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Resumo	This study comprises two complementary experiments with athymic Balb/c (Nu/Nu) mice. In experiment 1, the aim was to verify the reproducibility of the peak velocity (VPeak) determined from the incremental test. The second experiment aimed to assess the VPeak sensitivity to prescribe and detect modulations of the physical training in athymic nude mice. Sixteen mice were submitted to two incremental treadmill tests separated by 48-h (Experiment 1). The test consisted of an initial warm-up of 5 minutes. Subsequently, animals initiated the tests at 8 m min−1 with increments of 2 m min−1 every 3 minutes. The VPeak was determined as the highest velocity attained during the protocol. In experiment 2, these animals were randomly allocated to an exercise group (EG) or a control group (CG). The training protocol consisted of 30-min of treadmill running at 70% of the VPeak five times a week for 4 weeks. High indexes of reproducibility were obtained for VPeak (Test = 19.7 ± 3.6 m min−1; Retest = 19.2 ± 3.4 m min−1; p = 0.171; effect size = 0.142; r = 0.90). Animals from the EG had a significant increase of VPeak (Before = 18.4 ± 2.7 m min−1; After = 24.2 ± 6.0 m min−1; p = 0.023). Conversely, a significant decrease was observed for the CG (Before = 21.1 ± 3.9 m min−1; After = 15.9 ± 2.7 m min−1; p = 0.038). The VPeak is a valid parameter for exercise prescription in studies involving athymic nude mice.

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