

UNIVERSITI TEKNOLOGI MARA

**THE EFFECTS OF COLD-WATER
IMMERSION FOR RECOVERY ON
SPORTS PERFORMANCE: A
SYSTEMATIC REVIEW**

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Research project submitted in fulfilment of the
requirements for the degree of
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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 results 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 Under Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

The use of cold-water immersion (CWI) is one of the effective recovery techniques for muscle soreness and perceived fatigue. Our objective was to review the literature on CWI regarding the duration and temperature of immersion protocol. Google Scholar databases were searched during March 2020 for studies containing words related to the topic of CWI protocol with the variations and synonyms of “cold-water immersion”, “muscle soreness”, “duration”, and “temperature”. PRISMA guidelines were used upon paper selection. Data from fifteen studies were examined, and overall quality varied based on the study protocol, the temperature of the water, duration of immersion, and outcomes measured. Duration of immersion and temperature of water shown improvement on recovery with duration of 15 minutes with temperature of water 15°C. The result does not show a good improvement toward athletes when the temperature less than 11°C with the duration of immersion less than 10 minutes. CWI appeared to have a good beneficial effect for athletes, including improved sports performances, reduced muscle soreness and perceived fatigue. The suitable duration of immersion and temperature of water for CWI recovery protocol was between 11-15 minutes (11°C-15°C).

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