Randomized Controlled Trial > Clin Rehabil. 2007 May;21(5):411-7.

doi: 10.1177/0269215507073342.

# Randomized controlled study of the antinociceptive effect of ultrasound on trigger point sensitivity: novel applications in myofascial therapy?

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PMID: 17613561 DOI: 10.1177/0269215507073342

## Abstract

**Objective:** To investigate whether therapeutic ultrasound modulates the pain sensitivity of myofascial trigger points.

**Design:** Repeated measures, single-blinded randomized controlled trial of ultrasound treatment of trigger points.

**Setting:** Outpatient injury rehabilitation clinic.

**Subjects:** Forty-four patients (22 males, 22 females) with trigger points identified within the trapezius muscle.

**Interventions:** Five-minute therapeutic intensity of ultrasound versus 5-min low-intensity application of ultrasound to a trapezius myofascial trigger point locus.

**Main measures:** Pain pressure threshold readings were measured at the trapezius trigger point site before and after exposure to the ultrasound intervention.

**Results:** Pain pressure threshold scores increased an average of 44.4 (14.2)% after therapeutic exposure to ultrasound (pre-ultrasound test 35.4 (8.5) N, post-ultrasound test 51.1 (12.8) N). No significant difference in pain pressure threshold scores was observed with low-intensity ultrasound exposures (pre-ultrasound 36.1 (6.1) N, post-ultrasound 36.6 (4.8) N).

**Conclusions:** Therapeutic exposures to ultrasound reduce short-term trigger point sensitivity. Ultrasound may be a useful clinical tool for the treatment and management of trigger points and myofascial pain syndromes.

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