

Vibration at Work Safety Guidance Note



EAST RIDING

OF YORKSHIRE COUNCIL

Lead Directorate and Service:	Corporate Resources
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Vibration at Work

1. Background

This safety guidance document provides information on managing the risks associated with workplace vibration arising out of Council activities and the associated health and safety measures to be introduced to protect Council employees.

This guidance applies to all operations where equipment and vehicles (supplied by the Council and used by its employees) produce vibration that requires assessing, monitoring and controlling.

Regularly used, hand held vibrating equipment can cause damage to the blood vessels, nerves, bones and muscles in the hand and arm. This damage may potentially lead to a number of conditions, collectively known as Hand Arm Vibration Syndrome (HAVS).

The assessment of risk arising from vibration is based upon the magnitude of the emissions and the duration of exposure. This relates specifically to the actual trigger-on time; ie the duration of time that the source of vibration is used for. It is the aggregate of the individual's daily exposures that is most relevant.

Vibration presented by vehicles can present health problems which affect the musculoskeletal system; whole body vibration (WBV). Whole body vibration is transmitted through the vehicle seat or floor to employees who drive or are carried on mobile machines, or other work vehicles, over rough and uneven surfaces as a main part of their job. Large shocks and jolts may cause health risks including back pain. Everyday road vehicles do not normally present significant risks which affect employees.

2. Foreword

In accordance with the Council's Corporate Safety Policy, the Council is committed to pursuing continual improvements in health and safety. This safety guidance document supports this commitment and forms part of the Council's health and safety management system. The Council operates a policy of ensuring that equipment and vehicles which are purchased or hired incorporate features which minimise the transmission of vibration to employees us.

3. Implementation

Directorates are responsible for the implementation of this safety guidance document, and communication of its content as appropriate.

This safety guidance document is available on the Safety Services intranet page and where employees do not have access to the Council's intranet, via their line manager.

The Council relies on the co-operation of all employees, and trades unions for the successful implementation of this safety guidance document.

A review of this safety guidance document will be undertaken three years after its implementation, and whenever significant changes in legislation or working practices deem this appropriate.

4. Roles and Responsibilities

Directors and Heads of Service

Directors and Heads of Service are ultimately responsible and accountable to the Chief Executive for ensuring this safety guidance document is issued to their management team.

Managers and Head Teachers

Managers and Head Teachers are responsible for achieving the objectives of this safety guidance document where relevant to their area of service delivery and are responsible for ensuring that:

- The information contained within this safety guidance document is implemented and complied with;
- Risk assessments are completed taking into consideration the arrangements section of this document;
- Control measures (safe systems of work) are introduced to reduce any potential risks to a reasonable level;
- Relevant information, instruction and training is provided to staff to enable them to undertake their job safely and without risk;
- There is adequate provision of, and suitable maintenance arrangements for, the equipment that emits vibration;
- Recruitment Services must be informed of any posts that will attract Tier One Pre-employment health screening as part of the recruitment process;
- All managers who have employees that may be exposed to vibration must attend the 'Vibration Management' course. A refresher training session must also be undertaken at three yearly intervals;
- Managers responsible for Health Surveillance (Responsible Persons) must also receive relevant training. Again a refresher training session must also be undertaken at least every three years.

Service Areas with Exposure to Vibration at or Above the Exposure Action Value.

In those service areas that fail to reduce daily exposure to vibration to a level less than the Exposure Action Value (EAV), managers must also:

- Attend training and understand the health surveillance procedures including the importance of confidentiality;
- Take responsibility for the completion of and subsequent collation of the Council's tier two hand arm vibration questionnaire (Appendix A) with relevant employees;
- Every third year, send employees that work with vibrating equipment to Occupational Health for a tier three health assessment;
- Arrange for exit health surveillance before an employee leaves the service area for any reason, e.g. promotion, transfer, retirement, or alternative employment:
 - If the employee is already on annual Tier Three HAVS assessment with Occupational Health they should be referred for another Tier Three HAVS assessment if the last one was more than two months previously.
 - Otherwise the responsible manager should carry out a Tier Two HAVS Questionnaire. If this indicates there are new or worsened symptoms then make a referral to occupational health for a Tier Three HAVS assessment.

