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Dry needle stimulation of myofascial trigger points evokes segmental anti-nociceptive effects.

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Abstract

OBJECTIVE: To test the hypothesis that dry needle stimulation of a myofascial trigger point (sensitive locus) evokes segmental anti-nociceptive effects. DESIGN: Double-blind randomized controlled trial. SUBJECTS: Forty subjects (21 males, 19 females). METHODS: Test subjects received intramuscular dry needle puncture to a right supraspinatus trigger point (C4,5); controls received sham intramuscular dry needle puncture. Pain pressure threshold (PPT) readings were recorded from right infraspinatus (C5,6) and right gluteus medius (L4,5S1) trigger points at 0 (pre-needling baseline), 1, 3, 5, 10 and 15 min post-needling and normalized to baseline values. The supraspinatus and infraspinatus trigger points are neurologically linked at C5; the supraspinatus and gluteus medius are segmentally unrelated. The difference between the infraspinatus and gluteus medius PPT values (PPTseg) represents a direct measure of the segmental anti-nociceptive effects acting at the infraspinatus trigger point. RESULTS: Significant increases in PPTseg were observed in test subjects at 3 ($p = 0.002$) and 5 ($p = 0.015$) min post-needling, compared with controls. CONCLUSION: One intervention of dry needle stimulation to a single trigger point (sensitive locus) evokes short-term segmental anti-nociceptive effects. These results suggest that trigger point (sensitive locus) stimulation may evoke anti-nociceptive effects by modulating segmental mechanisms, which may be an important consideration in the management of myofascial pain.

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Related citations

- Stimulation of myofascial trigger points with ultrasound induces segmental antinociceptive effects: a randomized controlled study. [Pain. 2008]

  Stimulation of myofascial trigger points with ultrasound induces segmental antinociceptive effects: a randomized controlled study. *Srbely JZ, Dickey JP, Lowerison M, Edwards AM, Nolet PS, Wong LL. Pain. 2008 Oct 15; 139(2):260-6. Epub 2008 May 27.*

- Short-term effects of dry needling of active myofascial trigger points in the masseter muscle in patients with temporomandibular disorders. [J Orofac Pain. 2010]

  Short-term effects of dry needling of active myofascial trigger points in the masseter muscle in patients with temporomandibular disorders. *Fernández-Carnero J, La Touche R, Ortega-Santiago R, Galan-del-Rio F, Pesquera J, Ge HY, Fernández-de-Las-Peñas C. J Orofac Pain. 2010 Winter; 24(1):106-12.*

- Capsaicin-Induced Central Sensitization Evokes Segmental Increases in Trigger Point Sensitivity in Humans. [J Pain. 2010]

  Capsaicin-Induced Central Sensitization Evokes Segmental Increases in Trigger Point Sensitivity in Humans. *Srbely JZ, Dickey JP, Bent LR, Lee D, Lowerison M. J Pain. 2010 Jul; 11(7):636-643. Epub 2009 Dec 16.*

- Review Acupuncture and dry needling in the management of myofascial trigger point pain: a systematic review and meta-analysis of randomised controlled trials. [Eur J Pain. 2009]

  Review Acupuncture and dry needling in the management of myofascial trigger point pain: a systematic review and meta-analysis of randomised controlled trials. *Tough EA, White AR, Cummings TM, Richards SH, Campbell JL. Eur J Pain. 2009 Jan; 13(1):3-10. Epub 2008 Apr 18.*

- Review Needling therapies in the management of myofascial trigger point pain: a systematic review. [Arch Phys Med Rehabil. 2001]

  Review Needling therapies in the management of myofascial trigger point pain: a systematic review. *Cummings TM, White AR. Arch Phys Med Rehabil. 2001 Jul; 82(7):986-92.*