

SYSTEMS AND PROGRAMMES

Repetitive Strain Injuries

in the Member States of the European Union: the results of an information request





Repetitive Strain Injuries

in the Member States of the European Union: the results of an information request

S

Repetitive Strain Injuries in the Member States of the European Union

A great deal of additional information on the European Union is available on the Internet. It can be accessed through the Europa server (http://europa.eu.int).

Cataloguing data can be found at the end of this publication.

Luxembourg: Office for Official Publications of the European Communities, 2000

ISBN 92-828-8804-5

© European Agency for Safety and Health at Work, 2000 Reproduction is authorised provided the source is acknowledged.

Printed in Belgium



Members of the Focal Point Network

YSTEMS AND PROGRAMMES

Austria: Martina Häckel-Bucher

Belgium: Willy Imbrechts

Denmark: Per Malmros

Finland: Erkki Yrjänheikki

France: Robert Mounier-Vehier Germany: Reinhard Gerber

Greece: Elizabeth Galanopoulou

Greece: Elizabeth Galanopoulo

Ireland: Jim Heffernan Italy: Sergio Perticaroli

Luxembourg: Paul Weber

Netherlands: Rob Triemstra

Portugal: João Paulo Sousa

Spain: Margarita Lezcano Núñez

Sweden: Elisabet Delang

United Kingdom: Melinda Riley

Project managers:

Martin den Held and William Cockburn from the European Agency

Assistance was provided by Catherine Lecoanet and Marie-Chantal Blandin from Eurogip (France), Michel Aptel from INRS (France), Philippe Jandrot from CNAMTS (France), and Sarah Copsey and Usua Uribe from the European Agency





Table of contents

Summary			
1.	Introduction	9	
2.	Term or definition used to refer to RSI	10	
3.	Consensus regarding definition among social partners	12	
4.	Incidence of RSI related complaints	14	
5.	Existence of national monitoring systems on RSI related complaints	16	
6.	Other information about the prevalence of RSI related complaints	18	
7.	Absenteeism due to RSI related complaints	20	
8	Occurrence of legal procedures	22	
9.	Government policy on RSI	24	
10.	Quantitative goals regarding the reduction of RSI related complaints	26	
11.	Information campaigns on RSI related complaints	28	
12.	Initiatives for co-operation or voluntary agreements on RSI.	30	
Acronyms			

SUMMARY

There is a growing interest in the subject of repetitive strain injuries (RSI) as illustrated by a recent information request from the Dutch Ministry for Social Affairs and Employment - as the Dutch Focal Point of the Agency's network. The Agency was requested to collect information on RSI via its Focal Point network in the Member States. The Dutch Focal Point stressed that the results of the information request could reveal policies adopted in this area by other Member States and that this could help to reinforce its own policy in this area. In this context the Dutch ministry is planning a seminar on this issue in the year 2000.

Regarding the need for a definition for RSI by governments, the current situation is that only few Member States such as Greece and the Netherlands have an intention to establish a clear definition for RSI. In the United Kingdom the authorities are reluctant to use the expression RSI although, paradoxically, it is very commonly used in the media and by the population in general. The UK prefer to use expressions such as ULD (upper limb disorder) or WRULD (work-related upper limb disorder) which - they replied - better reflect the medical facts. Although other Member States do not commonly use the expression RSI, they nevertheless use other terms to describe upper limb musculoskeletal disorders and that refer to complaints ranging from the neck to the finger. The expressions ULD and WRULD are commonly used in Ireland, Sweden, (as well as in) the Netherlands, the United Kingdom and Austria. Germany has confined itself partly to a "legal" approach to the concept by referring to the diseases appearing in the official list of occupational diseases. However also some pathologies, listed as ICD categories, are used.

With respect to the information available from labour inspectorates about the prevalence of RSI it should be stressed that labour inspectors in the Member States are

usually not the ones responsible for collecting information, and often do not deal with this subject themselves. There is a great diversity in the nature of the data collected.

Among the four Member States that limited their replies regarding prevalence mainly to VDU work, France is the only one to specify that apparently there are no significant problems related to VDU work in terms of prevalence of RSI. A German survey, carried out on employees who had used VDUs for several years, failed to reveal a direct relation between musculoskeletal complaints and the length of time spent working on VDU's. On the other hand another German study showed a strong relation between type of work, work organisation and psychosocial factors.

In the Netherlands there is concern about the proportion of RSI related complaints among VDU workers. According to some indications, this could affect in some sectors more than 50% of the workers.

Other Member States replied from a broader concept than only RSI related complaints due to VDU work. In the United Kingdom a survey of self-reported work-related illness estimated that around 500.000 people suffer from work-related musculoskeletal conditions affecting their upper limb or neck. Information published by Spanish Ministry of Social Affairs indicates that the number of people with reported occupational diseases resulting from musculoskeletal strain increased from 30.1% in 1988 to 75.8% in 1997. Another illustration is that according INAIL (Italy) about 40% of the complaints concern pathologies not included in official tables, the greater part of which consists of repetitive motion pathologies. According to AAA (Luxembourg) about 30% of all declared occupational diseases are RSI related

All in all the data provided for this information request seems to point to an increase in RSI related complaints in a number of Member States.



There are differences in the reported availability of information between Member States. About half of the Member States seem to have available substantial data collected through various monitoring systems.

A question asking for any other information about the prevalence of RSI related complaints provided some interesting information from many Member States. It is clear that there exist substantial differences between the occurrence of RSI and type of work and gender. Gender seems to be an important factor related to the prevalence of RSI related complaints. A survey undertaken in Sweden indicates that every third woman and every fifth man reported to have felt pain in the upper part of the back or neck, or in the shoulders or arms, after work every week. In Finland analytical reports on prevalence of diseases indicates that 40% of female clerks may have neck-shoulder problems. However differences in jobs carried out by men and women could account for thesefindings to a large extent.

With respect to absenteeism due to RSI related complaints one can conclude that on the whole, absenteeism due to occupational RSI is not a closely monitored subject and relatively little information is available.

Legal proceedings with respect to RSI appear to be used in the following Member States: Denmark, Ireland, Italy, Netherlands, Spain and the United Kingdom. But is should also be pointed out that even when there is a possibility of issuing legal proceedings against employers, they appear to be used infrequently, except in the United Kingdom. One reason for differences could be related to differences in social security/insurance systems, although this was not explored in the questionnaire.

