



## Pillar A4

# Understand the suitability of injections and interventions

## Commonly undertaken injections in pain medicine

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Injections are made over or into joints, around specific nerves or sometimes around soft tissues. Often, several injections are undertaken during the same procedure.

Injections can help your pain by reducing some of the pain signals and, though pain relief may be short-lived, some people can get significant and long lasting pain relief from these injections. It may not be a cure. Sometimes injections are used to help to identify the area from where your pain is arising thus helping with diagnosis. Injections usually contain local anaesthetic often with a small amount of steroid. The injections are usually undertaken alongside other treatments such as physiotherapy. Examples include:

### **Nerve root injection (Dorsal root ganglion block, transforaminal epidural)**

This is an injection of local anaesthetic and steroid around the dorsal root ganglion. A dorsal root ganglion (spinal ganglion) is a cluster of nerve cell bodies (a ganglion) in a dorsal root of a spinal nerve. The ganglion looks like a small swelling on the nerve that joins the spinal cord. This ganglion contains nerves that carry sensation. The sensory nerves enter through a hole referred to as the intervertebral foramen. Dorsal Root Ganglion blocks are used mainly for localised radicular pain (sciatic leg or arm pain) pain where simpler measures have not helped. They are most commonly used in the lumbar region.

### **Epidural steroid injection**

An epidural steroid injection involves injecting a steroid into the epidural space. This is a space that surrounds the spinal cord. Local anaesthetic (or a solution called normal saline) with the steroid will bathe the nerve roots which send pain signals to the brain. Epidural injections can be given anywhere along the length of the spine. This may be in the neck (cervical), between the shoulder blades/back of chest (thoracic), lower back (lumbar) or tailbone (caudal). Epidurals are used mainly for radicular pain (sciatic leg or arm pain) pain where simpler measures have not helped.

### **Facet joint injection**

A facet joint injection is an injection around or into the facet joint. The injection contains local anaesthetic often with a small amount of steroid. Facet joints are small joints that link the bones of the spine together. The facet joints allow movement and stabilise the spine. Wear and tear, inflammation and injury to the facet joints may cause pain in some people. The injection provides information about whether pain is originating from your facet joints. Usually, several injections are undertaken during the same procedure. It is used for localised spinal pain where simpler measures have not helped. Several injections to different facet joints may be needed depending on the site of pain.

### **Rhizolysis/Radio Frequency Lesioning (Denervation, lesioning)**

Rhizolysis/Radio Frequency Lesioning is a procedure where nerves to facet joints (medial branch nerves) are destroyed. The procedure is usually undertaken when facet joints injections have proven to produce significant pain relief for a short duration. The purpose is to try and produce more prolonged pain relief sometimes even lasting a number of years. The probe is heated to disrupt the nerves; however some doctors may use other techniques to do this. In addition, local anaesthetic and/or steroid is injected to reduce any post procedural discomfort. Usually, several injections are undertaken during the same procedure. It is used for localised spinal pain in the lumbar or cervical area where simpler measures have not helped.

### **Intravenous regional analgesia**

This is a technique where medicine, usually a local anaesthetic, however other medicines can be used, is injected intravenously into a limb to treat some pain conditions. The medicine is contained within the limb for a short period using a tourniquet. The anaesthetic then numbs the limb.

### **Lumbar sympathetic block**

A lumbar sympathetic block is an injection around nerves that supply your feet, legs and pelvic area. These are made close to your spine in the lumbar region. A lumbar sympathetic block will block nerves known as sympathetic nerves to try to improve your pain.

### **Occipital nerve injection**

An occipital nerve injection is an injection around a peripheral nerve known as the occipital nerve situated at the back of the head. It can both help with diagnosis and also to produce pain relief. The injection contains local anaesthetic often with a small amount of steroid.

### Sacroiliac injection

A sacroiliac injection is an injection into a joint at the bottom of the spine where it joins the pelvis known as the sacroiliac joint. The sacroiliac joints allow movement and stabilise the spine. Wear and tear, inflammation and injury may cause pain in some people. The sacroiliac joint injections may be used to diagnose and treat certain types of back pain. It is used for localised pain where simpler measures have not helped. The injection contains local anaesthetic often with a small amount of steroid.

### Trigger point injection

A trigger point is a tender area of your body, often a muscle, which when pressed causes pain. Normal muscle contracts and relaxes. At trigger points, the muscle may fail to relax and a knot or tight band of muscle is formed. Several injections are usually made on a single occasion and can contain local anaesthetic, often with a small amount of steroid. The injection is often undertaken in the shoulders, neck or back.

