

An evidence-based multidisciplinary practice guideline to reduce the workload due to lifting to prevent work-related low back complaints

Jos H.A.M. Verbeek^{a,c,g}, Lex Burdorf^f, Leo A.M. Elders^c, Carel T.J. Hulshof^{a,c},
P. Paul F.M. Kuijer^a, Nico van Roden^e, Bart Visser^b, Marion E.R. van den Wittenboer^d

1. Aims

Lifting is an activity that is common during work. In a European study on working conditions, 35% of the employees reported that loads have to be regularly manually lifted or carried. Moreover, European workers are as exposed to lifting and carrying as they did 10 years ago [1]. In the Dutch National Survey on Working Conditions 2010, 16% of the employees is of the opinion that preventive measures have to be taken in the workplace to reduce the physical workload due to lifting [2]. Lifting is most often associated with low back pain (LBP) [3, 4].

To support occupational safety and health (OSH) professionals in assessing the risk due to lifting and in providing recommendations for effective solutions, an evidence-based practice guideline was developed in the Netherlands. This practice guideline had to integrate the best available scientific evidence with the expertise of the OSH professionals and taking into account the values and preferences of their clients [5].

2. Method

The practice guideline was developed on request of the Dutch government. The practice guideline was based on 1) expert meetings with representatives of the OSH professionals mentioned in the Dutch labour law and with experts in the field of lifting and work-related health complaints, 2) an overview of the clinimetric quality of existing methods to assess the health risk of lifting, and 3) the results of a systematic review of studies on the effectiveness of interventions to reduce the biomechanical loading of the back due to lifting. In addition, 24 professionals evaluated the preliminary guideline.

3. Results

The NIOSH lifting equation [6] and the Manual Handling Assessment Charts (MAC) [7] were selected to ascertain whether an increased risk of LBP is present or not when the load masses lifted are between 3 and 25 kg. Loads less than 3 kg were considered not to be a risk factor if the frequency was less than 10 times a day. Loads heavier than 25 kg regardless of the frequency, were considered to be a risk factor for LBP. Evidence-based solutions to reduce the low back load due to lifting were categorised based on the NIOSH and MAC criteria. Examples are using lifting devices, optimizing the working height, and reducing the load mass lifted. Not effective are training in manual material handling, use of back belts and pre-employment medical examination.

4. Discussion/conclusion

A multidisciplinary evidence-based practice guideline was developed that has clear cut criteria whether an employee is at risk while lifting. Moreover, (in)effective solutions are described. The benefits of the solutions should be balanced against loading of other body parts and loss of productivity. The guideline facilitates OSH professionals in developing and implementing appropriate primary preventive interventions and thereby supports both the occupational physician in his guidance of individual patients and the OSH specialist that advises employers and employees.

5. References

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^a *Coronel Institute of Occupational Health, Academic Medical Center, University of Amsterdam, PO Box 22700, 1100 DE Amsterdam, the Netherlands, p.p.kuijer@amc.nl*

^b *Amsterdam School of Health professions, Amsterdam University of Applied Sciences, the Netherlands*

^c *Centre of Excellence, the Netherlands Society of Occupational Medicine (NVAB), the Netherlands*

^d *Professional Association of Work and Organizational Expert, the Netherlands*

^e *Dutch Society of Safety Science, the Netherlands*

^f *Department of Public Health, Erasmus MC, Rotterdam, the Netherlands*

^g *Finnish Institute of Occupational Health, Kuopio, Finland*

Keywords: lifting, prevention, NIOSH, MAC, low back pain, ergonomics, interventions, review, workload