The Focal Points were also asked to point out whether their national governments pursue a special policy on RSI. The replies to this question indicate that in many Member States the prevention of RSI is part of the general approach to the prevention of occupational risks. However a number of Member States have formulated in addition specific policies to prevent RSI related com-

plaints from workers. This is carried out in various ways. Actions can for example be taken in specific occupational sectors (especially in Denmark and Sweden), in financing of research work (Germany, Denmark), in the production of brochures or health monitoring protocols (Spain).

Four Member States stated that they have set quantitative goals in this field: Denmark, Germany, the Netherlands and Sweden. In Denmark an action plan of the social partners aims at halving the amount of repetitive work. In Sweden a very specific subject has been dealt with - the proportion of women who daily lift burdens of 15 kg or more shall be reduced by 25%.

The Netherlands gives another type of target figure. They want to achieve a 10% reduction in the number of RSI complaints related to VDU work within a four years period.

Another question with respect to national policy was whether there have been information campaigns on the prevention of RSI related complaints. Many Member States replied positively to this question indicating that a great number of information activities are undertaken.

Finally, Member States indicated a range of initiatives that aim to establish voluntary agreements in this area. It is of interest to note that this type of co-operation usually takes place at sector-level and that social partners are co-operating actively in projects at national or sector level.



INTRODUCTION

≥

≊

◂

~

9

0

~

Z

 \sim

≤

The first survey by the European Agency for Safety and Health at Work, concerning "Priorities and Strategies in Occupational Safety and Health Policy in the Member States of the European Union", suggest that Repetitive Strain Injuries (RSI) are one of the occupational risks which will be given increased attention in the coming years. The European Foundation for the Improvement of Living and Working Conditions noted in its second survey on working conditions that a substantial part of the workforce is exposed to repetitive and monotonous work. This is also demonstrated by the fact that the issue of work-related musculoskeletal disorders has been chosen as the theme for the European Week in 2000.

This growing interest in RSI is illustrated by an information request made by the Dutch Ministry for Social Affairs and Employment - as the Dutch focal point. The Ministry asked the Agency to provide it with its support in collecting information on RSI via the Focal Points in the other Member States. The Dutch Ministry pointed out that such a survey will enable it to know what is the policy adopted on this level by the other European Member States and could encourage it to reinforce its own policy in this area. In this context the Dutch ministry is planning a seminar on this issue in the year 2000.

The questionnaire was drawn up by the Dutch Ministry for Social Affairs and Employment. The topics investigated were the definitions adopted to designate RSI, the occurrence and incidence of such diseases, absenteeism due to RSI, litigation against employers and government prevention policies in this area.

The questionnaire was disseminated to the Focal Points in the Member States and they all replied. The full replies indicating any detail provided by Focal points or quoted studies, are available on the Agency's website (http://europe.osha.eu.int).

Within the framework of its role, namely to encourage exchanges of information between Member States, the European Agency processed these replies to prepare a summary document providing an overview of the situation with regard to RSI in the various Member States. It has to be pointed out that the questions did not probe the issue of RSI in depth. However, the replies provide some useful and interesting information about trends, approaches and attitudes about RSI in the Member States.



TERM OR DEFINITION USED TO REFER

STEMS AND PROGRAMME

TO RSI

The first issue addressed in the questionnaire was the term or definition used by governments to refer to RSI.

This question was aiming to see whether governments had found a need to give a specific label or definition to what in essence is a number of separate but related disorders. From the replies it becomes clear that in several Member States there appear to be developments on this issue.

Regarding the need for a definition of RSI by governments, the current situation is that a few Member States such as Greece and the Netherlands intent to establish a clear definition for RSI. In the United Kingdom the British authorities are reluctant to use the expression RSI whereas, paradoxically, it is very commonly used in the media and by the population in general. They prefer to use expressions such as ULD (upper limb disorder) or WRULD (work-related upper limb disorder) which - they replied reflect better medical facts.

Although other Member States do not commonly use the expression RSI, they nevertheless have adopted other terms to describe upper limb musculoskeletal disorders and that refer to complaints ranging from the neck to the finger. The expressions ULD and WRULD are commonly adopted in Ireland, Sweden, (as well as) the Netherlands, the United Kingdom and Austria. In France, the acronym TMS (Trouble Musculo-Squelettiques) is most commonly used.

It should be noted that some countries, such as Germany, have confined themselves to a strict "legal" definition of the concept (the diseases appearing in the official list of occupational diseases), while others have taken into account much broader medico-social aspects.

Currently various underlying concepts of RSI seem to be used in different Member States to interpret the concept of RSI:

- the stress which is the cause of the disease (repetitive work/cumulative traumas: tennis elbows, etc);
- the region of the body which is affected (upper limbs/neck, shoulders, etc.);
- the disease itself. Some Member States list well defined diseases, as is the case in Germany, Denmark and Finland, without employing a common term for them.
- others, such as Sweden, pay more attention to the structures involved (muscles, articulations) than to the disease.

It can be concluded that the concept of RSI is not understood in the same way in the Member States and that there could be an interest, for future actions, of defining a common content and using a common terminology in this area.



Which term or definition referring to RSI is used by your government?

Austria

✓ Work-related disorders in the neck, shoulders and upper limbs accompanied by painful and reduced movement of these parts of the body.

Belgium

- Repetitieve overbelastingsletsels (Dutch), or désordres musculo-squelettiques (French).
- ✓ Other names are often used, in French as well as in Dutch, referring to the distinct syndromes within the group of disorders called RSI.

Denmark

✓ No fixed term. Various terms are used such as EGA (injuries or complaints resulting from one-sided repetitive work), sewing machinist syndrom or terms for individual complaints (tennis elbow, golfer's elbow, peritendinitis, tenosynovitis, etc.).

Finland

- ✓ Compensated in same manner as ODs/ accidents if caused by work factors:
- ✓ Inflammation of patella/elbow due to repeated/unusual pressure;
- ✓ Tendinitis crepitans due to repeated/monotonous work move-ments if not complication of some defect, injury or illness not compensable under Occupational Accident Insurance Act.

France

In French legislation, complaints caused by repetitive strain injuries are included in the field of musculoskeletal disorders.

Germany

✓ Tendon disorders, often associated with tenseness of the muscles in forearm and carpus, are commonly referred to as repetitive strain injuries and known as Tendovaginitis crepitans (inflammation of tendon sheath); Epi-condylitis (inflammation of perios-teum); Carpal tunnel syndrome. Intended are irritations and complaints related to monotonous loading of high repetition frequency and long duration, e.g. long-time key board work

Greece

No official definition. The Central Health Board has been asked to decide on the matter.

