

Lothian Operational Standard

LB-HS-113 Control of Vibration at Work

This Standard details the minimum requirements for ensuring compliance with health and safety legislation and implementation of the Lothian H&S Policy Statement.

1. INTRODUCTION

Prolonged and frequent exposure to whole-body and hand-arm vibration can affect a person's health. The risks from vibration at work can be controlled and incidents of ill-health to colleagues, reduced if their exposure to vibration is effectively assessed, prevented or adequately controlled.

Regular and frequent exposure to high levels of vibration can lead to painful and disabling damage to nerves and blood vessels in the hand, wrist and arm resulting in a range of conditions known as Hand Arm Vibrations Syndrome (HAVS) as well as more specific diseases such as carpal tunnel syndrome (CTS).

2. POLICY STATEMENT

Lothian are committed to ensuring that the risks to the health and safety of employees specifically from exposure to vibration are assessed and that measures necessary to eliminate or control the risks are implemented to reduce exposure to the lowest practicable level and reduce risk of ill health.

3. SUMMARY OF REQUIREMENTS

The Control of Vibration at Work Regulations were introduced to protect employees from exposure to vibration at work and they specifically require employers to:

- Make a suitable and sufficient assessment of the risk and decide if employees are at risk. Document the risk assessments.
- Where a risk is identified, eliminate or reduce the risks to as low a level as practicable. We will do this by:
 - Implementing a regular screening and health surveillance programme and keep records
 - Providing sufficient information instruction and training on health risks and actions taken to reduce the risk
 - Ensuring legal limits are not exceeded
 - Consulting with employees and TU representatives on the measures being taken
 - Retaining documented risk assessments and review them regularly, in any event following a change in work processes, work equipment or following a diagnosis of HAVS related condition

- Retaining health records for employees under health surveillance

3(b) DEFINITIONS

- **HAV** – Hand-Arm Vibration: is mechanical vibration, which is transmitted into the hands and arms during a work activity.
- **CTS** - Carpal Tunnel Syndrome: is a nerve disorder which may involve pain, tingling, numbness and weakness in parts of the hand, and can be caused by (among other things), exposure to vibration.
- **HAVS** - Hand Arm Vibration Syndrome: affects the nerves, blood vessels, muscles and joints of the hand, wrist and arm - it can become severely disabling if ignored. HAVS includes vibration white finger, which can cause severe pain in the affected fingers.
- **Health Surveillance**: is an assessment of the state of health of a colleague as related, within this policy, to exposure to vibration.
- **Competent Person**: is a colleague who has sufficient health and safety training and experience or knowledge and other qualities to enable them properly to advise the Employer. Within this Standard, the Health & Safety manager is designated as the Competent Person.
- **Risk Assessment**: is a technique used to determine the likelihood and severity of harm that may be present whilst carrying out work activities. A competent person will carry out the risk assessment and once completed, a safe system of work will be drawn up.

4. WHAT NEEDS TO BE DONE

Pre-employment Health Assessment

- 4.1 Pre-employment health assessments are carried out for exposure to hand-arm vibration at work in the following situations:
 - Prior to commencing employment with Lothian in a relevant engineering role
 - A colleague transferring into a relevant engineering role
- 4.2 The Occupational Health (OH) Team will confirm to Management 'Fitness' (or otherwise) for exposure to hand-arm vibration, whether restrictions should be applied and health surveillance timeframes depending upon any pre-existing health problems.
- 4.3 The OH Team issue the HSE, 'Hand-Arm Vibration - A guide for Employees' INDG296 after health assessments/surveillance as part of colleague information, instruction and training.

Risk Assessment

- 4.4 As part of Lothian risk assessment process, a risk assessment for 'exposure to vibration' has been carried out. The aim of the risk assessment is to eliminate/reduce/control exposure to hand-arm vibration wherever possible.
- 4.5 As part of the risk assessment process, all hand-held vibratory tools manufacturer's tool data sheets are checked to confirm the vibration magnitude (in m/s^2).
- 4.6 The magnitude level has been converted into points using the HSE hand-arm vibration exposure calculator to produce points per tool.

