

INJECTION-BASED PAIN PROCEDURES

Introduction

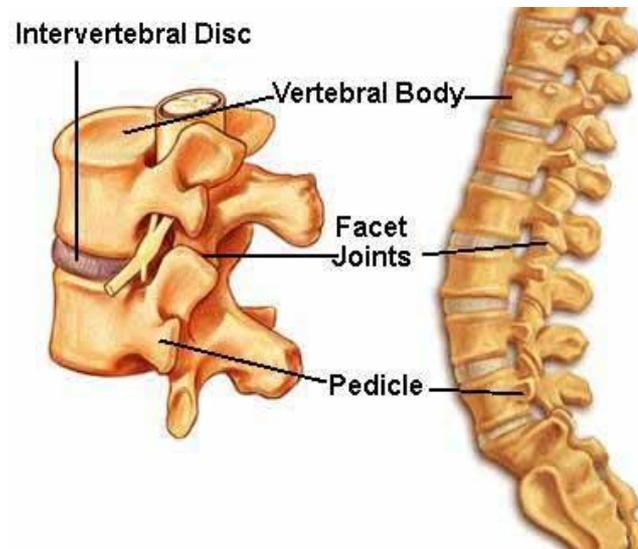
The most commonly performed pain procedures include facet joint procedures, neurotomies ('rhizotomies'), epidurals and nerve blocks.

More advanced procedures include neuromodulation (implantable nerve or spinal cord electrical stimulation).

Patients may also be admitted for a short course of electrical nerve stimulation called 'PENS', pain-modifying infusions (drips) such as ketamine, calcitonin or lignocaine, high strength capsicum patch treatments or botox injections.

Pain procedures are usually not a permanent 'cure', but may provide an effective way to improve your overall pain management.

- Pain procedures can provide a few months of pain relief so that other longer-term pain treatments have a better chance of working: please see the PainHealth website:
<https://painhealth.csse.uwa.edu.au>
- Procedures may also allow you to reduce pain medications (a 'medication holiday') and engage more effectively in physiotherapy and behavioural pain therapies.
- Sometimes pain procedures can actually 'switch off' sensitive nerves and produce longer-term pain relief.



Injection-based pain procedures

Facet joint procedures

Low Back or Neck Pain

- Facets are small 'stabilizing' joints on the outside of the spinal column.
- Up to 40% of back and neck pain may be due to facet joint arthritis.
- **Facet joint injections (FJIs)** are the most common spinal procedure performed in Australia.
- A small amount of local anaesthetic and steroid (cortisone) is injected into the facet joints with a fine needle under x-ray control. These medications reduce inflammation and pain.
- The effectiveness of FJIs varies (helpful in up to **1 in 10** patients) and may reduce pain for weeks-to-months.
- FJIs tend to be more effective in patients over 60 years of age.

Facet joint nerve (medial branch) blocks

- Sometimes we perform local anaesthetic test injections of nerves going to the facet joints (called 'medial branches') to see if these joints are causing back or neck pain.
- If pain settles whilst the local anaesthetic is working (usually 4 hours or so) it is likely facet joints are causing the pain.

Neurotomies (also called rhizotomies)

Chronic Low Back or Neck Pain

- In this procedure, a needle is placed next to facet joint nerves (medial branches) under x-ray guidance and a small electric charge is delivered to heat and 'cauterize' the nerve (thermal radiofrequency).
- Alternatively, the nerve can also be 'stunned' temporarily (days-to-weeks) with electrical pulse therapy (pulsed radiofrequency).
- A neurotomy may produce longer periods (months) of pain relief in 1 in 4 patients.
- Before performing a neurotomy, a patient must first report good pain relief after a facet joint injection or nerve block.

Spinal epidural steroid injections (transforaminal, or nerve root sleeve injections)

Nerve pain in the leg: sciatica

- Under x-ray guidance, a small amount of steroid and local anaesthetic is injected around a nerve going to the leg, near a protruding spinal disc.
- Epidural steroid injections may reduce leg pain (sciatica) in 1 in 4 patients.
- Epidural steroid injections do NOT help low back pain, only leg pain (sciatica).
- Epidurals may work for days-to-months.

Cluneal nerve blocks

Low Back & Buttock Pain

- 15% of low back pain may be caused by compression of the cluneal nerves as they pass over the top of the hip bone (iliac crest).
- This causes one-sided low back and buttock pain (sometimes numbness).
- We block these nerves as they pass over the hip bone with a local anaesthetic and steroid injection and electrical pulse therapy (pulsed radiofrequency), via a small needle guided under x-ray.
- Cluneal nerve blocks may provide back pain relief lasting for months in 1 in 4 patients.

Sacro-iliac joint injections

Low back & buttock pain

- The sacroiliac joints (SIJ) are the biggest joints in the body and cause low back and hip pain in 20% of cases.

- Local anaesthetic and steroid is injected into the SIJ under x-ray, or neurotomies are performed in some cases.
- SIJ injections may help patients with back pain due to inflammatory arthritis (like ankylosing spondylitis), but are not as effective in patients with joint ‘wear and tear’ or injury (e.g. after childbirth).

‘Trigger point’ injections

Shoulder, neck & low back pain

- Sometimes neck, shoulder or low back pain is associated with tight muscle ‘knots’ called trigger points.
- Placing a fine needle or injecting local anaesthetic into trigger points is sometimes helpful and is relatively low-risk and inexpensive.

Occipital nerve blocks

Headaches

- Many headaches are associated with sensitivity of nerves in the back of the scalp called the occipital nerves.
- ‘Blocking’ these nerves with local anaesthetic and steroid and electrical pulse therapy (pulsed radiofrequency), may reduce headaches.
- Some patients report excellent relief of headaches lasting for months, and it is a relatively low-risk procedure.
- We sometimes perform facet joint procedures in the upper neck to treat headaches.

Suprascapular nerve blocks

Shoulder pain

- Local anaesthetic and steroid is injected under ultrasound or x-ray guidance where the suprascapular nerve travels over the top of the shoulder blade; electrical pulse therapy (pulsed radiofrequency) can also be used.
- The risk of this procedure is quite low and many patients report good relief of shoulder pain.

Knee joint nerve blocks (infrapatellar and genicular nerve treatments)

- Knee pain may be treated with a simple infrapatellar nerve block (a small, sensitive nerve branch located under the knee cap).

- The 3 main nerves to the knee (genicular branches) can be blocked under x-ray imaging, by doing a neurotomy with a fine needle (heating electrically, cauterizing the nerves) or using electrical pulse therapy (pulsed radiofrequency).

Abdominal wall nerve blocks

Abdominal pain

- Some patients with abdominal pain have a trapped nerve in the muscles of the abdominal wall called the rectus sheath.
- If we pinpoint a tender area (using an ultrasound machine to see the muscles), the trapped nerves can be 'blocked' with local anaesthetic and steroid, and sometimes with a nerve-dissolving injection called phenol, for longer-acting pain relief.
- This is a relatively low-risk procedure which sometimes works surprisingly well.
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Other nerve block procedures

- We also perform injections of painful surgical scars, joints (eg. hip, knee) nerve blocks of the groin (hernia repair), pelvis (pudendal nerves) and intercostal nerves (between the ribs)

Key Messages

- *Injection-based pain procedures are never a treatment on their own.*
- Other strategies such as physiotherapy, pacing and behavioural pain management must also be used as part of an effective pain management package
- A 50% (or greater) reduction in pain for at least 3M is considered a 'satisfactory' result.
- For most pain procedures about 1 in 3 patients report satisfactory pain relief.