

Control of Vibration at Work Regulations 2005

Introduction

The Control of Vibration at Work Regulations 2005 is aimed to protect workers from risks to health from vibration. The regulations introduce action and limit values for hand/arm (HAV) and whole body vibration.

What you must do

By law, as an employer, you must assess and identify measures to eliminate or reduce risks from exposure to hand-arm vibration so that you can protect your employees from risks to their health. Where the risks are low, the actions you take may be simple and inexpensive, but where the risks are high, you should manage them using a prioritised action plan to control exposure to hand-arm vibration. Where required, ensure that:

- Control measures to reduce vibration are properly applied
- You provide information, training and health surveillance
- Review what you are doing if anything changes that may affect exposures to vibration where you work
- Health effects of HAV at work

What is HAV

HAV is vibration transmitted from work processes into workers' hands and arms. It can be caused by operating handheld power tools (eg road breakers and hand guided equipment) or by holding materials being processed by machines such as pedestal grinders).

When is it hazardous?

Regular and frequent exposure to HAV can lead to permanent health effects. This is most likely when contact with a vibrating tool or work process is a regular part of a

person's job. Occasional exposure is unlikely to cause ill health.

What health effects can it cause?

HAV can cause a range of conditions collectively known as HAV syndrome (HAVS) as well as specific diseases such as carpal tunnel syndrome.

What are the early symptoms?

Identifying signs and symptoms at an early stage is important. It will allow you, as the employer, to take action to prevent the health effects from becoming serious for your employee. The symptoms include any combination of:

- Tingling and numbness in the fingers
- Not being able to feel things properly
- Loss of strength in the hands
- Fingers going white (blanching) and becoming red and painful on recovery (particularly in the cold and wet and probably only in the tips at first)

For some people, symptoms may appear after only a few months of exposure, but for others they may take a few years. They are likely to get worse with continued exposure to vibration and may become permanent.

What effects do these symptoms have?

The effects on people include:

- Pain, distress and sleep disturbance
- Inability to do fine work (eg assembling small components) or everyday tasks (eg fastening buttons)
- Reduced ability to work in cold or damp conditions (ie most outdoor work) which would trigger painful finger blanching attacks
- Reduced grip strength, which might affect the ability to do work safely

These effects can severely limit the jobs an affected person is able to do, as well as many family and social activities.

Do you have a HAV problem at work?

This will depend on whether your employees regularly and frequently work with vibrating tools and equipment and/or handle vibrating materials. It will also depend on how long your employees are exposed to vibration and at what level. As a simple guide you will probably need to do something about vibration exposures if any of the following apply:

Do your employees:

- Complain of tingling and numbness in their hands or fingers after using vibrating tools?
- Hold work pieces, which vibrate while being processed by powered machinery such as pedestal grinders?
- Regularly use hand-held or hand guided power tools and machines such as:
 - a) Concrete breakers and concrete pokers
 - b) Sanders, grinders and disc cutters
 - c) Hammer drills
 - d) Chipping hammers
 - e) Chainsaws and brush cutters
 - f) Scabblers or needle guns

Do your employees regularly operate:

- Hammer action tools for more than about 15 minutes per day
- Some rotary and other action tools for more than about one hour per day
- Do you work in an industry where exposures to vibration are particularly high (ie construction)

Which jobs and industries are most likely to involve HAV?

Jobs requiring regular and frequent use of vibrating tools and equipment and handling of vibrating materials are found in a wide range of industries. For example:

- Building and maintenance of roads and railways
- Construction
- Estate management (eg maintenance of grounds, parks, water courses, road and rail side verges)
- Foundries
- Heavy engineering
- Manufacturing concrete products
- Public utilities (eg water, gas, electricity and telecommunications)

What kind of tools and equipment can cause ill health from vibration?

There are hundreds of different types of hand-held power tools and equipment which can cause ill health from vibration. Some of the more common ones are:

- Chainsaws
- Concrete breakers/road breakers
- Cut-off saws (for stone etc)
- Hammer drills
- Handheld grinders
- Impact wrenches
- Jigsaws
- Needle scalers
- Pedestal grinders
- Polishers
- Power hammers and chisels
- Powered sanders
- Scabblers
- Trimmers/brush cutters

HAV limits

The regulations introduced an:

- Exposure action value of $2.5\text{m/s}^2 A(8)$ at which level employers should introduce technical and organisational measures to reduce exposure
- Exposure limit value of $5.0\text{m/s}^2 A(8)$ which should not be exceeded

Vibration risk assessments

In conducting the risk assessment, the employer shall assess daily exposure to vibration by means of:

- Observation of specific working practices
- Reference to relevant information on the probable magnitude of the vibration corresponding to the equipment used in the particular working conditions
- If necessary, measurement of the magnitude of vibration to which his employees are liable to be exposed
- Employer shall assess whether any employees are likely to be exposed to vibration at or above an exposure action value or above an exposure limit value

The risk assessment shall include consideration of:

- Magnitude, type and duration of exposure, including any exposure to intermittent vibration or repeated shocks
- Effects of exposure to vibration on employees whose health is at particular risk from such exposure

- Any effects of vibration on the workplace and work equipment, including the proper handling of controls, the reading of indicators, the stability of structures and the security of joints
- Any information provided by the manufacturers of work equipment
- Availability of replacement equipment designed to reduce exposure to vibration
- Any extension of exposure at the workplace to whole-body vibration beyond normal working hours, including exposure in rest facilities supervised by the employer
- Specific working conditions such as low temperatures
- Appropriate information obtained from health surveillance including where possible published information

Managers and operators can reduce the likelihood of onset of vibration related upper limb disorders by:

- Reducing the number of items of equipment that vibrates above the recommended safe level, 2.5 m/s² or the total daily dose of 5.0 m/s² (A8) (average over an 8 hour day)
- Ensuring equipment is maintained in accordance with the manufacturer's instructions
- Reducing the amount of time the operative uses the equipment for
- Use of suitable gloves (although these only keep the hands warm and do not reduce significantly the amount of exposure)
- Operator exercising the hands and fingers
- The operator being able to recognise the onset symptoms

References

Control of Vibration at Work Regulations 2005 (HSE)

Acknowledgement: This information has been reviewed and updated by Jim Slater (CDM-C and Health & Safety Advisor)
www.jimslater.co.uk