

Abstract

Title:

Effect of water temperature on the electrical activity of muscle

Objective:

Main objective of this work is to determine the spatiotemporal changes in muscle activation depending on different properties of the environment. All this at a defined muscle power output. Measured by hand dynamometer.

Methods:

This is a case study. Is processed and analyzed the relationship of the forearm muscles against the aquatic environment (different temperatures – 15 °C, 24 °C and 35 °C) and against dry. Muscular power output is defined and measured by hand dynamometer. Muscular power output was determined as isometric contraction flexors of wrist and fingers of dominant hand. It all in three different modes. The research group were included 5 healthy individuals (3 women, 2 men). As objectivization method was determined surface electromyography.

Findings:

There is no influence of water temperature (15 °C, 24 °C and 35 °C) on spatiotemporal activation of muscle. It all at a defined muscle power output. There is also no changes on spatiotemporal activation of muscle in aquatic and dry.

Keywords:

muscle contraction, temperature, water environment, surface electromyography, Water Surface EMG

