

Abstract

Title: Use of MOXY monitor for evaluation of oxygenation of finger flexors during incremental climbing load.

Objectives: The aim of the work was to assess the dynamics of muscle oxygenation using MOXI monitor and Portamon during incremental climbing load

Methods: The test involved 19 individuals (14 male (M) and 5 female (F), age $29,5 \pm 8,5$ (years) M, $26,5 \pm 5,7$ (years) F, weight $70,2 \pm 7,9$ (kg) M and $58,1 \pm 2,4$ (kg) F, height $176,9 \pm 5,6$ (cm) M, $170,2 \pm 1,3$ (cm) F, length of climbing experience $12,1 \pm 7,1$ years M $9,8 \pm 4$ F, performance on the Union International des scale Associations d'Alpinisme (UIAA) 6+ to 10 M and 7 to 9 F). Climbers underwent test climbing on a climbing ergometer at submaximal load (vertical, 9 m / min) and a incremental climbing test to a subjective maximum. Tissue saturation in the flexor digitorum profundus (FDP) and extensor digitorum communis (EDC) was assessed by near-infrared spectroscopy with a Portamon and MOXY instrument.

Results: In 5 of the 19 tested, it was not possible to determine the oxygenation breakpoint using the MOXY record. Compared to Portamon, the difference in threshold values ranged from 0-9°.

Conclusion: Due to the unclear breakpoint in oxygenation in some respondents and the small agreement with the Portamon device, MOXY cannot be used to evaluate the muscle oxygenation threshold during incremental climbing load.

Keywords: climbing, NIRS, oxygen