- Be able to describe to the employee the symptoms of Hand Arm Vibration Syndrome (HAVS) but not attempt to make a diagnosis nor make judgments about the cause of any symptoms an employee may disclose;
- Respond to issues raised by the employees and ongoing vibration dose monitoring or equipment testing;
- Ensure employees who have been deemed to have an increased susceptibility to hand arm vibration syndrome or who have already got a diagnosis of HAVS or Carpel Tunnel syndrome attend occupational health for health surveillance at least yearly for a tier three assessment but may be more frequently if advised otherwise by Occupational Health;
- Maintain inventories of equipment that requires testing, monitoring or servicing;
- Liaise with Safety Services in relation to organising and facilitating equipment emission measurement and monitoring workplace exposures.
- Cease using vibrating tools if they reach their personal, assigned exposure limit value.
- They attend health surveillance appointments as and when required;
- They notify their line manager or responsible person if any issues or health concerns are identified;
- Report equipment defects or concerns with any equipment promptly to their supervisor/manager;
- Their own health and safety and that of others are not put at risk by their actions.

Safety Services

The primary function of Safety Services is to support the Council and its employees by providing professional, authoritative, impartial advice on all aspects of health, safety and wellbeing. Where managers/head teachers require further assistance, Safety Services will advise on achieving compliance with this safety guidance document. In addition, Safety Services employ a lead safety officer who is competent in the management and monitoring of exposure to vibration. In addition to advice, the lead officer can, upon request, carry out specialist vibration testing and prepare reports on the outcome. This should also extend to assistance with pre-purchase product specification considerations.

Employees

Employees must ensure they carry out designated tasks and duties in accordance with information, instruction, training and agreed safe systems of work. Specifically they must ensure that:

- This safety guidance document is complied with;
- They participate in the completion and review of safe systems of work and risk assessments;
- They co-operate to enable their manager to formulate and implement effective management systems;

Occupational Health

Occupational Health is made up of a team of professional, experienced, qualified nurses who have specialised in the field of Occupational Health. The OH Service offers professional medical advice to managers, safety services, human resources and employees.

Occupational Health have suitably HAVS trained professionals and are able to advise on health surveillance programmes, including timescales for health surveillance and the relevant tier assessment.

Occupational Health will carry out health surveillance in accordance with the current Control of Vibration at Work Regulations. Where the manager has identified those employees who require to be subject to a health surveillance programme they shall notify occupational health of the names of those employees and facilitate their attendance at occupational health HAVS health surveillance.

5. Vibration - The Duty to Manage

The Control of Vibration at Work Regulations places a duty on the employer to manage the risks arising from equipment, tools and vehicles that emit vibration in the workplace. Regulation Six requires the employer to either:

- Eliminate vibration at source, or,
- Reduce vibration to as low a level as is reasonably practicable.

If it is not reasonably practicable for service areas to eliminate vibration at source by using alternative methods or mechanical means they must assess the level of vibration that their employees are exposed to whilst at work.

6. Procurement of Equipment

The procurement of any new or second hand equipment that emits vibration whether for hire, lease or purchase must involve an assessment of the vibration emission values against efficiency, in that the overall dose received by the operator is at best reduced but not increased by the use of new equipment.

This includes consumable items such as cutting tools, drill bits and grinding

wheels.

Purchase of new equipment should include appropriate training/guidance provided within the specification.

Safety services can assist with this process, and are able to carry out technical measurements of emission values and give advice in respect of the technical data supplied by manufacturers.

7. Assessment of the Risk to Health from Vibration in the Workplace

Any assessment must identify, where necessary, by direct observation:

- Those individuals (including anyone more at risk due to any pre-existing disposition) or groups of individuals that are at risk from vibration;
- The sources of vibration within any task;
- The duration(s) of those exposures;
- Make reference to the probable magnitude of vibration from the equipment being used in the particular working conditions;
- Measure the magnitudes of vibration that are involved when necessary;
- The level at which the employees are exposed in relation to the limit and action values.

A suitable and sufficient risk assessment will identify the likely doses of vibration received by employees each day, by reference to the calculations and results of measurements either by each separate task or during the whole working day.

Within the various service areas the sources of vibration are usually already known. It is the duration and magnitude of the individual exposures that need to

be measured with some degree of reasonable accuracy (by direct observation or using timing devices).

Safety Services are able to support service areas with measurement of individual exposures and the accuracy of manufacturer's data.

The risk assessment will also include a safe system of work that details how the employee must work to minimise both exposure and the effects of that exposure to vibration.

