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## Shoulder pain

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### Summary

- Shoulder pain is a common problem.
  - There are many causes of shoulder pain.
  - For most people, shoulder pain will improve over time with appropriate treatment.
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Shoulder pain is common in our community.

In younger people, shoulder pain is more likely to be due to an accident or injury. However, as you get older, natural wear and tear occurs in the shoulder joint and the rotator cuff tendon. Over time, this may become persistent pain.

The good news is that with appropriate treatment shoulder pain will improve so you can get back to doing the things you enjoy.

### The shoulder

The shoulder is a complex, highly mobile structure made up of several components. There are two joints in the shoulder:

- glenohumeral joint – where the upper arm bone (humerus) connects with the shoulder blade (scapula)
- acromioclavicular joint – where the top of the shoulder blade meets the collarbone (clavicle).

Strong connective tissue forms the shoulder capsule. This keeps the head of the humerus in place in the joint socket. The joint capsule is lined with a synovial membrane. It produces synovial fluid which lubricates and nourishes the joint.

Strong tendons, ligaments and muscles also support your shoulder and make it stable.

### What causes shoulder pain?

There are many causes of shoulder pain and not all of these are due to problems of the shoulder joints or associated structures.

#### Osteoarthritis

Cartilage is a smooth, cushiony tissue that covers the ends of bones where they meet in a joint. Healthy cartilage helps your joints move smoothly. Over time cartilage can become worn, or it may become damaged due to injury or an accident, leading to the development of **osteoarthritis**.

#### Inflammation of the shoulder capsule

The synovial membrane of the shoulder may become inflamed – this is called 'synovitis'. Synovitis may occur as a result of another condition (for example, rheumatoid arthritis) or it may happen as a result of an injury, or the cause may be unknown.

Frozen shoulder ('adhesive capsulitis') is a condition that occurs when the shoulder capsule thickens and becomes inflamed and tight. There may also be less synovial fluid to lubricate the joint. As a result, the shoulder becomes difficult to move.

Frozen shoulder may occur as a result of another condition if the shoulder has been immobilised (for example, due to surgery or injury). Sometimes the cause of shoulder pain may not be known.

#### Inflamed bursa

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Pain associated with an inflamed bursa is also common in the shoulder.

A bursa is a small fluid-filled sac that reduces friction between two structures, such as bone, muscle and tendons. In the shoulder, the bursa that sits between the rotator cuff tendon and the bony tip of the shoulder (acromion) can become inflamed, most commonly with repetitive movements.

### **Injuries and sprains**

Ligaments are soft tissues that connect bones to bones. They provide stability to the shoulder by keeping the bones where they're meant to be. If ligaments are injured or sprained, it can cause short term pain. This may be the result of the humerus coming partially out of the joint socket (subluxation) or if the humerus comes completely out (dislocation).

The flexible tissue that helps keep the shoulder joint in place (labrum) can become torn. This is called a 'labral tear'. This can occur as a result of an injury (for example, falling onto your outstretched arm) or repetitive actions (for example, due to playing sports that involve throwing, such as **cricket**).

A direct blow to the shoulder can result in acromioclavicular joint ('AC joint') being sprained. This type of injury often occurs in people participating in contact sports such as football who take a blow to the shoulder. It can also occur as a result of a fall.

The group of tendons and muscles that keeps the shoulder stable and positioned correctly for the shoulder and arm to move is called the rotator cuff. Tears to rotator cuff tendons may occur as a result of an injury (for example, a fall or broken collarbone) or happen over a period of time as we age.

### **Neck and upper back**

Problems with the joints and associated nerves of the neck and upper back can also be a source of shoulder pain. The pain from the neck and upper back is often felt at the back of the shoulder joint and through to the outside of the upper arm.

### **Injury to the axillary nerve**

This nerve can be injured as a result of a shoulder dislocation or fractured humerus, and cause weakness in moving the arm outwardly away from the body.

### **Referred pain**

Shoulder pain may also be caused by problems affecting the abdomen (for example, **gallstones**), heart (for example, **angina** or **heart attack**) and lungs (for example, pneumonia).

**Note: If you feel shoulder pain that is radiating down your arm or you're experiencing a tight feeling across the chest and shortness of breath, dial 000 immediately.**

### **Signs and symptoms of shoulder pain**

There may be many causes of shoulder pain. They all have their own unique set of symptoms.

People with shoulder pain can experience pain deep in the shoulder joint, in the back or the front of the shoulder and the upper part of the arm. Sometimes the pain in the shoulder can be described as a 'catching pain'. The location and type of pain is likely to relate to the structure causing the pain.

In some conditions there may be reduced movement, and moving the shoulder may cause you to feel pain. A feeling of weakness of the shoulder/upper arm is also common.

Depending on the condition, there may be a sensation of the joint slipping out and back in to the joint socket, or the shoulder can become completely dislodged (dislocated). Some people may experience sensations of pins and needles (tingling) and burning pain. This is more likely to be associated with nerves from the neck than the shoulder joint itself.

Lack of movement after a shoulder dislocation is usually due to pain. Complete rotator cuff tears and injury to the axillary nerve both cause weakness in moving the arm away from the body. These problems require close clinical examination.

### **Diagnosing shoulder pain**

Health practitioners who treat shoulder pain are trained to investigate and identify the exact cause of the condition or injury causing the pain. They will do this by:

- asking about your shoulder pain, including potential causes (for example, recent injuries or other health conditions), if you have had shoulder pain before, things that make your pain worse, things that make it better
- conducting a thorough physical exam.

