

**UNIVERSITI TEKNOLOGI MARA**

**THE DIFFERENT EFFECTS OF POST ACTIVATION  
POTENTIATION EXERCISE SELECTION ON SPRINT  
AND JUMPING PERFORMANCE AMONG RUGBY  
PLAYERS**

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**AUTHOR'S DECLARATION**

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

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

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**ABSTRACT**

The purpose of this study was to determine the effects of heavy back squats and heavy front squats on the average speed and jumping performance. Fifteen UTM Lions male rugby players participated in the study and assigned into both groups. The experiment consist of 1-RM back squat determination, and completed four testing sessions on five different days with at least 48 hours rest between sessions. The heavy back squat and heavy front squat interventions consisted of performing back or front squats with 30%, 50%, and 70% of the subject's 1 repetition maximum after dynamic warm up. The sprint trials were performed 4 minutes after completing the heavy back squat or heavy front squat intervention, while jumping trials were performed 5 minutes after interventions. Paired sample T-test was used to determine if there were significant differences before and after both interventions. The results indicated there were no significant differences in sprint times for both interventions ( $p>0.05$ ). However, significant increases in jump height were found for the heavy back squat treatment ( $p<0.05$ ). Furthermore, Independent sample T-test was utilized to determine if there were significant differences between heavy back squat and heavy front squat. However, both interventions have no significant differences either in sprinting or jumping. It may be concluded that the different effects of both exercise caused by different level muscle activation and individual physiological response.

Keyword: *Sprinting, jumping, heavy back squat, heavy front squat.*

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