The measures that may be incorporated into the safe system of work are:

- Avoiding risks by using alternative means or equipment, e.g. using an excavator instead of a hand held breaker, a remote controlled vibrating roller and not a hand controlled model;
- Using more efficient equipment that reduces the overall exposure, e.g. a larger breaker that completes the work in ten minutes or a smaller one that takes an hour;
- Maintaining equipment so that it continues to operate smoothly and reporting defects immediately;
- Keeping the edges of cutting and drilling tools sharp;
- Using good quality cutting attachments, drill bits and cutting wheels that minimise vibration by being more efficient;
- Planning daily work to ensure that regular breaks from vibrating equipment are taken by operators;
- Sharing the work between team members to minimise individual doses;
- Monitoring operator competence and tool handling techniques;
- Ensuring operators exercise arms, hands and fingers before and during exposures to vibration;
- Providing warm clothing including gloves in colder weather;
- Prohibiting smoking prior to, and during exposure to vibration and supporting employees to quit smoking;
- Providing information, instruction and training.

Assessments should be reviewed, periodically, following any significant change in equipment, practices or after reports of any symptoms of HAVS in the workforce.

Exposure Limited and Action Values (ELV and EAV)

The regulations establish daily limit and action values for both hand arm and whole body vibration. These are:

Type of Vibration	Exposure Limit Value	Exposure Action Value
Hand Arm	5.0 m/s ²	2.5 m/s ²
Whole Body	1.15 m/s ²	0.5 m/s ²

These are technical values that are not easily understood or calculated on a day to day basis. The Health and Safety Executive (HSE) have produced an 'exposure points' system which greatly simplifies the calculation of daily exposures.

Safety Services can assist service areas by converting the technical measurements to the number of exposure points per hour. Once the duration of an exposure is known, the total points involved in a task can be easily worked out. Repeated

exposures from tasks are simply added together to find the daily exposure value for each individual or team.

The limit values expressed as exposure points is:

Type of Vibration	Exposure Limit Value	Exposure Action Value
Hand Arm	400 points	100 points
Whole Body	529 points	100 points

The limit values are used to indicate the need for varying levels of control according to the degree of exposure.

Exposure Limit Value (ELV)

This is the maximum exposure value permitted for any individual in a working day. Employees **must not** be assigned any task or combination of tasks that will expose them to vibration in excess of this level.

There are exceptions for work that may be necessary in an emergency, in which case further guidance on the necessary reduction in exposure during the working week must be sought from Safety Services. Note: The HSE do not recognise that exposure to vibration resulting from weather events and most other emergencies dealt with by Local Authorities fall within this exception.

Exposure Action Value (EAV)

The exposure action value is used to direct the employer towards the appropriate control measures that must be introduced to manage vibration exposure.

Work that is predominantly below the EAV is relatively simple to manage. There is a duty to continue to reduce exposure to as low a level as is reasonably practicable, and it may also be necessary to carry out specific assessments of those

occasional tasks that may have significantly greater exposures than the norm to verify that the ELV is not exceeded.

Other work that is regularly at or over the EAV attracts a greater level of control because the likelihood of ill health is proportional to the magnitude of the exposure.

HAV Task/Activity Planning Flow Chart

A task/activity planning flow chart at Appendix B demonstrates how the level of exposure must be assessed and managed in relation to the exposure values above.

Individuals who may be at Greater Risk

Some individuals are at a greater risk of contracting hand arm vibration syndrome (HAVS) because of existing medical conditions, injuries or medication. This will include anyone who has already been identified as having HAVS.

These factors may include:

- Previous neck, arm or hand injuries and operations;
- Serious diseases of joints, skin, nerves, heart and those affecting blood circulation, e.g. diabetes;
- Long term medication.

Ensuring Exposures do not Exceed the ELV (Including any employees with an individual personal exposure limit)

Wherever employees carry out work with vibrating equipment at a level over the EAV; the service area must be able to demonstrate that they manage the exposure to ensure that the ELV is not exceeded.

The risk assessment process outlined above must be used in conjunction with individual daily dose predictions calculated by reference to the expected durations and magnitudes of exposure. The work issued each day to an individual or between a team must not exceed the ELV.

It is not permitted to allow the individual to monitor their own exposure and stop work with vibrating equipment before the ELV is exceeded.

