

Musculoskeletal disorders (MSDs) in HORECA

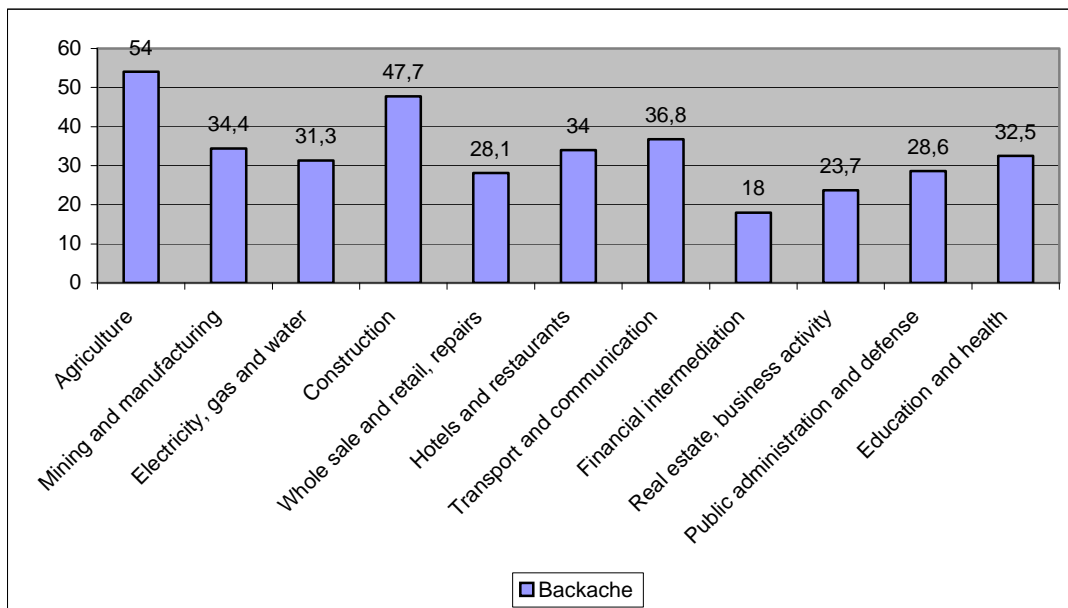
Introduction

The HORECA (hotels, restaurants and catering) sector employs about 7.8 million people in the European Union. It is characterised by a high proportion of small enterprises, young workers, women and migrant workers¹. Working conditions can be difficult and include high job demands (in particular due to direct contact with customers), high physical workloads, and temporary and irregular working times². The consequence is a serious risk of work-related health problems, including musculoskeletal disorders (MSDs).

Statistical portrait: MSDs in the HORECA sector

The physical workload is high. In 2000, almost 55% of the EU-15 workers reported that their job involved painful or tiring positions, compared to 45% across all sectors. Some 43% said their job involved carrying or moving heavy loads (compared to 36% in total), and 64% reported repetitive hand or arm movements (compared to 56% overall)³. As a consequence, MSDs are widespread in the HORECA sector: about 33% of the EU-15 workers report being affected by backache. About 20.3% report muscular pain in the neck, about 11.5% in upper limbs and 17.6% in lower limbs⁴. In the accession and candidate countries, 34% of HORECA workers report backache⁵. Muscular pain in lower limbs is more common in the HORECA sector than elsewhere.

Figure: % workers reporting work-related backache, EU-15, ESWC 2000





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What are MSDs?

Work-related musculoskeletal disorders are impairments of bodily structures such as muscles, joints, tendons, ligaments, nerves, bones and the localised blood circulation system, that are caused or aggravated primarily by work and by the effects of the immediate environment in which work is carried out.

Most work-related MSDs are cumulative disorders, resulting from repeated exposure to high or low intensity loads over a long period of time. However, MSDs can also be acute traumas, such as fractures, that occur during an accident.

These disorders mainly affect the back, neck, shoulders and upper limbs, but can also affect the lower limbs. Some MSDs, such as carpal tunnel syndrome in the wrist, are specific because of their well-defined signs and symptoms. Others are non-specific because only pain or discomfort exists without evidence of a clear specific disorder. This does not mean, though, that these symptoms are non-existent.

