Reference Number: UHB466 **Version Number:** 2	**Date of Next Review:** *March 2028* **Previous Trust/LHB Reference Number:** N/A

IMS-10-03:CAV CONTROL OF HAND ARM VIBRATION EXPOSURE AT WORK PROCEDURE

Purpose

To ensure the protection of employees from the harmful effects of vibration at work and to meet legislative requirements.

Audience

This procedure is aimed at managers responsible for staff whose activities expose them to vibration from:

- Working with hand-held power tools such as drills and saws
- Using hand guided equipment or holding materials being worked by hand fed machines
- Driving tugs or other vehicles where there may be a whole-body vibration hazard.

Operational Health and Safety Group

The Operational Health and Safety Group should approve the Control of Hand Arm Vibration Exposure at Work Procedure and commit to its full implementation.

Procedure Review

The Procedure will be reviewed within three years of implementation or as the Health Board changes and/or when legislation, codes of practice and official guidance dictate, by the Assistant Director of Health Safety and Fire.

Line Managers

Line managers **must** ensure that they understand the requirements of the Control of Hand Arm Vibration Exposure at Work Procedure. All line managers should demonstrate the importance of this document by ensuring that their own behaviours actively promote and serve as a role model for the desired health and safety values and principles.

All employees

All employees must ensure that they understand the requirements of the Control of Hand Arm Vibration Exposure at Work Procedure.

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Equality Health Impact Assessment	An Equality Impact Assessment has not been completed. This is because the procedure has been written to support implementation of the Health and Safety Policy. The Equality Impact Assessment completed for the Policy found there to be no impact.

Documents to read alongside this Procedure	Health & Safety Policy Risk Assessment and Risk Register Procedure Occupational Health Policy
Approved by	UHB Health and Safety Operational Group
Accountable Executive or Clinical Board Director	Executive Director of People and Culture
Author(s)	Assistant Director of Health Safety and Fire / Health and Safety Adviser

Disclaimer

If the review date of this document has passed please ensure that the version you are using is the most up to date either by contacting the document author or the Governance Directorate.

Summary of reviews/amendments			
Version Number	**Date of Review Approved**	**Date Published**	**Summary of Amendments**
1	*Date of Committee or Group Approval*	*TBA*	New document
2	10/01/25	15/05/2025	Periodic review including minor changes to reflect procedural and risk assessment template updates.

Appendices

NOTE

Wherever the designation “manager” is used throughout this policy, it is taken to mean head of service, line manager, supervisor and the person in charge or anyone who has responsibilities for employees in the course of their work.

1. INTODUCTION

Hand-transmitted vibration typically occurs when using hand-held equipment, transferring vibration energy to the user. According to the Control of Vibration at Work Regulations 2005, "hand-arm vibration" refers to mechanical vibration transmitted into the hands and arms during work activities.

Hand-Arm Vibration can lead to various conditions known as Hand-Arm Vibration Syndrome (HAVS) and specific diseases like carpal tunnel syndrome. Potential soft tissue damage may cause pain and stiffness in the hands, wrists, elbows, and shoulders. Vibration exposure can also result in vascular disorders, such as vibration-induced white finger (VWF), which impairs blood circulation and causes blanching of the fingers and parts of the hand. Neurological and muscular damage may occur, leading to numbness, tingling, reduced grip strength, dexterity, and sensitivity to touch and temperature.

HAVS is reportable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) when work involves regular use of percussive or vibrating tools or handling materials subject to percussive or vibrating processes.

Cardiff and Vale University Health Board will, as far as reasonably practicable, eliminate vibration at the source and implement control measures to reduce vibration exposure. These measures will follow the "hierarchy of controls" outlined in the Management of Health & Safety at Work Regulations 1999 and the Control of Vibration at Work Regulations 2005.