8. Health Surveillance

Tier One (Pre-employment Screening)

It is important that those service areas that operate with exposures around or above the EAV ensure that new employees (including internal transfers) undergo pre-employment initial health screening so that anyone that may be more susceptible to contracting HAVS, or have a pre-existing condition, are identified. Pre-employment health screening is part of the recruitment process, a Tier One Initial Screening Questionnaire is attached at Appendix I. If there are any issues identified, the form must be referred to Occupational Health for their advice. Once this is received, suitability for appointment can be considered and appropriate control measures introduced including if necessary, a maximum exposure limit specific to that individual or other as is appropriate.

Services that work with hand held vibrating equipment must ensure that a Tier One Initial Screening Questionnaire is completed as part of the recruitment process.

Tier Two

Where individuals have been identified as being more at risk or the risk assessment indicates that the exposures will be at or above the EAV, Tier Two HAVS

Questionnaires will need to be completed annually.

[For the purposes of the Control of Vibration at Work Regulations managers and supervisors of these employees are deemed to be 'Responsible Persons'.]

This is carried out by the managers and supervisors of those employees exposed to the vibration by completing the questionnaire with each individual.

Where this indicates that the employee has symptoms of hand arm vibration syndrome or if they report them in between the formal health surveillance events the individual(s) must be referred to occupational health for a Tier Three HAVS Assessment.

Employees that do not have or report any symptoms are required to be referred to occupational health every third year for a Tier Three HAVS Assessment, in any event.

These managers will have specific duties, which will include:

- Attending training;
- Responsibility for completion of, and subsequent collation of Tier One Initial Screening and Tier Two HAVS Questionnaires with each relevant prospective employee or employee, respectively;
- Making referrals to Occupational Health as may be required including referring all employees that work with vibrating equipment at or above the EAV to Occupational Health for a Tier Three HAVS assessment every third year;
- If the referral is due to new or worsened symptoms of HAVS, liaise with Occupational Health and Safety Services in respect of suspending or

limiting the individual's exposure to vibration;

- Act on any reports or recommendations from Occupational Health or Safety Services;
- Arrange for exit health surveillance before an employee leaves the service area for any reason, e.g. promotion, transfer, retirement, or alternative employment:
 - If the employee is already on annual Tier Three HAVS assessment with occupational health they should be referred for another Tier Three HAVS assessment if the last one was more than two months previously.
 - Otherwise the responsible manager should carry out a Tier Two HAVS Questionnaire. If this indicates there are new or worsened symptoms then make a referral to occupational health for a Tier Three HAVS assessment.
- Manage individuals that require further referrals or an increased level of health surveillance, including those placed on a personal exposure limit.

Tier Three

A HAVS trained professional from the occupational health service will undertake the following when the manager has referred their employee to the occupational health service:

- A mandatory Tier Three HAVS assessment every 3rd year for those using hand held vibrating tools at or above the exposure action value;
- An employee who has declared symptoms on the Tier Two HAVS

questionnaire or has between assessments reported problems with their hands and fingers to their manager, a Tier Three HAVS assessment will be undertaken;

- A Tier Three HAVS assessment or further assessment when on a Tier One questionnaire a potential new employee who is going to be exposed to hand held vibration tools declares some problem;
- Will arrange an onward referral to an occupational physician for a Tier Four assessment where the occupational health HAVS trained professional deems it necessary after they have conducted the Tier Three HAVS assessment.

Occupational Health will advise the manager and where appropriate Safety Services, the outcome of their assessments; including fitness to continue working with hand held vibrating tools and when and at which Tier the next assessment is due to be carried out. In addition where a Tier 4 assessment (Independent assessment by an Occupational Health Physician) has been carried out the Physician will advise on reporting under RIDDOR when appropriate. The outcome of health surveillance is confidential and only relevant matters may be shared with the employee's manager and safety services for the purposes of protecting them from further harm.

9. Information, Instruction and Training

All employees exposed to vibration must be given information about the risks arising from that exposure and instructed on the control measures they must adopt to minimise the effects of vibration. A toolbox talk has been developed that may be suitable for this purpose on the Safety Services intranet site -

<http://insight.eastriding.gov.uk/directorates/cr/hr/safety-services/resources/toolbox-talks/>

Training

Employees that are operating vibrating equipment with an exposure level at or above the EAV must be provided with suitable training. To fulfil this, training courses are provided, which cover the following areas:

- The sources of hand arm and/or whole body vibration;
- The health effects of exposure to vibration;
- Specific risk factors, such as high levels of exposure, duration of exposure;
- How to recognise the signs and symptoms of hand arm vibration syndrome;
- The ways in which they can minimise risk such as:
 - Correct use of equipment as trained.
 - Reduction in force of grip.
 - Ergonomic effects while driving.
 - Changes to working practices.
 - Maintenance of equipment and reporting of defects.
 - How to maintain good blood circulation, i.e. warmth, exercise, not smoking.
 - Feedback to supervisor on any concerns on vibration issues.

