

UNIVERSITI TEKNOLOGI MARA

**THE EFFECTIVENESS OF SPORTS
MASSAGE FOR RECOVERY ON
LOWER BODY PERFORMANCE**

**MUHAMMAD SHAFUAN MUAZZAM BIN MD
SALLEH**

Thesis submitted in fulfilment
of the requirement for the degree of
Bachelor in Sports Science (Hons.)

Faculty of Sports Science and Recreation

January 2019

AUTHOR'S DECLARATION

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

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

Name of Student : Muhammad Shafuan Muazzam Bin Md Salleh
Student I.D. No : 2016321843
Programme : Bachelor of Sports Science and Recreation (Hons.) – SR243
Faculty : Faculty of Sports Science and Recreation
Thesis Tittle : The Effectiveness of Sports Massage for Recovery on Lower
Body Performance

Signature of Student :

Date : January 2019

ABSTRACT

Sports massage was a method that combined Swedish massage techniques to stimulate circulation. It performed for recovery after sports event to reduce muscle tension, soreness and recovery time. However, there is limited evidence on its effectiveness on recovery for lower body. The aim of this study was to investigate the effectiveness of intervention for recovery on lower limb among inactive male participants. Fifteen inactive male participants were recruited. This study is a repeated-measure study design consist of control and two types of recovery exposures. Participants exposed to three trials; control trial with no intervention, sports massage and proprioceptive neuromuscular facilitation (PNF) stretching. During each trial, participant performed exercise sets of calf raise and sets of squats to induce muscle soreness where participants performed until fatigue and cannot continue with the exercise. Perceived muscle soreness, range of motion (ROM) of knee and ankle joint, calf circumference, thigh circumference, blood pressure and heart rate were measured before exercise, immediately after exercise, after the intervention, 24 hours and 48 hours post-exercise. Participants completed all three exposures in a randomised order. The data was analysed by using mixed ANOVA with repeated measures. As a result, all the result between the exposure indicators perceived muscle soreness, range of motion (ROM) of knee and ankle joint, calf circumference, thigh circumference, blood pressure and heart rate were not significant. In conclusion, the present study show that 20 minute of massage and PNF stretching unable to facilitate recovery on lower limb indicators among inactive male participant.

TABLE OF CONTENTS

	Page
AUTHOR'S DECLARATION	i
ABSTRACT	ii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENTS	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	ix
CHAPTER ONE INTRODUCTION	1
1.1 Background of Study	1
1.2 Problem Statement	2
1.3 Purpose of the Study	2
1.4 Objective of the Study	2
1.5 Research Questions	3
1.6 Hypothesis	3
1.6.1 Research Hypothesis	3
1.7 Significant of the Study	4
1.8 Definition of Terms	4
1.8.1 Sports Massage	4
1.8.2 Recovery	5
1.8.3 PNF Stretching	5
1.8.4 Eccentric exercise	5
1.8.5 Range of Motion	5
1.8.5 Heart Rate	5

CHAPTER FOUR RESULT	28
4.1 Introduction	28
4.2 Physical characteristics of participants	28
4.3 Perceived Muscle Soreness of Calf Raise	29
4.4 Perceived Muscle Soreness of Squat	30
4.5 Knee Range of Motion	31
4.6 Ankle Range of Motion	32
4.6 Thigh Circumference	33
4.7 Calf Circumference	34
4.8 Systolic Blood Pressure	35
4.9 Dystolic Blood Pressure	36
4.10 Heart Rate	37
CHAPTER FIVE	38
DISCUSSION, CONCLUSION AND RECOMMENDATIONS	38
5.2 Descriptive Characteristic of Participants	38
5.3 PNF Stretching exposure	39
5.3 Perceived Muscle Soreness	40
5.4 Lower Body Circumference	40
5.5 Range of Motion (ROM)	40
5.6 Heart Rate and Blood Pressure	41
5.3 Conclusion	41
5.4 Recommendation	41
REFERENCES	43
APPENDICES	46