2. AIM

The aims of this document are to:

- Outline the requirements for controlling hand arm vibration exposure throughout CAVUHB
- Outline the requirements for controlling hand arm vibration exposure throughout CAVUHB
- Provide guidance to line managers of in scope employees

3. Scope

This procedure applies to all staff, including those with honorary contracts, across all locations. It addresses vibration exposure and follows a regulatory approach using action levels and exposure limits to manage risks. The procedure is particularly relevant when occupational exposure to vibration meets or exceeds statutory action values or exposure limits.

4. OBJECTIVES

- **Prevent Injury**: Prevent or limit exposure to vibration to protect staff and other relevant parties.
- **Inform Managers**: Educate managers about the risks of vibration and necessary actions.
- **Employee Safety**: Ensure employees are fit to work with vibrating equipment through pre-employment screening, periodic assessments, and specific awareness training.
- **Health Monitoring**: Detect signs of ill-health or vibration-induced injuries and determine if they are related to work exposure.
- **Action on Exposure**: Take action if hand/arm vibration exposure exceeds 2.5m/s² A(8).
- **Limit Daily Exposure**: Prevent daily hand/arm vibration exposure from exceeding 5m/s² A(8).
- **Compliance**: Adhere to legislation and HSE guidance.
- **Training**: Inform, instruct, and train employees on vibration risks, control measures, protection, and safe working practices.
- **Vibration Assessments**: Identify the need for vibration assessments in affected areas.
- **Control Strategies**: Implement strategies to minimize vibration exposure to acceptable levels.

5. DEFINITION

The Control of Vibration at Work Regulations establish the following action and exposure limit values for hand-arm vibration:

- **Action Value**: 2.5 m/s² A(8), average exposure
- **Exposure Limit**: 5 m/s² A(8), average exposure

These values are expressed as a time-weighted average (TWA), considering both the duration and level of exposure.

6. POLICY STATEMENT

Cardiff and Vale University Health Board will manage vibration hazards within its control as far as reasonably practicable. The Health Board aims to achieve this by implementing measures to control vibration exposure. When selecting controls, the Health Board will apply the hierarchy of controls as outlined in the Management of Health & Safety at Work Regulations 1999 and the Control of Vibration at Work Regulations 2005. The Health Board will eliminate vibration at the source where possible and, if not, reduce exposure to the lowest practicable level.

Key measures include:

- Conducting and maintaining up-to-date vibration risk assessments where employees are likely to be exposed to vibration risks.
- Providing employees with suitable information, instruction, and training.
- Carrying out health surveillance in line with the Health Board's Occupational Health Policy and associated procedures when assessments indicate a risk to employee health from vibration exposure.

7. **RESPONSIBILITIES** for Managing Vibration Risks

Senior Managers

- Identify and reduce vibration risk activities where practicable.
- Ensure employees exposed to vibration receive adequate information, instruction, and training.
- Provide suitable control measures and facilities for storing Personal Protective Equipment (PPE).
- Ensure employees attend routine health surveillance.
- Enforce this procedure.
- Refer new symptoms to the Occupational Health Service.

Managers

- Provide control measures and facilities for storing PPE as identified by risk assessments.
- Ensure employees attend routine health surveillance.
- Act if employees do not manage vibration exposure as required.
- Enforce this policy.
- Report any symptoms identified by employees.

Employees

- Use vibration control measures as identified by risk assessments.
- Attend routine health surveillance.
- Do not tamper with or modify safety equipment.
- Report deficiencies in work procedures or PPE to their line manager.
- Replace lost or damaged PPE before exposure to vibration.
- Report deficiencies in control measures or faulty equipment to their line manager.
- Report new vibration-related symptoms to their line manager.

Occupational Health Department

- Provide confidential services and specialist advice on health effects related to work.
- Advise managers on the suitability and appropriateness of health surveillance.
- Conduct health surveillance and maintain records.
- Provide feedback and guidance on risks following health surveillance.

- Report group health surveillance results to the appropriate manager and safety group.
- Advise managers on work restrictions due to health risks.

