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Authors: Paul W.M. Marshall, Rebecca Cross, Michael Haynes

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TITLE PAGE

The fatigue of a full body resistance exercise session in trained men

Paul W.M. Marshall[1]

Rebecca Cross[1]

Michael Haynes[1]

All affiliations 1: Human Performance Laboratory, School of Science and Health, Western Sydney University, Locked Bag 1797 Penrith South, NSW 2751, AUSTRALIA

Corresponding author

p.marshall@westernsydney.edu.au

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Abstract

Objectives
We examined the fatigue and recovery for 48h following a full-body resistance exercise session in trained men.

Design
Experimental cross-sectional study

Method
Eight resistance trained men volunteered to participate (mean ± SD; age 27.0 ± 6.0yrs, height 1.79 ± 0.05m, weight 81.8 ± 6.8kg, training experience 7.8 ± 5.0yrs). Fatigue and pain was measured before, after, 1h post, 24h and 48h post the full-body resistance exercise session, which was based on in-season models used in contact team sports (e.g. AFL, NRL). Other measures included maximal torque and rate of torque development, central motor output (quadriceps muscle activation, voluntary activation, H-reflexes), and muscle contractility (evoked twitch responses). Linear mixed-model ANOVA procedures were used for data analysis.

Results
Fatigue, soreness, and muscle pain did not return to pre-exercise levels until after 48h rest. Quadriceps maximal torque and muscle contractility were reduced from pre-exercise ($p<0.01$), and did not return to pre-exercise levels until 24h. Early rates of torque development and muscle activation were unchanged. The amplitude and slope of the normalized quadriceps H-reflex was higher immediately after exercise ($p<0.05$).

Conclusions