MSDs can be characterised as episodic disorders because the pain often disappears and recurs a few months or years later. However, some MSDs may become persistent or irreversible.

Why are HORECA workers especially at risk?

HORECA workers may have a higher risk at developing MSDs because:

- their job often involves prolonged standing and working in awkward postures
- much of their work is physically demanding, stressful and involves long working hours
- a lot of seasonal workers are employed in the sector, who do not have time to adapt to the job
- a lot of young workers are employed, who are not work hardened and have not yet developed the skills required.

Risk factors

There are a number of risk factors that may contribute to the development of MSDs. The most important physical ones are concerned with the postures adopted, the force levels exerted, the rates of repetition required and working for long periods without a break. MSDs may occur if any of these risk factors, either alone or in combination, overload the musculoskeletal system.



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1. Posture is the position of the body — including arms and legs — while working. Bad or awkward postures mean that joints must be held beyond their comfortable, neutral position, and close to the extreme end of their maximum range of movement. Remaining in the same posture for too long is also inadvisable. Examples of bad postures include:

- raised arms at or above shoulder level
- bent wrists
- flexed or twisted back
- bent neck and or turned head
- long periods of standing.

These postures are associated with an increased risk for injury and should be avoided as much as possible.

Table 1: Specific examples in HORECA

Place/task/who	Awkward posture
Bar tenders/waiters	Over-reaching across tables while serving and preparing food; working in small spaces.
Kitchen personnel	Holding the head downward to cook food; over-reaching while preparing food; reaching for supplies; poorly designed kitchens; small working spaces.
Room personnel	Twisted and extended postures; for example, working bent forwards, stretching, kneeling while making beds and cleaning the room.
General hotel personnel	Poor design of office; working on a computer while standing.

2. Force is exerted when working; for example, when lifting a heavy box or maintaining control of a manual tool. The more force a worker applies, the greater risk of injury there is. The amount of force depends on many factors such as:

- the weight, shape and (hand) grip on the object to be handled manually
- the placement of an object in relation to the body; for example, it requires more effort to carry a box with arms outstretched and away from the body than when holding it close.



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Table 2: Specific examples in HORECA

Place/task/who	Force/lifting
Bar tenders/waiters	Carrying service trays; carrying dishes; moving tables and chairs; carrying restaurant supplies; carrying beverages supplies and empty crates.
Kitchen personnel	Carrying bulk food packages; moving pots and pans; placing dishes and glasses in a rack.
Room personnel	Moving beds and furniture; transporting work equipment.
General hotel personnel	Carrying luggage.

3. Repetition rate is the number of times a similar motion pattern is performed in a set time. Repetitive movements are especially hazardous if they involve the same joints and muscle groups. The greater the number of repetitions, the greater is the risk for injury. Repetition rates of greater than 20 times a minute can expose the wrists and hands to a high level of risk.

Table 3: Specific examples in HORECA

Place/task/who	Repetitive motion
Bar tenders/waiters	Clearing, wiping and setting tables; shaking cocktails; cleaning glasses.
Kitchen personnel	Chopping and dicing while preparing food; stirring.
Room personnel	Vacuuming; washing windows; swabbing.
General hotel personnel	Using the computer mouse and keyboard; opening doors for guests.

4. Duration is the number of minutes or hours a day, or the days a year that the worker does a specific job, without taking breaks. In general, the longer the duration, the greater is the risk for injury.

These four main risk factors, either alone or in combination, can determine whether a worker is at risk of developing MSDs.

There are also other factors that can increase the risk of MSDs. These are associated with:

- the work environment⁶:
 - physical climate — temperature, air speed and humidity. The temperature affects the muscles, and the heat and humidity in the kitchen area makes the worker tire easily producing sweat.



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- Sweat makes it hard to hold tools, requiring more force to be used;
- lighting can create glare or shadows, causing the worker to move into awkward positions to see more clearly the work he is doing;
 - noise from kitchen equipment and guests can cause hearing loss and cause the body to tense, resulting in an awkward body position and the rapid onset of fatigue;
 - vibration of equipment, such as a mixer, causes circulation changes, resulting in numbness in the hands and the need to use more force when gripping;
- the individual characteristics and capacity of the worker:
 - experience and familiarity with the job;
 - training;
 - the worker's age;
 - the individual physical dimensions including the height, weight and strength of the worker;
 - personal lifestyle;
 - history of (back) disorders. A previous history of low back pain is one of the most reliable predictive factors for subsequent work-related lower back pain⁷;
 - clothing, footwear, personal and protective equipment;
 - psychosocial risk factors and work organisation⁸:
 - high workload and high levels of work stress;
 - unfavourable working conditions such as frequent shortages of staff, long working hours, work pressure, lack of control and undesired customer behaviour;
 - lack of support from managers, supervisors and colleagues.

