

Abstract

Title: Description of physical characteristics of the C1 forward stroke in selected elite canoe slalom athletes

Objectives: The aim of this study was to describe the physical characteristics of a forward stroke in C1 using strain gauge measurement among selected elite canoe slalom athletes during flatwater paddling, and to organize the obtained results into a clear format.

Methods: We used a single-axis foil strain gauge attached to each tested person's paddle and an accelerometer (G-link 200) positioned at the front of the boat to obtain the data. Everything was connected to a data acquisition unit (V-link 200). We processed the data using the Sensor Connect software developed by Lord Microstrain.

Results: We have been able to describe the basic physical characteristics of the forward stroke on the dominant and non-dominant side as well as the cross stroke. It turns out that a greater force applied in the stroke does not necessarily lead to a faster resultant time for a given segment. Similarly, a higher frequency of strokes does not automatically lead to faster and better times. Boat speed is not dominantly determined by any of the physical indicators of the stroke cycle studied, but is probably determined by a combination of them, related to other factors such as the shape of the boat, the forward movement of the racer's hull, the transfer of power to the boat speed and, of course, individually variable indicators such as the current form of the racer and his willingness to give his maximum performance at a given moment.

Key words: strain gauge, cross stroke, technique, competition, canoe.