Ireland

✓ The terms used are RSI, WRULD (work-related upper limb disorder) and the Department of Social Welfare uses "cramp of the hand or forearm".

Italy

Musculoskeletal disorders, repetitive motion pathologies, microtrauma disorders.

Luxembourg

✓ Tendon disorders, often associated with tenseness of the muscles in forearm and carpus, are commonly referred to as repetitive strain injuries.

Netherlands

Government defined RSI as all the workrelated neck and upper limb complaints and injuries. Although many other terms are used such as CTD (cumulative trauma disorder), OCD (occupational cervo-brachial disorder), WMSD (work-related musculo-skeletal disorder), and WRULD (work-related upper limb disorder).

In spite of disadvantages, the definition is nearly always used for diverse group of disorders.

Portugal

✓ No official definition. The term used is LTC (lesoes por traumas cumulativos).

Spain

- ✓ No legal definition. The term used is LMR (lesiones por movimientos repetitivos).
- ✓ Limitations of Part E6 of the Table of occupational diseases provided in Royal Decree n° 1995/1978 must be acknowledged since it would seem to recognise many of the disorders whilst not admitting to the causes.

Sweden

- ✓ Term officially used is WMSD (workrelated musculo-skeletal disorder). Denotes all workrelated disorders of locomotor system (all forms of ill-health in the muscles, joints) which may be connected with conditions at work.
- Term musculoskeletal disorders chosen because it reduces risk of confusion with work injury concept used by Swedish Work Injuries Insurance Act (LAF) and mirrors better preventive nature.

United Kingdom

The UK Government is trying to discourage the use of the term RSI as this is not valid as a diagnosis and can be misleading. The preferred terms are ULD (upper limb disorder) or WRULD (work-related upper limb disorder). For the moment RSI remains the term in most frequent use by the media and the public.

CONSENSUS REGARDING THE DEFINITION OF RSI AMONG SOCIAL PARTNERS

≤

9 0

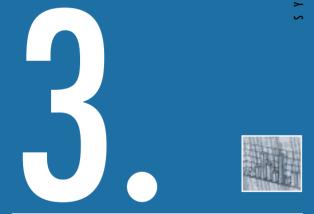
Z

⋖

≤

In general, this question regarding the terminology did not provide a clear picture. Social partners seem in general to find acceptable the definitions or concepts used in their Member States. However they may also use different terms that are in common usage when communicating about RSI (e.g. United Kingdom and Sweden).

One issue raised is that many of the definitions refer only to upper limb disorders, excluding lower limbs. In several Member States reviews of definitions are taking place and the social partners are involved in these reviews.



Is there a consensus regarding this definition among social partners?

Austria

✓ There is no discussion on this subject

Belgium

✓ None of the currently used terms seem ideal to cover the group of work-related upper limb disorders.

The question has been put whether some lower limb injuries such as prepatellar bursitis or Achillestendinitis are to be included in the definition.

Denmark

✓ No discussion on the subject. The same terms are used by the social partners.

Finland

✓ The partners are in agreement. The definitions are currently under review by a working party.

France

✓ Such definitions do not give rise to any particular debate.

Germany

✓ Term RSI is not used to describe a specific disease. Tendon sheath or tendon disorders is an OD defined as Category №2101 and is accepted by both legal and scientific experts, as well as by the social partners.

Greece

1

Ireland

✓ RSI is commonly used.

ltaly

✓ No

Luxembourg

✓ Term RSI is not used to describe a specific disease. Tendon sheath or tendon disorders is an OD and is accepted by both legal and scientific experts, as well as by the social partners.

Netherlands

The Scientific Council of Health has been asked for a clear definition of RSI based on a scientific consensus.

Portugal

Since there is no official definition, this matter has not been discussed by the social partners

Spain

✓ The Spanish Ministry of Health has drawn up a preliminary draft protocol aimed at workers exposed to repetitive movements of the upper limbs which describes these move-ments as a series of continuous movements used to carry out a task which involves the same osteomuscular pattern resulting in muscular fatigue, strain, pain and injury.

Sweden

✓ It is believed that there is a consensus but many other definitions are used such as CTD or WRULD.

United Kingdom

✓ Term of ULD (or WRULD) is gaining support, at least in a professional context. It is an umbrella term for all upper limb musculoskeletal conditions, rather than a definition. Social partners support this usage, but may still prefer the term RSI when communicating with lay audiences.

✓ HSE sponsored an expert workshop (1997) which aimed to achieve a greater degree of consensus on diagnostic criteria for upper limb disorders.

SYSTEMS AND PROGRA

≤

≊

INCIDENCE OF RSI RELATED COMPLAINTS

With respect to the information available about the prevalence and occurrence of RSI from labour inspectorates a number of points are notable.

The replies to this question show that in many countries labour inspectors are not the ones responsible for collecting information, or may not deal with this subject themselves. Several respondents limited their reply to VDU work (France and, to a lesser extent, the Netherlands, Denmark and Germany), while others spoke of RSI for all activities together. In all the Member States there is a great diversity in the nature of the data collected. They use:

- either data relating to reported and/or recognised occupational diseases;
- or epidemiological surveys; e.g. monitoring of cohorts in Finland, Sweden and France;
- or statistics;
- or both surveys, statistics and data relating to occupational diseases.

Bearing this in mind, the following data can be highlighted:

Among the four Member States that replied solely or mainly regarding RSI related to VDU work, France is the only one to specify that there are apparently no significant problems related to VDU work in terms of prevalence of RSI.

Moreover, it rates RSI related complaints to VDU work after problems resulting from socio-economic stress. A survey in Germany was carried out on employees in large companies who had used VDUs for several years. It failed to reveal a direct relation between musculoskeletal complaints and the length of time spent working on VDU. On the other hand another German study show a strong relation between type of work, work organisation and psychosocial factors.

In the Netherlands there is some public concern about the proportion of RSI related complaints among VDU workers, that according some indications could affect about 56% of the workers in some sectors.

Other Member States replied from a broader perspective than just in relation to RSI related complaints due to VDU work.

In the United Kingdom a survey of self-reported work-related illness estimated that around 500.000 people suffer from work-related musculoskeletal condition affecting their upper limb or neck. Information published by the Spanish Ministry of Social Affairs indicates that the number of persons with reported occupational diseases resulting from musculoskeletal strain increased from 30.1% in 1988 to 75.8% in 1997.

