on an instrumented climbing wall. Oxygen consumption (VO_2, l/min) was measured with a portable battery-powered Cosmed K4b[2] metabolic systems via open circuit indirect calorimetry and the movement sequence with time was identified from the force signals at different holds. The results show that the fluctuations of VO_2 (l/min) are synchronised with climbing and depend on the route conditions, which, in turn, require different climbing techniques. The cyclic behaviour of respiration provoked by a circular boulder route suggests that the oxygen uptake is influenced by the climbing route even after the steady state is reached.

56 RESPIRATORY RESPONSE TO DIFFERENT PARTS OF A CLIMBING ROUTE

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This study investigates the fluctuations of oxygen uptake in synchrony with repetitive climbing a circular boulder