this is called *diagnostic arthroscopy*). However, an increasing number of treatments can also be carried out using keyhole techniques (this is called *therapeutic arthroscopy*). Examples include removing loose pieces of bone or a calcium deposit if injections have not worked. Another operation is called subacromial decompression (see Figure 3) where bone and tissue are trimmed from the

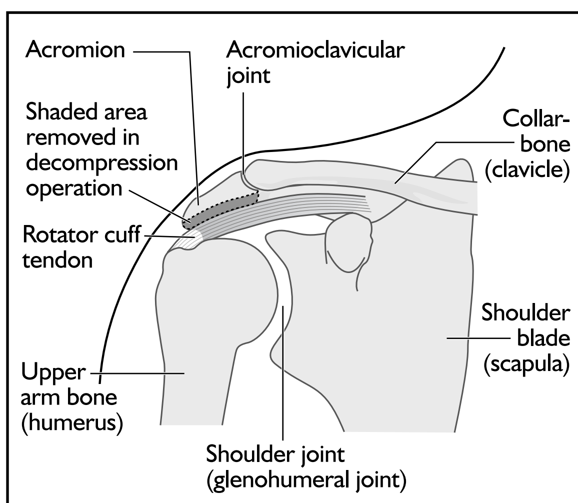

Figure 3. Subacromial decompression operation

underside of the *acromion* at the top of the shoulder to give more space outside the rotator cuff tendons. This allows them to move more freely without causing pain.

The advantage of keyhole surgery is that the scar is smaller and it is less painful than conventional operations because there is less disturbance of the tissues. As a result recovery can be quicker. However, it is still a big operation.

What if my rotator cuff tendon is torn?

If you have a torn rotator cuff tendon it may need surgery, though not always. If it gives a lot of pain and makes it difficult to use your arm then a repair operation may help. It is a complicated operation that needs a lengthy recovery period and exercise programme. You will not be able to drive for at least 6 weeks after surgery and it will take 3–6 months to get the full benefit of the operation. Unfortunately, some tears are so big that complete repair is not possible, although there is usually something that can be done to reduce the pain.

Can the shoulder joint be replaced and is it successful?

Yes. Shoulder joint replacement is well established and can be very successful for several conditions. It is used mainly for *osteoarthritis* and *rheumatoid arthritis* when severe pain restricts movement and use of the shoulder. A metal head and stem replaces the upper part of the upper arm bone, or humerus (see Figure 4). Some conditions need a plastic 'cup' fitted into the shoulder blade (scapula) but some are best without it. (See **arc** booklet 'Shoulder and Elbow Joint Replacement'.)

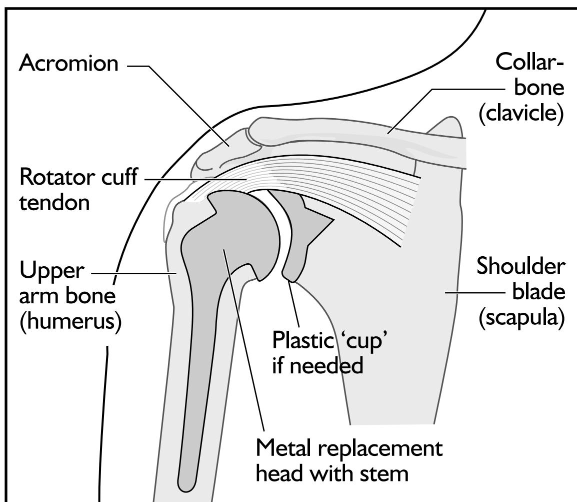

Figure 4. Total shoulder replacement

The operation is very good for removing the pain and giving you better use of your arm. Some people regain more movement in the shoulder than others. This usually depends on what the shoulder was like before surgery. If arthritis has damaged the rotator cuff you will probably not get full movement back. However, you should have more movement than before and, because the pain is much less, you will be able to use your shoulder better.

Physiotherapy and exercises after the operation are important to help you regain movement gradually. You will have to wear a sling for about 4 weeks, although you will need to take your arm out of the sling for some exercises. You will not be able to drive for 3 months after surgery. It may take 6 months to feel all the benefits of the operation.

Are there any risks to surgery?

All operations have risks and the potential for complications, because of both the anaesthetic and the

operation itself. And because the shoulder is such a complicated joint, it can be difficult to predict the outcome of any operation. Generally, the more extensive and more complex the surgery the greater the risk. However, the risk will also vary depending on how fit you are.

