



# Landmark and Ultrasound Guided Corticosteroid Injections

Healthshare Information for Guided Patient Management

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## Introduction

Healthshare is committed to improving your health and wellbeing. This information leaflet is produced by health professionals who are expert in improving musculoskeletal conditions. The information is based on the latest available evidence from research in the field. If you are not sure of any of the given information, please contact our physiotherapy helpline for further information.

## What is a corticosteroid injection?

A corticosteroid (or “cortisone”) is an anti-inflammatory medicine, which can be injected directly into the soft tissues or joints that are causing your symptoms.

By acting directly at the affected area, injections may be a safer alternative than taking medication by mouth. These medications are not the same steroids taken by some body builders and athletes.

### Why should I have a corticosteroid injection?

The injection can help to relieve swelling, pain and stiffness caused by inflammation. This may in turn help you to start your rehabilitation and return to normal activities sooner by “breaking the cycle” of pain and inflammation.

It can also be helpful to aid in the diagnosis of your condition if it is not clear which structures are responsible for your pain. You may also have a local anaesthetic injected at the same time, which allows for temporary pain relief.

### What are the risks?

Side effects of the injection are rare, however, they include:

- Flushing or reddening of the face for a few hours.
- Small area of fat loss or change in skin colour around the injection site.
- **Post-injection pain:** You may experience an increase in pain a few hours after your injection that can last a few days. You could continue with your pain killers or discuss this with your doctor or pharmacist.
- Diabetic patients may notice a temporary increase in blood sugar levels.
- Temporary bruising or bleeding if you are taking blood thinning tablets (such as aspirin or warfarin).
- Slight vaginal bleeding/menstrual irregularities.
- **Allergic reaction (Anaphylactic shock):** This is extremely rare but it is a medical emergency and is associated with difficulty breathing (and other symptoms). It is most likely to happen in the first 15 minutes after an injection (usually involving anaesthetic) but can happen up to 6 hours after the procedure. For this reason, you will need to remain in the clinic/reception for 15 minutes after the injection. If you have any difficulty breathing or any unusual symptoms you must tell us immediately. If it happens after you have left you must seek medical help **immediately**. Treatment involves another injection and this must be administered quickly. However, please be assured this is extremely rare.
- **Infection:** If the area becomes hot, swollen and painful for more than 24 hours, or if you feel generally unwell, you should seek **immediate** medical help from your GP if you can be seen immediately or from the closest Accident & Emergency (A&E) department. Other risks include; acute pancreatitis (stomach pain) and tendon rupture.

### Are there any precautions or contraindications?

You **SHOULD NOT** have the injection carried out or additional care should be taken if you

- Have any infection in the area or anywhere else in your body.
- Are allergic to local anaesthetic or steroid.
- Feel unwell or due to have surgery in the treatment area.
- Are pregnant, trying to get pregnant or breast feeding.
- Have poorly controlled diabetes.
- Do not want the injection or are very frightened of injections.
- Pancreatitis.
- Have cancer or recently been treated for cancer.
- Currently taking steroid tablets (eg prednisolone) or taken any steroid tablets in the past 6 months.
- Suffer from haemophilia.
- Have had recent trauma to the region where you are to have the injection.
- If you are having a joint injection and the joint is unstable.
- If you have had more than 3 injections to the area in the past 12 months.
- Diagnosed or ever been treated with any severe mental health conditions.
- Recently (in past few weeks), had an injection or nasal spray.
- Planning an injection (eg for travel or flu) in the next few weeks.
- Any known problems affecting your heart.
- Have uncontrolled blood pressure.
- Have blood clots, deep vein thrombosis, thrombophlebitis.

### Are there any other alternatives?

- Lifestyle changes – rest activity modification.
- Heat or cold packs, self-massage.
- Pain relieving, anti-inflammatory gel application.
- Use of anti-inflammatory medicines.
- Physiotherapy.
- In some cases a surgical opinion may be appropriate.

### What happens during the injection?

- The benefits and risks of the injection will be explained to you in detail.
- You will then be placed in a comfortable position.
- The skin is cleaned with antiseptic.
- A needle is gently positioned into the affected area and the solution is injected through the needle.
- A plaster will be placed over the site to keep it clean.
- A few minutes after the injection you will be examined again.

### What happens after the procedure?

- If local anaesthetic is also used in the injection, your pain may start to improve within a few minutes although this may return when it wears off (similar to when you visit the dentist).
- The steroid usually starts to work after 24–48 hours, but it may take a little longer.
- The effect of the injection varies from person to person and usually continues to last for about six weeks.
- This does not necessarily mean that you will need a second injection, so long as you follow the advice given to you after the injection.

### What do I need to do after I go home?

- Depending on the cause of your pain, you may be asked to rest the area for a short period after the injection.
- Following a shoulder, arm or hand injection, avoid lifting, pushing, pulling anything more than a light weight for the next 2 weeks. We also recommend to avoid driving for 2-3 days, longer (ie a week, if possible).
- Following an injection in the lower limb, avoid running, excessive stair climbing, pushing heavy weights with your legs for the next 2 weeks.
- Resting does not usually mean total rest, but refraining from activities that make your pain worse or contact activities for at least 2 weeks. This is to maximize the benefit given by the injection.
- You may also be shown some exercises to do whilst you are in the clinic, or referred for physiotherapy treatment.
- If you are having other medical treatment within six weeks, you must tell the treating clinician that you have received a corticosteroid injection.

