



Musculo-Skeletal Disorders: a Europe wide issue

**Europe Agency for Safety and
Health at Work**

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Lisbon 2005

1. Context

- **Policy context: the Lisbon objectives 2000**
 - Not only create jobs, but good quality jobs
 - Participation rate: 70% in 2010
- **Community OSH strategy 2002-2006:**
MSDs identified as a priority area
- **Priorities identified by the Member States* :**
 - Ergonomic risk factors
 - Manual handling and repetitive work

* **Rapports de l'agence:**

« **Future OSH Research Needs and Priorities in the EU MS** » (2000)

« **Priorities and Strategies in OSH of the EU** » (1999)



2. The extent of the problem

Occupational diseases in EU

Diagnosis	EU-12	EU-15 Extrapolation
Total	31 945	52 884
Total MSDs	11 169	18 490
Hand or wrist tenosynovitis	5 379	8 905
Epicondylitis of the elbow	4 585	7 590
Contact dermatitis	4 457	7 378
Noise-induced hearing loss	4 068	6 734
Raynaud's syndrome	3 120	5 165
Carpal tunnel syndrome	2 483	4 111

Eurostat: European Occupational Diseases Statistics EODS (2001)

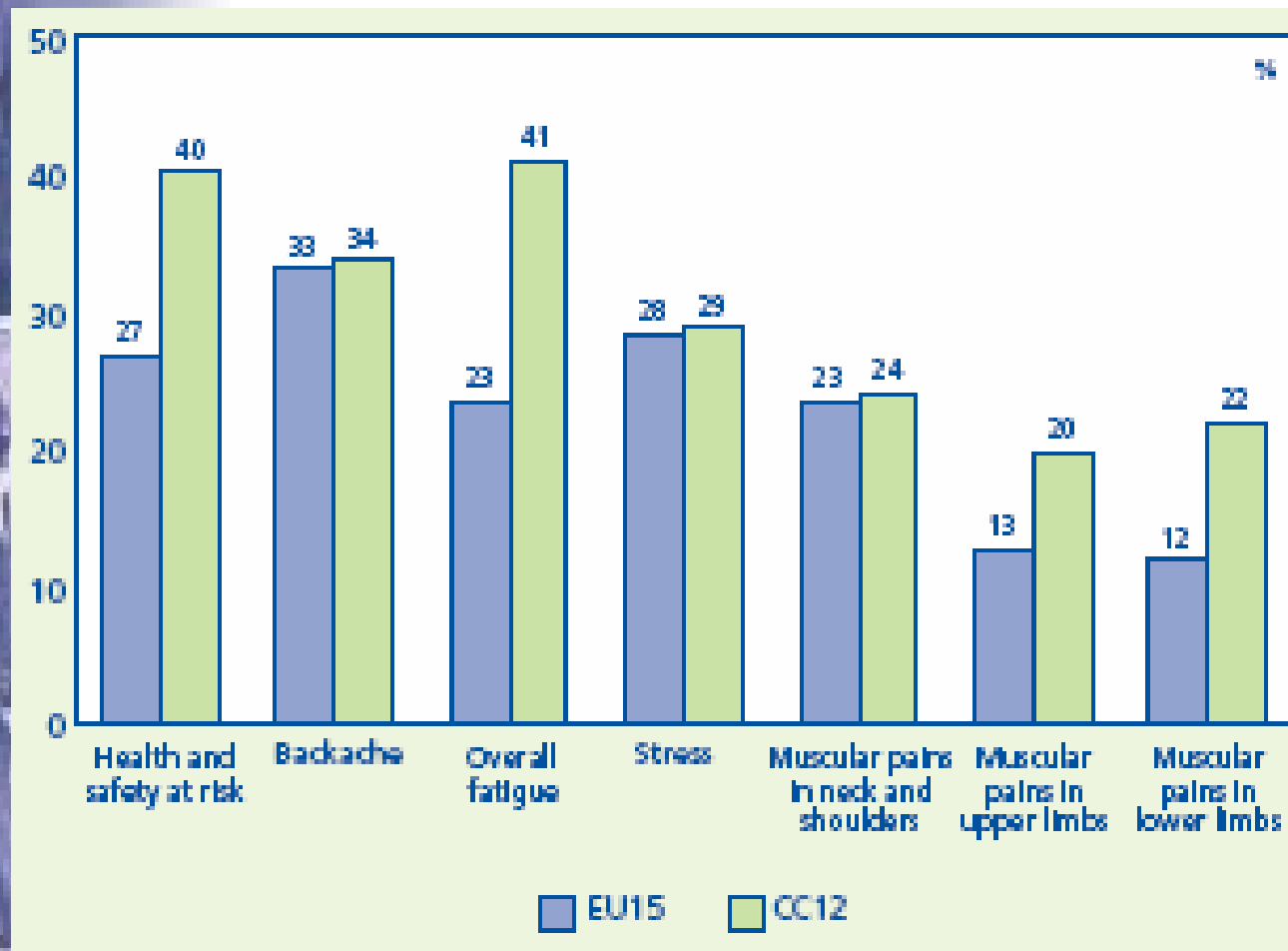
Workforce surveys

- **European Survey on Working Conditions (EU 15):**
 - work-related back pains: 33% in 2000, i.e. 53mi (30% in 1995)
- ⇒ **1st health problem in EU**
 - neck / shoulder pains: 23%, i.e. 35mi
- **Labour force survey 1999 (EU 15):**
 - 53% report MSDs as the 1st health problem

Workforce surveys

Incidence of MSDs higher in the new MS

EU survey on working conditions (2001)



The extent of the problem

- In spite of the increase in recognised MSDs ...
- ... the number of recognised cases does not reflect the extent of the problem:
- On the one hand: 53mi workers (1/3) declared MSDs in 2000
- On the other hand: 18.490 cases of MSDs recognised as occupational diseases (EU 15)

Socio-economic costs

- **Costs of all work-related health problems:**
 - 2.6-3.8% of GNP (=185 à 270 billion Euros)
 - 40 - 50% of which due to MSDs *
- **Total costs of back pains = 1.7% of GNP ****
 - Direct medical costs
 - Costs of absenteeism
 - Costs of disablement
- **29% of lost working days due to MSDs (=135 mi) in Germany *****

