

UNIVERSITI TEKNOLOGI MARA

**THE EFFECTS OF COLD WATER IMMERSION,
ACTIVE RECOVERY AND PASSIVE RECOVERY
ON HEART RATE AND BLOOD PRESSURE
AMONG MALE RUGBY ATHLETES**

By

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DECLARATION OF ORIGINAL WORK
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I, Raja Nur Anggraeny Binti Raja Ismail (IC Number: 940303-10-5038) hereby declare that: This work has not previously been accepted in substances of any degree, locally or overseas and not being concurrently submitted for any other degrees.

This project is the result of my independent work and investigation, except where otherwise stated, I absolve Universiti Teknologi Mara (UiTM) and faculty of Sport Science and Recreation from any blame as result of my work.

All verbatim extracts have been distinguishes by quotations marks and sources of my information have been specifically acknowledged.

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ABSTRACT

Proper rehabilitation process can lessen the fatigue, enhances the responses of the psychological and physiological regeneration and also increase the level of athletes' fitness. Fail to properly recover after intense physical activities may lead to stresses on psychology and physiology and consequently decrease performance and elevates the injury risk. The main reason for the present study was to investigate the cold water immersion, active recovery and passive recovery effects on heart rate and blood pressure levels among male rugby athletes. 18 young athletes volunteered were divided into three groups of cold water immersion (n=6), active recovery (n=6) and passive recovery (n=6). Subjects performed the Cooper test. Heart rate and blood pressure measurement were taken three times, before performed the test, immediately after performed the test and after performed the 20 minutes of recovery methods. Data analysis was analyzed using repeated measures ANOVA. Result shows that there was no significant difference on heart rate levels among all three different recovery methods group ($p=0.275$). However, there are significant differences on systolic and diastolic blood pressure level among all three different recovery methods group with $p=0.000$ and $p=0.008$ respectively. Result showed that there was no significant difference on heart rate among all three groups. However, there were significant differences on the blood pressure among all three groups. In addition, the effects of all three recovery methods on blood lactate levels should be made for further research.

KEYWORDS: Recovery, cold water immersion, active recovery and passive recovery, blood pressure, heart rate, athletes.

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