

Abstract

Title: Comparison of Special Breathing Exercises versus Specialized Physiotherapeutic Interventions for Static Apnea

Objectives: The aim of this diploma thesis is to look deeper into the issue of improving performance in static apnea, one of the competitive disciplines of freediving and compare its training with 1) special breathing exercises for divers (Mana, 2018) and 2) physiotherapeutic interventions based on working with the diaphragm and deep stabilization system of the spine (Kolář, 2009). The aim was to find out which group achieved a more effective result and what is the overall difference between the training result of both groups in terms of posture quality and performance in static apnea.

Methods: The experiment involved 14 healthy people, men and women, aged 19-23 years old. The experiment consisted of three parts: 1) Initial measurement of static apnea and examination of four tests to determine the quality of one's postural muscles, 2) four-week lasting training according to the division into groups (breathing exercises for divers or training based on physiotherapy intervention), 3) final measurement of static apnea and re-examination of posture tests. The obtained data were recorded and processed.

Results: It appeared that due to the small amount of statistically significant data and their ambiguity, it cannot be said that the performance in static apnea differs in individuals after training special breathing exercises for divers or after training due to physiotherapy intervention. However, a significant statistical difference was obtained by the difference between the average values of both groups, when the average performance of experimental group improved compared to the control group.

Keywords: freediving, activation of the diaphragm and deep stabilization system of the spine, four-week training