* Paoli, *European Foundation, 1999*

** Van Tudor et al. cited in Agency report « *Research on low back disorders* »

*** *German BIBB/IAB survey 1998/1999*



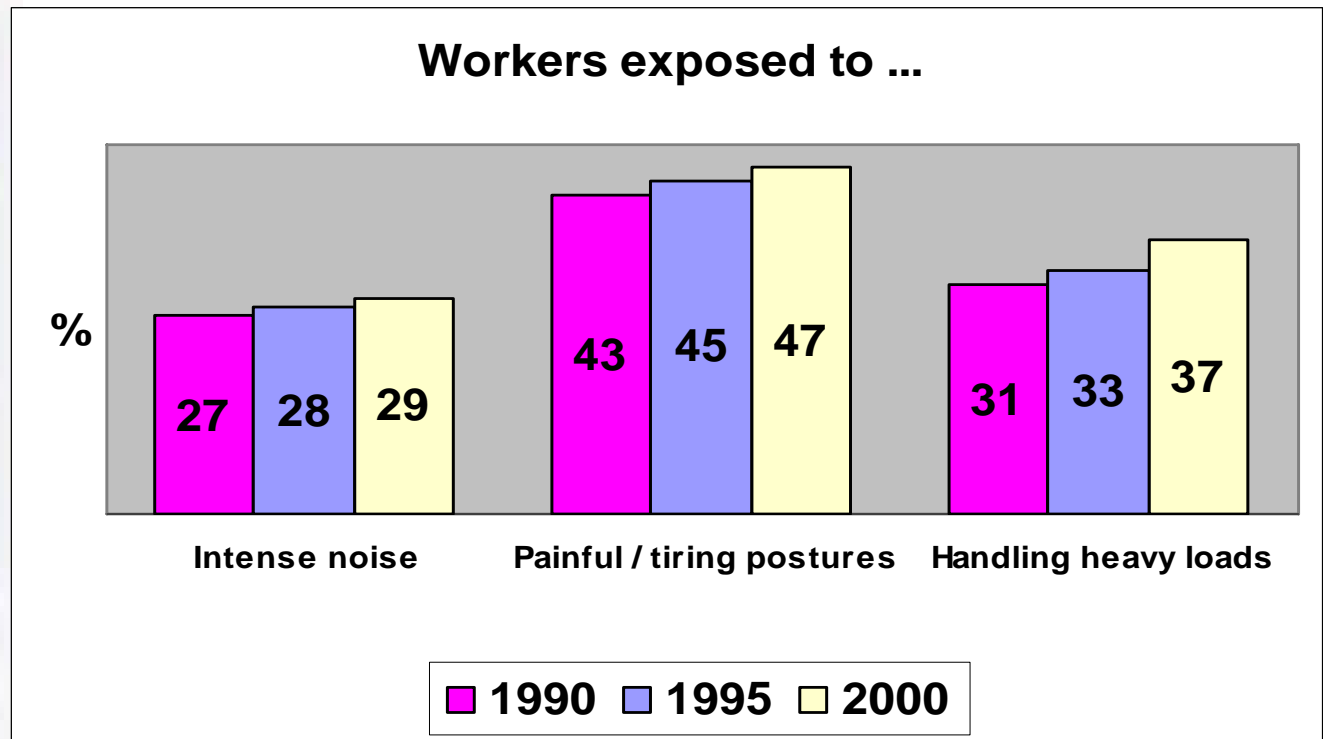
3. Risk factors

Risk factors

- **Physical aspects of work:**
 - Manual handling
 - Repetitive movements (91% for hand/wrist synovitis)*
 - Awkward postures
 - Vibration (28% for carpal tunnel syndrome)
 - Mechanical pressure on body tissues
 - Cold
- **Factors related to work organisation:**
 - Intensity of work
 - Lack of autonomy
 - Monotonous work
- **Psychosocial work-related factors:**
 - Poor social support
 - Low job satisfaction
 - Fatigue