### Will I have a follow-up appointment?

Routine follow up appointment is not necessary after an injection. However, you may be asked to attend a follow up appointment a few weeks after your injection to check your progress.

### What if my injection doesn't work?

Research evidence supports the use of corticosteroid injection and most people feel the procedures help. Sometimes a course of injections are required. For health reasons there is a maximum number of injections a person should have in any given time. Not everyone benefits from injection therapy and your doctor or physiotherapist will discuss alternative ways to manage your symptoms if you don't benefit as expected from the injection(s).

## Ultrasound guided injections

Diagnostic Ultrasound is an imaging technique which utilizes high frequency waves to visualize subcutaneous body structures including tendons, muscles, joints, vessels and internal organs for possible pathology or lesions. Corticosteroid injections may be given by a surface landmark palpation technique or by visualising the structure(s) where the injection is thought to be most beneficial. There are a number of ways to visualise needle placement. Ultrasound is one method.

### Why should I need ultrasound guided corticosteroid injections?

Ultrasound is generally used for diagnosis and rehabilitation. Ultrasound is used to improve the accuracy of the procedure by identifying the desired location or structure to perform the injection. It will not be used for diagnosis during your injection.

### What are the risks?

There is a small risk of tissue heating when using ultrasound but this is thought to occur after prolonged exposure, and after a much longer than the injection procedure. There are no known adverse effects of ultrasound imaging for the injection you will receive.

### **Are there any contraindications?**

There are no specific contraindications for the use of ultrasound scan. However there are specific contraindications for corticosteroid injections and your clinician will check through this.

### **What happens during the injection?**

During the procedure you will be asked to lie or sit in a comfortable position. A water-based gel is used to improve contact with the skin. You will be asked to remain still while a probe is placed on your skin over the area where the injection will be given. Sometimes you might be asked to gently move a body part, such as your shoulder or hand.

## High-volume image guided steroid injections (HVIGI)

High volume image-guided injections (HVIGI) are a novel and promising treatment for Achilles (Heel) and patellar (knee) tendon problems. Using ultrasound guidance, an injection of fluid (50mls around the Achilles tendon; 40mls around the patellar tendon) is injected into the space between the tendon and underlying fat pad. This sterile fluid comprises local anaesthetic, normal saline and a small amount of corticosteroid.

### Why should I need HVIGI?

The intention of HVIGIs is to destroy the abnormal blood vessels and nerve endings that have grown into the tendon. This often results in significantly decreased pain, enabling patients to progress with their rehabilitation.

### What happens during this procedure?

During the procedure you will be asked to lie or sit in a comfortable position. A water-based gel is used to improve contact with the skin. You will be asked to remain still while a probe is placed on your skin over the area where the injection will be given. Once the needle is inserted under the probe a volume of fluid will be injected with a closed valve connecting tube. You may feel pressure or some pain during this procedure.

### What should I do following this procedure?

This procedure is not a cure, but aims to decrease pain and provide a “window of opportunity” in which patients can progress with their rehabilitation. For this reason, it must be coupled with a comprehensive physiotherapy program to give a patient who suffers with tendinopathy (tendon pain) the best chance of success.

We advise not to drive for 2-3 days following the procedure. Hence it is advisable that you bring a family member with you during your appointment.

## Hydrodistension procedure

### What is hydrodistension?

This procedure involves using imaging (often ultrasound) to first inject analgesic into the shoulder, which is followed approximately 15 minutes later by an injection of sodium chloride (salty-sterile water). The purpose of the water is to distend or “stretch” the joint to restore as much shoulder movement as possible.

### Why should I need hydrodistension?

Frozen shoulder (also known as adhesive capsulitis) is a condition associated with contracture of the shoulder capsule. The capsule is the tissue that surrounds the joint and when it contracts it is associated with pain and loss of normal shoulder movement. Frozen shoulder is characterised by two phases, firstly when the main symptoms is pain and secondly when the main symptom is stiffness. Hydrodistension improves the mobility and decrease pain in the shoulder joint.

### What are the risks?

The procedure is subject to the risks of injection therapy and infection is the only serious complication which you need to monitor during the first week. In addition to these, there is a small risk of tearing and rupture of the capsule, damage to ligaments and tendons and other tissues of the shoulder. There is also a very small (very rare) risk of damage to the bones such as a fracture.

### What happens during the injection?

You will usually be asked to lie on your side with the frozen shoulder uppermost. Then the injection will be done under ultrasound guidance. This may cause a feeling of tightness, increased pressure or heaviness in the shoulder or down the arm. Some people may experience some pain and discomfort.

Immediately, following the distension procedure, the clinician will move and stretch your shoulder and ask you to help by contracting some of your shoulder muscles. The purpose of this is to restore as much normal movement as possible. You may be asked to lie on your side and on your back for part of the post injection procedure. The stretching may be uncomfortable but you may ask for it to be stopped at any stage.

There is no guarantee of success but the procedure has the potential to further decrease pain and increase shoulder movement. The procedure may be done on a number of occasions usually one week apart. To maximise the procedure you will need to perform home exercises and stretches to maintain and increase the shoulder joint range.



