

Work-related musculoskeletal disorders (MSDs) in education

Summary

The available data for the education sector reveals very low rates of musculoskeletal disorders (MSDs). Education workers have low exposure to repetitive hand and arm movements, and very few are at risk from carrying heavy loads. Typically, the tasks performed by employees, the majority of whom are teachers, are neither repetitive nor static. Employees can freely change their posture and generally carry light loads. The European Union has not passed any specific health and safety legislation covering education, but some general Directives and standards can be applied to the sector.

Introduction

Musculoskeletal disorders (MSDs) can affect the body's muscles, joints, tendons, ligaments and nerves. Most work-related MSDs develop over time and are caused either by the work itself or by the employees' working environment. They can also result from fractures sustained in an accident. Typically, MSDs affect the back, neck, shoulders and upper limbs; less often they affect the lower limbs. Health problems range from discomfort, minor aches and pains, to more serious medical conditions requiring time off work and even medical treatment. In more chronic cases, treatment and recovery are often unsatisfactory — the result could be permanent disability and loss of employment.

What are the risk factors for MSDs?

Many factors can contribute — either individually or in combination — to the development of MSDs. Physical factors include: using force, repetition, poor posture and vibration. Organisational factors such as low job satisfaction and a high pace of work are also significant, as are an individual's medical history, physical capacity and age.

MSDs arise from ordinary body movements such as bending, straightening, gripping, holding, twisting, clenching and reaching. These common movements are not particularly harmful in the ordinary activities of daily life. What makes them hazardous in work situations is the continual repetition, often in a forceful manner, and most of all, the speed of the movements and the lack of time for recovery between them.



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Working in the education sector

In the education sector, the majority of workers are teachers. Non-teaching employees include administrative workers and cleaners. The musculoskeletal load of teachers is mostly static given that they spend much of the day standing. However, their posture is not restricted; they are free to move whenever they like. Physical education teachers are subjected to different types of loads, which may involve extreme postures and exertion that could overload their bodies. However, their musculoskeletal load can be changed according to their own assessment of the load and their physical capabilities.

What risk factors exist in education?

According to the 'Third European Survey on Working Conditions 2000 (ESWC)', 23% of workers in education are exposed for half of the time or more to working with computers, which is considered as the risk factor for MSDs. By sector, the highest percentage of workers that are exposed to working with computers is in finance (78%); the lowest (8%) is in agriculture and fishing.

Across all sectors, education has the lowest exposure to repetitive hand or arm movements (20%); construction has the highest at 60%. Only 5% of workers in education are at risk from carrying heavy loads, which is more than in the financial sector (3%), but much lower than the highest-risk sector, agriculture and fishing (49%). Just 15% of workers in education are exposed to working in painful positions. The data shows that the education sector has one of the lowest percentages of workers exposed to the risk factors associated with MSDs. It also has one of the lowest percentages of workers who consider their health at risk from muscular pain in the lower or upper limbs, shoulder and neck.

MSDs in education

According to 'Eurostat — European Occupational Disease Statistics (EODS) 2001', the incidence rates of recognised occupational hand or wrist tenosynovitis and epicondylitis of the elbow are just 0.5% in the education sector. In general, the data reveals very low rates of MSDs in the education sector. Tasks performed by employees in this sector, from the musculoskeletal point of view, are neither repetitive nor static. Employees can freely change their posture and generally carry loads of negligible force.

Risk assessment

Risk assessment is a five-stage process and involves:

- identifying the hazards
- deciding who might be harmed and how
- evaluating the risks and deciding whether the existing precautions are adequate or whether more should be done.

It is a fundamental right for workers to be informed about workplace risks, and a prerequisite for preventing work-related hazards. According to the 'Third European Survey on Working Conditions 2000 (ESWC)', 41% of Europeans consider



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themselves to be very well informed about risks at work; in the education sector, the figure is 39%.

The same source reveals that the rate of musculoskeletal illnesses in education — expressed as a percentage of the total days of absence caused by health problems — is 35%. The lowest rate is in finance (30%) and the highest is in construction (60%). The most important measure to reduce or even eliminate the risk of MSDs in education is to avoid restricted postures for prolonged lengths of time.

Relevant European legislation

The directives that relate indirectly to MSDs in the education sector are:

- 90/269/EEC (29 May 1990) on the minimum health and safety requirements for the manual handling of loads where there is a risk, particularly, of back injury to workers;
- 90/270/EEC (29 May 1990) on the minimum safety and health requirements for working with display screen equipment;
- 93/104/EEC (23 November 1993) concerning certain aspects of the organisation of working time;
- 89/654/EEC (30 November 1989) concerning minimum safety and health requirements for the workplace.

The relevant European standards are:

- EN-1005-3: Safety of machinery. Human physical performance. Recommended force limits for machinery operation;
- EN-1005-4: Safety of machinery. Human physical performance. Evaluation of working postures in relation to machinery;
- EN ISO 9241-4: Ergonomic requirements for office work with visual display terminals. Keyboard requirements;
- EN ISO 9241-5: Ergonomic requirements for office work with visual display terminals. Workstation layout and postural requirements;
- EN ISO 9241-9: Ergonomic requirements for office work with visual display terminals. Requirements for non-keyboard input devices.

For more information on European legislation, see:

<http://osha.europa.eu/legislation>

Conclusion

The risk of developing MSDs is low in the education sector, which is reflected in correspondingly low incidence rates. However, even the rates are low, MSDs prevention in education sector should not be neglected. European Union legislation does not offer any special rules for education, but some general Directives and standards can be applied to the sector.