***Will I experience any side-effects?*** As with any procedure, side-effects may occur. These are usually minor and there is little risk of serious harm, but your doctor will advise of any more serious ones. Side-effects may include;

- Mild local tenderness and / or bruising at the site of the injection, that usually settles over the first few days
- The local anaesthetic may rarely spread causing some numbness and/or weakness. Should this occur, the effect is temporary and will rapidly resolve over minutes or rarely hours
- Infection. This is rare. You should seek medical help if there is local warmth or redness over the site of injection with tenderness and/or you feel hot and unwell. This may require antibiotic treatment
- Nerve injury occurs rarely, and serious nerve injury is very rare
- Injection treatments are not always effective and may not help your pain

***What can I expect in the days afterwards?*** You may experience some soreness or aching at the injection site. Take your regular pain killers and medications as normal and this should settle down. Try to keep on the move about the house whilst avoiding anything too strenuous.

Would you like more information?

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This information sheet is for general education only and does not list all the uses and side-effects associated with the drugs and interventions. For more information, speak to your pain nurse, doctor or pharmacist.

**This information sheet was adapted from the following websites:**

[www.arthritisresearchuk.org](http://www.arthritisresearchuk.org)

[www.britishpainsociety.org/british-pain-society-publications/patient-publications/](http://www.britishpainsociety.org/british-pain-society-publications/patient-publications/)

[www.fpm.ac.uk/faculty-of-pain-medicine/patient-information](http://www.fpm.ac.uk/faculty-of-pain-medicine/patient-information)

[www.nhs.uk](http://www.nhs.uk)

[www.patient.info](http://www.patient.info)

<http://www.rcoa.ac.uk/faculty-of-pain-medicine/patient-information>

## Pain (nerve type): medication options

Use this **Option Grid™** decision aid to help you and your healthcare professional decide which tablets you may want to consider for the management of all nerve type pain, such as stabbing, shooting, or burning pain, except for patients with diabetic neuropathy or trigeminal neuralgia. This medication information applies to the United Kingdom only.

Consider carbamazepine for trigeminal neuralgia and duloxetine for diabetic neuropathy.

Frequently Asked Questions ↓	Amitriptyline	Gabapentin	Pregabalin	Capsaicin cream
<b>When are they used?</b>	For nerve type pain	For nerve type pain	For nerve type pain	Cream used for nerve type pain if tablets not useful
<b>How do they work?</b>	Reduces sensitivity of nerves	Reduces sensitivity of nerves	Reduces sensitivity of nerves	Reduces sensitivity of nerves in the skin
<b>How effective are they?</b>	30 in every 100 people (30%) have a reduction in pain by half or more	12 in every 100 people (12%) have a reduction in pain by half or more	12 in every 100 people (12%) have a reduction in pain by half or more	10 in every 100 people (10%) have a reduction in pain by half or more. May provide benefit for people who cannot tolerate tablets
<b>What are the most common side effects?</b>	Some people experience dizziness, dry mouth and weight gain. This may lessen with time.	Some people experience nausea and dizziness. This may lessen with time. Increased risk if taken with alcohol, opioids and antidepressants.	Some people experience constipation and dizziness. This may lessen with time. Increased risk if taken with alcohol, opioids and antidepressants.	Some people experience a burning sensation of the skin in the first few applications of the cream.
<b>Are they safe for me to take?</b>	Caution if you have heart problems or are on certain antidepressants.	Caution if you are depressed as gabapentin may lower your mood further.  Take lower doses if you have kidney problems.	Caution if you are depressed as pregabalin may lower your mood further.  Take lower doses if you have kidney problems.	Avoid applying to open skin.
<b>What dose should I take?</b>	10 mg at night  Increase by 10 mg per week (that is, 10 mg across the whole week)  <b>Max:</b> 50-80 mg	<b>Week 1:</b> 300 mg once a day  <b>Week 2:</b> 300 mg twice a day  <b>Week 3:</b> 300 mg three times a day  <b>Max:</b> 600 mg three times a day	Start with 75 mg twice a day  If required increase further after discussing with GP  <b>Max:</b> 300 mg twice a day	0.075% three to four times a day  Or 0.025% if the high dose is not tolerated  Apply sparingly using gloves

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**Evidence document:** <http://optiongrid.org/admin/resources/grid/evidences/74.pdf?x=TnNceCsG2>

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