



Risk control

Managing Risks associated
with Hand Arm Vibration
Syndrome (HAVS)



In partnership with



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Introduction

Hand Arm Vibration Syndrome (HAVS) is a relatively modern phenomenon that can result from the gripping of power tools that transmit vibration. The issue gained prominence in the 1990's following large numbers of civil claims being made by ex-miners and others from heavy industry alleging they were suffering the effects of Vibration White Finger (VWF) – one of the more severe outcomes of prolonged exposure to vibration.

In 2005 specific new legislation was introduced to control employee exposure to vibration. The Control of Vibration at Work Regulations 2005¹ sets out exposure action and limit values for employers to respond to (in a similar way to the thresholds stipulated for noise control).

The featured criminal case² below details a fairly typical situation where a council was fined £200,000 after its failures led to employees developing hand arm vibration syndrome (HAVS) and carpal tunnel syndrome (CTS).

During 2017 – 2019, two council employees developed HAVS and a further four were diagnosed with CTS as a result of prolonged and uncontrolled exposure to hand arm vibration while working in the grass cutting team or when carrying out arboriculture activities.

The case demonstrates that there can be some very costly repercussions for public authorities who fail to adequately manage the risks.

Who's at Risk?

Firstly it's important to understand that exposure to the vibration usually has to be regular and prolonged to cause injury, so those most at risk are often people who use vibrating hand tools as a significant part of their work. This could include grounds maintenance workers and arborists using chainsaws, mowers, brush cutters and strimmer's and employees involved in highways and property maintenance using equipment such as concrete breakers / road breakers, cut-off saws, hammer drills and hand-held grinders etc.

Current guidance from the Health and Safety Executive (HSE)³ suggests that you may have people at risk if they use:

- Hammer action tools for more than about 15 minutes per day; or
- Some rotary and other action tools for more than about one hour per day.

Vibration and its Effect on the Body

The prolonged transmission of vibration energy through the hands can damage the vascular system restricting the blood supply to the fingers as well as causing damage to the nerves and joints of the hands and wrists.

The symptoms include any combination of:

- Tingling, numbness and loss of sensation in the fingers
- Loss of strength in the hands
- Fingers turning white (blanching) and becoming red and painful on recovery (particularly in the cold and wet, and probably only in the tips at first)

The consequences can include pain, disruption to sleep, and loss of dexterity impacting on ability to carry out fine motor skills which could adversely affect a person's ability to work and function normally outside of work.

Once symptoms are detected some damage has already been done and this is usually permanent, but with early intervention it is possible to prevent further deterioration and disability.

Note: Some people may be more at risk from the effects of HAVS if they suffer with blood circulatory diseases such as Raynaud's Disease or those with a history of heavy smoking.

Control Strategy

The starting point is to identify if there are members of your workforce who are exposed to vibration and assess if they are likely to receive a significant dose in terms of duration and frequency of use, along with the magnitude / amount of energy emitted from the equipment. Your Occupational Health and Safety team should be able to assist with this and there are a number of tools available on the HSE website to help calculate the likely exposures.

<http://www.hse.gov.uk/vibration/hav/vibrationcalc.htm>

If the results of the assessment show that employees are likely to be exposed above the:

- Daily Exposure Action Value (EAV) - then the employer must introduce a programme of controls to eliminate the risk, or reduce exposure to as low a level as is reasonably practicable;
- Daily Exposure Limit Value (ELV) - then the employer must take immediate action to reduce their exposure below the limit value.

The first control step is to consider if the risk can be eliminated, e.g. by undertaking the work using alternative methods or equipment that does not require people to hold onto the source of vibration. However, if this is not possible, you should assess whether the risk can be reduced by using equipment with low vibration emissions and good ergonomic design.

Following the above you can then consider implementing some of the other (less effective) controls which may include:

- Improving workplace design to reduce the loads put on employees hands and wrists by poor postures;
- Maintenance programmes for equipment to ensure they work efficiently and do not generate excessive vibration due to wear and tear of the component parts;
- Changing work patterns so individuals can interrupt their vibration exposures with other activities and/or limit the overall amount of time employees use vibrating hand tools.
- Providing suitable gloves to keep hands warm and improve circulation;
- Providing information and training to staff on recognising the causes, symptoms and effects of vibration and how they can help to reduce their risks, including participating in health surveillance programmes where appropriate.

Management will then need to put systems into place to monitor the effectiveness of their control strategies which may involve:

- Supervising and correcting poor worker behaviour;
- Consulting with staff to discover if there are any vibration problems with the equipment or the way it is being used;
- Check the results of health surveillance programmes and / or health questionnaires.

HAVS symptoms can take many years to emerge and they can lead to Employers' Liability claims arriving long after exposure, so prudent organisations should try to maintain thorough records of:

- the nature of work activities performed by employees;
- risk assessments and any safe systems of work derived from them;
- the work equipment used, how it was maintained and when it was replaced;
- the systems for vibration management;
- the information and training provided to staff;
- health surveillance and other monitoring programmes;

- any investigations into reports of HAVS or concerns raised by the workforce.

Please Note: This article only addresses the risks associated with vibration transmitted through the hands. For further information on Whole Body vibration please refer to the following page of the HSE website.
<http://www.hse.gov.uk/vibration/wbv/index.htm>

Risk Management Partners is well-placed to assist authorities with managing their health and safety risks. Support can be provided in the following ways:

- Reviewing current methods and procedures against good practice guidance and legislative requirements to provide a gap analysis and action plan to improve standards;
- Developing in-house competencies in the management of health and safety by delivering topic specific courses or more general accredited IOSH Managing Safely programmes.

References

- 1 The Control of Vibration at Work Regulations 2005.
<https://www.legislation.gov.uk/ukxi/2005/1093/contents/made>
- 2 City County Council fined £200,000 after failing to protect workers, Health and Safety Executive, June 2023.
<https://press.hse.gov.uk/2023/06/29/plymouth-city-county-council-fined-200000-after-failing-to-protect-workers/>
- 3 Vibration solutions: practical ways to reduce the risk of hand-arm vibration injury' (HSG170) HSE Books (ISBN 9780717609543)
<http://www.hse.gov.uk/pubns/books/hsg170.htm>

Additional Reading

- 4 Hand-arm vibration at work: A brief guide (INDG175(rev3)) HSE Books (ISBN:9780717664887)
<http://www.hse.gov.uk/pubns/indg175.htm>
- 5 Hand-arm vibration - Advice for employees (INDG296(rev2)) HSE Books (ISBN:978 0 7176 65471)
<http://www.hse.gov.uk/pubns/indg296.htm>

Further information

For access to further RMP Resources you may find helpful in reducing your organisation's cost of risk, please access the RMP Resources or RMP Articles pages on our website. To join the debate follow us on our LinkedIn page.

Get in touch

For more information, please contact your broker, RMP risk control consultant or account director.

contact@rmpartners.co.uk



Risk Management Partners

The Walbrook Building
25 Walbrook
London EC4N 8AW

020 7204 1800
rmpartners.co.uk

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