

Safety Management Standard

Vibration at Work

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Developed By: Health and Safety Team

Consultation with: Strategic Health Safety & Wellbeing Group
Trust Joint Partnership Forum

Approved by: Strategic Health Safety & Wellbeing Group

Print Name & Position: Amanda Rawlings
Chief People Officer
Chair of Strategic Health Safety & Wellbeing Group

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Health and Safety Team

1.0. Introduction

University Hospitals of Derby and Burton NHS Foundation Trust recognises its duties under the Health and Safety at Work Act (HASAWA) 1974, The Management of Health and Safety Regulations 1999 and The Control of Vibration at Work Regulations 2005 to provide suitable arrangements to protect workers from vibration.

This SMS works in conjunction with UHDB Trust's Health and Safety Policy.

2.0. Purpose and Outcome

This Safety Management Standard (SMS) supplements the Health and Safety Policy and is a guide for managers in protecting workers from vibration by adequately controlling exposure to vibration in the workplace that causes ill health, either through exposure to whole body vibration or hand-arm vibration.

Hand arm vibration syndrome (HAVS) can be caused by operating hand-held power tools, hand-guided equipment or by holding materials being processed by machines. Damage occurs from long term vibration affecting the tiny blood vessels, nerves and muscles of the hand and fingers.

Occasional exposure is unlikely to cause ill health. The severity of the HAVS increases with more usage of handheld tools and is an irreversible process. The most commonly seen health issue is vibration white finger, which can cause severe pain and disability in the affected fingers. Identifying the signs and symptoms at an early stage is crucial to preventing serious long-term health effects.

3.0. Definitions Used

Daily exposure	The quantity of mechanical vibration to which a worker is exposed during a working day, normalised to an 8-hour reference period, which takes account of the magnitude and duration of the vibration.
Exposure Action Value	The level of daily exposure set out in regulation 4 (The Control of Vibration at Work Regulations, 2005) for any worker which, if reached or exceeded, requires specified action to be taken to reduce risk.
Exposure Limit Value	The level of daily exposure set out in regulation 4 for any worker which must not be exceeded, as set out in regulation 6 (5) (The Control of Vibration at Work Regulations, 2005).

Hand-Arm vibration	Mechanical vibration which is transmitted into the hands and arms during a work activity.
Health Surveillance	Assessment of the state of health of an employee, as related to exposure to vibration.
Mechanical Vibration	Vibration occurring in a piece of machinery or equipment or in a vehicle as a result of its operation.
Whole-Body Vibration	Mechanical vibration, which is transmitted into the body, when seated or standing, through the supporting surface, during a work activity or as described in regulation 5 (3) (f) of (The Control of Vibration at Work Regulations, 2005).
Working Day	A daily working period, irrespective of the time of day when it begins or ends, and of whether it begins or ends on the same calendar day.

4.0. Law

The Health and Safety at Work Act 1974 (HASAWA) places a duty on employers to ensure the health and safety of employees and others who may be affected by their work activities.

Employers are responsible by law for the health, safety and welfare at work of all their workers and any contractors or self-employed people doing work for them. These legal obligations cannot be transferred to any other person, including those people who work alone.

Management of Health and Safety at Work Regulations 1999 (MHSW)

Regulation 5 states that every employer shall make and give effect to such arrangements as are appropriate, having regard to the nature of his activities and the size of his undertaking for the effective planning, organisation, control, monitoring and review of the preventive and protective measures.

Regulation 10 requires employers to provide comprehensible and relevant information to their employees on: the risks to their health and safety identified by the risk assessment, preventive and protective measures.

Regulations 12 & 15 requires the organisation to provide health and safety information to contractors and temporary workers before they commence employment.

Regulation 14 states that employees must use equipment and materials in accordance with instruction and training given and in compliance with relevant statutory provisions. Inform employers or the workplace safety representative about any serious or immediate health and safety dangers or any shortcomings in the employer's health and safety arrangements.

For further reading please visit:

<https://www.hse.gov.uk/managing/legal.htm>

The Control of Vibration at Work Regulations 2005

Regulation 6 (2) requires University Hospitals of Derby and Burton NHS Foundation Trust to consider the latest technical advances and the organisational measures taken.

Regulation 7 requires University Hospitals of Derby and Burton NHS Foundation Trust to undertake health surveillance of their employees.

Regulation 8 requires University Hospitals of Derby and Burton NHS Foundation Trust to ensure all staff groups, including, Locums, Agency, Bank and Contractors to receive information, training and instruction.