Corporate Health Safety Department

- Enforce this policy during inspections and audits.
- Report deficiencies in risk control measures to management.
- Assist with vibration risk assessments when requested.
- Conduct or arrange vibration measurements where appropriate.
- Advise on vibration control measures.
- Collaborate with the Occupational Health Department to determine the need for health surveillance.

8. ARRANGEMENTS

Corporate Management Arrangements for Implementing the Control of Hand Arm Vibration Procedure

Background

- Hand-arm vibration (HAV) exposure typically occurs when using hand-held power tools or holding vibrating items. This can lead to significant injuries, including:
  Tingling and numbness in the fingers, which can disturb sleep.
- Reduced ability to feel with your fingers, including sharp edges, heat, and grip.
- Loss of hand strength, making it difficult to pick up or hold objects.
- Vibration white finger (VWF), where fingers turn white then red and become painful in cold and wet conditions.

Continued use of high-vibration tools can worsen these symptoms, potentially leading to:

- Permanent numbness in the hands, resulting in a complete loss of sensation.
- Difficulty picking up small objects like screws or nails.
- Increased frequency and severity of VWF, affecting more fingers.

Assessment and Action

The risk of injury from HAV must be assessed, and actions should be taken to either prevent exposure entirely, where reasonably practicable, or reduce it to a minimum. Actions may include:

- Changing working methods.
- Using different equipment.
- Modifying processes to eliminate or reduce vibration exposure.

These measures help protect employees from the harmful effects of hand-arm vibration.

9. **ASSESSMENT** Steps for Managing Hand-Arm Vibration Risks

Step 1: Identifying Hand-Arm Vibration Problems

A full risk assessment is required only if work activities are likely to expose employees to vibration risks. Managers can use the "indicative risk tool" in Appendix 1 to determine if staff are exposed above the daily Exposure Action Value (EAV). This tool should be completed and forwarded to the health and safety department for a joint risk assessment if needed.

Step 2: Conducting a Risk Assessment

The risk assessment aims to:

- **Identify Risks**: Determine where employees are at risk to create an action plan for controlling exposure and managing risks according to regulations.
- **Determine Exposure**: Accurately measure employees' daily vibration exposures to identify those likely to be exposed at or above the action or limit values.
- **Gather Information**: Collect additional information for the action plan, including potential modifications to tools, equipment, or processes, special training needs, and health surveillance requirements.

The regulations require special consideration for employees with health conditions that may increase their risk from vibration, such as circulatory, joint, or muscular problems.

The risk assessment should be conducted by the manager and a competent person from the health and safety department, who is familiar with the Control of Vibration at Work Regulations 2005 and trained in using vibration measuring equipment and interpreting vibration data.

- A suitable and sufficient risk assessment must:
- Identify all employees likely to be exposed to vibration.
- Provide information on vibration exposure, including measurements or data from credible sources, supported by details on exposure duration and type.
- Identify necessary measures to eliminate or minimize risks.

Managers can use the Risk Assessment form in Appendix 2 to document the assessment and required measures.

10. MAINTENANCE

Proper tool maintenance can significantly reduce vibration emissions. Managers are responsible for ensuring equipment is well-maintained and any damage is reported immediately. Power tools and other equipment should be serviced and maintained according to the manufacturers' schedules to prevent high vibration levels and ensure efficient operation.

Staff should report any tools that seem to produce excessive vibration to their supervisors, who will then arrange for inspection and repair if necessary.

Maintenance schedules should specifically include the inspection and repair of any anti-vibration measures where appropriate.

11. PROCUREMENT

Cardiff and Vale UHB will prioritise low vibration tools and processes in its procurement policy. Procurement staff must be familiar with the Control of Vibration at Work Regulations Practical Guidance for Employers Part 4: “Information from Manufacturers and Suppliers of Machinery” (Appendix 4).

Managers will ensure that procurement requests emphasize the importance of low vibration characteristics when selecting tools and equipment.

