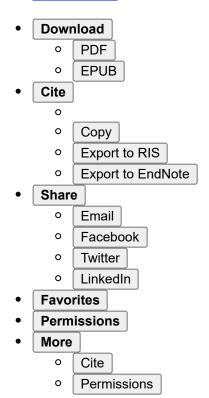
# Molecular Hydrogen Affected Post-Exercise Recovery in Judo Athletes: 3820 Board #259 June 4, 9: 30 AM - 11: 00 AM: Medicine & Science in Sports & Exercise

May 2016 - Volume 48 - Issue 5S

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G-39 Free Communication/Poster - Recovery Saturday, June 4, 2016, 7: 30 AM - 11: 00 AM Room: Exhibit Hall A/B

# Molecular Hydrogen Affected Post-Exercise Recovery in Judo Athletes

**3820 Board #259 June 4, 9** 

30 AM - 11

oo AM

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Metrics

Molecular hydrogen ( $H_2$ ) recently appeared as a novel and safe ergogenic agent that might have beneficial effects in athletes. However, no information is available concerning the impact of  $H_2$  on post-exercise recovery indices.

**PURPOSE:** To determine the effects of pre-exercise H<sub>2</sub> administration on post-exercise heart rate and blood lactate responses in judo athletes.

**METHODS:** Five athletes (24.4  $\pm$  3.4 yrs, 74.8  $\pm$  2.3 kg, 177.8  $\pm$  2.5 cm) were recruited for this randomized, placebo-controlled, double-blind crossover pilot study. Participants were instructed to ingest formulation containing 6.4 g of H<sub>2</sub> or placebo ~ 30 minutes before repeated Special Judo Fitness Test (RSJFT). Blood lactates and heart rates were recorded during recovery period at 3 min, 5 min and 15 min, and 10 s, 20 s, 30 s, 60 s, 3 min and 15 min, respectively.

**RESULTS:** Molecular hydrogen significantly blunted lactate response during recovery period as compared to the placebo (7.23  $\pm$  1.95 vs 9.22  $\pm$  1.51 mmol/L; p = 0.011). Furthermore, a trend has been found for decreased post-exercise heart rate in group supplemented with H<sub>2</sub> (p = 0.111).

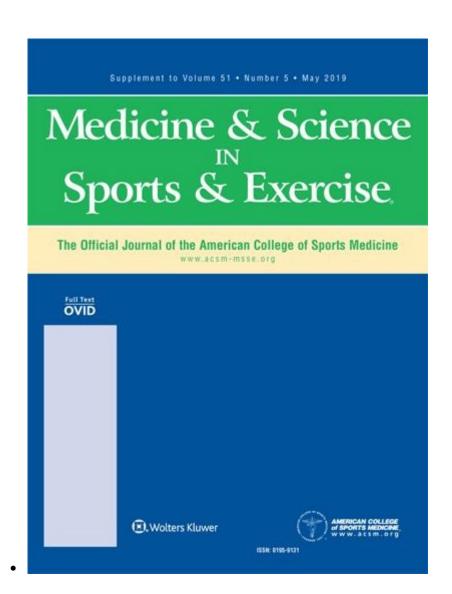
**CONCLUSION:** Hydrogen-rich water appears to be an appropriate strategy to positively affect post-exercise lactates in judo athletes.

Study was partially supported by the Provincial Secretariat for Science and Technological Development (Grant No. 114-451-1301/2014-01), the Serbian Ministry of Education, Science and Technological Development (Grant No. 175037), and the Faculty of Sport and Physical Education, University of Novi Sad (2015 Annual Award).

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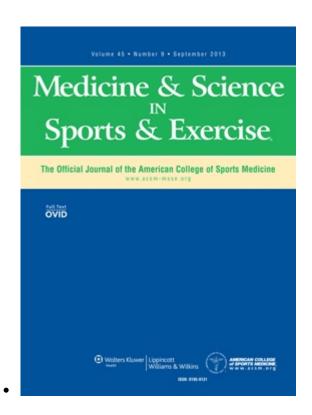
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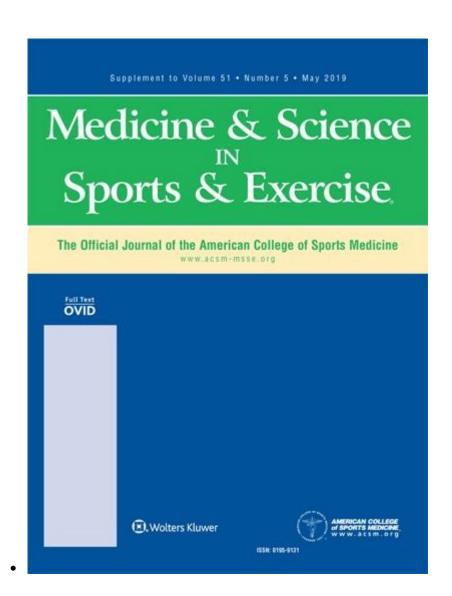
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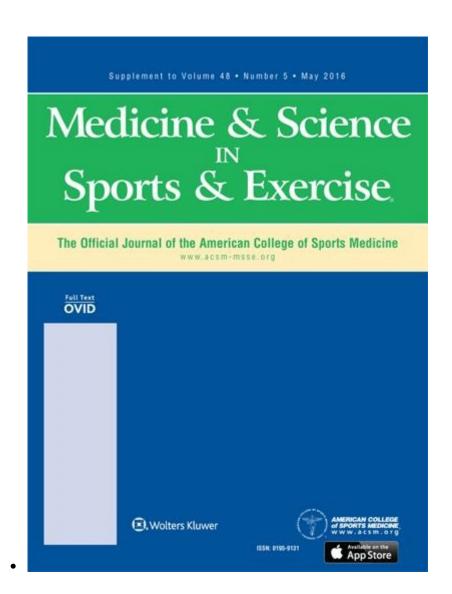
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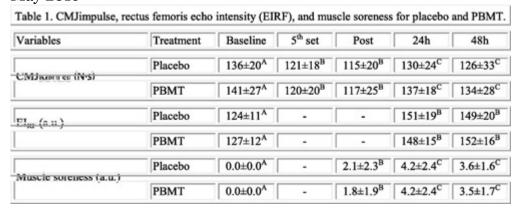
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Subject characteristics			
Sport	n	Height (cm)	Weight (kg)
Football	18	$185.8 \pm 5.7$	$106.8 \pm 18.1$
Softball	18	$167.0 \pm 5.3$	$76.5 \pm 10.8$
Basketball (W)	6	$174.9 \pm 9.1$	$69.5 \pm 10.3$
Basketball (M)	5	$192.5 \pm 8.3$	$88.3 \pm 8.0$
Track & Field (W)	20	$168.2 \pm 7.8$	$63.2 \pm 9.8$
Track & Field (M)	13	$180.8 \pm 7.6$	$81.0 \pm 15.6$
Volleyball (W)	15	$173.8 \pm 6.5$	$69.0 \pm 8.1$
Golf(W)	8	$164.5 \pm 8.2$	$61.1 \pm 5.1$
Golf (M)	6	$177.8 \pm 8.2$	$74.5 \pm 9.2$

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