Management of Hand Arm Vibration Policy

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NHS Shetland Document Development Coversheet*

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Examples of reasons for presenting to the group	**Examples of outcomes following meeting**
• Professional input required re: content (PI)	• Significant changes to content required – refer to Executive Lead for guidance (SC)
• Professional opinion on content (PO)	• To amend content & re-submit to group (AC&R)
• General comments/suggestions (C/S)	• For minor revisions (e.g. format/layout) – no need to re-submit to group (MR)
• For information only (FIO)	• Recommend proceeding to next stage (PRO)
• For proofing/formatting (PF)	• For upload to Intranet (INT)
• Final Approval (FA)	• Approved (A) or Not Approved, revisions required (NARR)

***To be attached to the document under development/review and presented to the relevant group**

Please record details of any changes made to the document in the table below

Date	Record of changes made to document
January 2022	Creation and Implementation of New Policy.
August 2023	Minor formatting changes, addition of reference number and change of author/owner by IG Dept. after speaking with Lawrence Green, Health and Safety Lead.

Contents

1. Introduction

In NHS Shetland we recognise the risk of hand arm vibration related injury faced by staff from the use of vibrating tools and equipment. This policy has been developed in accordance with the relevant legislation, in particular:

- Health and Safety at Work Act 1974;
- Management of Health and Safety at Work Regulations (1999);
- Control of Vibration at Work Regulations (2005); and
- Provision & Use of Work Equipment Regulations (1998).

Although an organisation-wide approach has been established, detailed arrangements for controlling vibration risks remain the responsibility of Directors, Heads of Service and operational managers. All departmental health and safety control books should identify and control vibration related risks arising in the course of the work of that department, if applicable.

This policy and its procedures have been developed and agreed through the local Partnership Forum.

2. Principles

Shetland NHS Board is committed to applying a safe system of work to all vibration related situations as defined in the Control of Vibration at Work Regulations (2005), to reduce the risks from using this type of equipment.

We are committed to eliminating, so far as is reasonably practicable, vibration related tasks which incur a significant risk of injury, or otherwise reduce the level of risk to the lowest level reasonably practicable. To facilitate this we are committed to providing:

- Suitable and sufficient risk assessments;
- Appropriate hand arm vibration training;
- Provision of low level vibration equipment, where practicable;
- Information and instruction at departmental level.

This policy will be reviewed every three years, and registered holders of the Health and Safety Control Book will be notified of any amendments.

3. Policy aims

This policy aims to:

- Meet the general commitments to the health and safety of staff described in the Risk Management Strategy and Health and Safety Policy;
- Eliminate vibration related tasks, which could cause injury, wherever this is reasonably practicable to do so, or reduce risks to the lowest level reasonably possible;
- Reduce the risk of unnecessary exposure to vibration by making sure that risk assessments are carried out and that the most appropriate equipment is used wherever possible;

- Make arrangements for putting the policy into practice and make sure we make improvements in controlling the risks created by hand arm vibration;
- Contribute to helping staff who have adverse vibration related symptoms;
- Reinforce the responsibilities of general or directorate managers and heads of departments for the control of vibration within their areas of responsibility, if applicable; and
- Adhere to the Control of Vibration at Work Regulations 2005 and all other legislative and professional guidance (see Annex 1).

4. General strategy

Our strategy for the control of hand arm vibration reflects the scale of the problems in this respect. Responsibility for risk assessments and implementing control measures rests with line managers with advisory input from the Health & Safety Lead, as appropriate.

The strategy for reducing vibration related risks is as follows:

- The Health, Safety and Wellbeing Committee will review and oversee how this policy is put into practice. The Health and Safety Lead will advise the Committee on corporate control of vibration management strategies. Wide-ranging scoping of vibration related activities through the risk assessment processes must be carried out by line managers and heads of department. Where there may be a significant risk of injury, specific hand arm vibration assessments will be carried out and if appropriate, action plans created to manage the implementation of any further controls. The action plan will aim to reduce the risk of injury within vibration related tasks by:
- Identifying priority risk areas;
- Helping staff use mechanical vibrating equipment correctly;
- Evaluate the level of vibration of individual tools or equipment that emit vibration and identify the level of risk associated with each individual piece of equipment;
- Re-organising work practices. Priority staff groups for training programmes must be established, and refresher training provided as appropriate. Any data which is collected will be used to monitor the policy's implementation.
- Ensuring regular health surveillance is undertaken for all relevant staff who use this type of equipment.