Company and personal tools

- 4.7 Each colleague must inspect tools and equipment before use and immediately report to the supervisor, any damaged or defective tools or equipment. Each colleague must report any signs of excessive vibration/noise emission.
- 4.8 Worn or damaged equipment is only repaired or replaced by a competent person.
- 4.9 Where employees are allowed to use their own tools, these must be selected purchased and maintained to the same standard as Lothian owned equipment.
- 4.10 Managers must provide a sufficient level of supervision to ensure that equipment used is suitable, not modified and fit for purpose.

Monitoring Vibration Exposure (R-Link Smart Watch System)

- 4.11 Lothian will manage HAV exposure across all engineering workshops using the Reactec R-Link Smart Watch system. This system provides real-time monitoring of vibration exposure, automated point calculation, and centralised reporting to ensure compliance with the Control of Vibration at Work Regulations.

Colleague Requirements

- All affected engineering colleagues must wear an assigned R-Link smart watch for the full duration of each shift.
- R-Link automatically records exposure points during use of designated vibratory tools
- Colleagues must ensure their watch is:
 - Logged in to their personal profile at shift start
 - Sufficiently charged
 - Returned to the docking station at the end of the shift

Tool Activation & Exposure Recording

- Company issued Vibratory tools will be fitted with R-Link tool tags enabling automatic recognition by the smart watch.
- Exposure points are calculated automatically based on HSE methodology and reports an individual's exposure risk based on Tool Exposure Points (TEP) and real-time vibration magnitude experienced by a wearer during actual tool use,

Sensed Exposure Points (SEP). Therefore, unexpected risks are identified and can be monitored and controlled.

- The daily exposure limit will be 399pts, with all other reduced limits (e.g., apprentices under 18yrs and medically restricted colleagues set at 99pts).

Data Management & Reporting

All R-Link exposure data will be automatically uploaded to the Reactec Analytics Portal and retained in accordance with Lothian's record-keeping requirements.

Exposure Thresholds, Alerts and Escalation Actions

The R-Link system provides real-time alerts to colleagues and managers.

R-Link Watch Alerts

- Amber alert – approaching 99 points or personalised action level
- Red alert – exposure limit reached (e.g., 399 points or colleague-specific limit)

Manager Escalation Actions

When a threshold is approached:

1. Reassign the task or rotate colleagues to reduce exposure.
2. Check whether alternative lower-vibration tools exist.
3. Ensure cold-weather controls and PPE are utilised to maintain circulation.

When a threshold is reached or exceeded:

1. Immediate cessation of tool use by the colleague.
2. Investigation of the job planning, tool condition, and exposure pattern.
3. Notification to the Engineering Manager.
4. If repeated breaches occur, review of training, tool condition, supervision levels and possible disciplinary action.

If the watch repeatedly logs high exposure unexpectedly, a tool vibration test or maintenance inspection must be initiated.

Working Environments

4.12 Heating is provided in workshops to ensure the environment is kept warm and dry. Gloves and other warm clothing are available (in-line with the findings of the appropriate local risk assessment) to protect vibration-exposed colleagues from cold conditions; this will be to help maintain blood circulation.

4.13 Subject to risk assessments, suitable personal protective equipment will be issued where appropriate and must be worn as instructed whenever using vibratory tools.

Health Surveillance

4.14 Potential new employees or existing employees being transferred to jobs which are likely to expose them to vibration should complete a HAVS screening questionnaire as part of the pre-employment medical prior to their recruitment and where appropriate be referred for a HAVS health assessment.

