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# ***Shoulder impingement***

***Information for  
patients and carers***

**Physiotherapy Department**



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## ***What is this leaflet for?***

This leaflet explains the problem you may have with your shoulder. It describes:

- how your shoulder works
- what we know about shoulder impingement
- the treatment that is available
- how exercise and pain relief methods can help.

We hope you find this leaflet helpful.

## ***How does my shoulder work?***

The shoulder joint is a “ball and socket” joint (see diagram on next page). The joint is formed from a ball at the top of your arm bone (humerus) and a shallow socket which is part of the shoulder blade (scapula).

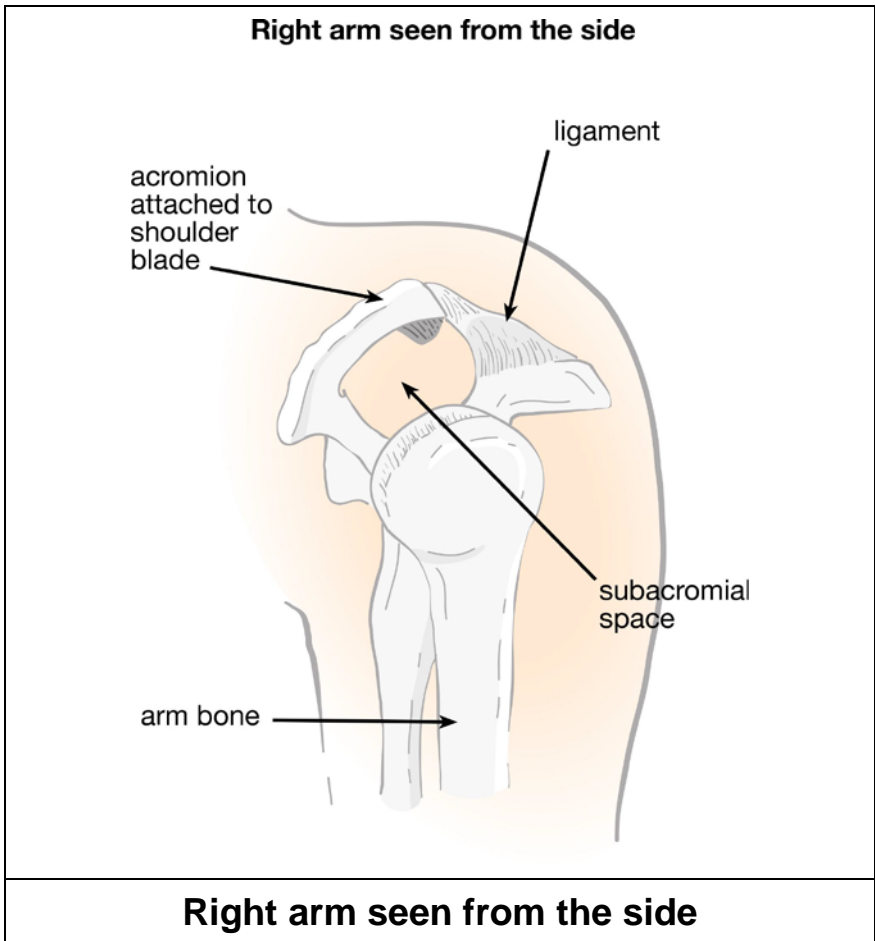
Due to this structure and the shoulder joint having a large range of movement, your shoulder joint relies a great deal on your muscles for its stability. One important group of muscles and tendons is called the “rotator cuff” (tendons are strong fibrous bands or cords that anchor muscle to bone).

The rotator cuff helps to move your shoulder and to control the position of the ball in the socket. The rotator cuff is attached from the shoulder blade onto the top of the arm bone.

The supraspinatus tendon sits in the middle of the space under the acromion (a bony bump at the top of your

shoulder blade). This tendon is part of the rotator cuff and is cushioned from the acromion by a small fluid-filled sac (called a bursa).

As your arm reaches shoulder height (that is, becomes horizontal), the space under the acromion reduces. The space is larger when your arm is well above and below shoulder height.



