



# Hand Arm Vibration

## OHSI 10 Issue 2 - October 2006

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### 1 Purpose and scope

To describe the health surveillance procedures for employees who are exposed to significant levels of hand-arm vibration.

Applies to all operating units and departments.

### 2 Definitions

**Hand Arm Vibration Syndrome (HAVS)** - A collective term that includes a number of disease patterns involving the vascular, neurological and musculoskeletal systems. These disease patterns are associated with exposure to hand-arm vibration and are experienced in particular in the hands and forearms of the exposed worker.

**Carpal Tunnel Syndrome (CTS)** - Carpal tunnel syndrome is a condition caused by compression of the median nerve within the carpal tunnel at the wrist. CTS is characterised by numbness, tingling, burning, or pain in the thumb, index, and middle fingers.

**Significant exposure to hand-arm vibration** – Employees whose exposure to hand-arm vibration represents a risk to their health as determined by a risk assessment. This means:

- 1) All workers regularly exposed to hand-arm vibration above the action level of  $2.5 \text{ m/s}^2 \text{ A}(8)$ .
- 2) Workers who are only occasionally exposed above the action level but a risk assessment or other factors indicate that the pattern of exposure may pose a risk to health, for example:

- a. Use of specific tools or in specific jobs where a detailed risk assessment shows an A(8) of greater than 2.0 m/s<sup>2</sup>.
- b. Pragmatic, based on combination of risk assessment, knowledge of tools and uncertainty regarding the frequency or duration of exposure,
- c. Any job where the worker experiences numbness or tingling in fingers after 5-10 minutes of continuous use of tool,
- d. Jobs where a claims history indicates that HAVS may be a problem.

**Health assessment** - Any assessment of an individual's health that is intended to determine whether they are fit to perform a particular task or whether their health has been or may be affected by performing a particular task.

**Health surveillance** - A form of health assessment that is a statutory requirement under Health and Safety Regulations <sup>(1)</sup> and is intended to detect adverse health effects at an early stage, thereby enabling further harm to be prevented. Additional benefits include the facility to check on the effectiveness of control measures, provide feedback on the accuracy of risk assessments, and identifying individuals at increased risk.

The risk assessment will have identified the circumstances in which health surveillance is required and the following criteria will apply:

- 1) There is an identifiable disease or adverse health condition related to the work concerned.
- 2) There is a reasonable likelihood that the disease or condition may occur under the particular conditions at work.
- 3) Valid techniques are available to detect indications of the disease or condition.
- 4) Surveillance is likely to further the protection of the health of the employees to be covered.

**Exposure limit values and action values -**

The daily exposure limit value is 5.0 m/s<sup>2</sup> A(8). Exposure above this limit is not allowed. If the limit is exceeded immediate action will be required to reduce exposure below the limit.

The daily exposure action value is 2.5 m/s<sup>2</sup> A(8). Employers have a statutory duty to provide health surveillance for workers who are exposed at or above this level.

### 3 Principles

Health risks due to hand-arm vibration must be assessed and eliminated or reduced to as low a level as is reasonably practicable.

Where the exposure to hand-arm vibration continues to be significant, despite control methods, then a small number of employees are at risk of developing HAVS and health surveillance will be necessary. Guidance on the Regulations <sup>(2)</sup> includes detailed information relating to measurement of exposure and health surveillance methods.

A safe level of exposure has not been defined but studies suggest that symptoms of HAVS are rare in persons exposed with an A(8), at a surface in contact with the hand, of less than 2.0 m/s<sup>2</sup> and unreported for A(8) values of less than 1.0 m/s<sup>2</sup> <sup>(3)</sup>.

Daily exposure giving an A(8) of 3.0 m/s<sup>2</sup> would be expected to produce symptoms in about 10% of a population after 10 years assuming that exposure went on throughout the working week, every week <sup>(3)</sup>.

## 4 Responsibilities

- 1) First Line Manager
- 2) Employee
- 3) Occupational health nurse –
  - a) Registered general nurse with a post-registration specialist qualification in occupational health nursing recognised by the statutory nursing bodies of the UK.
  - b) Registered general nurse who has received specific training from and is under the supervision of an occupational health nurse or occupational physician.
- 4) Occupational physician –
  - a) Registered medical practitioner with higher qualification in occupational health (AFOM, MFOM, FFOM or specialist accreditation)

### 4.1 First line manager

Ensure that risk assessments are carried out in accordance with Regulations <sup>(1)</sup> and Guidance <sup>(2)</sup> to identify workers who will require health surveillance. Line managers may consult Occupational Health and/or Health and Safety for advice, guidance and support.

Refer workers requiring health surveillance to the Occupational Health Department before commencement of work involving significant exposure to vibration.

Review risk assessments and control measures as soon as they become aware of diagnosed or suspected cases of HAVS.

Report cases of HAVS and CTS to the relevant enforcing authority when there is a statutory duty to do so as defined in The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations <sup>(4)</sup>

### 4.2 Employee

Attend for health surveillance as directed by line manager or Occupational Health.

Report any hand/arm symptoms to line manager or Occupational Health.

Comply with any advice regarding working methods.

### 4.3 Occupational health nurse

Perform the health surveillance procedure detailed in Appendix A for all employees who are significantly exposed to hand-arm vibration and are identified in the risk assessment as requiring health surveillance.

