

# Does Myofascial Pain Sensitization Correlate with Chronic Low Back Pain? A Standardised, Randomised, Controlled, Blinded, Myometer Study with 3 Month Follow Up

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**BACKGROUND:** Chronic low back pain has been described as correlating with central pain sensitization. Few studies have been done where both peripheral and central sensitization have been analysed. The aim of this study was to understand possible correlations between low back pain and peripheral lumbar tissue sensitization. In this trial the effectiveness of two therapeutic techniques, Myofascial Triggerpoint Release (MTR) versus Classical Massage (CM), in subjects with chronic low back pain and control three months later was compared.

**METHODS:** Participants n=50, were randomly assigned to one of these three groups: CM (n=18), MTR (n=19) or a non-intervention control group (n=13). Assessments before/after intervention: pain pressure threshold (PPT) on lumbar tissue and thumbnail using the pressure algometer, spine range of movement (ROM) with the Schober and Ott test. In addition biomechanical variables of stiffness and elasticity were performed with the MyotonPro. Each patient received six 30-minute sessions, scheduled twice a week. Both groups received standardised therapies: the MTR group received manual and one tool assisted techniques; the CM group classical massage. Additionally, the MTR group received heart rate variability (HRV) training. Compliance was recorded using a blood volume pulse HRV recorder. Further measures included Brief Pain Inventory (BPI) and Pain Disability Index (PDI) and expectation of improvement (Ferts-Placebo questionnaire). Statistical analysis (T-test, Wilcoxon, Cohen's d, Anova) was performed by IUNICS University, Mallorca, Spain and Alliant University, California, USA.

**RESULTS:** Significant improvements ( $p < 0.05$ ) pre to post 3 months: MTR intervention was more effective than CM and non-intervention in improving pain and life quality; ROM with the Schober test, HRV coherence baseline test. Reduction of muscle stiffness and gain in elasticity were improved pre to post 6 weeks intervention. Furthermore, there was a middle correlation between peripheral desensitization and pain reduction but no significant change in the pain pressure threshold on thumbnails.

**CONCLUSIONS:** MTR and HRV training seems to be an effective intervention for patients with non-specific lower back pain. Further research is warranted to understand the pathophysiologic mechanisms of myofascial pain syndromes and the physiological basis and clinical applications of this promising technique.

**DISCLOSURE:** This study was undertaken in accordance with the Declaration of Helsinki and was financed through patient donations.

**REFERENCES:** [1] Vagedes J, Gordon CM et al. Fascia Research II: 248-249, 2009.