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# FACTS

European Agency for Safety and Health at Work

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## Work-related musculoskeletal disorders: Prevention report A summary



### Introduction

Pain, discomfort and loss of function in the back, neck and extremities are common among working people. These ailments are commonly referred to as musculoskeletal disorders (MSDs). Within EU27, about 25 % of workers complain of backache and about 23 % report muscular pain. Therefore, MSDs are the most frequently reported work-related health problem (1). MSDs are a cause of concern not only because of the health effects on individual workers, but also because of the economic impact on businesses and the social costs to European countries (2).

Tackling MSDs means taking action in the workplace. First, there are preventive steps that can be taken. But for workers who already have MSDs, the challenge is to maintain their employability, keep them working and, if necessary, reintegrate them into the workplace.

This fact sheet highlights the key findings of the European Agency for Safety and Health at Work's 'prevention report', which focuses on the prevention of MSDs and the development and progress made in this area since the previous MSDs campaign in 2000. The report consists of two parts: (1) a state-of-the-art review of the research literature with respect to work-related interventions

preventing MSDs risks; and (2) 15 case studies demonstrating how the problems have been solved at the workplace level.

A further report by the Agency, *Work-related MSDs: back-to-work*, evaluates the effectiveness of interventions in the workplace, and gives an overview of policy initiatives in Europe and at an international level regarding the retention, reintegration and rehabilitation of workers with MSDs. There is no clear cut-off point between prevention and rehabilitation; the two reports are therefore complementary.

### Scientific evidence

A systematic review of scientific evidence on the effectiveness of preventive measures regarding work-related MSDs showed that the number of good quality studies has increased since 2000. The number of studies, however, is still not very large and many reports do not describe or quantify how well the risk factors were reduced at the workplaces concerned. No scientific studies have been found that conflict with the approach adopted by the EU Directives on manual material handling or working with computers. The main conclusions from the literature review are shown in the box below.

#### Organisational and administrative interventions

- A reduction in daily working hours may reduce MSDs.
- The introduction of additional breaks into repetitive work may be achievable without loss of productivity.

#### Technical interventions

- Technical ergonomic measures can reduce the workload on the back and upper limbs (e.g. in the case of ergonomic hand tools), and thus the occurrence of MSDs, without loss of productivity.

#### Protective equipment

- There is no conclusive evidence to support back belt use to prevent work-related low back pain.

(1) European Foundation for the Improvement of Working and Living Conditions, *Fourth European Working Conditions Survey, 2007*, at: <http://www.eurofound.europa.eu/ewco/surveys/EWCS2005/index.htm>

(2) European Agency for Safety and Health at Work, *Thematic report on MSDs, 2008* In preparation.

### Behavioural modification

- Training on working methods in manual handling is not effective if it is used as the only measure to prevent low back pain.
- Physical training can reduce the recurrence of back pain and neck-shoulder pain. But to be effective, the training should include vigorous exercise and be repeated at least three times a week.

### Implementation strategies

- A combination of several kinds of interventions (multidisciplinary approach) – including organisational, technical and personal measures – is needed to prevent MSDs. Interventions based on single measures are unlikely to prevent MSDs.
- A participative approach that includes the workers in the process of change may have a positive effect on the success of an intervention.

### Case studies

A sample of 15 case studies has been drawn from a range of occupations and economic sectors across Europe. The case studies cover, among others, the health care, pharmaceutical and construction sectors, and the sewing, waste and food industries. They provide real examples of how companies and organisations have made interventions, and sought to manage and prevent the risks of MSDs at work.

The case studies are grouped in the report according to their major type of intervention:

- Technical interventions (redesign of physical environment or working aids and tools, introduction of lifting and transfer aids, etc.)
- Organisational and administrative interventions (work modification, job rotation, etc.)
- Behavioural modification (training in manual handling techniques, promotion of physical activity, etc.)

The approaches applied to preventing MSD risks and the solutions described in each case can be adopted in other situations and sectors, and in other EU Member States.

The case studies show that interventions to tackle the risks of MSDs can yield many benefits, including:

- improvement in working conditions;
- increase in worker satisfaction and motivation;
- decline in the sick leave rate due to MSDs;
- improvement in overall safety;



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- increase in process capacity, production output and/or product quality.

In this regard, most of the case studies point out that the cost/benefit ratio of an ergonomic intervention is a crucial factor for its approval and success.

The 15 case studies demonstrate that the principles important for successful implementation of workplace interventions include:

- participatory approach – involvement of the workers and their representatives throughout the process;
- multidisciplinary approach – collaboration of persons with expertise in different areas (e.g. ergonomics, engineering, psychology, etc.) when assessing and monitoring the workplace risks, and searching for solutions;
- sponsorship from the management so that appropriate resources are made available for improvements to the working environment;
- if solutions proposed by good practice examples are used in another workplace they should be tailored to its specific conditions.

**More information** on MSDs is available at: <http://osha.europa.eu/topics/msds>

**More information** on MSDs prevention in Ireland, Malta and the United Kingdom is available at: [www.hsa.ie](http://www.hsa.ie), [www.ohsa.org.mt](http://www.ohsa.org.mt) and [www.hse.gov.uk/msd/index.htm](http://www.hse.gov.uk/msd/index.htm)

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