Introducing RAMP: A Risk Assessment and Management tool for manual handling Proactively

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Introduction
A large amount of jobs still involve manual handling, which, when performed under unfavourable conditions, is considered as a major cause for developing work-related musculoskeletal disorders (WMSDs). Methods exist for assessing the risks of WMSDs (see e.g. Takala et al., 2010), but the existing methods have different shortcomings, one of the major ones being that they do not support the whole risk management process. This paper describes a project initiated by a large global food company which had identified the need of a systematic risk management tool which could be applied on manual handling jobs, including guidance on what measures to take to reduce the risks and support for systematic risk management.

A project was formed with the objective to develop a freely available IT-based tool for risk management for manual handling work, where the method should enable assessment of the risk of developing MSDs and support systematic work environment improvement. The overall objective was that the tool should contribute to work environment improvements, which in turn, is expected to reduce risk of WMSDs. This paper describes the development of and presents the method RAMP – Risk Assessment and Management tool for manual handling Proactively.

Method
The project was carried out with an interactive methodological approach with stakeholders and practitioners from four companies in the food, vehicle and logistics industries and researchers. The RAMP is based on seven types of sources: scientific studies, Swedish safety legislation, ergonomic standards, existing risk assessment methods, expert assessments of the project's expert group, contributions from people from the companies (e.g. production personnel and managers), user testing, and feedback from the project's reference group.

Iterative prototyping and usability testing of RAMP prototypes was carried out in close co-operation with prospective users. Feedback was gained through discussions, interviews, user surveys and workshops. The digitalization was done with html, css and C#.

Results
RAMP consists of four modules: RAMP I, RAMP II, the Results and the Actions modules.

The RAMP I module consists in a checklist with dichotomous questions, intended for screening of the occurrence of risk factors related to manual handling and which may increase the risk of WMSDs.

The RAMP II module provides the user with a more in-depth analysis and assessment of risk factors at work which involves manual handling and which may increase the risk of MSDs.

The Results module communicates the results of the RAMP assessments. This can be done at several levels of detail and be presented with various scope. The results are presented at three risk/action levels: green (low risk), grey (investigate further) and red (high risk) in RAMP I and green (low risk), yellow (risk) and red (high risk) in RAMP II. In RAMP II also a Risk score is included in the assessment.

The Action module supports for the risk management process. It consists of three parts: i) the Action Model provides support for the development of suggestions at the company; ii) an Action Suggestions part generated by RAMP. For risks assessed as yellow or red, suggestions for possible risk-reducing actions are automatically provided; and iii) a structure for the development of Action Plans which provides a template for structured development of such plans, including follow-ups.

The digitalized version of the tool will be demonstrated at the conference.
Discussion
Different aspects of the tool are discussed, e.g. that RAMP enables systematic risk management at and by companies by supporting the whole process from identification and assessment of WMDS risks to providing suggestions for actions and action plan templates to reduce the risks. The RAMP tool possibility as a proactive tool is also discussed, as is its possibility to contribute to informed decision making at companies. Further the importance of having prospective users actively involved in tool development for the tool is addressed. It is argued that a tool like RAMP with many measurable input data and which is developed from a scientific base in co-operation with prospective users enables systematic work environment improvement, and that it contributes to more uniform assessments independent of the user.

References

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