## ***What is shoulder impingement?***

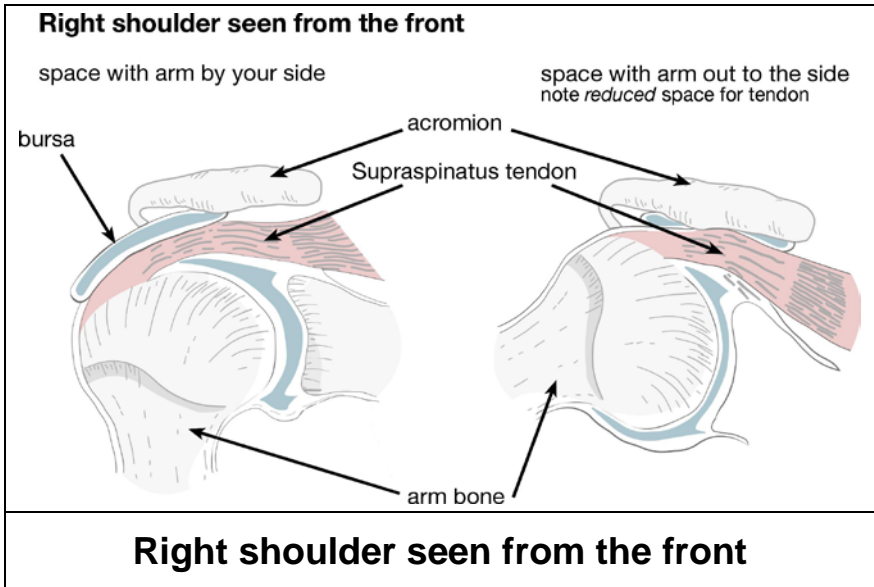
Shoulder impingement is when the tendon and bursa become pinched under the acromion. This causes your shoulder to be painful when you try and raise your arm.

The tendons of the rotator cuff are vulnerable to damage or wear and tear. The supraspinatus tendon in the space under the acromion is often affected.

Once the tendon becomes affected, it swells, filling more of the space under the acromion. This increases the chance of the tendon becoming pinched (impingement).

Anything that narrows the space between the rotator cuff and the acromion above will tend to pinch and irritate the cuff. For example, the position of the shoulder blade affects the angle of the acromion and can increase the chance of impingement.

Sometimes inflammation can be caused by small calcium (bone) deposits in the tendon.



### ***What causes shoulder impingement?***

The exact cause is not known. However, there are several things that may contribute to it:

- Sometimes overuse or a new activity where you use your arms above head-height can irritate the tendon making your shoulder painful. Examples of activities that can cause this problem include: trimming a hedge, DIY or carrying luggage.
- Sudden injuries, such as falling, can cause the tendon to tear but small tears normally develop as a result of gradual wear and tear. This can be age-related, but may also arise if you have had impingement for a long time. Small tears can cause similar symptoms to impingement and are treated in the same way.

One in every five people will have symptoms of shoulder impingement at some time in their lives. We do not know why some people are more likely to have these problems. However, impingement becomes more common as we get older. Symptoms normally appear between the ages of 45 and 65.

### ***What are the symptoms?***

Pain is often felt on the outside of the upper arm, especially when you lift your arm out to the side and up towards your ear. This movement reduces the amount of space under the acromion and results in the rotator cuff being pinched.

Twisting movements, such as putting your coat on, can also cause pain.

If the tendon is inflamed, you may have pain at night and when your arm is at rest.

You may feel a “catching” sensation in your arm when you move in certain ways.

Neck problems can also make you feel pain in your shoulder.

Tell your physiotherapist if you have any pain, pins and needles or other sensations in your neck, shoulder, upper arm or hand.



### ***What tests do I need?***

We will examine your shoulder and ask you about your symptoms. Sometimes an X-ray will be done, but this will only show us the bones in your shoulder, not any damage or wear and tear to the muscles and tendons.

If it is thought that a tendon is badly torn, you may have an ultrasound scan or a MRI (magnetic resonance image). Both of these scans can allow us to see any damage to your tendons in order to plan for surgery.

### ***Will I need an operation?***

Only a small number of people need an operation. An operation will only be considered if your shoulder has not responded to the non-surgical treatments described below.

**Most people find their symptoms settle without having an operation.**

## ***What are the non-surgical treatments?***

### **Physiotherapy**

The most important aspects of treatment are a thorough assessment of your shoulder, advice and exercises. Your physiotherapist will assess your shoulder, and give you an individual exercise programme. This may include:

- exercises to strengthen the muscles around your arm and shoulder blade
- exercises to improve your posture and/or
- stretching exercises.

**Although the exercises may be hard work, tight or uncomfortable, they should not be painful.**

### **Injections**

Injections can be of benefit, although, you may feel increased pain for the first 24 hours. A mixture of local anaesthetic and steroid is injected into the space under the acromion. It is aimed towards the bursa (the fluid-filled sac) and not the tendon. You will not normally be given more than three injections into one shoulder in a year.

Physiotherapy after an injection can be very important in improving the function of your shoulder.

## ***How can I help myself?***

Please find suggestions below that will help you to:

1. reduce the stress on the tendon(s) so that your body can try and heal the area and
2. break the pain cycle.

### **1. To reduce the stress on the tendon**

If possible, stop or find a different way of doing the activity that causes you pain. For example, when you need to get something from a high shelf, try using steps to raise yourself up instead of raising your arm to shoulder height.

