

Do exercises with the Foam Roll short impact on the thoracolumbar fascia?

A randomized, controlled trial

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BACKGROUND The aim of this study is to identify whether foam rolling has a short-term impact on the mobility of the FTL. For this purpose, both short-term and long-term studies were conducted.

METHOD In total 38 subjects participated in the study for short-term observation. These 38 subjects were assigned to a foam roll group, a placebo group and a control group. To investigate the mobility of the FTL, ultrasound clips were recorded showing a trunk flexion of the subjects at 30 degrees. After that the videos were analyzed with Cross Correlation Software (CCS Dilley 2013) to calculate the overall movement of the fascia. Also active lumbar flexion, active thoracolumbar flexion and pressure sensitivity of the treated muscles were examined. The measurements were completed before, and ten minutes after, the intervention. Then the values were compared. In addition, two subjects took part in a case study. The aim of this case study was to analyze the long-term effects of exercises which aim to enhance mobility of fasciae.

RESULTS After treatment, measurement with the CSS by Andrew Dilley, showed, with the foam roll, mobility of the FTL improved by an average of 1.7915 mm ($p < 0.001$). In contrast, the placebo group ($p = 0.397$) and the control group ($p = 0.861$) showed no significant improvement. The values of the other assessments showed also no significant differences. Over a period of four weeks, the case study ($n = 2$) showed further increase of fascia mobility, active flexion mobility, and pain reduction.

CONCLUSION By using the foam roll, short term mobility of the thoracolumbar fascia could be improved significantly but not lumbar flexion and mechanical pain sensitivity.