

Effects of Mechanical Bed Massage on Subjective Feeling of Fatigue and Performance after
Exercise-Induced Back Fatigue in Athletes: A Randomized Controlled Trial

Houyong Zhong^{1,2,3}, Wichai Eungpinichpong^{1,3,4,*}, Xingze Wang², Uraiwan Chatchawan¹, Cuimei Wang²

¹Faculty of Associated Medical Sciences, Khon Kaen University, Khon Kaen 40002, Thailand

²School of Physical Education, Gannan Normal University, Ganzhou 341000, China

³Research and Training Center for Enhancing Quality of Life of Working-Age People, Khon Kaen University,
Khon Kaen 40002, Thailand

⁴Back Neck and Other Joint Pain Research Group, Khon Kaen University, Khon Kaen 40002, Thailand

*Corresponding author: Wichai Eungpinichpong, Email: wiceun@yahoo.com, Telephone number: +66-817494748

Abstract

Introduction: In recent years, the markets of mechanical massage instruments keep rising in the developed countries, especially for mechanical massage bed and mechanical massage chair. However, the numbers of evidence-based on studies for the effects of mechanical massage are limited. There is an increasing need for the experimental research performed to investigate the effects of mechanical massage. The main purpose of this study was to explore the effects of mechanical bed massage on subjective feeling of fatigue and performance of back muscle after exercise-induced back muscle fatigue in male collegiate athletes.

Methods: Our study recruited 28 male collegiate athletes who met the experimental criteria. The subjects were randomly allocated into mechanical bed massage group (MBMG) and rest group (RG). They received 20 min intervention after performing eight bouts of reverse sit-ups in the prone position. Visual analog scale for fatigue (VAS-F), back muscle force (BMF), and back muscle endurance (BME) were measured and analyzed.

Results: The MBMG group have a significantly lower ($P<0.05$) VAS-F compared to the RG. BME of the MBMG was found to be significantly higher than that of RG after intervention ($p<0.05$). However, the BMF did not show significant differences at any of the measurement time-points ($p>0.05$).

Conclusion: the findings showed that mechanical bed massage can overcome the subjective feeling of fatigue and may enhance the recovery of exercise-induced back fatigue.

Keywords: Mechanical bed massage, Muscle fatigue, Athletes, Back muscle force, Back muscle endurance, Subjective feeling of fatigue