Procurement will prioritize requests for low vibration tools and equipment, even if cheaper alternatives are available. The selection process will involve consultation with a competent person, such as the line manager of employees exposed to vibration and the Corporate Health and Safety Adviser.

Cardiff and Vale UHB will also aim to standardize the tools used for various tasks to minimize the range of brands and models in use.

12. HEALTH SURVEILLANCE for Vibration Exposure

Criteria for Health Surveillance

Health surveillance is required when:

- A risk assessment indicates a health risk from vibration exposure.
- Employees are likely to be exposed at or above the exposure action value.
- There is a direct link between exposure and an identifiable disease or adverse health effect.
- The disease or adverse health effect is likely to occur under work conditions.
- Valid techniques are available for detecting the disease or adverse health effect.

Records of health surveillance must be maintained for at least 40 years.

Tiered Approach to Health Surveillance. To efficiently identify employees with symptoms requiring further investigation, a tiered approach will be implemented:

Tier 1: Initial or Baseline Assessment

- Before exposure to hand-arm vibration, Occupational Health will conduct an initial assessment, notified by the manager or during pre-employment.
- An initial screening questionnaire (Appendix 3) will be completed by the employee and returned confidentially to health professionals.

Tier 2: Annual Screening Questionnaire

- Managers of operatives using vibrating tools that pose a risk must ensure that their employees complete an annual Hand Arm Vibration screening questionnaire and return it to Occupational Health.

Tier 3: Assessment by Qualified Person

- If symptoms are reported at Tier 2, the employee may be assessed by the Occupational Health Advisor, who may refer them to the Occupational Health Physician for further assessment.

Tier 4: Formal Diagnosis

- Formal diagnosis is made by a doctor, who may refer the employee to a vascular consultant.
- Occupational Health will inform the employee's manager and the health and safety department about fitness for work involving vibrating tools and any specific measures needed.

Temporary (Agency) Staff

- Agency staff working with vibratory equipment must complete a pre-exposure assessment questionnaire before employment.
- The agency must ensure the questionnaire is completed and discuss any health concerns with the service area manager before approval for employment.

Reporting and Action

- Managers must immediately refer any employee reporting symptoms related to vibration exposure to Occupational Health for assessment.
- Employees showing symptoms must be removed from using vibrating equipment until the occupational assessment is completed.

13. CONFIRMED CASES OF HAVS & RESTRICTIONS

When Occupational Health diagnoses an employee with Hand Arm Vibration Syndrome (HAVS) or imposes a restriction, the Health and Safety department, in collaboration with the Manager, will conduct a risk assessment. This assessment will outline the necessary controls to comply with Occupational Health's recommendations or restrictions.

14. TRAINING, INFORMATION AND INSTRUCTION

Training & Supervision for Using Vibratory Equipment

Instruction, Information, and Training

Employees identified by risk assessment as needing to use vibratory equipment must receive appropriate instruction, information, training, and supervision. This will cover:

- **Health Effects of Vibration**: Understanding the potential health impacts.
- **Sources of Vibration**: Identifying where vibration originates.
- **Risk Levels**: Assessing whether the risk is high (above the ELV), medium (above the EAV), or low (below the EAV).
- **Risk Factors**: Considering factors such as vibration levels, daily exposure duration, and regularity over time.
- **Symptom Recognition and Reporting**: Learning to identify and report symptoms.
- **Health Surveillance**: Understanding the need for health surveillance, its benefits, provision, use of results, and confidentiality.
- **Minimizing Health Risks**: Implementing strategies to reduce vibration exposure, including:
    - Changes to working practices.
    - Correct selection, use, and maintenance of equipment.
    - Proper techniques for equipment use, such as reducing grip force.
    - Maintaining good blood circulation by keeping warm, massaging fingers, and reducing smoking.

Training Records

Training records will include course notes and a signed and dated declaration of attendance by operators.