According to data from INAIL (Italy), about 40% of health-complaints concern pathologies that are not included in official tables; the greater part of which consists of repetitive motion pathologies. According to AAA (Luxembourg) about 30% of all declared occupational diseases are RSI related.

Despite the lack of clarity in the replies, the responses appear to indicate that there is an increase in RSI related complaints in a number of Member States.

Is information available about prevalence of RSI and what are the results?

Austria

✓ AUVA compiles annual statistics of disorders suffered by employees, which are recognised as ODs. In 1998, no case was reported for OD N°22 (Paralysis of the nerves due to exertion of pressure upon them) and 4 cases for OD N°23 (Chronic diseases of the bursa in the knee or elbow joints resulting from constant pressure or vibration).

Belgium

✓ A limited study (n=654) in the Medical Labour Inspectorate of files from begin of 1995 to 15 May 1998 concerning complaints about the working environment, showed that only a few files were related to RSI (0.76%), probably due to the lack of an evident provision in the law about that matter.

Denmark

✓ The annual figures for people reporting to the Working Environment Authority with EGA as a factor show that there were 3.576 cases in 1993: 4168 cases in 1996; and 4.168 cases in 1998.

Finland

✓ There is a mandatory declaration of new suspected occupational disease cases to the competent authorities even if the cases are not declared to insurers. Nevertheless, the coverage is not complete.

France

According to a survey from 1997 on VDU work, concerns relating to this type of work are not a priority for most respondents. Company managers receive few strong claims from trade unions on working conditions relating to VDU work. Labour inspectors are rarely asked to investigate such risks.

Germany

✓ Statistics are difficult to obtain as term RSI is not used for a specific occupational disease. Epidemiologists make statements for specific diagnoses subsumed under this term and for Category N°2101. Health insurance organisations compile statistics on pathologies listed under ICD N°723, N°726 and N°727. The number of reported cases has decreased since 1990 for these pathologies.

Greece

No information available

Ireland

✓ No information available

Italy

According to the data of INAIL, about 40% of the complaints concern pathologies not included in official tables, the most part of which consists of repetitive motion pathologies.

Luxemboura

✓ According to the AAA, about 30% of all declared OD are RSI problems.

Netherlands

Dutch Inspectorate indicated that 56% of the VDU workers had serious complaints during work. As more than 2.5 million employees use their computers for more than two hours a day, it may be that well over 1 million VDU workers suffer work-related RSI complaints.

Portugal

✓ No information available

Spain

Data used comes from statistics published by Ministry covering total number of persons with ODs reportedly resulting from musculoskeletal strain. With regard to total number of ODs reported, the figures increased from 30.1% in 1988 to 75.8% in 1997. However many cases of RSI are not reported under ODs but as accidents at work.

Sweden

✓ The ten Labour Inspection districts keep records of reported occupational injuries and diseases. On a monthly basis the dat sent to NBOSH to be composed in a national register. In 1998 two thirds of all reported ODs were WMSDs?

United Kingdom

✓ A survey of self-reported work-related illness estimated that around 500.000 people in Great Britain suffer from work-related musculoskeletal condition affecting their upper limb or neck. It includes a range of conditions (e.g. tenosynovitis, arthritis, tennis elbow, carpal tunnel syndrome and RSI) and all degrees of severity.

EXISTENCE OF NATIONAL MONITORING SYSTEMS ON RSI RELATED COMPLAINTS

≤

9 0

Z

⋖

Another question relating to national policy was whether Member States have any kind of monitoring system on RSI related complaints at national level.

In a number of Member States some sort of monitoring of RSI or RSI-related complaints is carried out. In particular the United Kingdom, Denmark and the Netherlands appear to have in place some sort of national monitoring system on RSI that provides them with a substantial amount of data. Information collection in a less targeted way takes place in most Member States.



Does a national monitoring system on RSI or related complaints exist? Please describe.

Austria

Annex 1 to Section 177 of the Federal Act on General Social Insurance contains the List of Occupational Diseases. N°22: Paralysis of the nerves due to exertion of pressure upon them and N°23: chronic diseases of the bursa in the knee or elbow joints resulting from constant pressure or vibration.

Belgium

✓ OD's and work related diseases are to be notified to the Fund for Occupational Diseases which is to be considered as an official worker's compensation fund that is controlled by social partners. A substantial part is paid by the employers to this Fund as an insurance-premium

Denmark

All work-related complaints have to be reported to DWEA or the Industrial Injuries Service. The Working Environment Institute monitors effects on health of Danish workers every five years. EGA is one of the factors looked at. Data on RSI is not collected since the term cannot be used in epidemiological research.

Finland

✓ National statistics are published. 1598 compensated cases in 1996 and an overall incidence of 8/10,000.
✓ As regards ODs, there is the official data-

As regards ODs, there is the official database whereas non-occupational diseases of the locomotor apparatus are followed by KELA through the registration of compensated medical and disease absence cost.

France

✓ There is no specific monitoring system for RSI. The monitoring of all occupational risks is carried out by labour inspectors and company doctors, in line with the priorities laid down in national legislation by the Ministry for Employment and Solidarity.

Germany

✓ There is no independent monitoring system. Frequency of the occurrence of relevant medical disorders, which are subsumed under the term RSI, is monitored through annual statistics on unfitness for work compiled by the statutory health insurance organisations, and the statistics on the occurrence of OD compiled by the statutory accident insurance associations.

Greece

✓ No

Ireland

✓ No

Italy

✓ INAIL receives disease complaints by the private sector. The Local Health Agencies receive complaints regarding a group of pathologies indicated in Decree 14.4.73, including some kinds of repetitive motion syndromes. The data are anyway very partial.

Luxembourg

✓ No

Netherlands

✓ The Dutch government has a national monitoring system that includes questions on health and safety at the working place. It contains questions concerning RSI. The data collected can provide information on occupations and sectors that have RSI complaints and some of the work-related risk factors.

Portugal

✓ No

Spain

There is no specific monitoring but a record can be drawn up, based on the number of people declared to be suffering from ODs. In addition to enabling the prevalence of the various types of ODs to be analysed, the record can also be used for monitoring (early warning system).

Sweden

Employers are obliged to report injuries and diseases to the social insurance offices. Copies are sent to the Labour inspection districts. The statistical division there is in charge of the Occupational Injury Information System (ISA). Annual reports are published on all reported occupational diseases and injuries, including RSI

United Kingdom

Surveys of self-reported work-related illness, such as those carried out in 1990 and 1995, collect information about upper limb disorders along with other work-related illnesses.

