

Recovery of Peak Torque after Fatiguing Explosive and Slow Maximal Muscle Contractions: Preliminary Findings

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The unique neuromuscular strategies for explosive and slow muscle contractions may result in differing rates of recovery for peak muscle torque (PT) upon cessation of fatiguing exercise involving these contraction types. **PURPOSE:** The purpose of this study was to examine the recovery of PT after explosive and slow fatiguing muscle contractions. **METHODS:** Following a familiarization visit, recreationally active males ($n=4$, age= 23.3 ± 2.2 years) were randomly assigned to perform fatiguing exercise consisting of either explosive (RAPID) or slow (RAMP) maximal voluntary isometric contractions (MVICs) on separate visits. Each protocol consisted of repeated 5 s MVICs of the quadriceps, with an explosive intent (“kick out as hard and fast as possible”) being emphasized during RAPID and RAMP involving a 2 s ramp-up during MVIC initiation. Two MVICs were performed before, immediately after, and 2, 6, and 12 min following the protocols to assess recovery. The Friedman test and relative increases (% of baseline) were used to assess recovery of PT after both protocols. **RESULTS:** Following a similar magnitude of fatigue (-33% vs. -28%), no differences were noted throughout recovery for either condition ($p>0.05$). Relative increases after RAPID were 79%, 84%, and 89% at 2, 6, and 12 min, respectively. Relative increases after RAMP were 82%, 87%, and 95% at 2, 6, and 12 min, respectively. **CONCLUSIONS:** Although preliminary, our data suggest that recovery of muscular strength (i.e., PT) is similar after explosive and slow fatiguing muscle contractions.