- 4.15** Health surveillance for hand-arm vibration is undertaken in accordance with LB-HS-117 Health Surveillance.
- 4.16** Where the risk assessment has indicated that an employee exceeds or is likely to exceed the Exposure Action Value of 2.5 m/s² A (8) or the employees' health is at particular risk because of existing medical condition or vulnerability, annual health surveillance must be initiated.
- 4.17** Colleagues are legally obliged to co-operate with the manager by completing annual confidential screening questionnaire or attending referral appointments for health assessment as recommended by the Occupational Health Provider. Refusal to participate in health surveillance will likely lead to investigation and ultimately disciplinary action in line with Company disciplinary procedures.
- 4.18** Where a diagnosis has been made, the manager must prevent further harm to the employee by acting on the advice of the Occupational Health specialist.
- 4.19** Lothian must ensure arrangements are in place to ensure records of health surveillance and fitness to work advice for each employee are retained.
Confidential personal medical information should be retained by the doctor.
- 4.20** Health Records should be made available to the employee if requested and be retained for as long as the employee is under health surveillance

Information, Instruction and Training

- 4.21** Colleagues must be provided with the following information:
- The sources of hand arm vibration and the ill health effects
 - Whether the employee is at personal risk
 - How to recognise and report symptoms and how to reduce risks
 - The importance for health surveillance
 - How the employee can raise health and safety issues relating to exposure to vibration
- 4.22** Records of any training, briefings, toolbox talks, or other information issued must be retained.

External Reporting of Cases of ill health

- 4.23** The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) requires Lothian, to report to the Health and Safety Executive (HSE), cases of Colleague ill-health associated with exposure to hand-arm vibration following confirmation by our nominated Occupational Physician.
- 4.24** Where the occupational health specialist confirms that a colleague is unable to continue work that will expose them to further hand-arm vibration, management will consider reasonable adjustments and suitable alternative employment options.

However, if no suitable alternative work can be found, ultimately the colleague may have their employment terminated on grounds of capability.

Whole-body vibration (wbv)

4.25 According to the Control of Vibration at Work Regulations 2005, “the main industries where there may be a health risk from WBV include agriculture, construction, forestry, mines and quarries. Vehicles such as vans, lorries and buses, may also expose their drivers to some WBV but the levels are likely to be relatively low and therefore the likelihood of related health risks is low”.

Risk Assessment and Policy Review

4.26 The risk assessment should be reviewed at least every 2 years

4.27 A review of this policy and risk assessments associated with hand-arm vibration exposure will be undertaken at any time in the following circumstances:

- Health surveillance identifies a case of HAVS/CTS:
- Confirmation of a reportable disease (associated with hand-arm vibration exposure) under RIDDOR:
- There is the likelihood of better work methods or equipment becoming available:
- Change of legislation

Purchase and Supply of Company Tools

Lothian must ensure that employees are provided with tools that are suitable for the job, properly maintained and used correctly and safely.

4.28 Managers responsible for replacing, purchasing or hiring tools should consider ergonomic factors in their selection such as:

- Tool weight
- Tool efficiency and suitability for the task
- Handle design and comfort
- Grip force needed
- Ease of use/handling
- Cold from grips or exhausts on compressed air tools
- Noise and dust

4.29 When selecting equipment, the manufacturers/supplier’s information should be compared to ensure the lowest possible vibration however, managers should also consider the effect on performance and how this might increase trigger time.

4.30 All tools purchased must be manufactured for professional and **not domestic use**, meets relevant safety standards, and carry the CE mark.

Contractors

- 4.31 Contractors will not normally be permitted to use Lothian owned tools and equipment.
- 4.32 Managers must provide a sufficient level of supervision to ensure that equipment used is suitable and fit for purpose.

5. WHO SHOULD DO IT

5.1 Managing Director, having overall accountability for safety must:

- Ensure that the requirements of this standard are fulfilled

5.2 Engineering Director must:

- Ensure sufficient resources and training are allocated to conform to the Control of Vibration at Work policy.

