



Spinal pain procedures: who and when?

Prof Eric Visser, Churack Chair in Pain Medicine UNDA & Pain Science Joondalup

As part of a contemporary multimodal approach, spinal pain management procedures (SPMPs) are usually not a permanent 'pain cure' (analgesia lasts weeks-to-months) but in selected patients, they provide a 'therapeutic window' of pain relief to facilitate physical and psychological rehabilitation, reduced pain neuro-sensitisation (wind-up) and decreased analgesic use (particularly opioids).

Adverse outcomes of SPMPs include lack of efficacy (particularly in patients exposed to psychosocial stressors), worsening pain, tissue damage, neuro-trauma, infection, bleeding, drug reactions, radiation exposure and, rarely, paralysis or death.

About 20-40% of chronic neck and low back pain (LBP) is associated with facet joint arthropathy; 20% of LBP is due to sacroiliac joint arthropathy or cluneal nerve entrapment over the iliac crest and 10% of leg or arm pain is 'radicular' due to a spinal nerve root lesion (e.g. disc protrusion).

The most commonly performed SPMPs are: facet joint steroid injection (FJI), medial branch (nerves innervating facet joints) radiofrequency treatments (RF), transforaminal epidural steroid injection (TFESI), sacroiliac joint steroid injection (SIJI) and cluneal nerve block (CNB). RF treatments include pulsed RF (temporary electromagnetic inhibition of nerve function) and thermal RF neurotomy (nerve 'cautery' at 90°C).

Evidence for effective analgesia with FJI and RF in the spinal pain population is limited. However, there are individual responders. It is reasonable to consider FJI or RF in patients with chronic spinal pain who are over 60 years of age, or for neck pain following whiplash.

FJI or RF should be ordered based on clinical presentation (table 1); spinal



ED.

Chronic spinal (neck and back) pain affects up to 20% of the population and is associated with significant suffering, disability and economic loss. Management can be difficult.

imaging is not routinely required. If an initial FJI is ineffective (<50% pain reduction) reconsider the need for further injections. If FJI is effective but lasts <3M, then RF may prolong the analgesic effect. For unilateral buttock and thigh pain, consider a CNB (treats entrapment of cluneal nerves over the iliac crest), or a SIJI.

TFESI is only indicated for subacute (<6M) radicular leg pain where multimodal treatment is ineffective or there is significant disability. A spinal MRI or CT scan is required prior to injection to confirm a targetable nerve root lesion. Do not order a cervical TFESI for radicular arm pain without specialist advice. These blocks are poorly-effective and associated with rare but catastrophic neurovascular events such as stroke, due to inadvertent intra-arterial injection of particulate steroids.

Indications and patient selection for SPMPs are listed in table 1.

References available on request. The author acknowledges the assistance of Dr Luke Wheeler.

Author competing interests; nil relevant disclosures. Questions? Contact the author at eric.visser@nd.edu.au

Table 1. Spinal Pain Management Procedures (SPMPs)

Procedure	Pain indication	Patient group	Follow-up RF treatment
C2/3 FJI	Upper neck pain with cervicogenic headache	Over 60 or post-whiplash	Pulsed RF or thermal RF neurotomy
C5/6 FJI	Mid-level neck pain radiating to shoulders	Over 60 or post-whiplash	Pulsed RF or thermal RF neurotomy
L4/5 plus L5/S1 FJIs	Low back pain +/- referred buttock/leg pain	Over 60	Pulsed RF or thermal RF neurotomy
Sacroiliac joint steroid injection (SIJI)	Unilateral low back and/or buttock pain	More effective in inflammatory arthropathy	Thermal RF neurotomy of lateral branches to SIJ
Cluneal nerve block (CNB)	Unilateral buttock/thigh pain; tender iliac crest; altered sensation buttock		Pulsed RF of cluneal nerves over iliac crest
Lumbosacral transforaminal epidural steroid injection (TFESI)	Radicular leg pain <6M; no response to multimodal treatment	MRI/CT to confirm nerve root lesion	

FJI=facet joint steroid injection; RF=radiofrequency treatment of medial nerve branch of spinal dorsal ramus; SIJI=sacroiliac joint (injection).