Spinal steroid injections

Patient information

Spinal steroid injections (also called corticosteroid injections) can give rapid and effective reduction in pain and inflammation. However, improvements can be short term. For the best results, spinal injections are ideally utilised as part of a comprehensive treatment plan. As with all medicines, some people may experience side effects. The aim of this patient information leaflet is to provide you with the information that you need to know.

We ask all patients to provide written consent prior to booking an injection to ensure they have read and understood the information provided

What spinal injection will I have?
There are different types of spinal injections. Which one you will have depends on your symptoms, clinical assessment and MRI findings. The most common spinal injections and their indications include:

- **Spinal joint injections** – This involves injecting the one or more facet joints in the neck, thoracic spine (middle back), lower back or sacrum (sitting bone). Which facet joints are injected depends on your symptoms, clinical assessment and MRI findings. Usually 2-4 facet joints are injected during the same appointment to maximise the chances of improving your symptoms.
- **Nerve root injections** – Nerve roots can be injected in the neck (cervical spine) or lower back (lumbar spine). These are usually considered for sciatica (altered sensation or pain shooting into your leg or foot) or brachialgia (altered sensation or pain shooting into your arm or hand). Which nerve roots are injected depends on your symptoms, clinical assessment and MRI findings. Normally 1-2 nerve roots are injected during the same appointment.
- **Caudal epidural** – A caudal epidural is the most common lower back injection and involves injecting a large volume (10ml) into the spinal canal at the level of the sitting bone (sacrum). This allows the steroid to spread all along the lower back. The injection is a combination of saline, steroid and local anaesthetic. The main indication for caudal epidural is lumbar stenosis (narrowing of the spinal canal causing low back and leg pains), discopathies (disc injuries such as annulus fissures), multi-level nerve root impingement affecting >2 nerves that are not amenable to individual nerve root injections.

What are steroids and how are steroid injections used?
Some steroids occur naturally in the human body. Man-made steroids act like natural steroids to reduce inflammation. They can be taken as tablets or given as an injection. They are used in many areas of medicine to treat inflammatory conditions.

Steroids are often recommended for people with musculoskeletal pain, such as inflammatory arthritis or osteoarthritis (age-related wear and tear) and a range of other soft tissue conditions which involve pain and/or inflammation. In the spine, steroids can be used to inject around nerve roots (for pain radiating to arms or legs, e.g. sciatica), facet joints (for osteoarthritis) and for caudal epidural (for lumbar stenosis).

Steroids used for spinal injections require several days to take effect (on some occasions it can take even longer, up to 2-3 weeks to achieve the full effect), but the benefits can last for several months. We advise that pain relief ranges from several weeks to several months post injection. Unfortunately, no treatment will be effective for every patient and whilst most patients will experience at least partial benefit, a minority of patients may experience no relief.

What happens when I have a spinal injection?
Before proceeding with a spinal injection, an up-to-date MRI scan is required. This should not be older than 12 months prior to the injection. An MRI is necessary to select the most appropriate spinal injection and correlate symptoms with a clinical assessment. Please also inform us if there have been any significant changes since the most recent MRI scan. If you have not had an MRI scan in the last 12 months then please contact the clinic and we can potentially help to organise an up to date MRI prior to your appointment.

The clinician performing your injection will choose the most appropriate steroid and dose for your condition. They will usually inject the steroid directly into the area that is inflamed, such as into the facet joint or around the nerve root. Most injections are quick and relatively easy to perform.

Will I need another injection?
If you find the injection helpful and other treatments are unsuitable or haven't helped, the injection may be repeated. However, injections are most often used to provide a window of opportunity to engage in exercise and rehabilitation. Once your pain is better controlled, the need for injection should be reduced. Guidelines suggest limiting to a maximum of 3 steroid injections into the same area in a 12-month period.

Risks and side effects
Most people have spinal steroid injections without any significant side effects.

The risk of side effects may be greater with stronger doses and longer acting steroids, such as Triamcinolone Acetonide and Methylprednisolone, as they tend to be stronger and dissolve less easily in your body. However, these steroids are often preferred in clinical practice as they offer longer treatment effects.

For spinal nerve roots injections in the neck or lower back a soluble steroid is used (dexamethasone or betamethasone). This is to reduce the risk of nerve injury in the rare case the steroid leaks into the blood vessels around the nerves.