5. Definition

Hand-Arm Vibration Syndrome or ‘HAVS’ is a condition that has the potential to affect any worker who uses powered hand-held or hand-guided tools as a major part of their job. Workers whose hands are regularly exposed to high vibration may suffer from several kinds of effects to the hands and arm, including impaired blood circulation and damage to the nerves, muscles and joints. This is usually felt as a tingling or numbness in the fingers or where ‘finger blanching’ occurs. Common diagnosis within this type of symptom are: 'Vibration White Finger', 'Dead Finger' or Secondary Raynaud's Syndrome.

The effects are cumulative and as time passes the attacks may involve considerable pain and loss of manual dexterity, resulting in clumsiness and reduced grip strength. In severe cases,

blood circulation may be permanently impaired, and fingers may take on a blue-black appearance.

As indicated above, the primary cause of HAVS is work involving holding vibrating tools or work equipment. The risk depends on the magnitude of the vibration and how long an individual is exposed to it. Other aspects that can have an affect are the grip, push and other forces used to guide and apply vibrating tools or work equipment, the pattern of exposure, how much of the hand is exposed to the vibration, temperature, smoking and individual susceptibility. It is recognised by the NHS Shetland Board that the Estates Department is the most likely group of staff members to be exposed to this type of hazard due to the nature of their work and the tools they will potentially use. However, there may be other departments that this can affect to some degree. Dentistry is an example of this, where high frequency drills are used for dental procedures on a regular basis.

6. Responsibilities

The Chief Executive has overall accountability for ensuring that the organisational structure, arrangement and resources exist to implement this policy, its objectives, and associated plans to ensure that health, safety and welfare of staff employed by NHS Shetland liable to be affected by the activities of the organisation.

The Chief Executive will review the arrangements for controlling the risks from vibration, and where further controls and/or resource are required to meet the aims for the coming year, these will be included in the annual health and safety report for the organisation's Board.

The Health, Safety & Wellbeing Committee, chaired by the Director of Human Resources, the Committee will act on behalf of the Chief Executive in overseeing how the policy is implemented and ensure it achieves the aims set.

The Health and Safety Lead is the main source of expertise in the control of vibration within NHS Shetland and is a standing member of the Committee.

The Health and Safety Lead will advise the Committee on strategic developments necessary to reduce instances of vibration related ill-health to meet current legislation and best practice.

The Health and Safety Lead is part of the Human Resources and Support Services Directorate, and is responsible for advising managers and staff about their legal obligations and for providing specialist advice and support in relation to the management of manual handling operations. The Health & Safety lead will;

- Advise departmental managers and control book owners on issues relating to the use of vibration emitting equipment, where it is relevant to that particular area.
- Keep up to date with HAVS information and guidance from sources such as the HSE and where improvements in control and management of HAVS are published, disseminate this information through the Health, Safety and Wellbeing Committee.
- Carry out safety inspections and audits to determine the effectiveness of HAVS controls and management systems and where failings are identified, bring this to the attention of the Health, Safety and Wellbeing Committee.
- Monitoring Datix ‘Adverse Event’ reports to following up on actions to prevent re-occurrences, where applicable.

- Reporting to the HSE any ill-health that is reportable under RIDDOR legislation.

Departmental Managers and Control Book Owners are responsible to ensure:

- That vibration hazards are considered in risk assessments and reviews for relevant activities. A generic risk assessment is available within the Control Book system. More formal and detailed assessment of the risk to health is required, where vibration levels exceed the lower exposure action value.
- If the daily Exposure Action Value (EAV) of 2.5m/s2 A(8) is likely to be exceeded:
    - That exposure is reduced to the lowest practicable level
    - That the provision of health surveillance is available and undertaken by staff within their control
- If the daily Exposure Limit Value (ELV) of 5m/s^2 A(8) is likely to be exceeded:
    - Ensure employees are not exposed above the ELV
    - If they are, take immediate action to prevent recurrence
- Consider alternative processes, equipment and/or working methods which will reduce exposure for shorter times.
- Consider vibration levels when purchasing new equipment, and where possible specify and purchase equipment with reduced levels of vibration.
- Have planned preventative maintenance and inspection regimes that ensure equipment continues to operate properly and does not increase in vibration over time as it becomes worn.
- Arrange appropriate vibration surveys conducted by a competent person.
- Refer employees to the Occupational Health department for health surveillance if they are likely to use vibrating hand-held tools and taking advice on changing tasks or a phased return to work, if necessary.
- Making sure that Datix incident reports are completed for all injuries or near misses involving equipment, and keep up-to-date details of all vibration related adverse events which occur in their area of responsibility;
- Being fully aware of the issues highlighted within current risk assessments carried out for their areas; putting into practice, as far as reasonably practicable, with the resources available, any control measures identified through risk assessments or required under this policy;
- Recording details of action plans for reducing risk and ensure they prioritise risk control measures;
- That all staff receive the relevant information, instruction and training prior to using vibrating equipment and that they are updated regularly;
- Local records are maintained for staff who receive training, both at induction and risk assessments / safe systems of work; and
- That new members of staff in their ward or department have been passed by the OHS as fit for the job.

All staff are responsible for:

- Taking reasonable care for their own safety and that of colleagues and patients;
- Making full and proper use of equipment provided;
- Report any suspect equipment or symptoms to their line manager without undue delay, so that appropriate steps can be taken.
- Attend occupational health surveillance if requested to do so by their Manager and cooperate with the occupational health nurse or doctor etc, to carry out a meaningful and accurate assessment for Hand Arm Vibration. Any concerns or suspicions employees may have regarding symptoms of HAVS must be raised with the occupational health nurse, so further investigations can take place.
- Following safe systems of work and risk assessments;
- Following the precautions and procedures set up for avoiding or reducing the risk of vibrating equipment and following the safe system of work;
- Undertaking control of vibration training provided by NHS Shetland, following safe working practices and asking for extra training if they feel that they need it;
- Assessing the task using dynamic risk assessment techniques before starting the task to make sure enough precautions are taken;
- Making sure that Datix incident reports are promptly reported and completed by following the procedure for all incidents; and reporting any problems or shortcomings in the risk assessment or safe system to their line manager.

The Occupational Health Department is responsible for carrying out pre-employment screening and making sure that new staff are fit for the duties involved in their post.

Occupational health will provide annual health surveillance screening that includes hand arm vibration related illness.

They will discuss with the Ward or Department Head, the Staff Physiotherapists or the Health & Safety Lead any risks which they consider to be significant, bearing in mind patient confidentiality.

All staff can consult the OH Service, confidentially, on any aspect of health and safety while at work.

7. Vibration assessment and risk identification

To assist managers meet their obligations in relation to the control of vibration, NHS Shetland will utilise the Health & Safety Executive (HSE) assessment tool for HAVS. This tool has been developed by the HSE to support organisations implement a robust management system in relation to the control of vibration and as such, carries a degree of HSE approval for the format and methodology. The assessment process enables vibration related tasks to be risk profiled at departmental level and then target identified risks in priority order.

7.1. Control and management procedures

Potential sources of high vibration at NHS Shetland

The following is an indicative list of the types of equipment found in NHS Shetland that may present a vibration hazard:

- Grounds work, e.g. strimmers, lawn mowers, hedge trimmers, etc.
- Workshop equipment, e.g. grinding tools, needle guns, sanders and drills
- Percussive metal-working tools

7.2. Exposure limits

The Regulations define two types of exposure limit.

The Exposure Action Value (EAV) is the level of daily exposure to vibration, which if exceeded requires certain actions to reduce exposure. The Exposure Limit Value (ELV) is the maximum amount of vibration an employee may be exposed to on any single day.

The vibration level produced by equipment is usually assessed by measuring the acceleration level in m/s^2. The Regulations set an **Exposure Action Value (EAV) of 2.5m/s^2** over 8 hours (A8) and an **Exposure Limit Value (ELV) of 5m/s^2** over 8 hours (A8).

It is the aim of NHS Shetland to minimise the risk of HAVS to staff by keeping exposure to vibration as low as is reasonably practicable and where the $2.5m/s^2$ is exceeded, control measures will be put in place to reduce it.

The vibration dose received by a worker over a typical working day depends on the duration of exposure as well as the vibration magnitude.