* *Eurostat: European Occupational Diseases Statistics EODS (2001)*

Exposure to physical factors

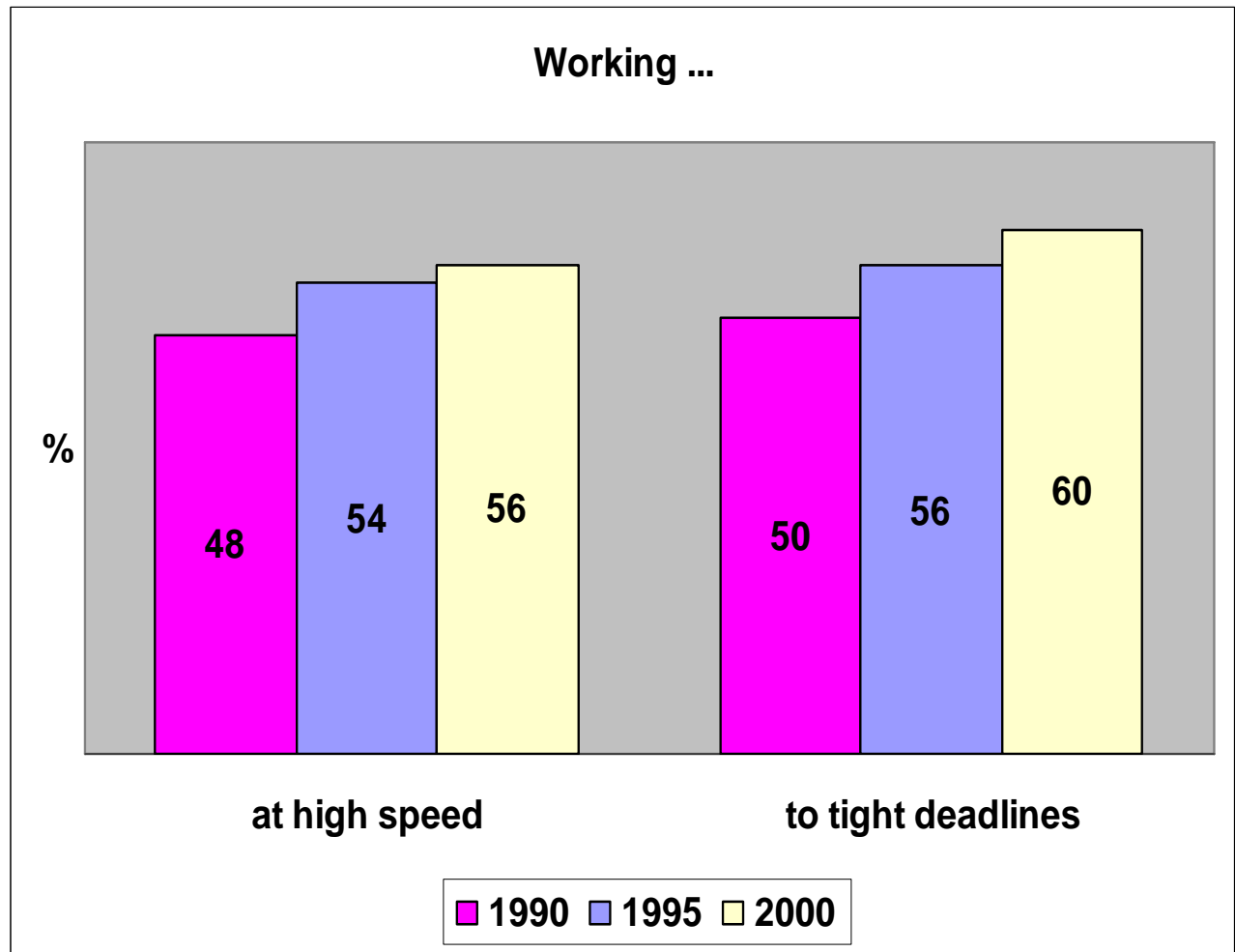


Working speed and health

%	Back pains	Muscular pains in neck and shoulders	Muscular pains in the upper limbs	Painful or tiring postures at least 1/4 of time
<u>Working at high speed continuously</u>	46	35	20	61
<u>Never working at high speed</u>	25	15	9	35

European Foundation: Survey on working conditions (EU-15)

Exposure to organisational factors



Intensification

- **General (all countries, sectors, professions)**
- **Increases, although less rapidly in the last years**
- **Correlated with several health disorders**
- **Reasons for this intensification:**
 - **Staff reductions (eg: hospital)**
 - **New technologies**
 - **Reduction in working time (densification?)**
 - **Organisation (“lean production”, “right on time”)**

Slaughterhouses

- **Restructurations**
 - bigger slaughterhouses
- **Taylorisation of work**
 - more repetitive and intensive
- **Consequences**
 - de-skilling of cutting workers
 - increase in MSDs