Sometimes raising your arm away from your body to the side with the palm of your hand facing the floor can cause pain. Try turning your palm up and then raise your arm. Is this less painful? It may feel very awkward to begin with but it will feel more comfortable with practice.

Think about your posture. Look in the mirror; is your shoulder at a different height on the side that hurts? Or have you got rounded shoulders? Gently try and square your shoulder blades back while keeping your elbows and body still. You could also try sitting with your arm by your side, with your elbow propped on an arm rest or pillow. This will help to keep the shoulder blade in a better position and the muscles relaxed.

If your job, or any of your other activities such as sport, involve repetitive movements look for expert advice on your technique/position. Your physiotherapist can also advise you on exercises that may help.

## **2. To break the pain cycle**

One person's experience of pain can be different to another's. It is not just a physical response; it has an emotional effect too.

Pain can be tiring and can stop you doing your everyday activities. The advice in this leaflet and any exercises you have been given by your physiotherapist should help to reduce your pain. You may also find the following helpful.

- Pain relief medication (such as paracetamol) or anti-inflammatories (such as ibuprofen) can be used to help control your pain. It is best to discuss medication with your doctor or a pharmacist who will be able to advise you what will be best suited to you.
- Try using anti-inflammatory cream or gel on the area that is sore. These are available from pharmacies without a prescription, but ask for advice from your pharmacist to check you have no allergies or conditions that may react with these drugs. You will need to tell your pharmacist about any other medication you are taking.
- Ice and heat can be useful to help reduce pain, muscle spasm, swelling and to increase circulation.

Try putting an ice pack on your shoulder. Place a wet towel between the pack and your skin. Please note that ice can cause a burn if in direct contact with the skin. You should also check your skin every five minutes. A bright pink colour should be produced. If the skin turns white and blotchy, remove the ice immediately.

Ask your physiotherapist for guidelines on how long and how often to apply ice packs.

There are several methods of applying heat to an area. You could try a warm bath/shower or a warm water bottle/wheat pack.

Always touch test the temperature; if it is too hot to touch it is too hot to use. Check your skin regularly as if your skin gets too hot it can cause a burn.

If you have not already tried some of the ideas listed above, it is worth doing so.

### ***How does exercise help my shoulder?***

Pain stops you working your muscles to the same level as normal. As you get older it is also more likely that your muscles will suffer from wear and tear. This means that over time your muscles can become weaker.

If you build up the strength in your shoulder it is easier to control your movements. Exercise also increases the blood supply to your muscles, improving their healing.

Your physiotherapist may ask you to do many different types of exercise. This will help to strengthen all the areas that can affect your shoulder.

Exercises may include:

- Shoulder blade exercises - these exercises will help you to control the movement of your shoulder blade and prevent it pressing down on the sore part of your shoulder.
- Thera-Band® exercises - these will help you to strengthen and condition your muscles to control the joint movement.

- Weight bearing exercises - these help you to strengthen and improve your shoulder's ability to control your body weight through your arm.
- Stretches - these exercises help you to lengthen short or tight muscles and allow your shoulder to move correctly. They may also help to improve your posture.

### ***My exercises should be pain free***

There can be a number of problems if you have pain when exercising.

- You might put too much strain on your muscles and cause inflammation.
- Pain can cause your posture to alter and add to the strain on your joint.
- When you are in pain, your body will not allow the full use of your muscles. This will mean you are not exercising your muscles effectively.
- It is very easy to overdo an exercise or activity and cause your shoulder to hurt. It is hurting because you are asking your muscles to do a new or increased exercise, not because you have caused any further damage to your shoulder.

## ***How much exercise should I do?***

It is very important that you find the right level of exercise for you. You need to find a level that does not increase the pain in your shoulder. This will help you to build on and increase this level. You may only make small changes to your activities to increase this level but over several weeks this can make a big difference to how your shoulder works and feels.

It's like when an athlete has an injury. When they return to their sport they need to train at a lower level as their body is no longer used to exercising at their previous levels. They increase their exercise levels slowly so their body can become used to exercise again.

### **“Pacing” your activity**

Try not to overdo things as this can cause your shoulder to be sore. You will then not be able to do as much exercise as before.

You should try to pace your activity. This means slowly increasing your exercise so that you can improve gradually and continue exercising without pain.

It is important to think about everyday activities and to try and pace these too. This can be done by spreading heavy tasks throughout the week, so that these are not all done in one day resulting in increased pain. For example, do half the ironing, have a rest and then continue later with the other half so that you are not using your arm for a long period of time. If you need to clean your windows, then only do one or two at a time and leave the others for another day.

**This leaflet is also available in large print.**

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