To allow different exposure patterns to be compared they are adjusted or normalised to a standard reference period of 8 hours, which duplicates the approach taken for noise levels. The Control of Vibration at Work Regulations 2005 describe how an exposure normalised to 8 hours, A(8), can be calculated. NHS Shetland will utilise the HSE on-line vibration exposure calculator to determine vibration levels over a working day and the times to reach the exposure levels using the cumulative daily points system.

The HSE guidance in L140 provides the following summary of assumed exposures for different styles of hand-held vibrating tools:

Power tool or machine	Time to Exposure Action Value (EAV)	Time to Exposure Limit Value (ELV)
Rotary	1 hour	4 hours
Percussive	15 mins	1 hour
Note: The exposure durations shown are those after which it is likely that the EAV or ELV will have been reached with modern well-designed and maintained machines. Older, poorly designed or poorly maintained machines may reach the EAV and ELV much sooner. **Note: The above table is only a general guide and must not be relied upon as an accurate measurement.**		

7.3. Time to EAV and time to ELV

NHS Shetland recognises that there may still be a need to assess each situation and tool to determine accurate exposure levels to inform and protect staff, where estimates indicate that

the ELV may be exceeded or individual assumptions cannot be relied upon due to unusual working practices or other factors.

However, the diversity of work that an individual may be involved in can cause difficulty in accurately assessing exposure because of the number of different tools that potentially could be used in any one day for variable lengths of time. It should be possible to estimate a cumulative exposure by summing up the typical exposure pattern from the range of equipment used.

To identify the extent of the problem:

- Identify the equipment that vibrates and produce an asset register of all potentially vibrating hand-held tools.
- Measure the levels of vibration - information should be available from suppliers/manufacturers (they have a duty to supply it), but this will only be using data under bench running conditions. Staff are likely to have a subjective opinion regarding the equipment and therefore vibration assessment by a competent contractor will be required to establish definitive levels of vibration exposure each piece of hand held tool emits while used under normal working situations.
- Rank equipment in terms of hazard contribution, i.e. the level of vibration and how much they are used.
- Discuss with staff whether they have noticed any problems with certain types of equipment or individual machines.
- Check the workload of individuals who use vibration tools and at least estimate the exposure they may be receiving.

To reduce the risk:

- Provide information, instruction and guidance to staff on HAVS and how to reduce the risks from hand held tools that produce vibrations.
- Check whether it is necessary to use the current types of tool or whether a task may be achieved a different way.
- Minimise the need for operations and tools that expose workers to hazardous vibration, so far as is reasonably practicable.
- Minimise the forces needed to control tools, where possible.
- Consider the maintenance of the equipment and whether there is likely to be deterioration in anti-vibration mountings, etc. Ageing and/or poorly maintained equipment is likely to give worse levels of vibration. Consider replacement of old or worn equipment.
- Ensure cutting tools are kept sharp to minimise the forces required.
- Dress grinding wheels correctly.
- Reduce exposure times, e.g. by breaking up activities to minimise prolonged exposure and/or job rotation with other work colleagues.
- It is important that operators can maintain good blood circulation. Gloves can be helpful although alone, they are not the solution to a vibration problem.
- Heated handles, warm, weatherproof clothing, heating pads are amongst the other aids that can be considered.

- Further suggestions on how risk reduction may be achieved can be found in the HSE publication INDG296 Hand-arm vibration – A guide for employees. It is recommended that a copy of this leaflet is provided to all relevant staff who may use this type of equipment.

8. Training

Staff within a department where hand arm vibration is a hazard must be provided with adequate information, instruction and training. This should include, but not limited to the following:

- The causes of vibration and mechanical factors that can increase levels of exposure
- information on vibration levels relevant to the machinery they are to use, particularly identifying pieces of equipment that are known to have higher vibration levels
- the need to interrupt work using vibrating machinery on a regular basis with other tasks and or to divide such work with other work colleagues
- to be aware of other factors that can increase the likelihood of harm such as low temperatures, smoking, etc.

9. PPE, gloves and warm clothing

The use of PPE should always be the last resort when considering control measures to eliminate or reduce risk. Anti-Vibration Gloves are no exception to this rule and NHS Shetland will always introduce and maintain appropriate control measures, where possible, to negate the need for PPE as a control method, if it is reasonably practicable to do so.

