

Abstrakt

The aim of the study was to evaluate reliability and validity finger flexor, in four climbing grip positions.

The research group compose from 33 climbers. 11 climbers were woman (Age 24.2 ± 6.3 year, weight 56.6 ± 5.6 kg, height 164.4 ± 6.3 cm) and 22 climbers were man (Age 23.3 ± 5.8 year, weight 70.8 ± 8.1 kg, hight 177 ± 5.9 cm). Climbers were chosen to cover the wide range of climbing ability RP. Climbing ability was range from 4 to 12 degree of climbing ability in UIAA scale. Climbers were tested using electronics scale and training wood-edge in four climbing grip positions (Open grip (OG), crimp grip (CG), index + middle finger (IM) and middle + ring finger (MR). The grip strength was measure, that climbers stand on the electronic scale during holding the wood edge by one hand in selected grip position. Climber was instructed to pull his legs to the body during 3-5 sec and transfer the maximum weight on to the test arm. The smallest value shown at the scale during the each measurement was taken. From this values we counted strenght in different grip possitions.

Test was measure in each position three times for calculating intra-session reliabillity. Test-retest reliability (inter-session reliability) was measure by repeated testing 12 climbers after 1 week rest

Results shown high degree of reliability in all four grip positions, whitch was between 0.88-0.97 for intra-session reliability and between 0.88-0.94 for test-retest reliability. The highest criterion validity of RP was found for CG ($R^2 = 0.67$) and OG ($R^2 = 0.62$). IM ($R^2 = 0.38$) and MR ($R^2 = 0.46$) shown significantly lower values of criterion validity RP.

Use of electronic scale and training wood-edge was shown as cheap, valid and easily reproducible solution for finger strenght testing using different specific climbing grip positions.

Key words: sport climbing, finger strenght, reliability, validity