

TRIGGER POINT INJECTIONS

CLINICAL QUESTION

Are trigger point injections (TPI) safe and effective in the management of chronic non-malignant pain ≥ 3 months' duration?

THE EVIDENCE

Treatment	Condition	Comparator	Relevant Results/Authors' Conclusions [#]
TPI (lidocaine) plus intra-articular injection [†]	Osteoarthritis pain (knee)	Intra-articular injection	Limited evidence that TPI plus intra-articular injection is more effective than intra-articular injection alone. There was no difference in safety between the two treatments.
TPI (botulinum toxin) [‡]	Head, neck, and shoulder pain	TPI (saline) TPI (different botulinum toxin concentrations)	Moderate evidence that there was no difference in effectiveness between botulinum toxin TPI and saline TPI, regardless of botulinum toxin concentration (50 U to over 200 U). No difference in effectiveness between 50 U and 100 U of botulinum toxin. Saline TPI produced fewer adverse effects than botulinum toxin TPI.
	Whiplash syndrome	TPI (saline)	Limited evidence that there was no difference in safety or effectiveness between the two treatments.
	Cervicogenic headache	TPI (saline)	Limited evidence that there was no difference in safety or effectiveness between the two treatments.
TPI (water) [§]	Whiplash syndrome	TPI (saline)	Limited evidence that water TPI is more effective than saline TPI, but only in the short-term. There was no difference in safety between the two treatments.
TPI (lidocaine)	Head, neck, and shoulder pain	Sphenopalatine ganglion block	Limited evidence that lidocaine TPI is more effective than sphenopalatine ganglion block. Safety outcomes were not reported.
		Ultrasound therapy	Limited evidence that there was no difference in effectiveness between the treatments, but combined TPI/neck stretching and ultrasound/neck stretching was more effective than neck stretching alone. Safety outcomes were not reported.
TPI (procaine) plus dry needling [¶]	Craniofacial pain	Sham treatment	Limited evidence that there was no difference in effectiveness between the treatments. Safety outcomes were not reported.

[†]Based on one **AVERAGE*** quality randomised controlled trial (RCT), as assessed by the authors of this review, published in 2003; [‡]Based on five **AVERAGE*** quality RCTs published between 1994 and 2002; [§]Based on one **AVERAGE*** quality RCT published in 1993; ^{||}Based on two **AVERAGE*** quality RCTs published between 1998 and 2000; [¶]Based on one **AVERAGE*** quality RCT published in 1997; [#]Refer to Grading Key document for explanation of evidence grading; TPI – trigger point injection

IMPLICATIONS FOR PRACTICE

What we don't know:

- Is there a dose response to TPI, and if so, what is the minimum dose/intensity required to achieve a clinically significant treatment effect?
- Does the type or volume of fluid injected affect treatment outcomes?
- Is there a difference in treatment effect between specific wet needling of the trigger point and non-specific injection of fluid into the region surrounding the trigger point?
- Does the needling action, the injection solution, or both, contribute to the treatment effect?
- How strong is the placebo effect in trigger point injection therapy?

Research Evidence: What we know

Evidence indicates that TPI:

- plus intra-articular injection of sodium hyaluronate may be safe and effective for treating knee pain caused by osteoarthritis;
- when performed as a sole treatment, may be effective in relieving the symptoms of chronic head, neck, and shoulder pain, whiplash syndrome, and cervicogenic headache; simple injectants such as saline and sterile water are safer than botulinum toxin and equally effective;
- with lidocaine in combination with neck stretching exercises is as effective as combined ultrasound therapy/neck stretching, both of which are more effective than neck stretching alone for treating chronic head, neck, and shoulder pain;
- with procaine in combination with dry needling has no clinical benefit in the treatment of chronic craniofacial pain.

Recommendation from Clinical Ambassadors

A short trial (three sessions of TPI) is worth trying in focal chronic pain of the head, neck, and shoulders in a patient who you can count on to do stretching exercises.

The Clinical Ambassadors: Dr Pamela Barton, Dr Saifee Rashid, Dr Paul Taenzer

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Reference: This Evidence Brief is based on results from a **GOOD*** quality systematic review (SR).
Scott A, Guo B. *Trigger point injections for chronic non-malignant musculoskeletal pain*. Edmonton, Alberta: Alberta Heritage Foundation for Medical Research, Health Technology Assessment; 2005 Jan. Report: HTA 35.
Available: <http://www.ihe.ca/publications/library/>

***Quality ratings for RCTs & SR:** Good ● Average ● Poor ●

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