

the law

England, Scotland and Wales

The Control of Vibration at Work Regulations 2005

Northern Ireland

The Control of Vibration at Work Regulations (Northern Ireland) 2005

Vibration

Vibration can cause ill health in workers who are frequently exposed to it. There are two major types: hand-arm vibration (HAV) and whole-body vibration (WBV).

HAV can be caused by operating hand-held power tools, such as road breakers, and hand-guided equipment, such as powered lawnmowers. It can also be caused by holding materials that are being processed by hand-fed machines, such as pedestal grinders. Occasional exposure is unlikely to cause ill health.

WBV mainly affects drivers of vehicles used off-road, such as dumpers, excavators and agricultural tractors. However, it can also affect drivers of some vehicles used on paved surfaces, such as lift trucks, or on rails, such as gantry cranes.

What are the hazards?

Hand-arm vibration

HAV causes hand-arm vibration syndrome (HAVS), a painful and disabling condition that affects the nerves, blood vessels, muscles and joints of the hands and arms. HAVS causes tingling and numbness in the fingers, reduces grip strength and the sense of touch, and decreases blood circulation (which leads to vibration white finger, also known as VWF).

Whole-body vibration

WBV is associated mostly with lower back pain. However, back pain can also be caused by other work or injuries, such as manual handling and postural strains, and while exposure to vibration and shocks may be painful for people with back problems, it will not necessarily be the cause of the problem.

Daily Exposure Limits

Hand-arm vibration

- Daily exposure limit value is 5 m/s² A(8)
- Daily exposure action value is 2.5 m/s² A(8)
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Whole-body vibration

- Daily exposure limit value is 1.15 m/s² A(8)
- Daily exposure action value is 0.5 m/s² A(8)

What do I have to do?

- Assess the vibration risk to your employees to identify problems.
- Put appropriate control measures in place to counter the risks.
- Provide health surveillance where risk remains (HAVS only).
- Provide information and training on health risks and the actions being taken to control those risks to your employees.

How can I reduce HAV?

- Identify hazardous machines, tools and processes, especially those which cause tingling or numbness in the hands after a few minutes' use.
- If possible, do the job another way without using high-vibration equipment, such as rotary hammers, powered pedestrian-controlled mowers and hand-fed forging hammers.
- Ask about likely vibration levels for the way you use equipment before deciding on which new tool or machine to buy or hire.
- Provide suitable tools designed to cut down vibration.
- Make sure workers use the right tools for the job and are trained to use them correctly.
- Make sure machines (including tools) are maintained as recommended by the manufacturer to prevent vibration increasing. Check their sharpness, the condition of abrasive wheels and anti-vibration mounts where fitted.
- Check whether the job can be altered to reduce the grip or pressure needed.

How can I reduce WBV?

- Choose vehicles or machines designed to cope with the task and conditions.
- Keep site roadways level, fill in potholes and remove debris.
- Train drivers to operate machines and attachments smoothly, to drive at appropriate speeds for the ground conditions and to adjust suspension seats correctly.
- Maintain and repair machine and vehicle suspension systems, tyre pressures and suspension seats.

Case Study:

Foundry Work	Solution
Manufacturing cast pipe components using 'traditional' green sand casting resulted in a product that required a lot of remedial work (fettling) with powered hand-held tools to produce the necessary quality of finish. The holes in the pipe flanges then had to be drilled in a separate operation.	A 'lost-foam' casting process was introduced and resulted in such a high quality of casting that fettling was no longer required, eliminating all exposure to hazardous vibration. The casting was so precise that it allowed the holes to be cast into the flanges, which removed the need for drilling and further reduced production time and costs.