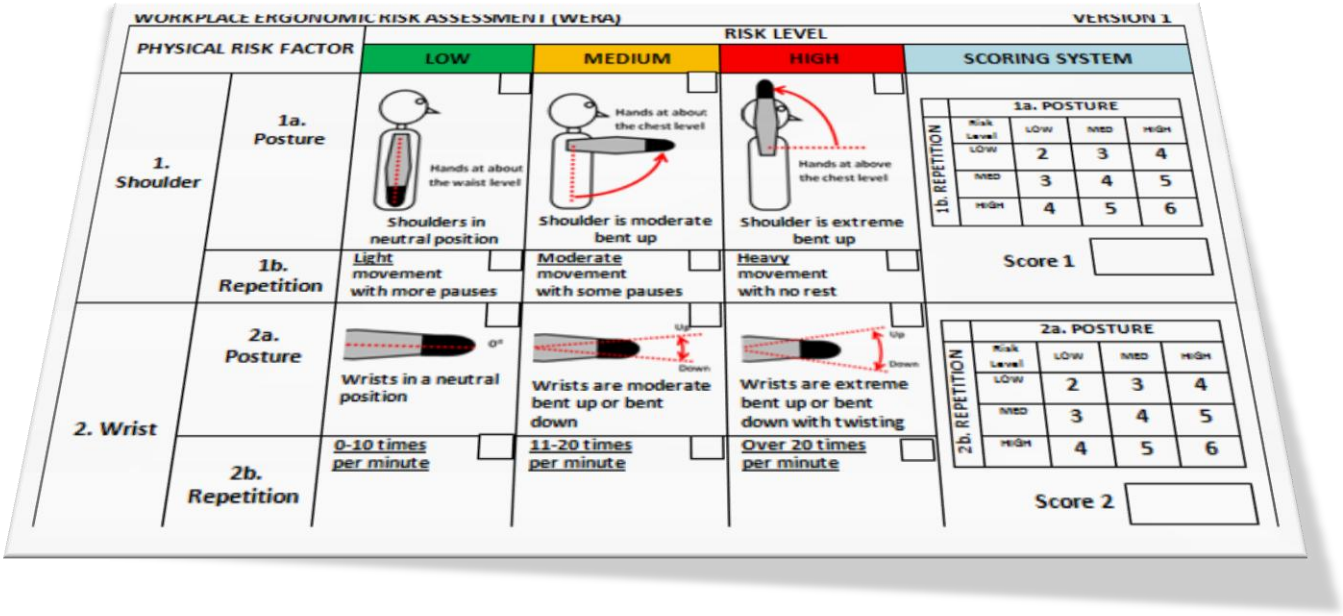
USER GUIDE

Workplace Ergonomic Risk Assessment (WERA)



Introduction

The Workplace Ergonomic Risk Assessment (WERA), which is an observational tool was developed to provide a method of screening the working task quickly for exposure physical risk factor associated with Work-related Musculoskeletal Disorders (WMSDs)[1]. The WERA tool cover the six physical risk factors including posture, repetition, forceful, vibration, contact stress and task duration and its involve the five main body regions (shoulder, wrist, back, neck and leg). It has a scoring system and action levels which provide a guide to the level of risk and need for action to conduct more detailed assessments. This tool has been tested on its reliability, validity and usability during the development process [1-2]. As the WERA tool is a pen and paper technique that can be used without any special equipment, it also can be done in any space of workplaces without disruption to the workforce.

Procedure

The procedure for using WERA is explained in five steps:-

1. **Observe the task/job**.
   Observe the task/job to formulate a general ergonomic workplace assessment, including the impact of work layout and environment, use of equipment, and behaviour of the worker with respect to risk taking. If possible, record data using photograph or a video camera.

2. **Select the task/job for assessment.**
   Decide which task/job to analyze from the observation in step one. The following criteria can be used:-
   - Most frequently repetitive work of task/job.
   - Extreme, unstable, or awkward posture
   - The task/job known to cause discomfort by worker.
   - Required the greatest forces, contact stress and use of vibration tool.

3. **Score the task/job.**
   Using the WERA tool, score for each items of risk factor include Part A and B (Item No. 1-9).
   - Part A (Item No. 1-5) consist a five main body areas include the shoulder, wrists, back, neck and legs.This part cover two physical risk factor for each body parts include posture and repetition.
   - Part B (Item No. 6-9) consist a four physical risk factor include forceful, vibration, contact stress and task duration.

4. **Calculation of exposure scores.**
   Calculate the score for each items (Part A and B) and the total final score. Mark the numbers at the crossing point of every pair of circled number (columns vs. rows).
   - In part A, for the Item No. 1-5 based on pair of the posture and repetition. For example: Item No. 1 - Shoulder Posture (1a) vs. Shoulder Repetition (1b)
   - In part B, for the Item no 6-8, the rows side based on the posture following in part A. For example: Item No. 6 – Forceful (6) vs. Shoulder Posture (3a). And for the Item No. 9, the rows side based on the Forceful (6).

   After score for each items of risk factor (Item No. 1-9), calculate the total final score.

5. **Consideration of actions level.**
   The total final score will be indicated whether the task is accepted (final score of 18-27, low risk level) or still accepted, further investigate & required change (final score of 28-44, medium risk level) or not accepted in which need to immediately change (final score of 45-54, high risk level).

References

1. Rahman, M.N.A., M.R.A. Rani, and M.J. Rohani, *WERA: An Observational Tool Develop to Assess the Physical Risk Factor associated with WRMDs.* Journal of Human Ergology, 2011, 40 (2), 19-36
2. Rahman, M.N.A., M.R.A. Rani, and M.J. Rohani, *Investigation of work-related musculoskeletal disorders in wall plastering jobs within the construction industry.* WORK: A Journal of Prevention, Assessment and Rehabilitation, 2012, 43 (4), 507-514

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