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Metabolic demands and replenishment of muscle glycogen after a rugby league match simulation protocol.

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**Abstract**

**Objectives:** The metabolic requirements of a rugby league match simulation protocol and the timing of carbohydrate provision on glycogen re-synthesis in damaged muscle were examined.

**Design:** Fifteen (mean  $\pm$  SD: age  $20.9 \pm 2.9$  y, body-mass  $87.3 \pm 14.1$  kg, height  $177.4 \pm 6.0$  cm) rugby league (RL) players consumed a 6 g·kg·day<sup>-1</sup> CHO diet for 7-days, completed a time to exhaustion test (TTE) and a glycogen depletion protocol on day-3, a RL simulated-match protocol (RLMSP) on day-5 and a TTE on day-7. Players were prescribed an immediate or delayed (2-h-post) re-feed post-simulation.

**Methods:** Muscle biopsies and blood samples were obtained post-depletion, before and after simulated match-play, and 48-h after match-play with PlayerLoad and heart-rate collected throughout the simulation. Data were analysed using effects sizes  $\pm$  90% CI and magnitude-based inferences.

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