It has been suggested that, taken together, physical and mental demands can increase the risk of MSDs increases.⁹

Prevention and intervention strategies

Employers need to adapt prevention and intervention strategies to the HORECA sector. To make sure every aspect of the job is considered, workers should participate in this process.

Risk assessment

Employers have a legal obligation to protect the health and safety of their workforce. The employer must evaluate the risks to safety and health within



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the workplace and then, where necessary, improve standards. This process is called risk assessment. A good risk assessment should cover all standard operations and reflect how the work is actually done. Employees should cooperate with their employer and supervisors in carrying out the risk assessment. Here is a step-by-step guide.

Look for the hazards

The first step involves identifying the hazards. Any circumstance or condition, which poses the risk of an incident, is a hazard. Activities that are recognised risk factors for the development of MSDs include:

- handling of heavy loads
- working while reaching above shoulder height
- walking and standing for hours at a time
- bending and reaching to clear, wipe and set tables, and carrying restaurant supplies
- lifting a lot of overloaded trays of dishes and glasses.

Decide who may be harmed and how

The second step involves identifying risks and the people who may be harmed.

- Cooks can suffer from neck strains and muscle stiffness caused by prolonged standing and tilting the head downward to chop.
- Dishwashers can suffer from back pains because of prolonged bending and from washing dishes at a sink that's that is too low.

Evaluate the risks and decide on action

The third step concludes the evaluation of the risks and sets out the necessary action.

- At the individual level, for example, can mechanical aids for chopping and dicing prevent repetitive strain injuries?
- At the company level, is it possible to vary activities to prevent repetitive motions?

Take action

Actions should be aimed at preventing an injury occurring in the first place, but also at reducing the seriousness of any injury sustained. Workers should be made aware of the risks and what will be done to protect them.



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Think about	Reducing the risk	Possible action
What you do at work	<ul style="list-style-type: none"> - Avoid awkward postures - Avoid bending at the wrist or extending upward at the fingers - Avoid repetitive motions - Avoid prolonged standing - Avoid prolonged reaching - Limit the number of trays you'll carry 	<ul style="list-style-type: none"> - Hold your elbows close into your body while carrying a tray - Balance the tray on both your arm and hand - Alternate carrying tasks from hand to hand - Get help to move tables and chairs - Use a foot rest bar while cooking and washing the dishes¹⁰ - Wear adapted shoes - Use height-adjustable work surfaces - Use the right lifting technique - Use a ladder to reach items on shelves
What tools you use	<ul style="list-style-type: none"> - Use tools that are designed to meet your needs and that make the work easier 	<ul style="list-style-type: none"> - Use serving carts to carry dishes - Use cleaning tools with good grips - Use adjustable level rinse nozzles¹¹ - Use ergonomically designed knives that allow the wrist to remain straight - Use mechanical aids for chopping, dicing or mixing foods (mixers)
Where you work	<ul style="list-style-type: none"> - Change the workplace layout to make the work easier - Limit back flexion - Prevent over-reaching 	<ul style="list-style-type: none"> - Place an object in the bottom of the sink to raise the surface up while washing dishes¹² - Rearrange work spaces so it is easy to reach supplies; stack items you use most often at a convenient level



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Who you are	<ul style="list-style-type: none"> - Make sure you have sufficient capacity to cope - Do you have a temporary or permanent disability? - Are you pregnant? 	<ul style="list-style-type: none"> - Get help if you think you need it - Use equipment that suits your size - Ask for practical training or a suitable adjustment that will enable you to do the work
How your work is organised	<ul style="list-style-type: none"> - Reduce the build up of fatigue or stress 	<ul style="list-style-type: none"> - Vary your activities - Change your position continually

Reflect on what has been done

It is important to check that no new hazards are created, say, for the hands, upper limbs or neck, when introducing measures aimed at reducing the risks to the back.

