



Dry needling for spine related disorders: A scoping review



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Introduction

The depth and breadth of research on *dry needling (DN)* has not previously been evaluated for symptomatic *spine related disorders (SRD)* from myofascial trigger points (TrP), disc, nerve and articular structures that are not due to serious pathologies. Current literature appears to generally support DN for treatment of TrP. The authors performed a **scoping review** on DN conducted following Levac et al.'s [1] five part framework to determine the current state of the literature regarding DN for patients with SRD.

This poster identifies the research on DN treatment for SRD, and describes treatment sites, frequency of treatment and outcomes studied.

Background and Methods

Dry needling (DN) is a subcutaneous needle insertion technique using a fine, solid needle without anesthetic or injection. [2]

DN can be distinguished from acupuncture, which is also applied with a solid filiform needle but uses Traditional Chinese Medicine principles [3], and also from other techniques that use injectable substances through a hypodermic needle. [4]

Although DN treatment appears widely accepted for TrP, it is unclear which other painful conditions and movement impairments it is best suited for.

Therefore we performed a **scoping review** to describe the DN research in the context of its use in all SRD, including spine-region TrP.

Scoping reviews describe the extent of current literature on a subject and help to expose gaps that could be targets of potential future research.

This scoping review seeks to identify research from case reports (CR), case series (CS), clinical trials (CT) and randomized controlled trials (RCT) published on DN treatment for patients with SRD diagnoses and to make evident where research is plentiful as well as lacking.

We hope to add to the discussion of the role of DN in neuromusculo-skeletal treatment to specifically include SRD.

Search Results

Study types: Search strategies yielded **55 studies** in the neck, or **cervical (C) region** (71.4%) and **22** in the back, or **thoracolumbar-pelvic (TLP) region** (28.6%). Most were randomized controlled trials (60% in C, 45.5% in TLP) and clinical trials (18.2% in C, 22.8% in TLP).

The most commonly treated condition was TrP for both the C and TLP regions.

Study type, number of papers (percent of total) per region		
	Cervical	TLP
Randomized Controlled Trial (RCT)	37 (60)	10 (45.45)
Case Report (CR)	6 (10.91)	4 (18.18)
Clinical Trial (CT)	10 (18.18)	5 (22.73)
Case Series (CS)	2 (3.64)	3 (13.64)
Total	55 (71.43% of studies)	22 (28.57% of studies)

No. of treatment sessions:

In the **C region**, there was one treatment session in 23 studies (41.8%) and 2-6 treatments in 25 (45.5%%).

For the **TLP region**, one DN treatment was provided in 8 of the 22 total studies (36.4%) and 2-6 in 9 (40.9%).

The majority of studies had DN as the sole intervention.

Outcomes Studied: For both C and TLP regions, most commonly studied outcomes were **visual analogue scale, pressure pain threshold and ranges of motion.**

Treatment Sites in C (neck) region:

