

UNIVERSITI TEKNOLOGI MARA

**MUSCULOSKELETAL DISORDER AND
ERGONOMIC RISK ASSESSMENT AMONG
MANUAL HANDLING WORKERS IN ELECTRONIC
MANUFACTURING COMPANY**

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**Project paper submitted in partial fulfillment of the requirements for
the degree of Bachelor in Environmental Health and Safety (Hons.)**

Faculty of Health Sciences

JULY 2012

Declaration by Student

Project entitled "Musculoskeletal disorder and Ergonomic Risk Assessment among Manual Handling Workers in Electronic Manufacturing Company is a presentation of my original research work. Wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of Assoc. Professor Hazilia bt Hussain as Project Supervisor and Mr. Nasaruddin bin Abdul Rahman and Mr. Muhammad Ghazali bin Masuri Co-supervisor. It has been submitted to the Faculty of Health Sciences in partial fulfillment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons).

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2008403232

880321-03-6118

Date: **20 JULY 2012**

ACKNOWLEDGEMENT

In the name of Allah S.W.T., The Most Gracious, The Most Merciful.

Alhamdulillah, all praise to Allah S.W.T., The Supreme Lord of the Universe. Piece and blessing to Nabi Muhammad S.A.W., all the prophets, their families and all the Muslims.

The following people deserve my acknowledgement and sincere gratitude for their utmost support and guidance throughout the duration of this project: My supervisor Associate Professor Hazilia binti Hussain who has given me the most incredible guidance and open door policy. The patience and time spent helping me grow academically and the scientific rigour with which it was achieved is immeasurable. I was honoured to have her academic knowledge and expertise in making my thesis a reality. My co-supervisors, Mr. Nasaruddin bin Abd. Rahman and Mr Muhammad Ghazali bin Masuri, for their ideas and helpful attitude. I thank them for the positive aura which helped me get through. I am heavily indebted to these three individuals for their considerable part in making this study possible.

My parents and siblings for their complete support in all that I do. The constant motivation, love, light and positive energy which they sent to me helped me attain this goal. Their spirit and work angels surrounded me with good light to see the path ahead and placed me in a divine space.

One of the striking features of this study was the whole-hearted cooperation from Madam Nor'aini bt Daliman, Manager of Environmental, Health and Safety Department. Without this people and the permission to study in Pend 3 and Pend 6 Department, this study would not have been possible. Not to forget special thank to Dr. K. Subramaniam, Head Department of Environmental Health, Mr Muhammad Afiq Zaki and Miss Murni Amira, their meaningful help in order to complete this project paper, all lecturers, as well as my classmates for the help and support. The subjects, without whom this study would also not have been possible! I thank them for being so cooperative and understanding and willing to sacrifice personal time to help me achieve this endeavour, thank you.

TABLE OF CONTENT

TITLE	PAGE	
ACKNOWLEDGEMENT	ii	
TABLE OF CONTENTS	iii	
LIST OF TABLES	vi	
LIST OF FIGURES	vii	
LIST OF APPENDICES	viii	
LIST OF ABBREVIATION	ix	
ABSTRACT	x	
CHAPTER ONE: INTRODUCTION		
1.1	Background Information	1
1.2	Problem Statement	2
1.3	Study Justification	5
1.4	Study Objectives	
	1.4.1 General Objective	6
	1.4.2 Specific Objectives	6
1.5	Study Hypothesis	6
1.6	Conceptual Framework	7
1.7	Conceptual and Operational Definition	8
CHAPTER TWO: LITERATURE REVIEW		
2.1	Introduction to MSD	10
2.2	Data Collection Technique	11
	2.2.1 Modified Nordic Questionnaire	12
	2.2.2 Rapid Entire Body Assessment (REBA)	13
	2.2.3 Anatomy of Back	14
2.3	Manual Handling	15

Abstract

Musculoskeletal Disorder and Ergonomic Risk Assessment among Manual Handling Workers in Electronic Manufacturing Company

Nurul Syuhada bt Roseli

Introduction: Despite the widespread use of robots in industrial tasks such as assembling parts and material handling tasks, there are still many jobs in industry performed manually by humans. MMH tasks such as manually lifting, lowering, pushing, pulling, or carrying an object are typical examples of the activities requiring human strength (Mital et al., 1999). The workers at Electronic Manufacturing Company were exposed to musculoskeletal disorder symptoms by the process of manual handling which lifting the tote at weight 17.2 kg. **Objective:** To study on musculoskeletal problem and ergonomic risk assessment among manual handling workers in electronic manufacturing company. **Methodology:** The study was conducted in one of the department at Electronic Manufacturing Company located in Petaling Jaya. This study is cross-sectional study. The sampling data was collected using modified Nordic Musculoskeletal Disorder Questionnaire, oral interview, direct observation, taking video and Rapid Assessment of Entire Body Assessment (REBA). The statistical analysis was carried out using Statistical Package for the Social Science (SPSS) version 18.0. **Results:** REBA risk level mostly very high that about 96.7% which indicates an Action Necessary Now. The high prevalence of MSD symptoms resulted from the MNQ. The association between the REBA risk level with prevalence of MSD symptoms showed significant different at lower back (p value=0.039), upper back (p value= 0.041) and shoulder (p value= 0.045) It showed that the working posture of manual handling is very high risk job, must be investigated and implement change. **Conclusion:** A conclusion, the engineering control need to be taken in order to reduce the risk faced by the workers from the electronic manufacturing company while perform their job.

Keywords: Manual Handling, Musculoskeletal disorder, REBA, Awkward Posture, Modified Nordic Questionnaire