

## The Pain Clinic - Patient Information - Cervical Epidural Steroid Injections

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Why do I need this injection ?

- Your doctor thinks that you have brachialgia, a type of referred pain to the arm caused by irritation or compression of one or more spinal nerve roots in the cervical spine, usually C4, C5, C6, C7 or T1.
- This diagnosis can be made from any of the following :-
  - History of arm pain in a particular pattern (dermatome), and associated numbness, tingling, and sometimes weakness in the arm.
  - Signs of dural irritation in the arm on examination - +ve nerve impingement test
  - Evidence of nerve root irritation / compression on an MRI scan or an upper limb Electromyogram (EMG)

What is an epidural steroid injection ?

- The epidural space extends from the back of your head to the bottom of your tail bone, and injections can be done at any level depending on where the problem is.
- Caudal epidural injections are done at the bottom of the tailbone (sacrum), Lumbar injections are done in the low back, Thoracic injections are done in the middle back, and Cervical injections are done in the neck.
- An epidural injection involves injecting mixtures of dilute local anaesthetic (lignocaine 0.5%) plus a long acting depot steroid (triamcinolone 40 mg) into the fatty space that surrounds the spinal cord and nerve roots.
- All the spinal nerves have to travel through the epidural space to be able to exit the spine and reach the part of the body they supply.

How do epidural steroid injections work ?

- Epidural steroid injections are used to try to help reduce inflammation around the spinal nerve roots in the spine (C4, C5, C6, C7 or T1), thereby reducing the severity of the brachialgia.
- The mixture enters the epidural space, and spreads around to the area to where the nerve irritation / compression is taking place in your back.
- Depending on how you respond to the injection, it may be necessary to perform a series of three injections over several months.
- **Injecting depot steroids into the epidural space is an unlicensed use of the drug. However there is a body of medical evidence that suggests that this treatment can be beneficial for those with brachialgia due to nerve root irritation.**
- There is no evidence that epidural steroid injections help those with simple neck pain.

How long will the pain relief last for ?

- It is not possible to answer this question on an individual basis.
- It is important to realise that epidurals are used to treat brachialgia and not neck pain. The neck pain may have a different cause and require different treatment once the brachialgia is better.
- In minor brachialgia, only one injection may be needed, after which the pain goes away and that's it.
- In moderate brachialgia, each injection may last 6 - 8 weeks, but after a series of three, the pain has either gone away altogether, or it is significantly better.
- In severe brachialgia, the pain may get better after each treatment, but even after 3 injections it is not significantly better. Patients in this group may need a surgical referral.
- Current practice in the UK is not to perform more than 3 epidural injections in any one brachalgic pain episode.

How is the injection performed ?

Question	Answer
Is the treatment done as a day case ?	Possibly
Is a hospital in-patient bed needed ?	Yes
Is a driver required to take me home afterwards ?	Yes
Does the treatment require x-ray guidance ?	Yes
Do I need to fast for 4 hrs before hand ?	Yes
Can I take my normal medications with sip of water ?	Yes
If I am diabetic - do I need separate instructions ?	Yes
Is an intravenous cannula needed for this treatment ?	Yes
Is intravenous sedation needed for this treatment ?	Yes

- A blood sample will be taken to assess your clotting ability about a week prior to the procedure.
- At the beginning of the procedure, a small cannula will be sited on the back of your hand, and increments of a short acting sedative given into a vein until you feel relaxed and comfortable. You may need to have oxygen administered during the procedure.
- You will be positioned on your left hand side, curled into a ball. The area around the base of the neck will be sterilised with cleaning solution.
- Local anaesthetic will be used to numb the skin at the base of the neck - this will sting a little to begin with.
- Further local anaesthetic is used to numb the space between the cervical vertebrae (neck bones).
- An epidural needle is then passed through the skin, and directed to the epidural space with the help of the x-ray images. Once it is thought to be in the correct place, some dye is injected, and the position is confirmed by taking an x-ray picture (epidurogram).
- The epidural mixture is then injected slowly over 2 - 3 minutes. You may feel a build up of pressure in your neck whilst the solution is injected, but this feeling is mild and soon passes.
- You may notice that during the injection you experience some brachialgic feelings in either or both of your arms. This is normal for patients with brachialgia and is due to temporary pressure build up in the spinal canal. These feelings soon pass.