Employees must attend an operator's vibration course as soon as possible after

appointment; if necessary, a toolbox talk can be delivered as an interim measure. Refreshers must be delivered annually as part of a tool box talk programme by managers. Operatives must attend refresher vibration training courses at three yearly intervals.

APPENDIX I

Tier One Hand Arm Vibration Questionnaire

Tier One Hand Arm Vibration Questionnaire		 EAST RIDING OF YORKSHIRE COUNCIL	
Personal Details			
Surname		First Name	
Date of Birth:		Post Applied For	
Previous Exposure To Hand Arm Vibration			
Have you ever used hand-held vibrating tools, machines or hand fed processes in your previous jobs?			Yes/No
If Yes, what was the first year of exposure?			
When was the last time you used them? (Detail your work history overleaf)			
Hand Symptoms			
Do you experience any of the following:			
			Yes/No
Numbness or tingling of the fingers for 20 minutes or more after using vibrating equipment?			
Numbness or tingling of the fingers at any other time?			
Waking at night with pain, tingling or numbness in your hand or wrist?			
Do one or more of your fingers go numb more than 20 minutes after using vibrating equipment?			
Fingers going white on cold exposure? If Yes, do you have difficulty rewarming them when leaving the cold?			
Do your fingers go white at any other time?			
Other problems with the muscles or joints of the hands or arms?			
Difficulty in picking up very small objects, such as screws or buttons, or opening tight jars?			
Have you ever had a neck, hand or arm injury or operation? If so give details below:			

<p>Have you ever had any serious diseases of joints, skin, nerves, heart or blood vessels? If so give details below:</p>	
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<p>Are you on any long term medication? If so give details below:</p>	
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Occupational History	
Dates:	Job Title

Declaration		
<p>I certify that all the answers given above are true to the best of my knowledge and belief.</p>		
Signed	Print Name	Date

RETURN IN CONFIDENCE TO:

APPENDIX 2

Tier Two Hand Arm Vibration and Skin Questionnaire

Tier Two Hand Arm Vibration and Skin Questionnaire		 EAST RIDING OF YORKSHIRE COUNCIL	
Personal Details			
Surname		First Name	
Date of Birth:		Job Title:	
Directorate:		Service Area	
Hand Symptoms			
Do you experience any of the following:			
			Yes/No
Numbness or tingling of the fingers for 20 minutes or more after using vibrating equipment?			
Numbness or tingling of the fingers at any other time?			
Waking at night with pain, tingling or numbness in your hand or wrist?			
Fingers going white on cold exposure?			
A change in your response to your tolerance of working outdoors in the cold?			
Any other problems in your hands or arms?			
Difficulty in picking up very small objects, such as screws or buttons, or opening tight jars?			
Any changes to your general health since your last assessment?			
Have you noticed any of the following symptoms of dermatitis on your skin (particularly hands): Dryness Itching or redness Flaking or scaling Cracking Swelling or blistering			
Other Risk Factors			
			Yes/No
Do you smoke?			
Do you have any history of circulatory/vascular disease or illness?			

Education	
Do you understand that you must report any health problems to your supervisor/line manager and be subject to a review of fitness before undertaking your work activities?	
Have you attended the HAVS training course?	
Have you been given the following: HSE Upper Limb Disorders INDG171 HSE Hand Arm Vibration INDG296 Your service area risk assessment and safe system of work	

Employee Declaration		
I certify that all the answers given above are true to the best of my knowledge and belief.		
Signed	Print Name	Date

Manager Actions (indicate date below)		
<i>If the answer to all of the above is NO please sign and date overleaf.</i>		
<i>If the answer to any of the above is YES, please indicate 'Refer to Occupational Health' request an appointment and sign and date overleaf.</i>		
No Further Action Required		
Refer to Occupational Health		
Arrange Training		
Additional Comments		
Signature	Print Name	Date

APPENDIX 3

HAV Task/Activity Planning Flow Chart