From this information they can work out the likelihood of particular structures in the shoulder region being involved. Sometimes they will suggest that investigations or tests may be needed.

It is important to know that many investigations show 'changes' to your shoulder that are likely to represent the normal passage of time (even by 45 years of age), not 'damage' to your shoulder. An experienced health practitioner can help you to understand the difference.

### **X-ray**

X-rays provide images of the bones and joints. They can show any changes caused by arthritis in the shoulder joint (for example, bone spurs or narrowed joint space) or fractures. However x-rays do not show any changes or problems with the soft tissues such as muscles and tendons.

### **Ultrasound**

Ultrasounds are typically used to investigate the rotator cuff tendon for inflammation, tears or rupture. While it can be a helpful tool to use, and can provide clues to identify the source of your pain, a diagnosis can't be made using the ultrasound alone.

If an ultrasound is ordered, then an x-ray will also be arranged. Both tests together will provide more complete information about the state of the joints and the tendon.

### **CT and MRI**

**Computed tomography (CT)** and **magnetic resonance imaging (MRI)** scans are usually not the first tests used to investigate shoulder pain. They may be used when a fracture is suspected or an accident is involved. These scans will help determine the extent of injury and whether further assessment and treatment by a surgeon is needed.

## **Treating shoulder pain**

There are many treatments for shoulder pain.

### **Physiotherapy**

One of the first treatment approaches for shoulder pain involves physiotherapy and modifying the activities that aggravate the pain.

Physiotherapy exercise will aim to fix problems such as stiffness and weakness. It will also include retraining the movements or activities related to your sport, work or everyday activities that were aggravating your shoulder so that, wherever possible, you can get back to what you were doing.

### **Occupational therapy**

If your shoulder pain is making everyday activities difficult, it may be helpful to see an occupational therapist. They can help you learn better ways to carry out daily activities such as bathing, dressing, working or driving. They can also provide aids and equipment to make everyday activities easier.

### **Heat and cold packs**

Heat and cold packs may help provide you with temporary relief of pain and stiffness.

### **Medication**

Medications such as paracetamol and low dose anti-inflammatories can be helpful in controlling pain while you work to maintain and restore movement and function. If you have high blood pressure or cardiac or kidney disease, be sure to talk to your doctor before using these medications.

Medications should not be considered as a long-term solution for your shoulder pain. If your pain persists, discuss

other treatment options with your doctor.

For persistent pain, your doctor may suggest a corticosteroid injection. While it's important to understand that all medications have side effects, for most people an injection to help reduce pain while they recover is well tolerated. The injection may be repeated once or twice, depending on your circumstances. Keeping a pain diary will help you track how effective it is, and if other forms of treatment are required.

In cases of frozen shoulder, a hydrodilatation may be suggested. This is an injection of fluid (saline and a steroid) into the joint. There is evidence to support this treatment for symptom relief and improved range of motion. Physiotherapy in the days after treatment has been shown to provide further improvements.

## **Surgery**

For most people, shoulder pain will improve over time with appropriate, conservative treatment. However in some cases surgery may be required.

The work that you have already done to try and resolve your shoulder pain (such as physiotherapy) is important when facing shoulder surgery. Being informed, and maintaining muscle strength and range of motion leads to better results after surgery. Post-surgery rehabilitation is also important for good results.

Surgery may be required for the following conditions:

- recurring or frequent dislocations
- acute rotator cuff tears (tears that have recently occurred as the result of an injury)
- chronic rotator cuff tears (tears that occur as a result of wear and tear as you age)
- severe joint damage as a result of osteoarthritis and rheumatoid arthritis.

Surgery for frozen shoulder requires careful consideration as it is a condition that usually resolves naturally over time and can be managed non-surgically. It is not uncommon for pain and stiffness to persist after surgery for this condition.

## **Self-management of shoulder pain**

Most people with shoulder pain will recover from their condition. Committing to an exercise-based rehabilitation program can help. It may also be necessary to make modifications to lifestyle and work practices that aggravate your shoulder pain. Talk with a physiotherapist and occupational therapist for advice.

## **When to be concerned about shoulder pain**

It can take some time for shoulder pain to settle, perhaps weeks or months. In general, if your shoulder pain has not begun to settle in a week or two, or if it worsens over time, then it may be worthwhile seeing an experienced doctor or health practitioner.

If you find that you need stronger medication to manage your shoulder pain, discuss this with your doctor. You may need a referral to a specialist.

**Note: Shoulder pain or discomfort around the front of one or both of the shoulders can be a sign of a heart attack. It is often described as an ache, heaviness or pressure sensation spreading from the chest to the shoulders. This requires immediate medical attention. Call 000 immediately if you are experiencing these symptoms.**

## **Long-term outlook for shoulder pain**

Most people with shoulder pain will find the condition will settle over time. Working with your healthcare team and using self-management techniques will lead to the best outcomes. This treatment may require an experienced physiotherapist to guide you through a comprehensive rehabilitation program.

## **Where to get help**

- Your **GP**
- **Physiotherapist**
- **Exercise physiologist**
- **Occupational therapist**

- **Musculoskeletal Australia**. National Help Line Tel. **(03) 8531 8000** or **1800 263 265**

## Contributors

Thanks to the following organisations whose pain experts helped create and review this content.

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