UNIVERSITI TEKNOLOGI MARA

EFFECT OF DIFFERENT RECOVERY INTERVENTIONS AMONG ROAD CYCLING RIDERS

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Thesis submitted in fulfilment
of the requirements for degree of
Master of Science

Faculty of Sport Science and Recreation

April 2017

CONFIRMATION BY PANEL EXAMINERS

I certify that a Panel of Examiners has met on 24th February 2016 to conduct the final examination of Khairal Afiq Bin Jamal Abd Haziq on his Master of Science thesis entitled "Effect of Different Recovery Interventions Among Road Cycling Riders" in accordance with Universiti Teknologi MARA Act 1976 (Akta 173). The Panel of Examiners recommends that the student be awarded the relevant degree. The panel of Examiners was as follows:

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AUTHOR'S DECLARATION

I declare that the work in this thesis 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 acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I 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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ABSTRACT

Post exercise recovery is important for endurance athletes such as road race cyclists that participated in back-to-back days of racing. The restoration of physiological functions of an athlete can be speed-up by implementing post exercise recovery interventions such as cryotherapy (CRYO), passive (PAS) and active (ACT) recovery. It is well documented that these interventions positively affect the recovery of an athlete in laboratory based. The purpose of this study is to investigate the effects of three different types of recovery interventions (CRYO, PAS and ACT) on blood lactate concentration and heart rate among road race cyclists following the actual road race cycling. Ten (10) well trained junior road cycling race athletes aged between 15 to 18 years old participated in this study. The participants have completed three sessions of 90 km cycling, which each session was separated by a week (7 days). Each session has a different implementation of post exercise recovery method (CRYO, PAS or ACT). After completing each race session, the post-race blood lactate concentration and heart rate of each cyclist was taken and recorded, followed by 15 minutes of post exercise recovery session. Heart rate was taken and recorded again after the next 30 minutes of follow up phase. Results showed that these three interventions effectively reduced post-race blood lactate concentration and heart rate among road race cyclists. However, higher reduction of both variables was found in CRYO compared to PAS and ACT ($p<0.05$). These three types of recovery interventions could be used by road race cyclists during the initial phase (first 15 minutes) of post exercise recovery following road race cycling, depends on the individual physiological responses.

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