Because of the complexity of the joint, complete recovery back to a normal shoulder is not always possible. As with any operation there are other risks, such as infection, or damage to delicate tissues such as nerves, but precautions are taken to reduce the risks as much as possible. It is important that you are given a realistic idea of what you can expect to gain from any operation as well as any particular risks. If you are in any doubt you should make sure you discuss it with your surgeon before the operation.

Surgery is not often necessary in the treatment of shoulder pain, but in some cases it can be very helpful, and give you back much improved use of your arm.

Summary

The shoulder is a very mobile joint that is prone to several painful conditions, but severe arthritis is fairly uncommon. Many conditions will settle down with a short period of rest and simple medication from your doctor or chemist. Exercises are important to help prevent stiffness developing. If problems persist there are many things that can be done to help, from physiotherapy to injections and occasionally surgery.

Glossary

Acromioclavicular joint (ACJ) – the joint at the outer end of the collarbone (clavicle). It joins the collarbone to the shoulder blade at the acromion.

Acromion – a part of the shoulder blade (scapula) that can be felt on the top of the shoulder. Some of the muscles that move the shoulder are attached to this.

Acute calcific tendinitis – inflammation in a tendon in the shoulder caused by a deposit of calcium (chalky material). Sometimes the pain is very intense; sometimes the calcium does not cause any problem. It is not known why calcium builds up here in some people.

Arthroscopy – the medical name for 'keyhole' surgery where small (less than 1 cm) incisions are used to allow a special light and camera to look at the inside of a joint. This can be seen by the surgeon on a television screen. More than one incision is often used to allow instruments to be introduced. Stitches are not usually needed in the incisions.

Bursa – the soft tissue (actually a sac of tissue) that is present between bone and the tendons that have to move over it. It is rather like the lining of joints (synovium). There is a bursa under the acromion (subacromial bursa) that helps to stop the tendons of the shoulder 'rubbing' on the underside of the acromion. Another example is the tissue at the point of the elbow that stops the tip of the elbow bone rubbing on the skin over it.

Bursitis – a condition where the tissue of the bursa becomes inflamed. It swells and causes pain.

Diagnostic arthroscopy – where keyhole surgery is used to gain more information about a problem in a joint, in order to make a clear diagnosis. No treatment is performed.

'Frozen' shoulder – a painful condition of the shoulder that affects people in middle age, usually without a specific cause. Very soon movement is restricted. It is usually painful at night. Without treatment, full recovery

usually occurs but can take several years. Treatment doesn't usually speed up the recovery process, but it should make the condition easier to live with.

Glenohumeral joint – the main ball-and-socket joint of the shoulder. To allow such a lot of movement the socket, or cup, at the shoulder is not as deep as that of the hip joint.

Impingement – a painful condition of the shoulder where there is 'tightness' between the acromion and rotator cuff tendons – that is, in effect, they jam against one another. This can be caused by extra bone under the acromion or if the muscles of the shoulder are not working strongly enough. Pain is usually felt when the arm is moved away from the body in certain positions. This is known as the 'painful arc' and the condition itself is known as 'painful arc syndrome'.

Osteoarthritis – a common condition where the cartilage becomes thinner and damaged and extra bone forms at the edges of the joint. It can result from abnormal stress on the joints, or from many different forms of injury or joint disease. However, many cases develop without any obvious reason. The hips, knees and hands are most likely to be affected, but osteoarthritis can occur in any joint. (See **arc** booklet 'Osteoarthritis'.)

Painful arc syndrome – a condition which causes pain when the shoulder is moved in certain positions, usually in part of the range or 'arc' of movement of the arm away from the body. It can be caused by impingement and other causes of tendinitis.

Rheumatoid arthritis – a common inflammatory disease affecting the joints, mainly starting in the smaller joints in a symmetrical pattern (e.g. both hands or both wrists at once). (See **arc** booklet 'Rheumatoid Arthritis'.)

Rotator cuff – the group of muscles close to the shoulder that surrounds the glenohumeral joint. They are responsible for the proper working of the shoulder and hold the joint together. The tendons of these muscles are prone to inflammation (tendinitis) and damage.

Scapula – the medical name for the shoulder blade. The rotator cuff muscles are attached to this and the socket of the glenohumeral joint is part of it.

Tendinitis – inflammation in the tendon of a muscle. The tendons of the rotator cuff are prone to this. One of the rotator cuff muscles is called the supraspinatus muscle. When this is the cause of pain it is referred to as 'supraspinatus tendinitis'.

Tendon – a strong, fibrous band or cord which anchors muscle to bone.

Therapeutic arthroscopy – the treatment of a problem in a joint using keyhole surgery. Several shoulder problems can be treated this way and more such treatments are being developed for the future.

