Self-help Treatment with a Myofascial Manipulation Tool
A Randomized, Double Controlled, Standardized, Clinical Study

Christopher-Marc Gordon1,2, Sophie Manuela Lindner1, Niels Birbaumer2, Pedro Montoya3

1 Center for Integrative Therapy, Ahorn Str 31, 70597 Stuttgart, Germany
2 Institute of Medical Psychology and Behavioral Neurobiology, University of Tübingen, Germany
3 Research Institute on Health Sciences (IUNICS), University of Balearic Islands, Palma, Spain

KEYWORDS: Myofascial Self-help Therapy; Tool Assisted Myofascial Manipulation.

BACKGROUND: A tool assisted tissue manipulation was performed on the quadriceps and the tensor fascia latae muscle of the thigh in form of a self-help treatment. The aim of this study was to explore the practicality of this self-help modality and to assess the effectiveness of an instrument where myofascial release is combined with a vibrational oscillation.

METHODS: 111 male breakdancer were cluster randomized into an intervention and a control group. The intervention group performed a self-help treatment only on the right leg with the Fascia-ReleaZer® tool for eight minutes. Both groups’ thighs were assessed before and after the intervention. The not-treated left thigh served as control. Position and posture of both intervention and control groups were standardized. The following parameters were measured: stiffness, elasticity (MyotonPRO), pain pressure threshold sensitization (pressure algometer), temperature (thermography flir camera), range of movement (modified Thomas and finger to floor distance test) and momentary mood states with the Proof of Mood States (POMS) questionnaire. A follow-up questionnaire was conducted 1 month after the intervention. Statistical analysis included the paired t-test, Wilcoxon signed rank test, Cohen’s d-test and Anova tests.

RESULTS: A significant decrease (p<0.001) in stiffness was observed post-intervention for both muscles only on the treated leg. The elasticity of the treated quadriceps muscle increased significantly (p<0.001). Algometer scores, however, indicated a significant (p<0.001) desensitization of the treated leg. A high significant increase (p<0.001) of the local temperature was observed. A highly significant increase (p<0.001) of flexibility of the quadriceps muscle and a trend to more flexibility in the hamstrings was found. POMS scores showed little to no changes. The follow-up questionnaire showed a stabilization in the intervention group only. The described sensation of the treated leg was relaxed, stable and strong.

CONCLUSIONS: Application of self-help treatment with a muscle fascia tool resulted in clinically highly significant improvements in the objective mechanical tissue properties. Pain desensitization, thermography and range of movement improved highly significantly. The consistent mood states indicate the results are not just due to positive placebo effects in the intervention group. Tool assisted self-treatment with the Fascia ReleaZer® is possibly an effective treatment modality. This needs further basic research to understand these effects on the cellular level.

DISCLOSURE: This study was undertaken in accordance with the Declaration of Helsinki and was financed through the Mahle and Damus-Donata foundation Stuttgart, Germany.