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Cervical Facet joint Medial branch block and Rhizotomy

If you are reading this, chances are you have chronic neck pain and have responded to a facet joint injection/s. Before reading this brochure please make sure you have read the brochure on cervical facet joint injections. Unfortunately, the relief from facet blocks are temporary and often short-lived. You are looking for more permanent relief. The drugs injected are resorbed and the arthritis persists and still causes pain. What if you could 'cut' the nerve supply from the joint so that you did not feel the pain even though the arthritis is still present?

Anatomy

Facet joints are the posterior articulations between the vertebra of the spine. The important anatomy in this discussion relates to the nerve supply of the joint. Each joint is supplied by branches of the medial branch of the dorsal ramus of the intervertebral nerve. This means that



as the nerves come out of the spine they send a branch that passes to the neck muscles and skin and another branch, the medial branch, supplies the facet joint. Each joint is supplied by 2 nerves, one that passes up from below and one that passes down from above. Therefore if you 'cut' only one of these nerves you can still feel pain from the joint. To numb the joint you have to 'cut' both nerves. Therefore to numb one joint requires 2 injections whereas for a facet joint injection, the injection is directly into the joint and only one injection is required to numb the joint.

Medial Branch Block

The medial branch is the nerve that sends pain signals from the joint to the brain. It is a purely sensory nerve which means it can be destroyed and not result in any weakness. It does not supply any skin so destroying this nerve will not cause any numbness other than of the facet joint. This is perfectly safe.

Pain specialists and radiologists will not destroy the medial branch before making sure the procedure will work. Therefore they will perform a reversible procedure called a medial branch block before they will perform a rhizotomy (see below). The medial branch block is performed by injecting local anaesthetic into the nerves. If this relieves your neck pain for the duration of the anaesthetic it indicates that destroying the nerve is likely to provide longer lasting relief. If no relief is obtained it is not recommended to proceed to the rhizotomy.

Facet Joint Rhizotomy

There are many terms for this procedure. Other terms used include facet joint denervation or neurotomy or medial branch ablation. They all mean the same thing where the medial branch described above is destroyed to stop the transmission of pain impulses from the joint to the brain.

Facet joint rhizotomy is performed by a pain specialist or radiologist using a similar procedure for a facet joint injection. Facet joint rhizotomy are done as an outpatient. You do not normally need to fast before your procedure. Please inform your doctor if you are taking blood thinning medication such as Warfarin or Aspirin. Sometimes sedation is used if you are very anxious.

You are first placed face down (prone) on an X-ray table and local anaesthetic is infiltrated into your skin at the site of entry. An electrode is passed into position under X-ray guidance using either a fluoroscope (X-ray machine) or CAT scan. This is required for complete accuracy to confirm the correct joint/s.



Once the needle is in position, a trial stimulation is performed to confirm the correct position. A radiofrequency heating current is applied to deaden the nerve fibres that carry pain signals to the brain. If effective, the treatment should provide pain relief lasting at least 9-12 months and at times, much longer. The nerves will eventually grow back (regenerate) but the pain may or may not return. If the pain returns, you may have the procedure repeated.

The procedure takes from 20-30 minutes but can vary depending on the number of joints treated. After a short period of observation to make sure you are OK you will be discharged. You should not drive. Someone should take you home. You will be able to walk after the procedure. However the procedure involves heating tissue around the nerve and can cause temporarily increased neck pain from tissues swelling and inflammation. This can persist over several days and thus the final results will not be known until this swelling and inflammation resolves.

It did not work?

There are cases where the preceding injections have worked but the rhizotomy does not cause relief. Possible reasons for failure include technical inadequacy of diagnosis by medial branch block and the inadequacy of subsequent radiofrequency medial branch neurotomy. Additionally, there is always the question of an alternate cause of symptoms that may co-exist with facet pain and persists after the rhizotomy, causing ongoing pain.

In particular, symptomatic disc degeneration. Disc degeneration has been shown to always co-exist with facet joint degeneration. It has been postulated that late resurgence of symptoms may be associated with nerve regeneration in which case repeat procedures may be indicated after re-evaluation. Nevertheless, the minimally invasive technique of radiofrequency facet joint denervation is appealing given the accessibility of the medial branch of the posterior primary ramus and the reassurance that the reporting of complications from the procedure is low.

Cervical Fusion

The pain from facet joint arthritis results from mechanical loading of the joint and from movement. Theoretically if the joint is fused there will be no movement and the pain from arthritis of the joint should resolve. This involves an operation and there are risks with surgical intervention.

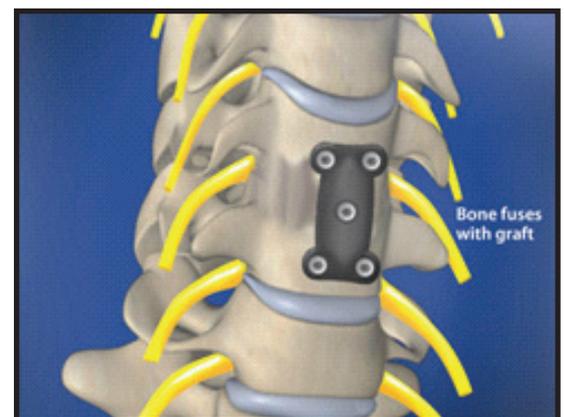
There are numerous surgical options available. The most important factor for a successful outcome is confirming that the diagnosis is accurate. This form of surgery is a last resort for patient suffering from pain resulting from facet joint arthritis and careful patient selection is required. If conservative treatment has failed, you should talk further with your treating spinal surgeon about surgical options.

Are there any side-effects/risks?

Side effects are rare after this procedure although it is possible to develop some bruising from the needle. You may experience some numbness in the injected area or sometimes down the leg. Other risks include:

- Pain / bruising at the injection site of injection or worsening pain
- Bleeding causing a deep haematoma
- Infection of the skin or the injected joint
- Headache if the injection causes a spinal tap
- Damage to the nerve centre/ ganglion can cause new onset nerve pain in the back and/or leg.

You should notify the Radiology Department if you are taking any blood-thinning medication. If you have any concerns about complications, you should contact the Radiology Department where the procedure is to be undertaken and talk to the medical or nursing staff or contact your treating doctor.



Surgical Fusion with Plate and Screws

What must I bring?

Please remember to bring any relevant X-rays or scans with you to your appointment. Please bring your Pain Chart to record your early response to the injection/s.

Hospitals:

The Wesley Hospital, Auchenflower
St Andrew's Hospital, Spring Hill
Holy Spirit Northside Hospital, Chermide

Regional Clinics:

St Vincent's Medical Centre, Toowoomba
Sunshine Coast Private Hospital, Buderim
Tweed Day Surgery, Tweed Heads
United Medical Centre, North Lakes

St Vincents Medical Centre, Lismore
Fortus Medical Suites, Chermide
Mater Private Hospital, Rockhampton