

Do lumbar Facet Joint Injections provide symptom relief for low back pain and does this relate to Patient Recorded Outcome Measures?

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BACKGROUND: In light of recent changes to NICE guidelines regarding the use of facet joint injections (figure 1) in the management of low back pain, we performed a retrospective analysis of the outcomes of facet joint injections (FJIs) performed by a single Consultant Spinal Surgeon and used Patient Recorded Outcome Measures (PROMs) to determine which factors predict good / poor outcome.

METHODS: We analysed data obtained from previously gathered pre- and post-injection PROMs questionnaires and outpatient consultation letters. Back and leg pain severity was measured using a 10-point Visual Analogue Scale (VAS), depression with the PHQ-9, anxiety with the GAD-7 tool, function/disability with the ODI, and quality of life with the EQ-5D-5L and EQ-5D VAS.

RESULTS: Seventy-nine patients were included in the final cohort (mean age 54.6 years, male n=39). 53.2% received concomitant nerve root blocks (NRB). There was no association between outcome and the presence/absence of a NRB ($p>0.05$). 42% reported a clinical improvement in their back pain (table 1, figure 2), 81% believed it helped overall. 70.5% felt an initial improvement in their symptoms, 37.2% at 3-months follow-up (mean 12.1 weeks ± 1.9). There was no significant correlation between outcome and depression or anxiety, however the average level of disability (measured using the Oswestry Disability Index) was lower in the group of patients who said they felt an improvement in their symptoms both initially and at 3-month follow-up ($p\leq 0.05$).

Table 1: Pre- and post-injection PROMs data. Abbreviations: CI = Confidence Interval, CID = Clinically Important Difference, MCID = Minimal CID

PROM (max. score)	Pre-FJI ($\pm 95\%$ CI)	Post-FJI ($\pm 95\%$ CI)	p-value	%CID (MCID)
VAS back (10)	7.1 $\pm$ 0.5	5.9 $\pm$ 0.6	<0.005	42% (2)
PHQ-9 (27)	14.7 $\pm$ 2.2	12.8 $\pm$ 2.1	>0.05	35% (5)
GAD-7 (21)	10.7 $\pm$ 1.9	9.6 $\pm$ 1.9	>0.05	N/A
ODI (%)	54.9 $\pm$ 5.0	50.9 $\pm$ 6.0	>0.05	35% (10)
EQ-5D VAS (%)	45.4 $\pm$ 8.5	50.2 $\pm$ 9.9	>0.05	27% (20)