YSTEMS AND PROGRAMME

OTHER INFORMATION ABOUT THE PREVALENCE OF RSI RELATED COMPLAINTS

Member States were asked if they have any other information about the prevalence and occurrence of RSI related complaints.

Their responses indicated that the prevalence of RSI correlate significantly with type of work and gender.

Several Member States gave additional information on the prevalence and occurrence of RSI related complaints. A recent Belgian study suggested that 39% of a population studied in Belgium have had work-related upper limb complaints during the past 12 months. In the Netherlands the national office for statistics found a prevalence of 19% under the working population; although other surveys indicated higher percentages.

In Finland 28% of all compensable occupational diseases are RSI related. The annual incidence rate is 8 out of 10.000 workers, but there is a large variation between jobs with an incidence of 200 out of 10.000 workers in manual jobs.

Similar differences were mentioned by other member states. A study carried out by company doctors in 1994 in France indicated that the employees at greatest risks are those in the construction industry, agriculture and fishing. 25% of white-collar workers and 50% of blue-collar workers suffer from an articular constraint.

Gender also seems to be significantly correlated to the prevalence and occurrence of RSI related complaints. Since 1989, Statistics Sweden (SCB) has undertaken surveys, on behalf of NBOSH, on the working conditions in Sweden. In 1997, every third woman and every fifth man reported to have felt pain in the upper part of the back

or neck, or in the shoulders or arms, after work every week. In Finland analytical reports on incidence and prevalence of diseases indicate that 40% of female clerks may have neck-shoulder problems.

With regard to the specific issue of VDU- work, Denmark reported that there is now sufficient proof of a relationship with this type of work and RSI related complaints.



QUESTION

Do you have any other information about the prevalence and occurrence of RSI related complaints?

Austria

✓ No

Belgium

A recent study suggests that 39% of a population studied in Belgium have had work-related upper limb constraints during the past 12 months. Complaints were most frequently reported in construction and transportation industries. Some limited studies of occupational health services exist about individual factories or clusters of factories (e.g. car seat assembly, butchers, VDU workers, keyboard operators).

Denmark

✓ Yes, divided up over 49 sectors.

EGA is major cause of reported work related complaints. Between 1993 and 1998 an increase from 3,500 to over 4,000 reported work-related complaints has been observed and there are twice as many EGA cases reported concerning women than men.

✓ It has recently been recognised that complaints can arise as result from VDU work. The number complaints reported from office work doubled between 1993-1998.

Finland

✓ KELA gives out analytical reports on the incidence and prevalence of the disease. 40% of female clerks may have neck-shoulder problems.

✓ As OD, 1,598 cases were accepted as compensable incidents in 1996, that is 28% of all ODs. It is the most prevalent category with an overall incidence of 8/10,000 employees. There is a large variation extending to over 200/10,000 in high-risk manual jobs.

France

✓ A cross-sectional study carried out by company doctors in 1994, based on 48,000 questionnaires indicated that the employees at greatest risks are those in the construction industry, capital goods industry, agriculture and fishing. 25% of white-collar workers and 50% of blue-collar workers suffer from an articular constraint.

Germany

Relationship of complaints in neck, shoulders and upper limbs and VDU work has been examined in several studies. A survey was carried out on employees in large companies who had used VDUs for several years. It failed to reveal a direct relation between musculoskeletal complaints and the length of time spent working on VDU.

However, another study showed that health complaints vary significantly with type of work and social support

Greece

✓ No

Ireland

✓ The Social Welfare system reveals about 20 cases per year of cramp of the hand or forearm.

Italy

✓ Yes

Luxembourg

✓ No

Netherlands

According to CBS, there is an overall prevalence of RSI of 19%. Agriculture, services, transport, and construction have highest prevalence of RSI with an average of around 16%. A national Monitor on Physical Workload was developed recently indicating an increase in RSI complaints.

Portugal

✓ This information is collected by the Centro Nacional de Protecçao contra os Riscos Profissionais for compensation claims for incapacity relating to such injuries. However, this information is not available.

Spain

✓ National surveys on working conditions commissioned by INSHT included questions related to this problem. In addition, the Mutual Benefit Associations for Accidents at Work and Occupational Illnesses have abundant information in this area.

Sweden

Since 1989, Statistics Sweden (SCB) undertakes surveys, on behalf of NBOSH, on the working conditions in Sweden. In 1997, every third woman and every fifth man reported to have felt pain in the upper part of the back or neck, or in the shoulders or arms, after work every week.

United Kingdom

✓ No

TEMS AND PROGRAMMES

ABSENTEEISM DUE TO RSI RELATED COMPLAINTS

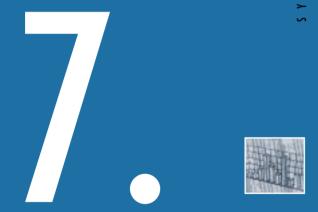
With respect to absenteeism due to RSI related complaints a question was asked about the availability of data on absenteeism/unfitness for work, and who is collecting these data.

Regarding whether data was available on absenteeism/unfitness for work due to RSI, three countries answered "yes" or "yes, but". Only the United Kingdom provided an estimate of the number of days lost (5 million) for the year in which their self-reporting survey was carried out. Sweden gave figures - 106 days lost for women and 103 days lost for men in 1998 - but pointed out that these figures apply only to reported occupational diseases and are not representative of all cases of RSI in the country.

Germany has data on shoulder, neck, arm and hand disorders that have been given a medical definition (ICD-code), but no data is available from which estimates of general RSI related absenteeism can be made.

Of the other countries that said not to have such data available, two are worth noting. Denmark reported that RSI are in general the most frequent cause of early retirement, and the Netherlands reported plans to record this type of information in the future

On the whole it can be concluded that absenteeism due to occupational RSI is not a closely monitored subject.



Do you have data on absenteeism/unfitness for work because of RSI? Who collects these data?

Austria

✓ No

Belgium

- In Belgium the causes of individual absenteeism, if not due to an accident on the workplace, does not have to be declared to the employer, neither to the insurance company.
- Occupational health services and the Fund for Occupational Diseases may have some incomplete information.

Denmark

- Data indicates that musculoskeletal disorders are an important reason for early retirement. It is not known how many of these cases result from EGA injuries. But if the proportion is in line with the injuries and complaints reported to the DWEA it would mean between a third and a quarter of cases related to the effects of EGA (estimate).
- ✓ Insurance companies.

