

Abstract

Title: A Change in Blood Flow in the Paravertebral Muscles during the Application of Compression Therapy

Objectives: The main objective of this thesis is to investigate the effect of compression therapy on the blood supply to the paravertebral muscles when applying flossing tape around the trunk. The second aim is to theoretically introduce the compression methods used in practice to the readers.

Methods: The study involved 33 probands who completed a questionnaire to obtain basic anamnestic information before the measurement. Furthermore, the range of motion of the lumbar spine was examined into flexion using a modified Schober distance and the electrode of the Précisé 8008 device was placed on the right paravertebral muscles at approximately the level of the Th/L transition to determine blood flow. Flossing tape was applied for 2 minutes around the trunk at the lumbar spine. After removal of the tape, the range of motion of the lumbar spine into flexion was measured again. The obtained data were processed by using descriptive statistics, paired T-test and linear model. The statistical significance for all T-tests was assessed at a critical significance level of 0.05.

Results: Changes in the blood flow of the paravertebral muscles during and after the application of flossing have been proven. There was no statistically significant effect of flossing on depression of blood supply ($p>0.05$) of paravertebral muscles. A statistically significant increase in blood flow ($p<0.05$) of the paravertebral muscles was found after flossing tape was removed. The time of blood flow depression to the lowest values was shorter than the time of return to baseline blood flow and this difference was not statistically significant ($p>0.05$). After flossing, there was an improvement in the range of motion of the lumbar spine into flexion and this improvement was statistically significant from baseline.

Keywords: flossing, compression therapy, muscle blood flow, transcutaneous oximetry