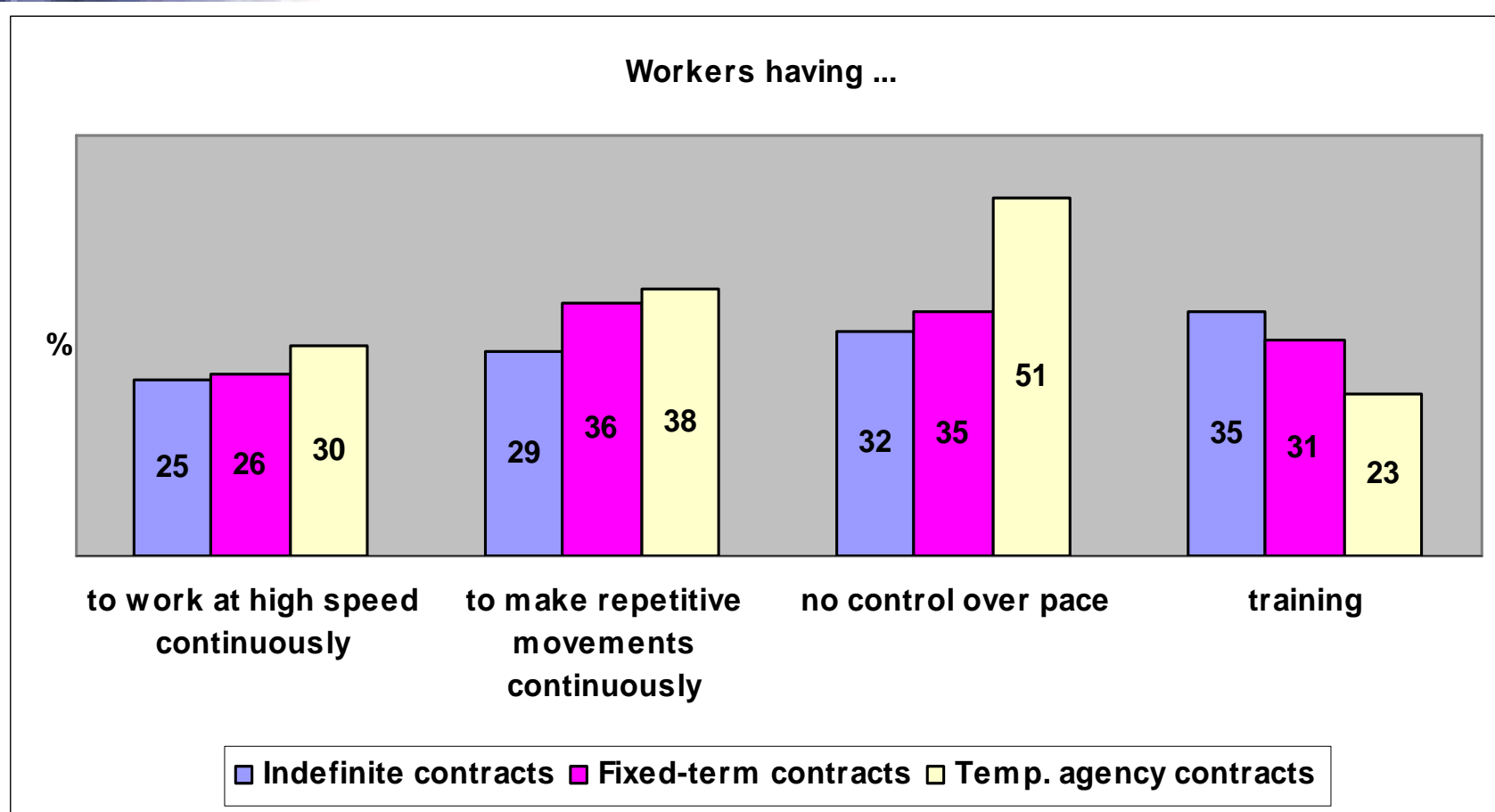


4. Groups at risk

Groups at risk

- **Sectors:**
 - mining and quarrying
 - agriculture
 - construction
 - transport
 - manufacturing
 - healthcare
 - hotels and restaurants
- **Ageing workers: back pains**
 - 40-54 age group: 36%
 - 15-24 age group: 29%
 - average: 33%
- **Precarious workers**

Working status and conditions



The gender dimension

- **More men affected by MSDs*:**
 - Men= 14.1 / Women= 11.2 (/ 100,000 persons)
- **But gender specific MSDs *:**
 - Hand/wrist synovitis: M= 5,4 / W= 7,3
 - Carpal tunnel syndrome: M= 2,6 / W= 3,2
 - Elbow epicondylitis: M= 5,8 / W= 3,5
- **Women are more exposed to**:**
 - Repetitive work:
blue-collar manual jobs: M= 53 %/W= 68 %
white-collar managerial jobs : M= 37 % / W= 42% ***
 - Awkward postures
 - Monotonous work
 - Prolonged standing work
- **Working equipment designed for average male workers****

* Eurostat: EODS 2001 ** Agency: Gender issues in OSH 2003

*** European Foundation: Survey on working conditions (EU-15)

Expert survey on emerging risks

Risks	Rating on 1-to-5 point scale
Lack of physical activity	4.57
Combined exposure to MSD and psychosocial risk factors	4.43
Static postures	3.96
Repetitive movements	3.96
Awkward postures	3.91
Manual handling in the health care sector	3.87
Non-office VDU workplaces	3.74
Longer working hours and MSDs	3.70
Ergonomics of human-machine interfaces	3.65
Ageing workers and MSDs	3.61
Increased workspace and MSDs	3.52

 Strongly emerging
 Emerging

N= 23 experts
Scale: 1 = strongly disagree
5 = strongly agree



5. Information


Agency's web site: <http://osha.eu.int/>

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Good Practice

Musculoskeletal Disorders



This section of the European Agency's web site provides information on Good Safety and Health Practice to prevent musculoskeletal disorders at the workplace.

Work-related musculoskeletal disorders (WMSDs) are disorders and diseases of the musculoskeletal system that have a multi-factorial aetiology (scientific cause of a disease), where the performance of the work, and the work environment are two significant factors, from a number that may contribute to the onset of the disease.

- [Reports and Publications](#)
- Information Resources
 - [Ergonomic Action / Risk Assessment](#)
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The information contained in these pages originates only from European- and international-level sources. The equivalent information from Member States has been gathered by the national Focal Points and can be found by clicking on the relevant links on the right-hand side of this window.

