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THE RESPONSE OF THE TRANSVERSE ABDOMINAL MUSCLE (TrA) DURING TENSIONING OF THE PLANTAR FOOT MUSCLES

A cross sectional study

Introduction

Stabilising function of the TrA could be induced by active plantar foot muscles tensioning

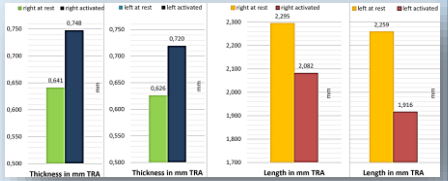
Methods

2D real-time-ultrasound measurements of **TrA** shortening / thickening and **obliques abdominal muscle** thickening during tensioning of the plantar foot muscles

20 healthy (aged 34.3 ± 12.2) collected from different professions, BMI ≤30, split into 2 groups of 10 in level of sports activity, gender and age

In supine measurements on each side at rest twice during tensioning plantar foot muscles twice

Results



Mean TrA changes (thickness, length) during active feet statistically proved **(p<0.001)**

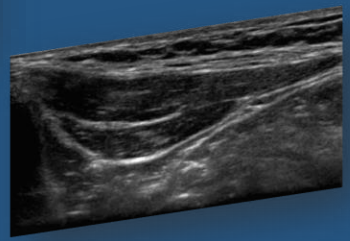
Conclusion / Discussion

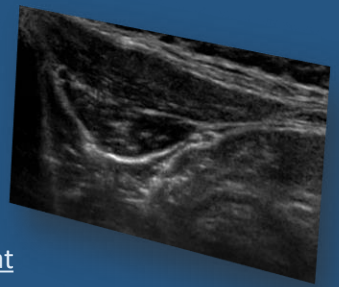
Taking into account generalization and limitations, these results would imply that active tensioning of plantar feet muscles could **influence TrA exercises in physiotherapy**.

Plantar foot muscles

tensioning induces

TrA contraction





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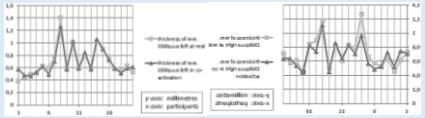
more info on paper

Supine simulates standing upright but no pressure of gravity, neutral position of spine and extremities.

Volunteers had to relax, not to move, keep breathing calmly pull forefeet to the heels without losing contact , to the wall during measurements.

Results Obliques: no significant differences in thickness of the oblique abdominal muscles (p=0.223 right side, p=0.827 left side)



Comparison of males/females: no significant differences (p=0.931 change in thickness of TrA, p=0.942 change in length of TrA, p=0.788 change in thickness of obliques)

Key Words
Transverse-abdominal muscle – real-time-ultrasound – tension – foot
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The study was unfunded
Ethics approval
Ethics committee of Medicine University Innsbruck (protocol number 284/4.20)