Refresher Training

Refresher training will be provided to ensure that staff retain their competencies after initial training.

15. AUDIT

Managers and supervisors must audit compliance with vibration control measures and correct employee practices to ensure proper implementation. Managers are responsible for overseeing the completion and review of risk assessments and action plans to control vibration exposure.

16. SUPPORTING DOCUMENTS

- For further guidance on managing hand-arm vibration risks, you can refer to the following resources:
- **L140**: "Hand-Arm Vibration – The Control of Vibration at Work 2005 Regulations: Guidance on Regulations"
- **HSG170**: "Vibration Solutions: Practical Ways to Reduce the Risk of Hand-Arm Vibration Injury"
- **INDG175**: "Control the Risks From Hand-Arm Vibration"
- **INDG296**: "Hand-Arm Vibration: Advice for Employees"
- **Health and Safety Executive (HSE) website**: www.hse.gov.uk/vibration
- **The Control of Vibration at Work Regulations 2005**

These documents provide comprehensive information and practical advice on controlling vibration exposure and protecting employees' health.

Appendix 1

Hand Arm Vibration Syndrome (HAVS) – Indicative Risk

You, and/or others in your department, could be risking damage to nerves, blood vessels and joints of th hand, wrist and arm if you work regularly with hand-held or hand-guided power tools for more than a few hours each day.

Name:	
Email:	
Telephone:	
Department:	
Location:	

Do you use any of the following hand-held power tools or similar and, if so, what for and for how long?

Tool type	Usage details and approximate daily usage duration
Oscillating saw	
Hand-held drill	
Chainsaw	
Hand-held grinder	
Impact wrench	
Jigsaw	
Needle scaler	
Pedestal grinder	
Polisher	
Power hammer	
Power/pneumatic chisel	
Powered lawn mower	
Powered sander	
Scabbler	
Strimmer	
Brush cutter	
Concrete breaker	
Cut-off saw	
Nail gun	
Router	
Other (specify)	
Other (specify)	

Early signs to look out for:

Are you or others in your department experiencing any of the following?	Yes	No
Tingling and numbness in the fingers (which can cause sleep disturbance)		
Not being able to feel things with their fingers		
Loss of strength in the hands (may be less able to pick up or hold heavy objects)		
In the cold & wet do tips of fingers go white then red and are painful on recovery		

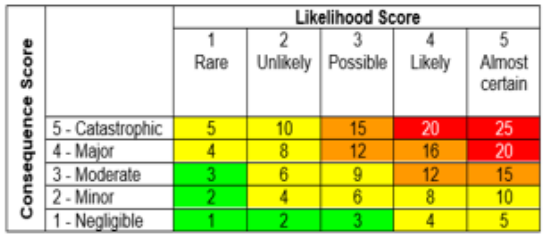
Please return to Jonathan Davies (health and safety adviser) jonathan.davies2@wales.nhs.uk

Health and Safety Risk Assessment Form (Part 2)

Bwrdd Iechyd Prifysgol Caerdydd a'r Fro
Cardiff and Vale University Health Board

Appendix 2

Description of work activity					
Site		**Ward/department**		**Directorate**	
Assessment date		**Review date**		**Assessor**	
Summary of main findings				**Risk rating matrix**	



Consequence Score	Likelihood Score: 1 Rare	2 Unlikely	3 Possible	4 Likely	5 Almost certain
5 - Catastrophic	5	10	15	20	25
4 - Major	4	8	12	16	20
3 - Moderate	3	6	9	12	15
2 - Minor	2	4	6	8	10
1 - Negligible	1	2	3	4	5

Assessment team members	Issue/rev	Reason for review	Date	Approved

Hazard type examples				
	Violence and aggression	Flammable substances	Pressure systems	Excavation
	Lone working	Corrosive/toxic substances	Fixed electrical equipment	Elevated work
	Manual handling/ergonomics	Asbestos	Overhead live conductors	Portable tools
	Lifting operations	Other hazardous substance	Remote/auto start machinery	Traffic/mobile plant/FLT
	Infection/sharps	Low/high temperatures	Contamination	Noise
	Slips, trips, falls	Oxygen deficiency/enrichment	Hot work	Nearby work
	Contact with moving parts	Other environmental factors	Confined space	Other

