

Effect of Roller-ski Aerobic High-intensity Interval Training on Leg Muscle Strength in Cross-country Skiers

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ABSTRACT The purpose of this study was to examine the effect of roller-ski aerobic high-intensity interval training on leg muscle strength and time-trial performance after 8-week of roller-ski uphill training. The sample comprised of 10 males (age, 18.8±2.1 years) and 8 females (age, 16.1±0.3 years) junior cross-country skiers, who performed 8-week intervention training periods three times a week in addition to their normal seasonal training. All skiers performed all-out uphill interval training, 2 sets as long duration (10-15 minutes), at 85-92 percent of HR_{max} with total duration of 40-45 minutes (height difference is 144 MT and 2-km distance). Before and after the intervention period all athletes were tested for hamstring and quadriceps isokinetic strength at 60°/sec and 2-km time-trial performance. Both group improved leg muscle strength and time-trial performance between pre- and post-test (all p<0.05). In conclusion, 8-week of supplemental aerobic high-intensity interval training promotes increases in isokinetic strength and time-trial performance.