Finland

- ✓ There are fragmentary data for research purposes. The impact of costs imposed by the declared cases have not been systematically analysed.
- Compensation costs are collected in insurers' balance sheets by occupational health services of major employers.

France

- ✓ There is no specific information on this but there is available the number of working days compensated by insurance organisations for cases TMS.
- ✓ The number of people drawing compensation for complaints included in Table 57 (Periarticular affections caused by some gestures and postures of work) is increasing : 3,165 cases in 1993, 6,183 in 1996. More people draw compensation for musculoskeletal disorders than for any other OD.

Germany

- Data is available on shoulder, neck, arm and hand disorders, which have been given a medical definition (ICD numbers).
- ✓ No data exist that allow specific statements on RSI related absenteeism/unfitness for work.
- ✓ Health insurance organisations keep record of statistics on the frequency of unfitness for work and the duration of the spell for the different disease categories.

Greece

✓ Labour inspectorates, insurance bodies and the National Statistics Service are competent to collect data on ODs.

Ireland

✓ No

ltaly

✓ No

Luxembourg

No but "Epicondylites" and "tendinites" are reimbursed by AAA in the case of an abandoning of the activity at the origin of the problem.

Netherlands

The Dutch Social Security System makes no distinction between social risk and occupational risk. Therefore incentives to collect information about causes of unfitness and absenteeism, making distinctions between the work related and the non-work related, have been missing.

Portugal

✓ The National Centre for Occupational Risk Prevention is the body responsible for collecting data based on notifications submitted by the medical sector.

Spain

Mutual Benefit Associations for Accidents at Work and Occupational Illnesses have a number of studies pointing to a link between absenteeism and RSI.

Sweden

- ✓ NBOSH only registers data on absenteeism regarding reported occupational injuries. The mean value for absenteeism caused by WMSDs reported to the Social Insurance Offices was in 1998 106 days for women and 103 days for men.
- ✓ Mainly the social insurance offices.

United Kingdom

- ✓ A survey of self-reported work-related illness estimated that around 5 million working days were lost in Great Britain in 1995 in connection with work-related musculoskeletal conditions affecting the upper limb or neck.
- ✓ The 1995 survey was carried out on behalf of HSE.

OCCURRENCE OF LEGAL PROCEDURES

≤ ≥ 9 0 ~

With respect to legal proceedings two questions were asked:

≥

- Do legal proceedings against employers occur in order to claim compensation for RSI related health damage and to what extent?
- What is usually the outcome of such proceedings?

With respect to the guestion whether legal proceedings to claim compensation occur in your country, six Member States - Denmark, Ireland, Italy, Netherlands, Spain and the United Kingdom - replied that these legal proceedings take place.

However, when legal proceedings can be taken against the employer, they seem to be relatively seldom used, except in the United Kingdom. Spain had no further information available on this. Ireland, Denmark and the Netherlands reported a very small number of cases. The Netherlands expects their figure to rise soon, probably due to the fact that the trade unions have offered support to workers to initiate proceedings. Only the United Kingdom reports a large number of legal proceedings (400 cases for the last known year).

Even where legal proceedings are actually taken, there seems to be very little information concerning the outcomes. Out of two known cases in Ireland, only one was successful. In Italy, it appears that only a minority of decisions was favourable to the plaintiffs. In the United Kingdom, many cases are settled out of court.





Do legal proceedings against employers occur in order to claim compensation? To what extent and what is the outcome?

Austria

✓ The Federal Ministry of Labour, Health and Social Affairs has no knowledge of any legal proceedings taken against employers in connection with RSI. The Federal Ministry of Justice is responsible for ordinary jurisdiction.

Belgium

✓ No. ODs and work-related diseases have to be notified to the Fund for ODs. Sometimes individual files of RSI victims can be accepted. Until 1996, 194 cases were examined, of which 38 were accepted. In other cases the victim can be compensated if the exposition to the risk factor, the effect of the injury and the strong relationship between occupation and injury can be proved. 182 files were examined in 1996.

Denmark

✓ Few cases exist. Trade unions lodge compensation cases with the courts on behalf of their members.
✓ Not known.

Finland

✓ There exists no Supreme Court decision. Litigation is rare. ✓ Not known

France

✓ No information.

Germany

✓ The Federal Institute for Occupational Safety and Health has no information on legal proceedings in connection with RSI related damage to employees' health.

Greece

✓ No

Ireland

✓ Yes but only 2 cases are known. ✓ One case was successful.

Italy

✓ Yes but very few at present.
✓ Only some proceedings are positive for the

Luxembourg

✓ No information at present.

Netherlands

As regards compensation for work-related health damage in general or for RSI in particular there have been very few legal proceedings against employers. The number of legal proceedings concerning RSI is expected to increase. Trade unions are ready to help workers who want to start such a procedure.

Portugal

✓ No

Spain

✓ Yes. The basic possibility exists but further information is lacking.

Sweden

✓ No information

United Kingdom

✓ There are substantial numbers of claims. Comprehensive data are not available but the DSS Compensation Recovery Unit has records of over 400 claims related to repetitive strain injury in the year ended 31 March 1999.

Many claims are settled out of court. Of those cases that have reached court, some claims for compensation have succeeded while others have been rejected. Each case is decided on its merit.

GOVERNMENT POLICY ON RSI

The Focal Points were asked whether their national governments pursue a special policy on RSI and if so to describe it.

The replies indicated that a number of Member States have formulated specific policies to prevent RSI related complaints of workers. These policies for prevention of RSI take various forms. In certain occupational sectors preventive action is taken (as is the case in Denmark and Sweden); in some Member States (Germany, Denmark) there is in financing of research or the production of brochures and health monitoring protocols (Spain).

In other Member States it seems that prevention of RSI is part of the general approach to prevent occupational risks



≥

9

0

~

Z

⋖

Does your government pursue a special policy on RSI? Please describe.

Austria

There are at present no specific programmes or strategies with regard to RSI. However, the List of OD has been adapted to the European List of OD. Moreover, AUVA is carrying out an examination to include workrelated spinal column injuries and tendon sheath disorders in the list by the end of 1999.

Belgium

An official task group is studying the problem. An information policy for employers and employees is considered

Denmark

✓ EGA is a priority in political terms and part of the Ministry's action programme for a clean working environment in 2005

✓ Following a decision of Parliament, social partners elaborated an action plan against EGA to be implemented with a view to reduce by 50% the number of EGA by the year 2000.