Health and Safety Risk Assessment Form (Part 2)

Hazard type (see previous examples)	**Who might be harmed and how?**	**What existing control measures are in place to reduce / prevent the risk?** (what are you already doing)	Consequence	Likelihood	Risk rating	**Further action to be taken to control the risk?** (additional control measures you are going to implement)	Consequence	Likelihood	Risk rating

	Actions required (remove actions and cross references when completed and include in controls)	**Person responsible**	**Target date**	**Completion date**
1				
2				
3				
4				
5				
6				

Appendix 3

CARDIFF AND VALE UHB
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Occupational Health Service: Hand Arm Vibration Screening Questionnaire

This questionnaire is **CONFIDENTIAL** and is designed to monitor the on-going surveillance

Name:	D.O.B.
Home Address:	Work Address:
Home telephone No.:	Work telephone No.:
Mobile No.:	Work Email:
Job Title:	
Department:	Start Date:
Line Manager:	

Questions	Please Tick		Please Give Details if answered Yes
Have you been using handheld vibrating tools, machines or hand-fed processes in your job? Or if this is a review since your last assessment?	☐ No	☐ Yes	
Have any of your fingers gone white on cold exposure? White means a clear discolouration of the fingers with a sharp edge usually followed by a red flush. See image 	☐ No	☐ Yes	
Do you have any numbness or tingling of the fingers lasting more than 20 minutes after using vibrating equipment?	☐ No	☐ Yes	
Do you have any numbness or tingling of the fingers at any other time?	☐ No	☐ Yes	
Do you wake at night with pain, tingling or numbness in your hands or wrist?	☐ No	☐ Yes	
Have you noticed any change in your response to your tolerance of working	☐ No	☐ Yes	

outdoors in the cold?			
Are you experiencing any other problems in your hands or arms?	☐ No	☐ Yes	
Do you have difficulty picking up very small objects e.g. screws or buttons or opening tight jars?	☐ No	☐ Yes	
Has anything changed about your health since last assessment?	☐ No	☐ Yes	

I certify the answers given above are correct to the best of my knowledge and I will notify Occupational Health if there is any change to my health.

I understand that a workplace risk assessment has identified that a health surveillance programme is required in my current employment. I also understand that I will be given a copy of the results and my manager will be given advice about my fitness for work and any adjustments/precautions necessary which will form part of my occupational health record.

Signature: _____Date: _____

Print: _____Designation_____

For Occupational Health use only:

Outcome	**Please tick**
No further action required, review in: 12 months	
Refer to Occupational Physician	

Signature of OHN	
Print name	
Designation	
Date	

APPENDIX 5: SUGGESTED QUESTIONS FOR TOOL MANUFACTURERS

Here are the key questions to consider for assessing and managing vibration risks:

1. Is the vibration of any handle or surface likely to exceed 2.5 m/s^2 in normal use?
2. If yes, what is the frequency-weighted acceleration under:
    - Operating conditions producing the highest vibration.
    - Typical operating conditions.
    - Other standard conditions.
3. Under what operating conditions were the measurements made?
4. If the tests followed a published standard, provide details and indicate how vibration may differ from the quoted values in normal use.
5. What steps have been taken to minimize vibration?
6. Are any additional measures practicable? Provide details of design changes, additional costs, and any production penalties.
7. What is the maximum frequency-weighted vibration that the tool can be guaranteed not to exceed?
8. What tests were carried out to confirm the claims made in answer to question 7?
9. Please provide details of any other measures required to minimize operator exposure to vibration from using the tool in question.

These questions help ensure a thorough assessment and effective management of vibration risks.