Obtain the opinion of the occupational physician where there is doubt regarding the fitness of any individual.

Advise the employee and first line manager of the outcome of the assessment, any work restrictions and the date of next assessment

### 4.4 Occupational physician

Assess employees who are referred by the occupational health nurse. Take a full medical history and carry out appropriate clinical examination. As suitable questionnaire or aide memoir may be used <sup>(5)</sup>. Determine whether symptoms are consistent with the health effects of hand-arm vibration, taking into account the history of exposure.

Advise on any future restriction of exposure to hand-arm vibration and the frequency of health surveillance.

Provide advice to managers performing risk assessments and information to those responsible for reporting cases of occupational disease.

Train and instruct occupational health staff where necessary.

## 5 Key performance indicators and audit criteria

Are workers requiring health surveillance correctly identified by line managers and referred to Occupational Health prior to commencing work with vibration?

Are workers referred to the occupational physician in accordance with the referral criteria?

Are risk assessments and control measures reviewed when cases of HAVS are detected?

## 6 References

- 1) The Control of Vibration at Work Regulations 2005, HMSO 2005 ISBN 0110727673 <http://www.opsi.gov.uk/si/si2005/20051093.htm>
- 2) Hand-Arm Vibration - .The Control of Vibration at Work Regulations 2005. Guidance on Regulations L140, HSE Books. ISBN 0 7176 6125 3
- 3) Mechanical vibration – Measurement and assessment of human exposure to hand-arm vibration – Part 1: General guidelines. BS EN ISO 5349-1(2001) <http://www.bsi-global.com> . (This standard replaces ISO 5349:1986 and BS 6842:1987).
- 4) The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995, HMSO. ISBN 0110537513. [http://www.hmso.gov.uk/si/si1995/Uksi\\_19953163\\_en\\_1.htm](http://www.hmso.gov.uk/si/si1995/Uksi_19953163_en_1.htm)
- 5) HSE suggested clinical questionnaire. <http://www.hse.gov.uk/vibration/hav/advicetoemployers/clinquest.pdf>
- 6) OHS Questionnaires: HAVSshort.doc HAVSlong.doc PreEmQ.doc

Further information

- 7) Hand- arm vibration. Advice for employees. - IND(G)296(rev1) <http://www.hse.gov.uk/pubns/indg296.pdf>
- 8) Control the risks from hand-arm vibration. Advice for employers on the Control of Vibration at Work Regulations 2005- INDG175(rev2) <http://www.hse.gov.uk/pubns/indg175.pdf>

## 7 Revision History

Author	Issue	Date	Reason for Revision	Review by
David Shackleton	1	September 2001	First issue	September 2003
David Shackleton	2	October 2006	Incorporate Control of Vibration at Work Regulations 2005	October 2009

These occupational health instructions have been based on current best practice and official guidance. They are aimed at a level analogous to local rules or work instructions within a corporate hierarchy of policies on health, safety, environment and human resources.

Principles, which are applicable to a range of operating units, are followed by specific standards and criteria for use by occupational health professionals. Inevitably the material cannot be applicable in every workplace without some interpretation or amendment.

Current versions will be available to OHS clients at [www.occhealth.co.uk](http://www.occhealth.co.uk) and will be updated when necessary. Any comments will be gratefully received at [policies@occhealth.co.uk](mailto:policies@occhealth.co.uk)

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## A. Health Surveillance Procedure

### 1) **Criteria for inclusion**

All employees who are significantly exposed to hand-arm vibration where a risk assessment has shown that health surveillance is necessary. Employees with a known diagnosis of HAVS, unless they are not exposed to hand-arm vibration.

### 2) **Frequency of assessment**

Initial – prior to work with vibration

Periodic – 6 months and annually thereafter if asymptomatic

Special – Whenever an employee, occupational health nurse or manager suspects that work may be the cause of hand or arm symptoms. Further assessments will be at the discretion of the occupational physician.

### 3) **Content of assessment**

*Initial* – Occupational health nurse will administer a HAVS screening questionnaire<sup>1</sup> (HAVSshort.doc). If the subject gives any positive response then a longer questionnaire must be completed to define the symptoms more clearly (HAVSlong.doc). The past occupational and medical history must also be recorded using a suitable form (e.g. PreEmQ.doc), which is normally part of the pre-placement medical.

The employee will be given information and instruction regarding HAVS, the symptoms to be reported and the control measures used to reduce the risk of health effects. Copies of suitable documents should be given to back up the advice.

Advise employee and manager of outcome. Record results in health record.

*Periodic* – As for initial except that occupational and medical history need not be repeated.

*Special* – The occupational physician will examine the employee and may arrange further specialist referral and / or investigation in order to make a diagnosis. Advise employee and manager of outcome. Record results in health record.

### 4) **Fitness Standard**

No positive responses to the screening questionnaire.

### 5) **Criteria for Referral**

All workers who cannot meet the fitness standard will be discussed with the occupational physician in the first instance but not removed from their duties.

Any employee reporting tingling or numbness, which has a clear relationship to workplace exposure, will be referred, at the earliest opportunity, to the occupational physician.

Individuals with pre-existing HAVS or any medical condition that may later be confused with the effects of hand-arm vibration must be referred to the occupational physician at the pre-employment/pre-transfer stage.

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<sup>1</sup> In workplaces where the prevalence of HAVS is high it may be preferable to administer a long questionnaire in all cases.