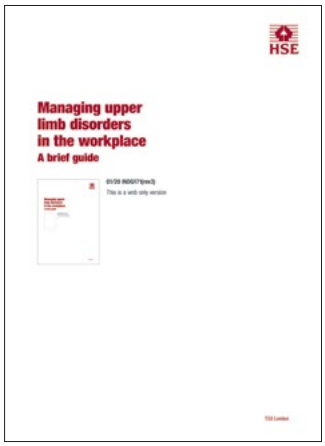
Managing upper limb disorders in the workplace

A brief guide



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This is a web-only version

TSO London

Introduction

As an employer, you need to protect your workers from the risk of injury and ill health from upper limb disorders (ULDs) in the workplace.

ULDs include aches and pains in the shoulders, arms, wrists, hands and fingers, as well as in the neck. They are widespread across a range of industries and jobs, for example on assembly lines, in construction, in meat or poultry processing, and in work with computers. They can be caused or made worse by work.

What does the law say?

As an employer, you have general duties under the Health and Safety at Work etc Act and the Management of Health and Safety at Work Regulations to assess, control and manage the risks associated with work-related ULDs. This leaflet will help you comply with these duties. For more detailed information, look at HSE's guidance booklet HSG60 *Upper limb disorders in the workplace*.[1]

If workers are using display screen equipment such as PCs, laptops, tablets and smartphones, employers should comply with the requirements of the Health and Safety (Display Screen Equipment) Regulations.[2,3,4]

What causes a ULD?

Upper limb disorders are more common in tasks that involve:

- prolonged repetitive work, particularly using the same hand or arm action;
- uncomfortable or awkward working postures;
- sustained or excessive force;
- carrying out a task for a long time without suitable rest breaks;
- working with hand-held power tools for long periods of time.

Other things that may have an influence are:

- poor working environment (including temperature and lighting);
- poor work organisation (including workload, job demands and lack of breaks);
- individual differences and vulnerability (some workers are more affected by certain risks).

Workers may be more likely to suffer a ULD if there is more than one risk factor in their work. However, just because a worker is exposed to these factors, it does not mean they will develop a ULD or that the risks cannot be adequately controlled.

If you introduce a new process or change existing processes and several workers complain of pain in similar places, such as the hand or forearm, this indicates that work may be a factor and you should investigate the cause.

What are the symptoms?

An individual can get symptoms, even though several workers may do the same task with no problems. Your workers may have symptoms in their upper limbs such as:

- aches and pains, tenderness, weakness, tingling, numbness, cramp, burning, redness and swelling;
- stiffness, pain or reduced movement in their joints.

These symptoms may be signs of clinical disorders, such as:

- carpal tunnel syndrome (CTS);
- tendonitis or tenosynovitis;
- osteoarthritis;
- cramp of the hand or forearm from prolonged periods of repetitive movement;
- hand-arm vibration syndrome (HAVS) (considered separately in HSE's website).

Some of these are reportable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR).

Encourage workers to report any signs and symptoms at an early stage, before they become more serious, so you can take steps to reduce the risk in the workplace. People with ULDs often completely recover if the problem is recognised early and treated appropriately.

If your workers have developed symptoms, consider taking advice from an occupational health provider on a worker's fitness for work and whether any restrictions or adaptations to their work are required.

Assess the risks of ULDs in your workplace

As an employer, you have a duty to assess risks in your workplace. You should:

- look around your workplace to see which tasks may cause harm and why;
- decide how likely it is that people might be harmed;
- identify the factors that create a risk of harm and decide how to control them.

Consult and involve your workforce in your risk assessment. Your workers and their representatives know what the risks are in your workplace and can often suggest practical solutions to control them.

How detailed should my risk assessment be?

The simple risk filter in this leaflet can help you identify jobs that are worth looking at in more detail. If you answer 'Yes' to any of the questions in the filter, you need to do a more detailed assessment. If not, you do not need to do anything else. Note that the 2-hour period in the filter is not a fixed limit and a shorter time period is appropriate where the ULD risk may be higher. For example, if there is a lot of repetition and/or force required for a period shorter than 2 hours, or the worker has a medical condition affecting their neck or upper limbs, you should do a full risk assessment.

If the risk filter indicates you do need to do a more detailed assessment, HSE's Assessment of repetitive tasks of the upper limbs (the ART tool)[5] lets you assess individual risk factors and prioritise your control measures using a colour-coding and scoring system. The scores provide clear action levels as a result of your assessment. However, the ART tool may not amount to a full risk assessment as some aspects, such as individual factors, are not covered.

You can use HSE's ULDs risk assessment worksheets[6] from Upper limb disorders in the workplace if you need to carry out a more detailed assessment than the ART tool provides. The worksheets help you to analyse the risk factors in your workplace in more detail and include space to note down problems, causes and possible control options.

Simple filter for identifying risks of upper limb disorders (ULDs)

Task: .....

Assessor: .....

Date: ..... Location/work area:.....

