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THE ACUTE EFFECTS OF LIGHT VERSUS HEAVY-LOAD BACK SQUATS ON SPEED-POWER PERFORMANCE AMONG AMATEUR MALE RUGBY PLAYERS

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Research Project submitted in partial fulfillment of the requirements for the degree of
Bachelor of Sports Science (Hons.)

Faculty of Sports Science and Recreation

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AUTHOR'S DECLARATION

I declare that the work in this research project was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledge as referenced work. This research project has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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dapat meningkatkan prestasi ‘speed-power’ dengan ‘heavy-load back squat’ yang mempunyai kesan terbaik di kalangan pemain ragbi lelaki amatur.

Keywords: post-activation potentiation, warm-up, speed-power, back squat

The Acute Effects of Light Versus Heavy-Load Back Squats on Speed-Power Performance among Amateur Male Rugby Players

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Abstract

Post-activation potentiation (PAP) warm-up such as back squat, can improve speed-power performance. However, the prescribe intensity is not clearly determined. The aim of this study was to investigate whether performing light-load back squat (LS) versus heavy-load back squat (HS) as PAP warm-up exposure prior sprinting activity able to improve speed-power performance among amateur male rugby players. Twenty three amateur male rugby players (age: 20.7 ± 1.4 years; BMI 22.5 ± 1.7 $kg.m^{-2}$) from various rugby teams around Alor Setar, Kedah were recruited in this study. This study was a repeated-measures study design consisted of control and two PAP warm-up exposures. Participants exposed to three trials; control trial with no PAP warm-up (C), light-load back squat (LS = 60% of 1RM), and heavy-load back squat (HS = 85% of 1RM). During each trial, participants performed warm-up on stationary bike at 60 rpm for 6 minutes and followed by prescribed warm-up exposure before proceeding to 40-meter sprint test with 4 minutes rest in between activities. Participants performed all warm-up exposures with two sets of four repetitions in three non-consecutive days of trials within two weeks. The 40-meter sprint test was used to measure speed-power performance during the trials. The data was analysed by using one-way ANOVA with repeated-measures. As a result, sprinting time had improved significantly (p<0.001) after LS (-11.91%), and HS (-18.03%) PAP warm-up when compared to control. When compared between two PAP warm-ups, HS was significantly superior to LS (p<0.001) with 6.95%

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