

# Control of Vibration at Work Regulations 2005

*This factsheet covers the key points of the Control of Vibration at Work Regulations. Much more detail can be sought from the references at the bottom of this sheet.*

The Regulations, which came into force in July 2005, are designed to protect the five million workers who are regularly exposed to vibration at work in the UK. According to HSE, 'two million of these workers are exposed to levels of vibration where there are clear risks of developing disease.' Each year, approximately 3,000 new claims for Industrial Injury Disability Benefit are made for vibration white finger and vibration related carpal tunnel syndrome.

The regulations cover hand and arm vibration, HAV, and whole body vibration, WBV. The differences between HAV and WBV, both in terms of cause and affect, are distinct and these differences are reflected in both the regulations and the accompanying guidance literature published by HSE.

## Hand Arm Vibration (HAV)

HAV is usually caused by machining operations where vibration is transmitted directly into the hand and arm by the work activity. This can be caused by fixed machinery, such as a pedestal grinder, where the work piece is held against an abrasive wheel or, as is more commonly the case, through the use of a range of hand operated power tools which transmit vibration into the hand and arm during use. Exposure to HAV frequently results in a range of health effects collectively known as Hand-Arm Vibration Syndrome or HAVS. The most well known health effect is vibration white finger, VWF, but other effects include damage to sensory nerves, muscles and joints in the hands and arms. In some people symptoms

may appear in a few months, in others it may take a few years. Once symptoms have started they will get worse and can become permanent.

HAV occurs in many industries, particularly where the use of power tools is extensive, e.g. construction/demolition, mining, quarrying, forestry, shipbuilding/repair, motor vehicle manufacture and repair, foundries, public utilities (gas, electric, telecomms, water), railways and aircraft manufacture.

## Whole Body Vibration (WBV)

WBV is caused by vibration transmitted through the feet and/or seat and is a known cause of injury to the lower back. Workers exposed to WBV as well as other musculo-skeletal hazards such as frequent climbing into and jumping out of high cabs are at risk and older people are at particular risk.

The operators of agricultural and construction vehicles are routinely exposed to WBV hazards, as are the drivers and operators of vehicles which are not provided with suspension systems, such as fork lift trucks when driven or operated on uneven or rough surfaces. Some types of small rigid lorries and flat bed trucks are liable to excessive vibration, particularly when heavily loaded. Some items of static plant may also be a cause of WBV if powered by slow revving internal combustion engines.

The new regulations set daily exposure limits and action levels for HAV and WBV. The limits and levels are fundamental to the risk assessment process, the control measures and the health surveillance requirements.

## Vibration Measurements and Values

Vibration is not easy to measure and measurements must be carried out by a competent person using specialised

equipment. There will be some circumstances where the risk assessment will have to be made on the basis of an estimated level of vibration rather than an actual measurement. Vibration performance data, which must be provided by equipment manufacturers, (Supply of Machinery (Safety) Regulations 1992) can also be used as an element of the risk assessment process.

Throughout the regulations and the guidance documents the vibration action values and limits are expressed in amounts of acceleration. Acceleration is expressed as  $m/s^2$  (metres per second squared) and the exposure time is expressed as A(8) the time weighted average for 8 hours exposure.

## Regulation 4

### Exposure Action Value (EAV) and Exposure Limit Value (ELV)

The exposure action value, (EAV) is the daily amount of vibration exposure above which employers are required to take action to control exposure. The greater the exposure level the greater the risk and the more action will be required from the employer to reduce the risk.

For hand arm vibration the daily EAV is  $2.5m/s^2$  and the daily ELV is  $5m/s^2$  A(8). According to HSE this level 'represents a high risk above which employees should not be exposed'.

For whole body vibration the daily EAV is  $0.5 m/s^2$  A(8) and the daily ELV is  $0.5 m/s^2$  A(8),

### Exposure Limit Value, (ELV)

The exposure limit value (ELV) is the maximum amount of vibration an employee can be exposed to in any working day. The Exposure limit value for hand arm vibration is  $5m/s^2$  A(8).

### Transitional Arrangements

Regulation 3 allows a five year transitional period for the application

of the limit values until 2010, limited to equipment in use before July 2007. Employers can exceed the ELV in this period so long as they comply with all other requirements and have taken all reasonably practicable actions to reduce exposure. For WBV, the period extends until 2014 for employers in agriculture and forestry. Safety reps should request the standards are met asap regardless of these exemptions.

## Regulation 5

### Risk Assessment

Employers must assess the vibration risk to employees arising out of the work activity. All work which causes exposure to vibration must be assessed, and all employees likely to be at risk must be identified.

## Regulation 6

### Programme of Control Measures

If those employees at risk are likely to be exposed above the EAV, the daily exposure action value, employers must take the following action:

- ▲ Eliminate the risk completely.
- ▲ Where the risk cannot be eliminated, reduce the risk to as low a level as is reasonably practicable.
- ▲ Provide health surveillance to those employees who continue to be regularly exposed above the daily exposure action value (EAV) or otherwise continue to be at risk.

If those employees identified as being at risk are likely to be exposed above the daily exposure limit value (ELV), employers must take immediate action to reduce their exposure below the daily exposure limit value, (ELV). This

requirement will include reducing the number of hours exposure to vibration in the working day where reduction cannot be achieved by any other means. Employees who have been diagnosed as suffering HAVS or who have complained of HAVS symptoms are at particular risk and exposure to further vibration should be avoided.

Employers must also:

- ▲ Provide information and training to exposed employees on the health risks and the measures being taken by the employer to control those risks.
- ▲ Consult the trade union safety representative, or representative of employee safety, regarding the proposals to control the risk and provision of health surveillance.
- ▲ Keep records of the risk assessment and control actions.
- ▲ Keep records of employees under health surveillance.
- ▲ Review and update risk assessments regularly.

## Regulation 7

### Health Surveillance

Health surveillance must be provided for all employees identified as being at risk of exposure above the EAV on a regular basis, or those who might be at risk for any other reason. This must be provided, irrespective of the actions the employer has taken to reduce the risk.

The purpose of health surveillance is to:

- ▲ Identify those at particular risk, e.g. suffering from blood circulatory diseases such as Raynauds's Disease.
- ▲ Identify vibration related disease at an early stage in workers regularly exposed to HAV.

- ▲ Avoid disease progression in workers already diagnosed with HAVS and prevent disability.
- ▲ Check effectiveness of vibration control measures.

Employers must take steps to establish an effective health surveillance programme in the workplace, which must include arrangements for participation and co-operation of employees.

According to HSE it is unlikely that a health surveillance programme will be considered as adequate if it does not include the services of an occupational health provider, a company occupational health physician or similar service. Occupational health professionals, nurses and doctors, must be suitably qualified and experienced to both diagnose HAVS and also to advise on the fitness of individual employees for work which involves potential exposure to HAV.

The Faculty of Occupational Medicine has adopted a syllabus of training for both nurses and doctors involved in health surveillance, which leads to a Faculty qualification. This qualification is regarded as an indication of competency. Safety reps should make inquiries to ensure that the employers occupational health providers meet these requirements.

## Further reading

### *The Control of Vibration at Work Regulations 2005.*

- ▲ <http://www.opsi.gov.uk/si/si2005/20051093.htm>

### *HSE Website, Vibration.*

- ▲ <http://www.hse.gov.uk/vibration/>

Factsheets online [www.lhc.org.uk](http://www.lhc.org.uk) London advice 020 7794 5999



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