Consider all parts of the upper limbs (shoulders, arms, wrists, hands and fingers, as well as the neck). Note that the 2-hour period in the filter is not a fixed limit – apply it taking account of the task and the individual carrying it out.

1 Signs and symptoms

Are there any:

- Medically diagnosed cases of ULDs in this work? ☐ Yes ☐ No
- Complaints of aches and pains? ☐ Yes ☐ No
- Improvised changes to work equipment, furniture or tools? ☐ Yes ☐ No

2 Repetition

Do workers carry out any repetitive elements in a task for more than approximately 2 hours per shift, such as:

- Repeating the same movements every few seconds? ☐ Yes ☐ No
- Repeating a sequence of movements more than twice per minute? ☐ Yes ☐ No
- More than half of the time spent on that task involves performing the same sequence of movements? ☐ Yes ☐ No

3 Working postures

Do workers adopt awkward working postures for more than approximately 2 hours per shift, such as:

- Large range of joint movements, eg side to side or up and down? ☐ Yes ☐ No
- Awkward or extreme joint positions? ☐ Yes ☐ No
- Joints held in fixed positions? ☐ Yes ☐ No
- Stretching to reach items or controls? ☐ Yes ☐ No
- Twisting or rotating items or controls? ☐ Yes ☐ No
- Working with hands above shoulder height? ☐ Yes ☐ No

4 Force

Do workers apply sustained or repeated forces for more than approximately 2 hours per shift, such as:

- Pushing, pulling or moving things, including with the fingers or thumb? ☐ Yes ☐ No
- Grasping or gripping, including twisting and squeezing? ☐ Yes ☐ No
- Pinch grips, ie holding or grasping objects between thumb and finger? ☐ Yes ☐ No
- Steadying or supporting items or workpieces? ☐ Yes ☐ No
- Shock and/or impact being transmitted to the body from tools or equipment, including hands being used as a hammer? ☐ Yes ☐ No
- Equipment or work items creating concentrated pressure on any part of the upper limb, including pressure from a trigger or button? ☐ Yes ☐ No

5 Vibration

- Do workers experience hand-arm vibration (HAV) from any powered, hand-held or hand-guided tools, or hand-feed workpieces to vibrating equipment regularly (at some point during most shifts)? ☐ Yes ☐ No

If you answer 'Yes' to any of the questions, you should do a risk assessment of the task using the ART tool or you can make a more detailed assessment using the full risk assessment worksheets for ULDs. If items weigh more than 8 kg and the task involves manual handling, consider using the MAC tool.[7]

Psychosocial factors

As well as considering the physical aspects of the work, you also need to take account of psychosocial risk factors. These may affect workers' psychological responses to their work and workplace conditions. Examples are high workloads, tight deadlines and lack of control over the work and working methods, which may make people more likely to develop and report ULDs.

Particular groups of workers

Make sure you also take account of the requirements of particular groups of workers when doing your risk assessments, for example:

- new or expectant mothers;
- people with disabilities, which may make it more difficult to do a particular task;
- those returning to work after a recent injury or ill-health condition;
- inexperienced, new, young or temporary workers;
- older workers;
- workers who do not fit standard equipment or furniture, for example those who are very tall;
- migrant workers, who may not have English as their first language.

Reduce the risk of ULDs

The most effective ways to eliminate or reduce the risk are to:

- consider the risks when setting up new workstations so that the risks can be planned out – it is cheaper than redesigning them or buying more suitable tools later;
- eliminate part or all of the task using, for example, automation or powered tools.

If you cannot eliminate the risk:

- focus first on reducing the risk of the higher-risk activities or those that affect most workers;
- make sure tools and equipment fit the workers' hands and are suitable for the task;
- make sure workstations are at a suitable height for comfortable working (and suitable chairs and footrests are provided). Consider adjustable workstations;
- change the workstation layout to improve the posture of the workers, particularly when they are applying force;
- reduce the amount of force, vibration, repetition, and prolonged fixed postures;
- reduce the length of time that operators do the same task, allowing regular changes in posture;
- improve the working environment (cold temperatures and draughts can contribute to discomfort);
- test any changes on one or two workers before making changes for everyone;
- monitor the effectiveness of your controls regularly to make sure they are working;
- get occupational health advice for workers reporting symptoms or with underlying health issues.

The way jobs are designed and organised can significantly help to reduce the risk of ULDs. Provide clear instructions, information and training on any measures you put in place to control the risks.

Table 1 includes some practical advice on what to look for when making an assessment and suggests ways to reduce the risk of ULDs.

