

The Influence of Repetitive Practise of Breathing Exercises on Trunk's Shape and Spinal Mobility

Abstract

This work is focused on breathing exercises description regarding the changes of trunk's shape, spinal mobility and trunk's weight distribution into the lower extremities. The basic theme was the methodics creation available for these changes' check.

Within filling the project of this work, there were suggested and performed original experiment using 3D kinematic record by force of Qualisys system supplemented by measurement by using 2 Kistler force plates. There were 5 probands involved in the experiment (aged 23-28years, having pain in the back). Each proband has practising the breathing exercises every day for 3 month in accordance with defined training plan. The complete kinesiological assesment of each proband is a component of the experiment. The data records were taken before and immediately after the therapy.

The data evaluation was based on comparing of both measurements for every proband. The outcomes of every single proband were comparing and there were founded their shared characteristics.

Resulting from the outcomes, the breathing movements practising every day for 3 month, have provable influence on the range of spinal movement and trunk's shape and it is possible to record these changes reliably, with sufficient accuracy using Qualisys system. The influence on the weight distribution into the lower extremities, measured by using 2 Kistler force plates, was not confirmed.

Key Words: Breathing Exercises, Trunk's Shape, Spinal Mobility, 3D Movement Analysis, Kistler Force Plate.