What is hand-arm vibration?

Hand-arm vibration is vibration transmitted from work processes into workers' hands and arms. It can be caused by operating hand-held power tools. Regular and frequent exposure to hand-arm vibration can lead to permanent health effects.
Hand-arm vibration can cause a range of conditions collectively known as hand-arm vibration syndrome (HAVS), as well as specific diseases such as Vibration White Finger and carpal tunnel syndrome.
HAVS is preventable, but once the damage is done it is permanent.
HAVS is serious and disabling - nearly 2 million people are at risk.

Regulation
The control of Vibration at Work Regulations 2005 which came into force in July 2005 is directed at employers whose business involves the use of hand-guided powered equipment and powered machines which process hand-held materials. 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.

This standard defines what an employer has to do:
ISO 5349-1:2001 – Mechanical vibration — Measurement and evaluation of human exposure to hand-transmitted vibration

This standard defines what an equipment supplier must do:
ISO 8041-1:2017 – Human Response to Vibration — Measuring Instrumentation

How you can protect your employees from hand-arm vibration
You do not have to engage in routine continual monitoring or logging of workers' vibration exposure. You are expected to carry out a survey of your work, find out who is exposed to hand-arm vibration and what is causing their exposure.
As with any work-based risk, a risk assessment is required. A risk assessment helps you decide what you need to do to ensure the health and safety of your employees who are exposed to vibration.
Your risk assessment should:

- Identify who is at risk.
- The level of risk.
- Have effective control measures in place to limit the risk.

High risk (above the ELV – Exposure Limit Value) 400 HSE points per day
Employees who regularly operate:

- hammer action tools for more than about one hour per day.
- rotary and other action tools for more than about four hours per day

Medium risk (above the EAV – Exposure Action Value) 100 HSE points per day
Employees who 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

Workplace vibration measurement results are **unlikely to be representative if you measure away from the palm of the hand** or use a measurement position that is on the fingers, back of the hand or wrist. (from the HSE Website)

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Hand-Arm Vibration measurement made easy.

The HAVSense dosimeter is worn on the hand, preferably inside a glove.

The dosimeter measures vibration exposure at the point of entry into the body, in the palm of the hand as recommended by the HSE.

The dosimeter measures and records the true vibrations entering a person's hand, irrespective of which tool is used, how it is used or what it is being used for.

The dosimeter measures vibration exposure for up to 12 hours between charges allowing for a whole shift to be measured.

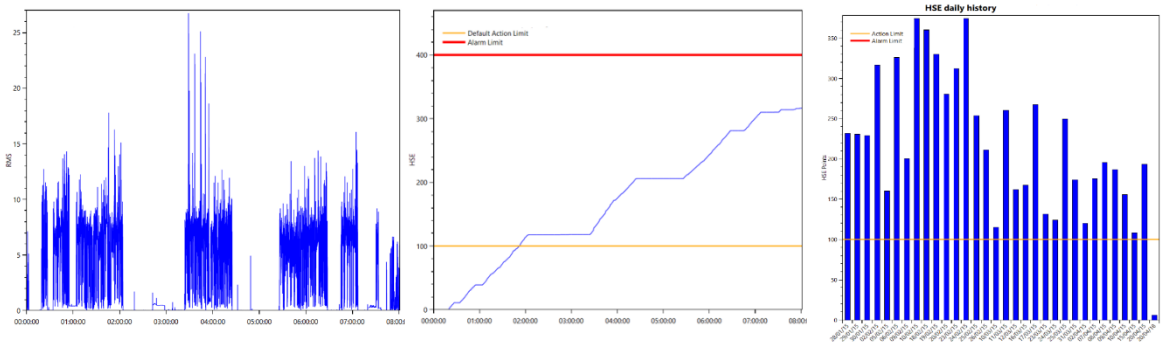
The dosimeter means no need to constantly monitor the operators.

The dosimeter allows management of vibration exposure rather than monitoring.

Back-to-back testing for new tools, processes and ways of working can identify strategies to reduce vibration exposure.

The HAVSense software

The software displays the accurate vibration measurements allowing assessment of exposure of operators using a variety of tools to complete tasks or over a shift.



Drilling down, the actual vibration contribution of different tools or tasks can be measured and then, rather than using time to limit vibrations, you can limit exposure by setting the number of specific tasks, for instance.

The vibration exposure is automatically converted into the corresponding HSE points.

The measurement exercise can be repeated with same or different operators to get a picture of the vibration exposure over time.

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