

Myofascial Pain

And Trigger Point Dry Needling

Myofascial Pain Syndromes are among the most frequent pain conditions encountered by the general population⁽¹⁾. So what is myofascial pain, triggers points and dry needling? And how can it help your patients?



Defining Myofascial Pain & Trigger Points

Myofascial Pain Syndromes (MPS) are defined as musculoskeletal pain disorders caused by one or more myofascial trigger points and their associated reflexes⁽²⁾.

MPSs are most often under-diagnosed or misdiagnosed and this is mainly attributed to incomplete knowledge of their nature, lack of validated diagnostic criteria and confusion/overlap of symptoms with those of other musculoskeletal pain disorders⁽²⁾.

Myofascial Trigger Points (TrPs) are hyperirritable points located in taut bands of skeletal muscle or fascia which when compressed lead to local tenderness and referral pain⁽³⁾.

The pathophysiology of trigger point formation is enormously complex⁽⁵⁾ but are thought to develop in response to sudden injury or prolonged muscle overload. Injured muscle fibres shorten, (forming taut bands) either in response to excessive Ca²⁺ ion release, or increased acetylcholine release from the motor end plate, while reduced oxygen levels within the muscle and presence of increased inflammatory chemicals stimulate muscle nociceptors to produce local tenderness and referred pain^(2,3,5).

Trigger Point Injection/Dry Needling is the gold standard for treatment of MPSs and have been shown to be one of the most effective modalities for desensitising TrPs and providing prompt symptom relief^(1,3).

References

1. Giamberardino et al. (2011). Myofascial pain syndromes and their evaluation. *Research Clinical Rheumatology*, 25, 185-198.
2. Prithvi et al. (2004). Myofascial pain syndrome and its treatment in low back pain. *Seminars in Pain Medicine*, 2, 167-174.
3. Tough et al. (2009). Acupuncture and dry needling in the management of myofascial trigger point pain: a systematic review and meta-analysis of RCTs. *European Journal of Pain*, 13, 3-10.
4. Lewitt (1979). The needle effect in the relief of myofascial pain. *Pain*, 6, 83-90.
5. Shah et al. (2008). Uncovering the biochemical milieu of myofascial trigger points using in vivo microdialysis: an application of muscle pain concepts to myofascial pain syndrome. *Journal of Bodywork and Movement Therapies*, 12, 371-384.

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Trigger Point Identification

TrP examination requires the muscle be on stretch and a firm “flattening”, “smudging” or “pincer” type palpation to elicit potential symptoms.

Clinical Features⁽³⁾

- Point tenderness on a taut muscle band**
- Local twitch response **
- Referred pain**
- Reproduction of usual symptoms**
- Restricted ROM



Trigger Point Therapy & Dry Needling

Effectiveness of treatment is related to the intensity of pain produced at the trigger zone and to the precision with which the site of maximal tenderness was located by the needle ^(1,4).

Clinical Effects⁽¹⁻⁵⁾

- Local & Supraspinal Opioid effect (↑ A-delta input inhibits the trigger point C fibre activity)
Increased nutritive blood flow
- Increased Serotonin & Cortisol levels (via descending inhibitory pain pathways)
- Post-treatment soreness or fatigue

Dry Needling Contraindications/Precautions



1. Pregnancy AND/OR children
2. Infected tissue/frail Skin/malignancy
3. Needle phobia
4. Metal sensitivity
5. Anatomical tissue limits (e.g. Lung Fields)
6. Hemorrhagic disease OR anticoagulant therapy
7. Diabetes
8. Epilepsy
9. Low immune system function