Whilst we do not require a doctor to refer you for an injection we will supply you with a report after the procedure which we suggest you forward to your GP for your medical records.
Prior to the injection you will complete a medical screening and consent form. For safety reasons your clinician may recommend delaying your injection eg if you have unstable blood pressure or unstable blood sugar levels due to diabetes until you obtain consent from your GP.

Do steroids cause immunosuppression?
Steroid injections may cause temporary immunosuppression, which should be considered in relation to Covid-19. A two-week interval should be left between receiving a COVID vaccine and having a steroid injection as the steroid may reduce the effectiveness of the vaccine. If you are known to have reduced immunity you should discuss with your GP before booking for a steroid injection.

Will the injection be painful?
There can be some discomfort at the time of injection, but many people find that they are not as bad as feared. Usually this will be very short lived and settle soon afterwards.

Can a steroid injection cause an increase in my pain?
Around a quarter (1 in 4) people may notice an increase in their pain (a post injection flare) within the first 24-48-hours after injection. This usually settles within a couple of days. Simple painkillers, such as paracetamol and applying a cold compress, may help. Occasionally, post injection flare might be more pronounced and go on for up to a week. Very rarely, the pain can be severe (otherwise known as pseudo sepsis) and on these rare occasions, the patient must seek urgent medical attention.

Skin changes
Injections can occasionally cause some thinning and changes in the colour of the skin at the injection site (known as depigmentation). In rare cases a steroid injection into muscles or joints can cause an indentation in the skin around the area (known as fat atrophy).

Infection
Very rarely, a joint or soft tissue structure may become infected following an injection. If the injected area becomes more painful, hot, red and swollen you should seek medical attention immediately. Other signs of an infection include feeling generally unwell (e.g. fever and nausea).

Weight gain
People are sometimes concerned about weight gain following a steroid injection. One of the advantages of injected steroids, compared with tablets, is that the dose can be kept low. This means the risks of systemic side effects such as these are extremely low.

Diabetes
Patients with diabetes may experience a fluctuation in their blood sugar levels following a steroid injection. If you are a type 1 or insulin dependent diabetic and/or your blood sugars are not always stable you must check with your GP if they are happy for you to have an injection (we recommend that patients with a recent HbA1c above 8.5% (70 mmol/mol) should obtain approval from their GP before booking. If you are concerned at all, you should speak to your doctor or diabetic nurse specialist before booking.

Other possible side effects
Other possible side effects include facial flushing, temporary changes in menstruation and mood.

Side-effects specific to spinal injections
More common (<10%):

- A change in sensation in your legs or arms (this should resolve quickly if it occurs)
- Vasovagal reaction
  - Transient dizziness/fainting due to blood pressure drop (this typically resolves within 15-30 minutes after the injection)
- Bruising/bleeding in & around the injection site
- Temporary loss of bladder control and sensation of a full bladder (only with caudal epidural or lumbar nerve root injections)

Rare (<1%):

- Severe allergic reaction that requires emergency treatment (anaphylaxis)
- Headache
- Spinal cord or nerve damage
- Infection (e.g. discitis)

Extremely Rare (<0.1%):

- Pain permanently worse
- Paralysis
- Cauda equina syndrome
- Blindness
- Hiccups

Can I take other medicines along with the steroid injection?
You can take other medicines with local steroid injections. However, treatment for certain conditions such as diabetes, cancer, or HIV may require you to first check with your GP or treating consultant to ensure the steroid injection will be safe for you. For example, if you are taking a blood thinning drug (also known as an anticoagulant) such as warfarin, you may need a blood test to make sure that your blood is not too thin to have the injection. This is because of the risk of bleeding into the area of the injection. These medical issues are highlighted on the on-line consent form you are required to complete before booking.

Pregnancy and breastfeeding
Unfortunately, we are not able to offer steroid injections to patients who are pregnant. If you are currently breastfeeding, please ask your therapist for a leaflet produced by Breastfeeding Network in 2014, which has been produced to give you guidance in this area.

Below is a summary of risks and side effects from having steroid injections

Serious side effects are rare and include:

I**nfection** - Joint and soft tissue infections (approx 1:50,000) – very rarely, a joint or soft tissue structure may become infected following an injection. Signs of infection are increased pain, heat, redness and swelling. Patients will often feel generally unwell (e.g. fever and nausea). If you are concerned about possible infection you should seek medical attention immediately. Infection of the spinal discs (discitis) is very rare but is a medical emergency that requires medical attention and prompt antibiotic treatment.