What happens after the injection ?

- You will be positioned with your bad side downwards, at 10 degees head down tilt, and kept in this position for 2 hours. This is to encourage the epidural solution to reach the affected levels in the neck.
- Your vital signs (pulse, blood pressure) will be checked on several occasions. The intravenous sedation will be reversed using a specific reversal agent to help you recover more quickly.
- You may notice that your arms feel slightly warm and numb for a few hours afterwards.
- You will be taken back to the ward area when your vital signs are stable. After two hours, the bed will be levelled out. At approximately 4 hours after the procedure, if all is well, and you have a responsible adult to look after you, you may go home.
- Pain relief may occur in the following ways:-
  - Immediate relief which lasts for several weeks.
  - Worse for a while, and then relief which lasts for several weeks.
  - No change for several days, and then slowly improves for several weeks.

What are the side effects of the treatment ?

- Temporary numbness in the arms - usually wears off in 2 - 4 hours.
- Menstrual irregularity due to hormonal imbalance (triamcinolone) - usually only lasts 1 - 2 menstrual cycles.
- Post menopausal bleeding due to hormonal imbalance (triamcinolone) - usually short lived.
- Salt and water retention - triamcinolone may cause temporary salt and water retention. Those with critical congestive heart failure may need a diuretic for the first few weeks after treatment if shortness of breath becomes a problem.
- Blood sugar control - triamcinolone may cause a temporary mild rise in blood sugar in diabetics for a few weeks afterwards. Non insulin diabetics do not normally need to take further action. Insulin dependant

diabetics may need a slight increase in their insulin doses. Please ask your family doctor for further advice about this.

What are the risks and complications of the treatment ?

- Local soreness / bruising at the injection site - usually settles in a few days.
- No pain relief - the commonest complication would be that the treatment did not help the brachialgic pain in the arm. The causes of this include incorrect placement of the epidural mixture, and wrong diagnosis i.e. the arm pain had some other cause.
- Worse Pain - like any other treatment, the pain can be worse afterwards rather than better. This is unusual and the cause is not known. No further epidurals should be administered if this occurs.
- Bleeding and haemorrhage into the epidural space can cause compression of the spinal cord, leading to paralysis at the level of the injection. This would affect the legs, bladder and bowels. Those with known clotting abnormalities or who are taking anti-coagulants should let their consultant know before having the injection.
- Infection - introduction of infection can cause an epidural abscess, which in turn can cause compression of the spinal cord, leading to paralysis of the legs, bladder and bowels. Infection can be minimised by performing the procedure under sterile conditions. Sometimes infection can spread through the blood to the epidural space from other distant sites. The injection should therefore not be done when there is overt infection elsewhere in the body. Diabetics are more prone to staphylococcal infections generally.
- Post dural puncture headache - a low spinal fluid pressure headache occurs if the epidural needle goes too far and causes a hole in the dural membrane, the membrane between the spinal fluid and the epidural space. This can be treated with an epidural blood patch, IV fluids and analgesics. Normally the hole seals on its own in 2 weeks with resolution of the headache.
- Anaphylaxis - severe allergic reaction to the components in the injection mixture - more common to local anaesthetics but rare with lignocaine. Please tell your consultant before the treatment about all of your drug allergies.
- Total spinal injection - numbness in the whole body due to the local anaesthetic entering the spinal fluid. This can be reduced by using x-ray guidance and performing an epidurogram before injecting the epidural solution.
- Epileptic seizures - this can occur if significant amounts of the local anaesthetic enters the circulation via the plexus of veins that lies in the epidural space. Lignocaine 0.5% has a very low chance of causing this even if the whole amount was injected intravenously, and therefore has an enhanced safety margin in this respect.
- Damage to the spinal cord and spinal nerves by the epidural needle. Should the needle be inserted too deeply into the spine or if the patient moves suddenly, this can cause the needle to injure the spinal structures. This may result in persistent neuralgic pain, numbness, weakness in variable parts of the body which is irreversible. This type of incident can be reduced by using x-ray guidance, and by the patient lying completely still.

**Should you have any further questions, then please discuss them with your consultant prior to starting the treatment.**

**For more information please go to [www.PainClinic.org](http://www.PainClinic.org)**