Recent studies have shown that gloves that are specifically issued to protect workers from hand arm vibration are not effective as a risk control strategy. The following statement taken from the HSE website, which has been in the public domain since 2012 clarifies the position:

> “Gloves marketed as "anti-vibration", which aim to isolate the wearer's hands from the effects of vibration, are available commercially. There are several different types, but many are only suitable for certain tasks, they are not particularly effective at reducing the frequency-weighted vibration associated with risk of HAVS and they can increase the vibration at some frequencies. It is not usually possible to assess the vibration reduction provided in use by anti-vibration gloves, so you should not generally rely on them to provide protection from vibration. However, gloves and other warm clothing can be useful to protect vibration-exposed workers from cold, helping to maintain circulation.
>
> Low hand or body temperature increases the risk of finger blanching because of the reduced blood circulation. You should therefore make sure employees working outdoors in cold weather have adequate protection. The temperature in an indoor workplace should provide reasonable comfort without the need for special clothing and should normally be at least 16 °C. If this is not reasonably practicable, you should provide warm clothing and gloves. (More than one set may be required for each employee if the gloves or clothing are likely to become wet.) Gloves and other clothing should be assessed for good fit and for effectiveness in keeping the hands and body warm and dry in the working environment. You should also ensure that gloves or other clothing you provide do not stop employees working safely and do not present a risk of entanglement with moving parts of machinery”.

Considering the above information from the HSE, it is the policy of NHS Shetland not to issue 'anti-vibration' gloves, but to focus on more effective and reliable methods of controlling the risks. However, cold weather clothing and appropriate work gloves are provided to help reduce the effects of cold and wet weather while staff are at work.

Vibrating tools are generally accompanied by high levels of noise and this will normally increase as the levels of vibration increase. Equipment powered by 4 or 2 stroke engines are particularly prone to high levels of noise and vibration. Therefore hearing protection is mandatory to be worn for all operators of vibrating tools both electrical or petrol powered.

10. Monitoring

This policy will be monitored by the Health, Safety and Wellbeing Committee.

The Health, Safety and Wellbeing Committee is responsible for overall monitoring of risk assessments and control measures within NHS Shetland. Any problems highlighted should be brought to the attention of the Chief Executive Officer through the appropriate Committee process.

Outcome and indicators which may be used to evaluate the policy include:

- Is the policy effectively and widely communicated?
- Are staff aware of the policy and its implications?
- Is the policy addressed in local and organisational induction programmes?

This policy will be reviewed every three years from its effective date by the Health, Safety and Wellbeing Committee, reporting to Shetland NHS Board, unless amendments are required due to changes in equipment, work processes, changes in HSE guidance or monitored trends indicate an increase in hand arm vibration issues. Under these circumstances, the policy will be reviewed as soon as practicable along with the relevant risk assessments and safe systems of work to consider any gaps in procedures and controls that may have developed.

To assist the Health, Safety & Wellbeing Committee to evaluate the effectiveness of this policy, information from the following key indicators may be utilised:

- Adverse event statistics reported via Datix
- RIDDOR incidents reported to the HSE
- Legal action / claims data
- Sickness absence data
- Occupational health data on health surveillance
- Safety Inspection and audits
- Monitoring planned preventative maintenance and inspection regimes

11. Dissemination and communication

The policy is made available via both the NHS Intranet and NHS Shetland website to ensure ease of access for all staff. Paper copies of the policy are also available in some departments within the Control Book system. The policy is referred to and made available to all relevant staff

commencing employment with Shetland NHS Board. This is done as part of their departmental staff induction.

Risk assessments and related safe systems of work are also communicated as part of the departmental induction process.

NHS Shetland will utilise a variety of communication pathways to not only pass on safety information to staff, but also enable 2-way communication and feedback from all staff members. This is achieved by encouraging open and honest dialogue with staff members through team meetings and union safety representatives. These Union representatives also sit on the Health, Safety and Wellbeing Committee and so, have a direct route into the upper echelons of the organisation to highlight safety issues raised by staff.

12. Legislative and professional guidance documents

- Health & Safety at Work etc Act (1974), Chapter 27
- Management of Health & Safety at Work Regulations (1999)
- Control of Vibration at Work Regulations (2005)
- Provision & Use of Work Equipment Regulations (1998)
- INDG296 Hand-arm vibration – A guide for employees