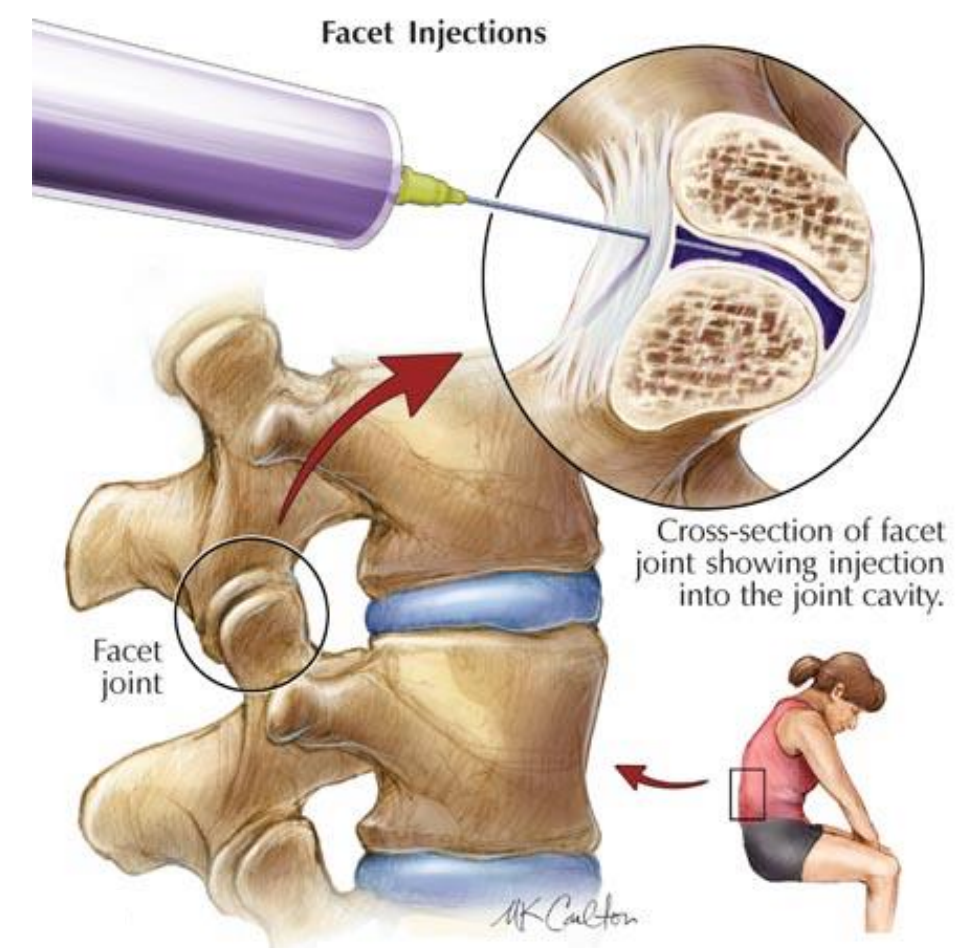


Figure 1: FJI illustration (1)

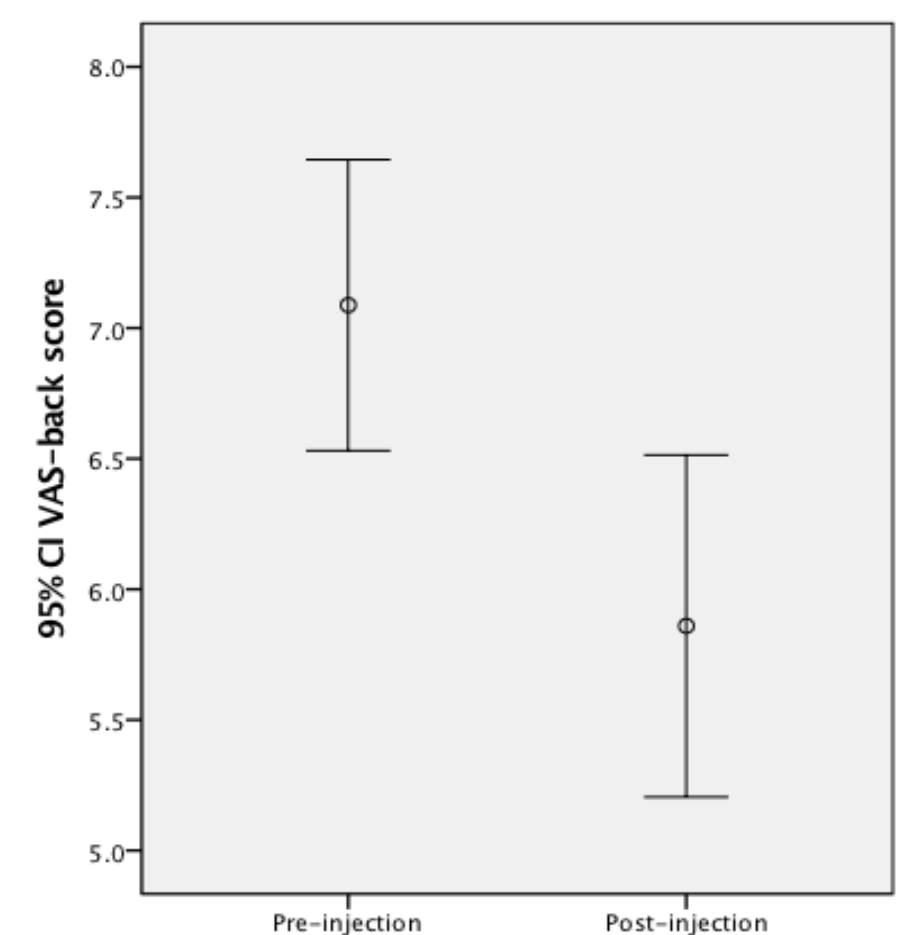


Figure 2: Mean changes in patient-reported back pain severity pre- and post-injection

DISCUSSION: NICE concluded that there was not enough evidence to support the use of facet-joint injections in the management of low back pain (2). However they also recommended the use of *medial branch blocks* to confirm the facet-joints as the source of a patient's back pain prior to receiving radiofrequency denervation of the facet joints, despite them being clinically and diagnostically equivalent to FJIs (3).

CONCLUSIONS: The most important outcome of this study was whether FJIs provided symptom relief for low back pain – 42% showed a reliable improvement, and 81% said their injection helped them overall. But further high-quality research and clearer guidelines are still needed in this area.

References: 1. Facet Joint Syndrome | Nevada Pain - Las Vegas, Henderson [Internet]. Nevada Pain. 2017 [cited 20 April 2017]. Available from: <http://nevadapain.com/pain-conditions/back/facet-joint-syndrome/> 2. National Institute for Health and Care Excellence. Low back pain and sciatica in over 16s: assessment and management. Invasive treatments. NICE; 2016 p. 12-42. 3. Marks R, Houston T, Thulbourne T. Facet joint injection and facet nerve block: a randomised comparison in 86 patients with chronic low back pain. *Pain*. 1992;49(3):325-328.