For further reading please visit:

<https://www.hse.gov.uk/vibration/hav/regulations.htm>

Other laws that cover vibration at work are:

- **Personal Protective Equipment at Work Regulations 1992**
- **The reporting of injuries, diseases and dangerous occurrence regulations (RIDDOR) 2013**
- **The Supply of Machinery (Safety) Regulations 2008**

5.0. Key Responsibilities / Duties

Employers Responsibilities

UHDB has a responsibility for ensuring systems are in place to support the effective control of vibration at work and make effective the safety of employees and also the safe management of the work equipment used by employees within the Trust as outlined in the Trust Health and Safety Policy.

UHDB must carry out a general risk assessment and identify measures to eliminate or reduce risks from exposure to vibration for their employees to assess all health and safety risks they are exposed to while at work. As part of that process, UHDB should consider all employees, including bank, locum, agency and contractors.

University Hospitals of Derby and Burton NHS Foundation Trust will do what is reasonably practicable to ensure the general principles of prevention set out in schedule 1 to the Management of Health and Safety at Work Regulations 1999 are met. Consideration will be given to the following:

- Other working methods which eliminate or reduce exposure to vibration
- Choice of work equipment of appropriate ergonomic design which, taking account of the work to be done, produces the least possible vibration
- The provision of auxiliary equipment which reduces the risk of injuries caused by vibration
- Appropriate maintenance programmes for work equipment, the workplace and workplace systems
- The design and layout of workplaces, workstations and rest facilities
- Suitable and sufficient information and training for employees, such that work equipment may be used correctly and safely, in order to minimise their exposure to vibration
- Limitation of the duration and magnitude of exposure to vibration
- Appropriate work schedules with adequate rest periods
- The provision of clothing to protect employees from cold and damp

Managers Responsibilities

- Ensure that risk assessments are carried out for work activities and that a proper assessment of work equipment is undertaken prior to purchase, hire or use
- Identify any member of staff, whose health is at particular risk from such exposure e.g., staff with existing health conditions, new and expectant mothers, young persons, etc

- Responsible for ensuring that the areas under their control are managed effectively to prevent or adequately control the potential for exposure to vibration occurring from the use of work equipment including safe working methods, job rotation and appropriate breaks
- Communicate the findings of risks assessment to staff and others under their management
- Maintain a register and records of all powered vibration tools and equipment under their control, and ensure that periodic testing and maintenance is carried out
- Ensure information and training is provided
- Review processes and control measures covering vibration on a regular basis
- Report any hazards or faults to Clinical Engineering/Estates and remove the faulty piece of equipment from service until repaired
- Report any work situations that present a risk of exposure to vibration to a senior member of staff and record on Datix. Ensure appropriate actions are taken to make the situation safe
- Ensure that following accidental and ad-hoc exposure incidents or any diagnosed incidences of vibration related disease, appropriate actions are taken to reduce the likelihood of recurrence
- Ensure that identified staff are promptly referred to the Occupational Health Service for health surveillance appointments and accommodate such appointments within normal working hours where possible

Employees Duties

- Take care of their own health and safety and that of others
- Co-operate to help comply with health and safety legislation
- Follow any instructions and health and safety training provided
- Always operate machinery or equipment properly in accordance with the manufacturer's instructions
- Perform a user safety check before use
- Wear appropriate personal protective equipment as required
- Report any hazards or equipment faults, to the supervisor/manager and remove the faulty piece of equipment from service until repaired
- Inform the supervisor/manager about any work situations that present a risk of exposure to vibration at work
- Report any serious and imminent risk or if an injury or near miss occurs to the supervisor/manager
- Attend Occupational Health appointments for the purposes of health surveillance as requested

6.0. Standards

The following standards must be adhered to:

- In the first instance when equipment is identified and required to be purchased, the Purchasing Department has responsibility for ensuring that equipment is purchased from a reliable supplier and has been through an appropriate and robust approval process in terms of its suitability.
- All newly purchased equipment should be legally compliant. Compliant equipment will be marked with the UKCA conformity marking.
- When work equipment is first used, it must be inspected to make sure that it has been correctly installed and is operating safely by a qualified and competent person.
- Work equipment must be used only for tasks that it is fit for and in conditions for which it is suitable.
- Persons who supervise or manage the use of work equipment must be adequately trained and competent to do so.
- Ensure that all persons who use work equipment have received adequate training for purposes of health and safety, including training in the methods which may be adopted when using the work equipment, any risks which such use may entail and precautions to be taken.
- Equipment must be inspected, repaired, serviced and maintained in a safe condition by competent persons and examined for risks to health and safety.
- Any equipment found to be faulty or damaged must be removed from clinical use or other designated use. It must be reported to either Clinical Engineering or Estates and a Datix completed, if required.

6.1. Risk Assessment

A thorough risk assessment must be completed before carrying out any work tasks using work equipment which may expose a person to vibration. Any control measures found necessary from the risk assessment must be implemented and kept under review.