Finland

✓ No

France

✓ Government's policy on RSI is uniform as regards the objectives pursued at national level. Its implementation is decentralised and varied. Several regions experimented with changing procedures for reporting ODs. The number of reports increased tenfold in some regions and the quality of the information received improved considerably.

Germany

✓ The policy which aims at reducing the number of RSI comes under the general campaign to combat work-related musculoskeletal disorders. The programmes concentrate on research, research application, transposition of regulations into national law, and legislation.

Greece

Precise measures are laid down on the prevention of upper limb musculoskeletal disorders within the framework of the legislation on health and safety and the provisions laid down in the EC Directives on Display Screen Equipment and Manual Handling of Loads.

Ireland

✓ The Health and Safety Authority will be approaching it in a future work programme.

Italy

✓ No

Luxembourg

✓ No, but two projects are foreseen in 2000.

One for the financial sector and the other for the construction and building sector.

Netherlands

✓ A quantitative goal was set to reduce by 10 % the number of RSI related complaints among VDU workers, that is a decrease of more than 100,000 cases within four years.

Portugal

✓ No

Spain

At State level, a policy has been drawn up which includes legislation, publication of technical manuals and health surveillance protocols. Some Autonomous Communities have launched studies with the aim of improving patterns of work in specific sectors and consequently reducing RSI (e.g. the banana sector on the Canary Islands).

Sweden

✓ In 1997 NBOSH set a 3 year plan of activities. Work-related musculoskeletal disorders were one of five prioritized areas. Many activities are carried out; e.g. new provisions on ergono-mics for prevention of musculo-skeletal disorders. Recently revised provisions for VDU work highlight the issue of monotonous, repetitive work with keyboard and mouse.

United Kingdom

✓ The government recognises that upper limb disorders are a serious problem. There are general duties on all employers under e.g. the Health and Safety at Work Act 1974 to assess and reduce risks and ensure the health and safety of employees. Other regulations, such as the Display Screen Equipment Regulations apply to specific work activities or work equipment.

STEMS AND PROGRAMMES

QUANTITATIVE GOALS REGARDING THE REDUCTION OF RSI RELATED COMPLAINTS

The Focal Points were also asked whether quantitative goals regarding the reduction of RSI have been set.

Four Member States stated that they have set quantitative goals in this field: Denmark, Germany, the Netherlands and Sweden. In Denmark, an action plan of the social partners aims at halving the amount of repetitive work. In Sweden a very specific subject has been dealt with - the proportion of women who daily lift burdens of 15 kg or more shall be reduced by 25%.

The Netherlands gives another type of target figure. They want to achieve a 10% reduction in the number of RSI complaints related to VDU work within a four years period.

The issue of RSI has been recognised only relatively recently by some countries. It appears that they are in the process of putting in place measures or actions, but are not yet in a position to consider establishing quantified objectives.



Are there quantitative goals regarding the reduction of RSI? Please describe.

Belgium Finland Denmark France Austria ✓ No ✓ No quantitative goals are determined. ✓ No ✓ The social partners' action plan is intended ✓ No to halve the extent of EGA which is damaging to health by the year 2000. This is not really a quantitative goal since the incidence before the start of the action plan was not indicated. Luxembourg Greece Ireland Germany Italy ✓ The quantitative goal consists of significant-✓ No ✓ No ✓ No ✓ No ly reducing the occurrence of musculoskeletal disorders, which as the reason given in approximately 30% of cases, is still the most common illness-related reason for unfitness for work. Precise figures on RSI related disorders are not available. United Kingdom Netherlands Portugal Spain Sweden ✓ The goal is to reduce by 10% the number ✓ No ✓ The objectives for 1997-1999 are: (1) that ✓ No ✓ No of RSI related complaints among VDU workers, the proportion of employees with monotonous that is a decrease of more than 100.000 repetitive work shall be reduced appreciably. No employees with RSI related complaints within sector of industry shall increase proportion of employees with such work; (2) proportion of four years. employees with strenuous work postures shall be reduced appreciably; and (3) proportion of women who daily lift burdens of 15 kg or more shall be reduced by 25%.

EMS AND PROGRAMME

INFORMATION CAMPAIGNS ON RSI RELATED COMPLAINTS

Another question asked concerning national policy was whether any information campaigns have been carried out on the prevention of RSI related complaints.

Many Member States replied "yes" to this question indicating that a great number of information activities are undertaken.

A distinction can be made between campaigns initiated by the government and campaigns organised by trade union organisations. Both these forms of campaign can be seen in Belgium and Denmark. In Germany, several actors have carried out information activities; however so far no public campaign has been carried out by the federal state. In the United Kingdom, actions have been carried out by HSE as well as by TUC. Also sometimes joint activities between social partners and governmental organisations are run, for example in Spain some joint conferences have been organised.



Have any information campaigns been carried out on the prevention of RSI related complaints?

Austria

✓ No

Belgium

✓ The National Action Committee for Safety and Hygiene in the Construction Industry intends to launch an information campaign concerning RSI for construction workers. A semiofficial organisation is planning some information campaigns aiming at office workers and production industry workers.

Denmark

✓ The social partners have issued sector EGA guidelines to sectors where EGA occurs via the BSRs. The DWAE has sent information material to the same sectors in connection with the initiatives to reduce EGA. Information meetings have been held at both central level, for working environment professionals, and local level, for employees in industries where EGA occurs.

Finland

✓ No

France

A campaign was carried out on the manual handling of loads. In this framework, information campaigns have been conducted in order to publish legislation and raise awareness about the risks. Awareness campaigns have also been led through the mobilisation of inspectors and appointment of a resource person, generally a company doctor or labour inspector, at regional level.

Germany

Government has not carried out a publicity campaign on RSI. However information on work-related disorders in the neck, shoulders, arms and hands in connection with cashier, office and VDU work, and other types of work, is provided by scientific institutions, trade unions, health insurance organisations and accident insurance carriers

Greece

✓ Through the newly established SEPE (Labour Inspectorate), the government's policy enables the problem of RSI to be addressed in various fields of activities.

Ireland

✓ No

ltaly

✓ Only some very limited campaigns were run.

Luxembourg

✓ A national PR-week has been held in 1999.

Netherlands

✓ In 1999 government started an information campaign aiming at VDU workers and their employers. A CD-ROM and leaflet were distributed among all the companies with more than 20 employees in order to make VDU workers aware of the risks and to give information about effective measures against RSI.