5.3 Chief Engineer must

- Ensure implementation of the Control of Vibration at Work Operational Standard
- Ensure resources and training are correctly distributed throughout their areas of control

5.4 Engineering Managers or equivalent must:

- Ensure that actions resulting from hand-arm vibration risk assessments, are implemented
- Ensure the implementation and supervision of the HAVs procedure for all affected engineering colleagues
- All vibration-exposed colleagues have received a functioning R-Link watch
- H&S manger is alerted to any colleague with a health-related restriction (e.g., 99-pt cap) who has not been flagged in the R-Link management console
- Supervise and react to any live alerts in the R-Link dashboard for any colleagues approaching or breaching exposure thresholds
- Intervene where tool use must be stopped or work reallocated to remain within safe exposure levels
- Ensure colleagues return watches to the docking station so that data is uploaded before the next shift cycle
- Challenge any anomalies and investigate instances of missing watch data, repeated high-risk exposure, or non-use of R-Link equipment
- Ensure colleagues informed to attend health surveillance do so at the required frequency

- Ensure their controllers are informed to challenge incorrect use of equipment or PPE
- Inform Colleagues (if necessary) of their statutory obligation to participate in Health Surveillance
- Conduct a monthly audit of the R-Link system data from generated reports as requested by the Chief Engineer and/or Engineering Director that may include:
 - Random sample checks of exposure profiles
 - Verification that colleagues remain within limits
 - Confirmation that all assigned watches are being worn and used
 - Identification of any tool types generating consistently high exposure, initiating review or replacement where required
- Take disciplinary action where employees fail to adhere to control measures

5.5 Clerical/Administration shall:

- Assist with maintenance of the R-Link asset register, liaising with H&S Manager for issuing any replacement units

5.6 H&S Manager will:

- Arrange access rights for managers and supervisors as required
- Ensure tags are provided for any new Company tools, and new R-Link devices are registered, assigned, and functioning correctly
- Define exposure limits and risk thresholds in accordance with company policy and HSE guidance
- Oversee employee onboarding and training – make sure workers understand how to use R-Link devices, follow safe working practices, and are aware to report issues
- Report performance and compliance to line management through established audit process, highlighting key risks, trends, and improvements

5.7 H.R. Managers must ensure:

- New potential employees and those being transferred are screened for HAVS prior to their appointment
- A robust health surveillance programme and referral procedures for those exposed to risks from vibration are developed and maintained
- Health records from health surveillance and fitness to work advice are retained for the required period as per current legislation

5.8 Employees must be aware that:

- They are responsible for ensuring tools are checked pre-use and that potential worn or defective tools are not used.

- They must immediately inform their supervisor if they feel that pneumatic or electrical equipment has deteriorated
- They must immediately inform their duty Supervisor if at any time they become aware of HAVs/CTS symptoms
- They must ensure the right tool is selected for the right job as per their training.
- They need to participate in Health Surveillance as required
- They are to make themselves familiar with all aspects of this policy. Cooperate with management, and others who have responsibility for ensuring control measures are implemented and maintained
- Not misuse or damage equipment which has been provided to reduce risks

6. MEASURE

6.1 The requirements of this standard will be monitored by Lothian H&S to ensure effective implementation. Evidence of effective management will include:

- Regular workplace monitoring and observation reports, verifying correct use of tools, adherence to exposure time limits, and implementation of control measures.
- Training records confirming workforce competency, including induction, refresher training, and task-specific instruction for equipment that may cause vibration exposure.
- Corrective and preventive action logs, demonstrating that issues identified during audits, inspections, or surveillance are resolved and reviewed for effectiveness.

7. AUDIT

7.1 Compliance with the requirements of this H&S Standard will be audited periodically in accordance with the Lothian Audit Programme

8. REFERENCES AND FURTHER READING

- L140 Hand-Arm vibration: Control of Vibration at Work Regulations 2005
- HSG 170 Vibration solutions: Practical ways to reduce the risk of hand-arm vibration injury
- INDG296 (Rev2) Hand-Arm Vibration A guide for Employees
- LB-HS-109: Work Equipment