Reducing the risks of WMSDs requires practical guidance for appropriate action. It is the aim of the Agency to assist those who are concerned in preventing musculoskeletal disorders at the workplace by

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Priority Groups

Campaigns

Good practices: assembly line

http://osha.eu.int/publications/reports/101/prevmsds_en.pdf

Turn your back on musculoskeletal disorders

Risks connected with the tasks carried out

- weight of tools;
- weight and bulk of the components to be handled.

Risks arising from the repetitive nature of the manual sequences

- work on assembly lines, with tasks divided into repetitive sequences requiring the same movements.

Organisational and relational problems

- ill relations between workstations;
- working areas not geared towards operators;
- overloading of supervisors and workshop methods.

Solution

The project arose from discussions over a number of years about problems in the enterprise. These discussions paved the way to introduction of a range of measures in the appliance production and assembly departments.

The solutions were developed through discussion and participation of workers and their union representatives.

They involved a whole range of changes to improve work and workstation to improve the whole process of ensuring good ergonomics by integral into management activities.

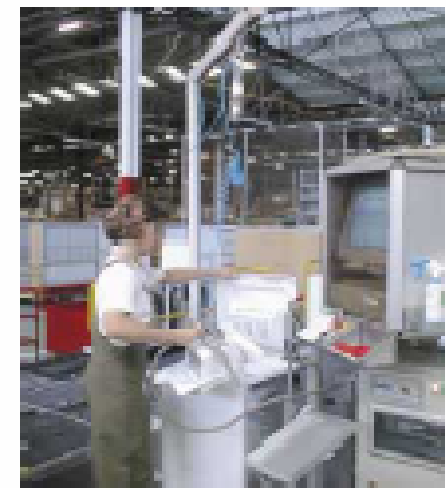


European Agency for Safety and Health at Work

- to achieve assistance with working: changes in the positioning of tools in many working stations and changes to their conditions of use in order to reduce levels of exertion;
- assistance with component handling;
- introduction of suitable height workstations;
- training in new skills and tasks and incentives for task rotation, following ergonomic studies of the respective constraints of the various individual stations;
- organisational work changes to tackle psychosocial risk factors that can exacerbate the probability of the onset of MSDs (e.g. poor workstation and technical) including imposed constraints with operators and reacting to their complaints;
- training for technicians in methods of analysing and finding solutions for MSD risks;
- integration of the use of ergonomic and biomechanical criteria into the design of new workstations from the outset. The complete redesign and of a production line provided an opportunity to take account of MSD issues right from the design stage;
- assessment and clearing of obstacles by the union/department, including enabling ergonomic aspects to be taken into account in management decisions. Supervisory staff have been trained as how to take account of working conditions in their decisions;
- creation of a range of working parties, with employee participation, in order to analyse and redesign workstations.

Results

- all these measures, introduced over a number of years and still in progress, have reduced the rate in MSDs and substantially improved working conditions;
- the ergo-mechanical risk factors have been eliminated: repetitive movements reduced, improved working postures, lower levels of exertion;
- there is now systematic inclusion of ergonomic criteria in the design of new workstations. Increased attention is paid to ergonomics, MSD prevention and working conditions in all management decisions;
- there has also been a marked improvement in the social climate.



Agency reports

- Preventing musculoskeletal disorders in practice
- Work-related Low Back Disorders
- Repetitive Strain Injuries in the Member States of the European Union: the results of an information request
- Work-Related Neck and Upper Limb Musculoskeletal Disorders
- Gender issues in safety and health at work



Prévenir les troubles musculo-squelettiques d'origine professionnelle

Notre priorité commune

"Tournez le dos aux troubles musculo-squelettiques" est le slogan choisi pour la Semaine européenne de la santé et de la sécurité au travail organisée par les 15 États membres de l'Union européenne au mois d'octobre 2000. Les troubles musculo-squelettiques (TMS) constituent l'un des problèmes de santé d'origine professionnelle les plus communs affectant des millions de travailleurs en Europe. Leur coût se chiffre en milliards d'euros pour les entreprises (voir la fiche d'information de l'Agence "Les troubles musculo-squelettiques d'origine professionnelle en Europe" (2)). Cependant, ce problème pourrait être prévenu ou réduit si les règlements existants en matière de santé et de sécurité et les bonnes pratiques de prévention étaient mieux connus et respectés.

