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### REFERENTEN:

Frank Willard, Paul Hodges, Dan Lieberman, L'Hocine Yahia, Melody Swartz, Leon Chaitow, Tom Findley, Robert Schleip, Mark Driscoll, u.a.  
Zusätzlich: ‚Fascia Illuminated Session‘ mit Jean Claude Guimberteau, Gil Hedley, u.a.

## SELF-MYOFASCIAL TREATMENT FOR CHRONIC LOW BACK PAIN AND STRESS: A CONTROLLED TRIAL EMPLOYING A MYOFASCIAL MANIPULATION TOOL

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**BACKGROUND:** The aim of this study was to assess the effectiveness of an instrument-based myofascial release self-treatment technique, combined with a vibrational breath pacer training (heart rate variability HRV) on the solar plexus (diaphragm) to stimulate vagal tone. The self-treatment combines vibrational oscillation, leverage, and the shearing effect.

**METHODS:** 30 participants were recruited and divided into two groups (female 20, male 10; average age 45; average BMI 23.5). A tool-assisted tissue manipulation was performed on the lower back, hip, upper leg and abdomen muscles. The treatment was performed three times per week for a period of three weeks (both groups). It is augmented by HRV deep breathing twice per day. Thereafter, group 1 stopped the treatment as a control, group 2 continued the treatment two times per week, the HRV training once a day for further three months. Training load reduced due to compliance. Following parameters were measured prior the treatment, post 3 weeks, and post 3 months: stiffness, elasticity (MyotonPRO), indentometer-stiffness (modified indentometer algometer), range of movement ROM (Mobe Med), pain intensity (Brief Pain Inventory), pain disability (Pain Disability Index), HRV vagal tone analysis (HRV Scanner Biosign), modified stress questionnaire. Statistical analysis included paired t-tests and Cohen's d.



**RESULTS:** 3 weeks: Analysis after three weeks for both groups shows a significant decrease in all subjective measurement parameters ( $p < .001$ ). ROM (Mobee Med) showed a significant increase in all parameters ( $p = .0001$ - $p = .02$ ). HRV showed significant improvement in E-I Diff ( $p = .004$ ). Cohen's d revealed small to large effect sizes for nearly all significant primary measures of outcome between 8.8-55.2% improvement ( $d = 0.27$ - $1.25$ ). 3 months: T-test has shown a significant change for both groups after 3 months ( $p = .0001$ - $p = .042$ ). Group 2 shows stronger improvements and higher significances compared to Group 1 for all parameters with percentage difference between 14.7-34.3%. Cohen's d revealed large effect sizes for nearly all significant parameters for group 2 between 9.2-71.2% improvement ( $d = 0.80$ - $2.66$ ).

**CONCLUSION:** Application of self-help treatment with a muscle fascia tool resulted in clinically relevant improvements on objective mechanical tissue properties. Tool-assisted self-treatment with the IFT method is possibly an effective self-treatment modality for chronic LBP. Our preliminary findings support the need for further research.

**DISCLOSURE:** This study was undertaken in accordance with the Declaration of Helsinki and was financed in part by the Mahle foundation Stuttgart, Germany.

**REFERENCES:**

- [1] Gordon CM, Lindner SM, Birbaumer N, Montoya P, Andrasik F. Self-help Treatment with a Myofascial Manipulation Tool. *Fascia Research IV*, Washington DC, 9/2015, 197.
- [2] Gordon CM, Lindner SM, Birbaumer N, Montoya P, Andrasik F. Correlation between Hydration and Fascia Stiffness during a Self-help Treatment with a Myofascial Manipulation Tool. *A Bioimpedance Controlled, Clinical Trial. Fascia Research IV*, Washington DC, 5/2015, 93. / *Journal of Bodywork and Movement Therapies*, 4/19/2015, 668.
- [3] Peipsi A, Kerpe R, Jäger H, Soeder S, Gordon CM, Schleip R. Myoton Pro: A Novel Tool for the Assessment of Mechanical Properties of Fascial Tissues. *Journal of Bodywork and Movement Therapies*, 4/16/2012, 527.