Training

Practical training in the workplace is essential to prevent MSDs. It should include:

- manual handling techniques
- workstation design
- identifying risk factors for MSDs (see above)
- how to use equipment and tools in a safe and ergonomic manner
- how to use personal protective equipment
- taking breaks or rotating jobs to give the body a chance to recover.

Policy/legislation overview

At the European level, several directives relate (in)directly to MSDs (see table).

European directives related to MSDs (June 2006)¹³

Directive	Topic
89/391/EEC of 12/06/1989 Publication date: 29/06/1989 Available at: http://europe.osha.eu.int/data/legislation/1	Framework directive: This general directive on the introduction of measures to encourage improvements in the safety and health of workers does not relate directly to MSDs. However, it does oblige the employer to take the necessary measures to ensure the safety and health of the workers in every aspect of their work.
89/654/EEC of 30/11/1989 Publication date: 30/12/1989 Available at:	Workplace: This directive concerns the minimum safety and



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http://europe.osha.eu.int/data/legislation/2	health requirements for both workplaces in use and workplaces used for the first time. These requirements are extensively described in the annexes of the directive. The requirements concerning the freedom of movement at the workstation are of interest for the prevention of MSDs.
89/655/EEC of 30/11/1989 Available at: http://europe.osha.eu.int/data/legislation/3 89/656/EEC of 30/11/1989 Available at: http://europe.osha.eu.int/data/legislation/4 Publication date: 30/12/1989	Work equipment, PPE: Directives 89/655/EEC and 89/656/EEC cover the suitability of work equipment and personal protective equipment. This suitability influences the risk of MSDs. All personal protective equipment must take account of ergonomic requirements and the worker's state of health, and fit the wearer correctly after any necessary adjustment.
90/269/EEC of 29/5/1990 Publication date: 21/06/1990	Manual handling of loads (see below)
90/270/EEC of 29/5/1990 Publication date: 21/06/1990	Screen equipment (see below)
93/104/EC of 23/11/1993 Publication date: 13/12/1993 Available at: http://europe.osha.eu.int/data/legislation/74	Working time: This directive concerns the organisation of working time. Factors like repetitive work, monotonous work, fatigue and time patterns can increase the risk of MSDs. The requirements on these factors are laid down in this directive; for example, breaks, weekly rest, annual leave, night work, shift work and patterns of work.
98/37/EC of 22/06/1998 Publication date: 23/07/1998 Available at: http://europe.osha.eu.int/data/legislation/32	Machinery: Approximation of the laws of the Member States relating to machinery.
2002/44/EC of 25/06/2002 Publication date: 06/07/2002 Available at: http://europe.osha.eu.int/data/legislation/19	Physical agents (vibrations): The exposure of workers to the risks arising from vibration.

The most relevant directives to prevent MSDs are:
European Union Directive 90/269/EEC
(<http://osha.europa.eu/data/legislation/6>) which provides the minimum health and safety requirements for the manual handling of loads.

Employers should use appropriate means to:

- avoid the need for manual handling of loads by workers
- take the necessary organisational measures to reduce the risk if manual handling cannot be avoided
- ensure that workers receive adequate information on the weight of a load, the centre of gravity or the heaviest side when a package is unevenly loaded
- ensure proper training and precise information is provided on how to handle loads correctly.



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European Union Directive 90/270/EEC (<http://osha.europa.eu/data/legislation/5>) provides the minimum safety and health requirements for work with display screen equipment.

Employers are obliged to:

- analyse workstations
- evaluate safety and health conditions
- tackle any risks to eyesight, physical problems and issues of mental stress.

There is also a European directive relevant to preventing MSDs in young workers, who account for a large proportion of the workers within the HORECA sector. The directive places responsibilities on employers to ensure that the risks to young workers are minimised. Young workers should cooperate with employers and supervisors and ensure they follow the good practice occupational safety and health procedures in their workplace.

European Directive (94/33/EC) (<http://osha.europa.eu/data/legislation/18>) on the Protection of Young People at Work requires employers to:

- take account of young worker's lack of experience, awareness, and immaturity when they assess risks to their health and safety
- make the risk assessment before the young person begins work
- take account of the risk assessment when determining whether the young person is prohibited from doing certain work.