Portugal

 Awareness-raising campaigns aimed at employees and employers have been launched

Spain

✓ Informative leaflets have been drafted on specific subjects, such as load handling, work postures, carpal canal syndrome and display screens. INSHT has held series of conferences on RSI related subjects. Conferences have been organised jointly by INSHT and Comisiones Obreras.

Sweden

✓ In 1998 NBOSH ran a major public campaign on prevention of WMSDs. On launching the new Provisions, AFS 1998:1, three big seminars were held. The ergonomists at NBOSH have also been in charge of smaller seminars all over the country for labour inspectors, employers, employees and safety stewards.

United Kingdom

✓ A major HSE awareness-raising campaign «Good Health is Good Business» started in 1995 and focussed in its first phase on musculoskeletal risks, including upper limb disorders. The campaign is still running, having been broadened to cover other health risks as well.

R A M M E

0

≤

INITIATIVES FOR CO-OPERATION OR VOLUNTARY AGREEMENTS ON RSI

The final question about national policies on RSI was aimed at identifying whether there had been initiatives for co-operation or voluntary agreements with social partners at sector level.

Member States also indicated here that there is a rather wide range of initiatives in this area. In many countries, there is determination to take action in this area and a range of activities is taking place. It is of interest to note that this type of co-operation usually takes place at sector-level and that social partners are co-operating actively in national or sector projects.

Have there been initiatives for co-operation or voluntary agreements with social partners at sector level?

Austria

✓ There are no voluntary agreements between the social partners on this subject

Belgium

✓ Negotiation talks are taking place in the construction industry. They may lead to an agreement on workload limitation.

Denmark

✓ The social partners have elaborated an action plan with a view to halving the number of EGA by the year 2000 and they have issued sectoral EGA guidelines via the BSRs.

Finland

✓ No

France

✓ The different players in the field of risk prevention, including the social partners, are involved at various levels and in different administrative areas.

Germany

Social partners agree with regard to prevention of work-related disorders in the upper limbs. Support for employers with the ergonomic design of workstations is integral part of OSH. Authorities made financial resources available in a variety of forms (publications, software programmes, audio-visual material), particularly in relation to the introduction of Regulation on Display Screen Work.

Greece

✓ In 1990, co-operation between our Service and the Labour Inspectorate with the Secretary's Workers' Association concerning health problems in the sector led to a guideline on the full medical surveillance of these workers' health. Likewise, a special guideline has been laid down on VDU workers in computerised centres in the public and private sectors.

Ireland

✓ No

Italy

An agreement was signed regarding health personnel (public sector) within preventive systems according to the Framework Directive.

Luxembourg

✓ No. Eventually for the construction and financial sectors in 2000-2001.

Netherlands

Social partners of high-risk sectors will be approached to discuss the possibilities of a specific voluntary agreement with regard to RSI. The Dutch Scientific Health Council has been asked to reach a scientific consensus concerning the specific work-related factors of RSI.

Portugal

Initiatives have involved awareness and information campaigns the results of which have not yet been assessed.

Spain

At State level, there have been attempts to establish cooperation between the Labour Inspectorate and the trade unions in a number of campaigns on RSI in specific sectors (clothes manufacturing and hypermarket cashiers) but this has not resulted in any concrete action. Some ACs have planned to initiate a number of projects in specific sectors.

Sweden

✓ Staff at NBOSH have for many years been working regularly in branch groups with social partners e.g. for hotels/restaurants and wholesale/retail trade. WMSDs (including RSI) is one of the issues in these collaboration groups.

United Kingdom

Some of HSC's IACs have undertaken initiatives on upper limb disorders. Printing IAC has produced a guidance booklet on preventing WRULDs in printing industry. Representatives of retail employers and trade unions co-operated with HSE on a study of musculoskeletal disorders in supermarket cashiers.

YSTEMS AND PROGRAMME

ACRONYMS

AAA: Association d'Assurance contre les Accidents (Luxembourg)

ACs: Autonomous Communities (Spain)

AUVA: Allgemeine Unfallversicherungsanstalt (General Accident Insurance Institution) (Austria)

BAR: Branche Arbejdsmiljo Rad (sectoral working environment council) (Denmark)

BSR: Branche Sikkerheds Rad (sectoral safety council) (Denmark)

BST: Bedrift Sunsheds Tjeneste (occupational health service) (Denmark)

CBS: Dutch National Bureau of Statistics

CC.OO.: (Comisiones Obreras - Workers Commissions) (Spain)

CTD: cumulative trauma disorder

DWEA: Danish Working Environment Authority

EGA: ensidigt gentaget arbejde (injuries or complaints resulting from one-sided repetitive work)

HSC: Health and Safety Commission (United Kingdom)

HSE: Health and Safety Executive (United Kingdom)

IAC: Industry Advisory Committee (United Kingdom)

INAIL: Istituto Nazionale per l'Assicurazione contro gli Infortuni sul Lavoro (National Italian Institute of Insurance against Accidents at Work) (Italy)

INSHT: Instituto Nacional de Seguridad e Higiene en el Trabajo (National Institute of Occupational Health and Safety) (Spain) ISA: Occupational Injury Information System (Sweden)

KELA: Kansanelakelaitos (social insurance institution) (Finland)

LMR: lesiones por movimientos repetitivos

LTC: lesoes por traumas cumulativos

NBOSH: Swedish National Board of Occupational Safety and Health (Sweden)

OCD: occupational cervo-brachial disorder

OD: occupational disease

RSI: repetitive strain injury

SEPE: Labour Inspectorate (Greece)

TMS: Troubles Musculo-Squelettiques

TUC: Trade Unions Congress

ULD: upper limb disorder

WIIA: Work Injury Insurance Act

WMSD: work-related musculoskeletal disorder

WRULD: work-related upper limb disorder



European Agency for Safety and Health at Work

Repetitive Strain Injuries in the Member States of the European Union:

The results of an information request

Luxembourg: Office for Official Publications of the European Communities

ISBN 92-828-8804-5



In order to encourage improvements, especially in the working environment, as regards the protection of the safety and health of workers as provided for in the Treaty and successive action programmes concerning health and safety at the workplace, the aim of the Agency shall be to provide the Community bodies, the Member States and those involved in the field with the technical, scientific and economic information of use in the field of safety and health at work.

മ 8 S 0



Gran Via 33, E-48009 Bilbae Spain Fel: +34 94 479 4360 | Fax: +34 94 479 4383