The risk assessment shall include consideration of:

- The magnitude, type and duration of exposure, including any exposure to intermittent vibration or repeated shocks.
- The effects of exposure to vibration on employees whose health is at particular risk from such exposure.
- Any effects of vibration on the workplace and work equipment, including the proper handling of controls, the reading of indicators, the stability of structures and the security of joints.
- Any information provided by the manufacturers of work equipment.
- The availability of replacement equipment designed to reduce exposure to vibration.
- Any extension of exposure at the workplace to whole-body vibration beyond normal working hours, including exposure in rest facilities supervised by the employer.
- Specific working conditions such as low temperatures.
- Appropriate information obtained from health surveillance including, where possible, published information.

Vibration levels can be obtained from the manufacturer as there is a requirement under The Supply of Machinery (Safety) Regulations 2008 that suppliers must provide information detailing the vibration magnitudes the equipment is likely to create.

Daily exposure to vibration is measured by a formula known as an A (8) value. This is the average (A) exposure over an eight-hour (8) day and takes into account the magnitude of the vibration and how long people are exposed to it. The rate of vibration of a piece of equipment is measured in metres (m) per second (s).

The legal vibration exposure levels are:

1) For hand-arm vibration

- (a) the daily exposure limit value is $5 \text{ m/s}^2 \text{ A (8)}$
 - (b) the daily exposure action value is $2.5 \text{ m/s}^2 \text{ A (8)}$
- and daily exposure shall be ascertained on the basis set out in Schedule 1 Part I.

(2) For whole body vibration

- (a) the daily exposure limit value is $1.15 \text{ m/s}^2 \text{ A (8)}$
 - (b) the daily exposure action value is $0.5 \text{ m/s}^2 \text{ A (8)}$
- and daily exposure shall be ascertained on the basis set out in Schedule 2 Part I.

The Health and Safety Executive (HSE) provide a 'ready reckoner' for calculating daily vibration exposures. All you need is the vibration magnitude (level) and exposure time. The ready reckoner covers a range of vibration magnitudes up to 40 m/s² and a range of exposure times up to 10 hours.

To access the ready reckoner, please visit:

<https://www.hse.gov.uk/vibration/hav/readyreckoner.htm>

The risk assessment shall be reviewed regularly, and forthwith if:

- There is reason to suspect that the risk assessment is no longer valid.
- There has been a significant change in the work to which the assessment relates.

Further guidance on the general risk assessment procedure is available in the Risk Assessment Safety Management Standard.

6.2. Health Surveillance

Statutory health surveillance is required for employees exposed to levels of hand-arm vibration as defined by The Control of Vibration at Work Regulations 2005.

Health surveillance should be in place for:

- Employees who are likely to be regularly exposed in excess of the daily exposure action value of 2.5m/s² A (8).
- Employees likely to be occasionally exposed above the exposure action value where the risk assessment identifies that the frequency and severity of exposure may pose a risk to health.
- Employees who are identified as particularly sensitive to vibration, e.g., previously diagnosed as suffering from HAVS (even when exposed below the exposure action value).

Occupational Health will advise on the health surveillance requirements following accidental and ad-hoc exposure incidents occurring at work as required.

For further advice on health surveillance, please contact the Health and Safety team and /or Occupational Health team or please see the Health Surveillance Safety Management Standard:

[opac-retrieve-file.pl \(koha-ptfs.co.uk\)](http://opac-retrieve-file.pl(koha-ptfs.co.uk))

7.0. Information, Instruction, Training and Supervision

University Hospitals of Derby and Burton NHS Foundation Trust shall provide initial and continual training for employees on equipment that falls under this SMS.

All staff who use any equipment that presents a risk of exposure to vibration at work will be provided with suitable and sufficient health and safety information including, where appropriate, written instructions for use of the equipment.

The information should be comprehensible to all users, giving special consideration to staff with language difficulties or disabilities.

Adequate supervision will be in place as necessary to ensure, so far as is reasonably practicable, the health and safety at work of employees using work equipment taking into account factors such as competence, experience and maturity.

8.0. Monitoring & Review

This Safety Management Standard will be regularly monitored and reviewed by the Health and Safety Team to:

- Ensure it continues to comply with legislation.
- Ensure that it is reasonably practicable to implement to all those concerned within the Trust.

9.0. Further information

The Health and Safety Executive (HSE) has a range of information on vibration at work. Information is available at:

<https://www.hse.gov.uk/vibration/hav/regulations.htm>

For information on specific risks consult one of our other health & safety management standards or use the search function at <http://www.hse.gov.uk/>

For further advice, please contact the Health and Safety Team.

We hope you find this SMS useful; if you require further information, please contact one of the Health and Safety Team:



General enquiries during normal hours

07385 411684

07385 411683

07385 343668

07387 248730

Out of Hours

07385 343631

07385 411682



dhft.healthandsafety@nhs.net