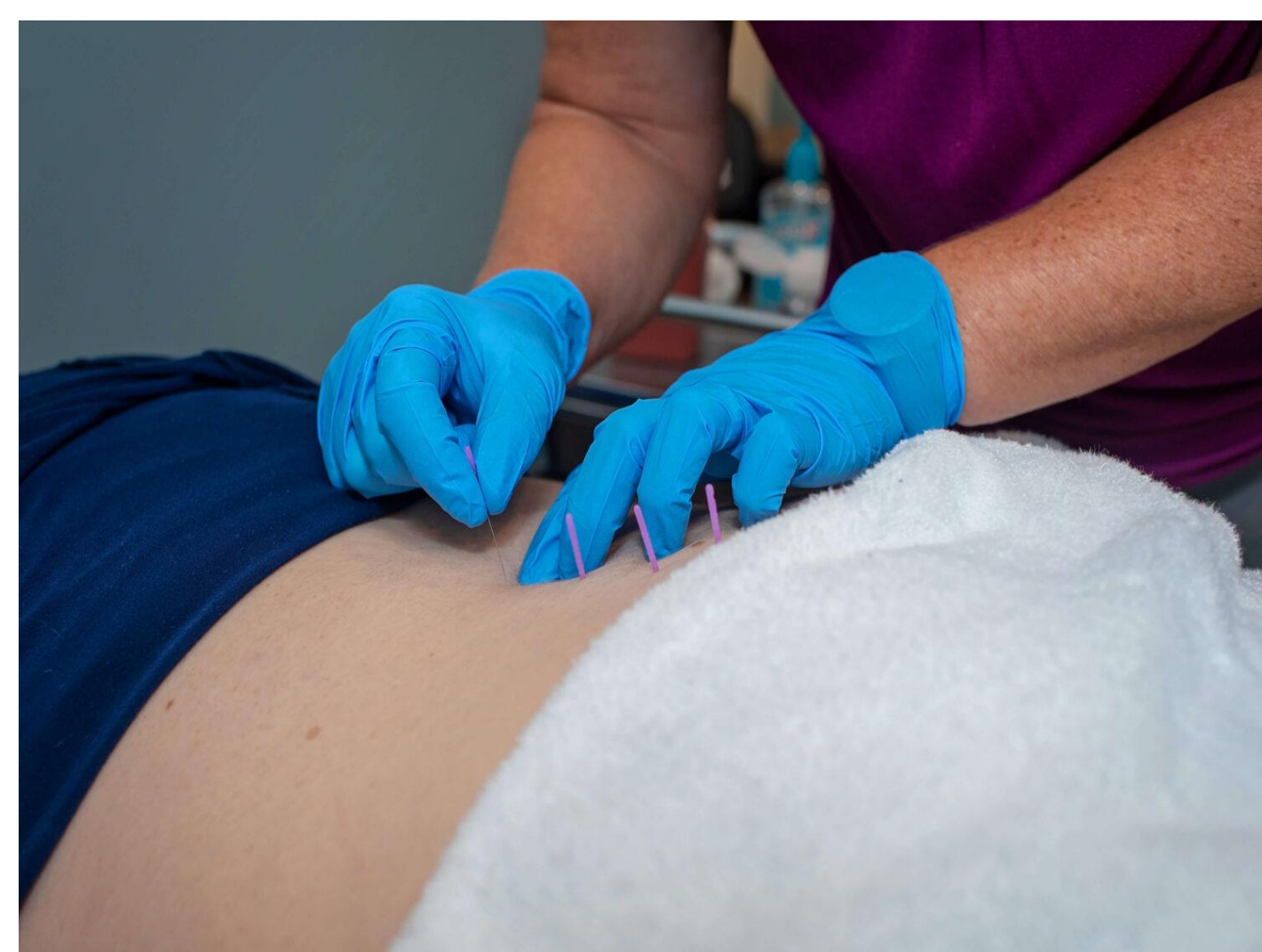
Most treatments were directed to muscles except for one study that did not specify the muscle treated, and one that included DN treatment of bone or other non-muscular structures.

DN was provided to 23 different muscles in the C region.

117 different treatment sites were noted.

Trapezius was the most commonly treated muscle, accounting for 49 of 117 total treatment sites (41.9%).

Many studies performed treatments directed to multiple muscles.



Treatment Sites in TLP (back) region:

31 different structures were treated with DN in the TLP region.

64 different treatment sites were noted. *Quadratus lumborum, gluteus medius and lumbar multifidi were the most commonly treated muscles.*

10 of the 64 TLP region treatment sites were to the multifidus muscles.

One study investigated the effects of transforaminal epidural DN on lumbar spinal stenosis. Some muscles were not specifically described, such as "gluteal muscles" and "hamstrings."

The exact sites were not specified in two studies of DN treatment to paravertebral muscles and in one study of DN to the multifidus muscles.

Conclusions

This scoping review demonstrates that for SRD, DN was applied primarily to myofascial structures for myofascial pain or TrP diagnoses.

There is currently little research on DN that specifically targets other SRD pain generators including nerve roots, disc, tendons, ligaments, periosteum, scar tissue or fascia.

Most outcomes improved regardless of diagnosis or treatment parameters. Most studies applied just one treatment before assessing outcomes, which may not reflect common clinical practice.

Further research is warranted to determine optimal treatment duration and frequency of DN for different SRD.

It is unclear whether DN as a sole intervention or in conjunction with other treatment provides the best patient outcomes.

References

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