

Abstract

Title: Measuring max. heart rate of CP individuals during swimming load

Objectives: The major goal of this thesis is to measure heart rate of swimmers diagnosed with cerebral palsy during swimming load and to determine their CSS. Secondary goal of the thesis is to compare those values with intact population.

Methods: In our thesis we tested HR_{MAX} of 4 swimmers (3 men, 1 woman) with cerebral palsy (age 20 to 23 years) using the modified Critical Swimming Speed (CSS) protocol. A sample of probands was chosen out of swimmers participating in KONTAKT bB, swimming academy beyond borders programme. Testing went underway twice. CSS test consists of swimming two different distances with maximum effort. 25 and 100-meter distances (or modified shorter distances) were chosen for the purpose of measuring HR_{MAX} . Sporttester was used for recording. We then compared obtained data with intact population by using substantive significance.

Results: Tested values of the probands' HR_{MAX} during CSS test were between 165 to 182 beats per minute. CSS reached 0,3 to 1,0 meters per second. In comparison with the sample of intact population, probands were able to reach the 8,9 % and 17 beats per minute lower level of HR_{MAX} in average. Values of the CSS were averagely 78% lower than the CSS of the intact population sample.

Keywords: swimming, critical swimming speed, front crawl stroke, breaststroke