Table 1 Risks and controls

Risks to look for	Observations	Ways of reducing the risk of injury
Repetition	Tasks using the same muscles repeatedly for prolonged periods. The more a task is repeated, the greater the risk of developing a ULD.	Break up prolonged, repetitive work periods with regular changes of activity using different muscle groups. Avoid just one break at lunchtime or mid-shift. Automate higher-risk tasks, but beware of introducing new risks, eg from maintenance or repair. Consider reducing the speed at which the task is carried out.
Uncomfortable or awkward working postures	These include moving the arm, wrist and fingers into an awkward or uncomfortable position, eg working above shoulder or head height, working with a very bent elbow, or holding the upper limb in the same place for long periods.	Design workplaces and equipment so that workers do not have to adopt awkward postures. Arrange the position, height and layout of the workstation so it is comfortable to reach and appropriate for the work. Consider providing adjustable chairs and footrests, and suitable tools.
Using a lot of force	This may include having to apply excessive effort, involving forceful pinching, gripping or manipulation of items, or having to overcome friction. Handling heavy items may have an impact on the upper limbs (as well as the back).	Automate the task or use tools to reduce the forces required. Provide mechanical assistance, such as levers, and see if you can use lighter tools. If this is not possible, provide a jig or counterbalance equipment. Distribute the force over the hand, eg operate a control with more than one finger or with the palm of the hand. Reduce the time exposed to risk by introducing suitable job rotation.
Vibration	Working with equipment and tools that vibrate can increase the risk of ULDs.	Buy efficient, low-vibration tools and maintain them properly to minimise the effects of vibration. Make sure replacement tools are available if existing tools are not working properly. Consider a HAVS assessment if workers are exposed to vibrating tools.[8]
Carrying out a task for an extended period of time	Long shifts with limited scope for breaks and job rotation may increase the risk of ULDs.	Share a high-risk task among a team by rotating people between tasks (each task needs to be sufficiently different to benefit the worker). Allow workers to carry out more than one step of a process (as long as the steps do not have the same risks). Encourage stretching or other exercises during breaks in the work routine.

Risks to look for	Observations	Ways of reducing the risk of injury
Poor working environment	Working in uncomfortable temperatures or draughts, or handling hot/cold items.	Reduce exposure to uncomfortable temperatures. Provide adequate personal protective equipment (PPE) and local heating or cooling where a comfortable temperature cannot be maintained. Avoid putting workstations too near air vents. Avoid using metal-handled tools in cold environments.
	Working in dim light, shadow or glare may cause a worker to adopt an awkward position to see better.	Make sure the overall lighting levels are adequate or provide suitable task lighting. Avoid reflections and glare by moving lights, providing blinds on windows, or moving workstations.
How the work is organised	A lack of control over the work rate, or any excessive task demands, can increase the risk.	Consult employees on health and safety matters.[9] Consider job rotation to reduce exposure to risks and encourage teamwork. Avoid payment and incentive schemes that can create a culture of excessive work rates. Monitor work rates to assess the risks from excessive workloads.
Individual capability	People are different in terms of body size, age, ability or health, and may have disabilities to consider when asked to carry out certain tasks.	Provide suitable training and information. Consider involving workers in decisions about their work. Encourage workers to report any upper limb discomfort promptly so it can be addressed. Using a body map may help to identify problem areas.

Supporting those with ULDs

If you find that a task is causing or contributing to a ULD in a worker, they may need to stop doing that task for a while. Review your risk assessment and put appropriate control measures in place.

If a worker has been off work suffering from a ULD, the timing of their return to work depends on medical advice. You may need to take occupational health advice on how to modify or restrict their work activities when they come back. They are likely to benefit from a phased return to work.

Further reading

1 *Upper limb disorders in the workplace* HSG60 (Second edition) HSE 2002 www.hse.gov.uk/pubns/books/hsg60.htm

2 *Working with display screen equipment (DSE): A brief guide* Leaflet INDG36(rev4) HSE 2013 www.hse.gov.uk/pubns/indg36.htm

3 *Work with display screen equipment. Health and Safety (Display Screen Equipment) Regulations 1992 as amended by the Health and Safety (Miscellaneous Amendments) Regulations 2002. Guidance on Regulations* L26 (Second edition) HSE 2003 www.hse.gov.uk/pubns/books/l26.htm

4 *Display screen equipment (DSE) workstation checklist* Leaflet CK1 HSE 2013 www.hse.gov.uk/pubns/ck1.htm

5 *Assessment of repetitive tasks of the upper limbs (the ART tool): Guidance for employers* Leaflet INDG438 HSE Books 2010 www.hse.gov.uk/pubns/indg438.htm

6 Full ULDs risk assessment worksheetswww.hse.gov.uk/msd/pdfs/worksheets.pdf

7 M*anual handling assessment charts (the MAC tool)* Leaflet INDG383(rev3) HSE 2018 http://www.hse.gov.uk/pubns/indg383.htm

8 *Hand-arm vibration at work: A brief guide* Leaflet INDG175(rev3) HSE 2012 www.hse.gov.uk/pubns/indg175.htm

9 *Consulting employees on health and safety: A brief guide to the law* Leaflet INDG232(rev2) HSE 2013 www.hse.gov.uk/pubns/indg232.htm

Further information

For information about health and safety visit https://books.hse.gov.uk or www.hse.gov.uk.

You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.

To report inconsistencies or inaccuracies in this guidance email: commissioning@wlt.com.

This leaflet can be found at: www.hse.gov.uk/pubns/indg171.htm.

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