La prévention des troubles musculo-squelettiques: l'approche européenne

Les troubles musculo-squelettiques recouvrent un large éventail de problèmes de santé. Les deux principaux sont les douleurs/lésions dorsales et les lésions dues à des efforts répétés. Les membres inférieurs, tout comme les membres supérieurs, peuvent être affectés. Il existe des preuves manifestes que les TMS peuvent être directement liés au travail. Parmi les causes principales de TMS, on distingue: la manutention manuelle, le port de charges, les positions inconfortables, les mouvements répétitifs sous contrainte, les travaux manuels qui requièrent une certaine force physique, la pression mécanique directe sur les tissus organiques, les vibrations et les environnements thermiques de travail. Les causes de TMS relatives à l'organisation du travail incluent le rythme de travail, les travaux répétitifs, les contraintes de temps, les modes de rémunération, le travail monotone ainsi que les facteurs psychosociaux. Certaines types

de troubles sont associés à des tâches ou des professions spécifiques. Les femmes sont plus affectées que les hommes principalement en raison de la nature des travaux effectués (4).

Afin de prévenir les troubles musculo-squelettiques efficacement, il est indispensable d'en identifier les facteurs de risques d'origine professionnelle et de prendre des mesures concrètes pour prévenir ou réduire ces risques. Une attention particulière doit être accordée à l'évaluation des risques, la surveillance de la santé, la prévention de la fatigue, la formation, l'information et la sensibilisation des travailleurs, aux aspects ergonomiques des systèmes d'organisation du travail (une approche ergonomique implique l'analyse du poste de travail dans son ensemble, c'est-à-dire des équipements, des méthodes de travail et de l'organisation du travail, etc. afin d'en identifier les lacunes et les remèdes). Les directives européennes, la réglementation et les lignes directrices des États membres ont déjà pris en compte ces composantes de la prévention des troubles musculo-squelettiques (5). Les principales directives de l'UE relatives à la prévention des troubles musculo-squelettiques sont présentées dans le Cadre 1.

Trouver des solutions

Pour apporter une solution efficace à un risque de troubles musculo-squelettiques, il est essentiel d'observer avec attention la situation concrète du lieu de travail, en gardant à l'esprit que les conditions de travail sont liées à la spécificité de chaque profession et à la diversité des lieux de travail. Tous les facteurs de risques potentiels doivent être examinés, en particulier ceux qui peuvent être générés par une combinaison de facteurs. Les solutions proposées doivent répondre aux problèmes spécifiques du lieu de travail et doivent faire l'objet de discussions avec le personnel concerné et ses représentants. Il n'existe aucune approche standard/"passe-partout" et lorsque des difficultés inhabituelles ou sérieuses apparaissent, il peut s'avérer nécessaire de faire appel à l'avis d'un expert. Cependant, de nombreuses solutions sont simples et peu coûteuses. Les exemples ci-dessous montrent comment, dans la pratique, certaines améliorations peuvent être apportées pour réduire les facteurs de risques de TMS.

Les éléments clés de l'approche européenne de la prévention sont présentés dans le Cadre 2.

Cadre 1: Principales directives européennes relatives à la prévention des troubles musculo-squelettiques

- Directive 89/391: cadre général d'identification et de prévention des risques
- Directive 90/269: identification et prévention des risques liés à la manutention manuelle
- Directive 90/270: identification et prévention des risques d'origine professionnelle sur les équipements à écran de visualisation, y compris les prescriptions minimales de

Cadre 2: l'approche européenne de la prévention


- Éviter les risques de TMS

Risk observatory

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Description of the Risk Observatory

The Risk Observatory aims at providing:

- an **overview of health at work in Europe**,
- a description of the **trends** and underlying factors,
- a description of the **risk factors**,
- an anticipation of **changes in work and their likely consequences on health**.

By doing so the Observatory intends in particular to draw attention on **new and emerging risks** and enable to set up preventive action.

These monitoring and forecasting activities are based, as far as possible, on the collection, analysis and consolidation of **existing hard data from national and international data sources** (see description in MONITORING SYSTEMS) such as:

- Labour Force surveys,
- Workers surveys,
- Accident registers,
- Registers on occupational diseases,
- Death registers,

OSH Outlook 2005

Once a year, a short consolidation of the main and most striking features from the information collated by the Risk Observatory is produced.

Emerging Risks

Overview
Introduction
Published Information
Expert forecasts
Additional sources

Monitoring Systems

Introduction
EU Systems
List by System
List by country



Thank you!

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