Anaphylaxis – it is extremely rare to have an allergic reaction to steroid or local anaesthetic (1:500,000). This would usually happen within the first few minutes of an injection and requires immediate medical attention. Very rarely the allergic reaction can be delayed. The symptoms you might experience are feeling lightheaded or faint, breathing difficulties (such as fast, shallow breathing and/or wheezing), a fast heartbeat, clammy skin, confusion and anxiety, collapsing or losing consciousness. You will be asked to remain in the clinic for 20 minutes following the injection to allow observation of possible adverse reactions.

Spinal headache – Headaches following a nerve root or caudal epidural injections are rare (<1%) and occur if the dura is accidentally punctured with the needle. This is more common during a transforaminal epidural or spinal epidural (used during labour), both of which are not performed in our spinal injection clinic. Headaches are usually benign and self-limiting, settling in 1-2 weeks.

Nerve root damage – Injuring the spinal nerve roots in the neck or lower back is very rare. The injection only targets the area around the nerves and the chances of perforating the nerve themselves is very small. Ultrasound guidance and soluble steroids are used to minimise this risk. If nerve injury occurs, this is usually mild and transient, with pain or pins & needles in your arms or legs that resolved within a few days (max 7-8 days). Permanent nerve damage is very rare, with a reported rate of 1:50,000 or lower.

Spinal cord damage – Spinal injections do not target the spinal cord directly and the chances of causing spinal cord damage is remote. Spinal cord injury can occur indirectly due to chemical injury (through steroid or local anaesthetic), bleeding (blood clot) or ischaemia (reduced spinal blood circulation). The rate of spinal cord injury is extremely low, estimated around 1:150,000.

Cauda equina syndrome - Cauda equina syndrome (CES) occurs when the nerves in the lower back become severely compressed, causing bilateral leg pain, bladder dysfunction (urinary retention), and faecal incontinence. Usually this is caused by a large disc prolapse, but some cases of CES have been reported following caudal epidural injections. The mechanism of this complication is unclear, but it is thought to be due to ischaemia (reduced spinal blood circulation), infection, chemical injury (through steroid or local anaesthetic) or blood clots. The incidence of CES after caudal epidural is estimated at 1:50,000 (<0.002%).

Worsening pain or paralysis – Spinal injections in extremely rare occasions can cause a persistent worsening of the pain, or paralysis of one or more limbs. Cases have been reported of where this was due to post-infection complications (e.g. arachnoiditis). The rate of these complications is extremely low and estimated at 1:50,000-150,000.

Other potential side effects include:

- Temporary immunosuppression which should be considered in relation to Covid-19.
- Local subcutaneous fat atrophy (usually temporary and disappears within a few months).
- Local depigmentation (usually temporary and disappears within a few months).
- Post injection flare of pain at the injection site – usually settles within a few days but can occasionally go on for longer and be more severe.
- Destabilisation of blood sugar levels in diabetic patients which requires vigilant monitoring by the patient or carer for up to 10 days following injection.
- Blurring of vision or sudden loss of visual acuity due to the very rare complication of central serous chorioretinopathy.
- Facial flushing.
- Menstrual irregularities.
- Dizziness.
- Injury or trauma to neurovascular structures during the injection procedure.
- Very rarely significant joint destruction or damage can occur (although usually associated with overly frequent high dose injections, this has been reported at normal recommended dose levels).

You will be asked to remain in the clinic for 20-30 minutes following the injection to allow for observation of possible adverse reactions.
For further information please see our page on the potential side effects of steroid injections.

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Potential side effects of local anaesthetics
Serious side effects are rare and include:
Infection (see also above)
Anaphylaxis (see also above)

Other potential side effects include:
Lightheadedness.
Numbness of area injected.
Dizziness, drowsiness.
Blurred or double vision.
Vomiting.
Bradycardia.
Hypotension cardiac arrest.
Very rarely loss of consciousness, respiratory depression, respiratory or cardiac arrest.
Allergic or anaphylactic reaction.
Injury or trauma to neurovascular structures during the injection procedure.

Your therapist is highly trained and will take every appropriate step to avoid injecting or traumatising soft tissue structures, nerves or vessels when performing the injection. However, there is a very small risk that this can occur, particularly with injections at certain locations.

If you have any questions regarding the information contained in this leaflet, please call 02074823875 or email injections@complete-physio.co.uk and we will arrange for one of our clinical specialists to speak with you.