The requirements of other European directives, standards and guidelines, together with the national provisions of individual Member States, may also be relevant to the working conditions of young people and the prevention of MSDs.

Conclusions and further information

Awkward postures, repetitive motions and manual handling of loads, combined with unfavourable working conditions, are common in the majority of jobs in the HORECA sector. These and many other factors can determine whether a worker is at risk of developing MSDs. As they are hard to cure and can seriously affect a worker's long-term health, prevention is vital.

By law, the employer must take care of the health and safety of the workers. He is responsible for evaluating the risks within the workplace and improving the standards of safety and health for all workers.

Some tips for the workers themselves include: take enough breaks when you're doing repetitive or forceful work; move around and change your working position frequently; take heed of warning symptoms such as the build up of fatigue and soreness towards the end of the working day.



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Information resources

Specific information with a focus on MSDs in the HORECA sector, as well as more general information, is widely available. A selection is given below.

Specific

'Sprains and strains in the young workers in the Restaurant and catering industry' is available at

<http://www.osha.gov/SLTC/youth/restaurant/index.html>

The information on controlling and preventing MSDs can be found under the various activity titles; for example, 'serving', 'clean-up' and 'sprains & sprains'.

Fact sheets for different types of jobs and provide advice on how to avoid getting hurt when working in fast food outlets, as building caretakers, in grocery stores, offices and cinemas.

<http://www.uworksafe.com/worksafe/teens/teenFactSheets.php>

'How I beat RSI' is available at: <http://www.howibeatrsi.com/> This website tells how a young worker was able to take steps to overcome his MSD.

For a restaurant safety training guide, see the Commission on Health and Safety and Workers' Compensation:

<http://www.dir.ca.gov/CHSWC/SBMRMaterials.htm>

General

The Health and Safety Commission in the UK offers advice for workers on back pain and information about risk assessment for various occupational tasks or jobs: <http://www.hse.gov.uk/msd/>

'Safety tip sheets — preventing injuries from ergonomic hazards' from the Commission on Health and Safety and Workers' Compensation is available at:

<http://www.dir.ca.gov/CHSWC/SBMRMaterials.htm>



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² Houtman ILD, Andries F, Berg R van den & Dhondt S. 'Sectoral profiles of working conditions'. Dublin, Ireland: EFILWC, 2002.

³ European Foundation for the Improvement of Working and Living Conditions. 'European survey on working conditions, 1995-2000'. Available at: <http://www.eurofound.eu.int/working/surveys/index.htm>.

⁴ European Foundation for the Improvement of Working and Living Conditions. 'European survey on working conditions, 1995-2000'. Available at: <http://www.eurofound.eu.int/working/surveys/index.htm>.

⁵ European Foundation for the Improvement of Living and Working Conditions. 'Working conditions in the acceding and candidate countries 2001'. Available at: <http://www.eurofound.eu.int/ewco/surveys/ccindex.htm>

⁶ Workers' compensation board Northwest Territories and Nunavut. 'Safety and the young worker – students manual'. Available at: http://www.wcb.nt.ca/publications/S_YWStudentManual.pdf

⁷ Op De Beeck R and Hermans V. 'Research on work-related low back disorders'. European Agency for Safety and Health at Work, 2000, 67 p. Available at: http://www.osha.eu.int/publications/reports/204/lowback_en.pdf

⁸ Houtman ILD, Andries F, Berg R van den & Dhondt S. 'Sectoral profiles of working conditions'. Dublin, Ireland: EFILWC, 2002., Klein Hesselink J, Houtman I, van den Berg R, van den Bossche S, van den Heuvel F. 'EU hotel and restaurant sector: work and employment conditions'. Dublin, Ireland: EFILWC, 2004.

⁹ Devereux JJ, Vlachonikolis IG, Buckle PW. 'Epidemiological study to investigate potential interaction between physical and psychosocial factors at work that may increase the risk of symptoms of musculoskeletal disorders of the neck and upper limb'. *Occup Environ Med* 2002;59:269-77.

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<http://www.osha.gov/SLTC/youth/restaurant/index.html>

13 Roland Gauthy. 'Musculoskeletal disorders: where we are, and where we could be' 2005,

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