Useful addresses

Arthritis Research Campaign (arc)

PO Box 177
Chesterfield
Derbyshire S41 7TQ
Phone: 0870 850 5000
www.arc.org.uk

As well as funding research, we produce a range of free information booklets and leaflets. Please see the list of titles at the back of this booklet.

Arthritis Care

18 Stephenson Way
London NW1 2HD
Tel: 020 7380 6500
Helplines: 020 7380 6555 (10am–4pm Mon–Fri)
or freephone: 0808 800 4050 (12pm–4pm Mon–Fri)
www.arthritiscare.org.uk

Offers self-help support, a helpline service (on both numbers above), and a range of leaflets on arthritis.

Employment/benefits

Your Jobcentre or Jobcentre Plus office can put you in touch with your local Disability Employment Adviser. For information on benefits you can contact the Benefit Enquiry Line on 0800 882200.

Booklets and leaflets

These free booklets and leaflets are available from **arc**. To get copies, please send for our order form (stock code 6204) or write to: **arc** Trading Ltd, James Nicolson Link, Clifton Moor, York YO30 4XX **for up to THREE titles.**

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Occupational Therapy and Arthritis
Pain and Arthritis
Physiotherapy and Arthritis

SUMMARY

A summary leaflet listing the main topics covered by all the others shown here

PARTS OF THE BODY

Back Pain
Feet, Footwear and Arthritis
Joint Hypermobility
Knee Pain in Young Adults
A New Hip Joint
A New Knee Joint
Pain in the Neck
The Painful Shoulder
Shoulder and Elbow Joint Replacement
Tennis Elbow

LIFESTYLE

Are You Sitting Comfortably?
Caring for a Person with Arthritis
Diet and Arthritis
Driving and Your Arthritis
Gardening and Arthritis
Keep Moving
Looking After Your Joints (RA)
Pregnancy and Arthritis
Sexuality and Arthritis
Sports Injuries
Stairlifts and Homelifts
Work and Arthritis
Work-Related Rheumatic Complaints
Your Home and Arthritis

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Adalimumab
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Cyclophosphamide
Cyclosporin
Etanercept
Gold by Intramuscular Injection
Hydroxychloroquine
Infliximab
Leflunomide
Local Steroid Injections
Methotrexate
Non-Steroidal Anti-Inflammatory Drugs
Penicillamine
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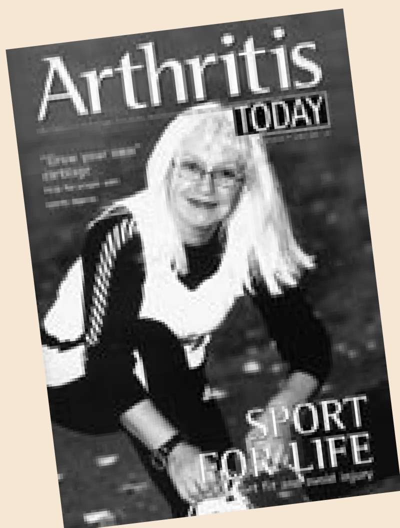
Arthritis Research Campaign



The Arthritis Research Campaign (**arc**) is the only major UK charity funding research in universities, hospitals and medical schools to investigate the cause and cure of arthritis and other rheumatic diseases. We also produce a comprehensive range of over 80 free information booklets and leaflets covering different types of arthritis and offering practical advice to help in everyday life.

arc receives no government or NHS grants and relies entirely on its own fundraising efforts and the generosity of the public to support its research and education programmes.

Arthritis Today is the quarterly magazine of **arc**. This will keep you informed of the latest treatments and self-help techniques, with articles on research, human interest stories and fundraising news. If you would like to find out how you can receive this magazine regularly, please write to: Arthritis Research Campaign, Ref AT, PO Box 177, Chesterfield S41 7TQ.

Please add any comments on how this booklet could be improved.

Feedback is very valuable to **arc**. However, due to the volume of correspondence received, we regret that we cannot respond to individual enquiries made on this form.

Please return this form to: Arthritis Research Campaign, PO Box 177, Chesterfield S41 7TQ

The Arthritis Research Campaign was formerly known as the Arthritis and Rheumatism Council for Research. Registered Charity No. 207711.

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A team of people contributed to this booklet. The original text was written by a surgeon with expertise in the subject. It was assessed at draft stage by doctors, allied health professionals, an education specialist and people with arthritis. A non-medical editor rewrote the text to make it easy to understand and an **arc** medical editor is responsible for the content overall.

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