

## Hand/Arm and Whole Body Vibration

The following information is of particular importance to those whose work involves regular and frequent use of: -

- Hand-held powered tools; hand-guided powered equipment; hand-fed powered equipment; other ride on plant/ equipment

This information sheet aims to give brief details of what:-

- Hand arm vibration (HAV) is
- Injuries it can cause
- Simple steps can be taken to control it and where to get further information.

### What is HAV?

HAV is vibration, which is transmitted from work processes into hands arms, etc. It can be caused by operating hand-held power tools such as road breakers, hand-guided/ ride-on equipment such as lawn mowers, or from holding materials being processed by machines such as pedestal grinders. Another common term to describe this condition is Vibration White Finger (VWF).

### When is it Hazardous?

Regular and frequent exposure to high levels of vibration can lead to permanent injury. This is most likely when contact with a vibrating tool or process is a regular part of a person's job. Occasional short-term exposure is unlikely to cause injury, although those with certain medical conditions (e.g. Raynaud's Disease) should avoid using such equipment for any length of time.

### What type of Tools and Equipment can cause vibration injury?

There are hundreds of different types of tools and equipment which can expose operator to high levels of hand-arm vibration. Some of the more common ones include: - chainsaws, concrete breakers/ road drills; hammer drills; hand-held grinders/ sanders; pedestal grinders; riveting hammers; power hammers/ chisels; strimmers/ brush cutters; etc.



### What injuries can HAV cause?

Regular exposure to HAV can cause a range of temporary and permanent injuries to the hands and arms. The injuries can include damage to the: -

- Blood circulatory system
- Sensory nerves
- Muscles
- Bones
- Points

These injuries can result in: -

- Severe pain and numbness
- Pins and needles
- Painful wrists (carpal tunnel syndrome)
- Loss of grip strength
- Loss of sense of touch.

### **How quickly will using these tools and machines start to cause health problems?**

This will depend on a number of factors including the level of vibration which reaches the hands and how long they are exposed to it. The people most likely to be harmed by vibration are those who regularly use high-vibration tools and machines. For some people, symptoms may appear after only a few months of exposure, but for others it may take several years.

### **How can Tool and Machine Manufactures Help?**

For most types of equipment, manufactures are required by law to:-

- Design and construct equipment which will cause the minimum risk of vibration injury;
- Provide you with warning of any residual risk firm vibration, information on vibration levels and
- Instructions on how to use the equipment to avoid risk from vibration.

### **What does the Law require employers to do about these risks?**

Health and Safety law requires employers to do a number of things to protect their employees. They should:

- Assess, control and manage all risks to health,
- Provide and maintain suitable equipment for use,
- Provide suitable information, instructions and training on health risks and safe use of equipment.
- Provide health surveillance for employees where the risks cannot be completely eliminated, etc.

### **How do I know if I am at risk?**

- Check the guidance issued by the equipment manufacturer related to the risk from vibration.
- Are you using hammer action equipment for more than half an hour each day or rotary/ other action equipment for more than 2 hours each day?
- Have your fingers gone white on exposure to the cold?
- Have you had any tingling or numbness in your fingers after using vibrating equipment?
- Are you experiencing any problems with muscles or joints in your hands/ arms?
- Do you have any difficulty picking up small objects such as screws or nails?

If you answered **"yes"** to one or more of these questions, report them to your supervisor for further action. Seek medical advice, if condition is confirmed, refrain from using such tools in the future.

## **What can be done to control the risk?**

- Look for alternative ways of working with vibration equipment altogether.
- Use the most appropriate equipment for the job, minimise exposure time (job rotation/ rest breaks), only use vibrating plant for short periods of time, long term use should be avoided where practicable.
- Ensure regular maintenance of equipment (replace worn parts as required, etc.) Report all defects in equipment as soon as possible to supervisor/ lines manager.
- Get further advice from manufacturers, etc.
- Attacks are often triggered by cold weather, keep hands warm- wear one if not two pairs of gloves when operating vibrating plant
- Avoid smoking during work with vibration plant/ equipment as smoking can increase the likelihood of attacks as it affects the blood circulation in the body.
- Exercise hands regularly - even if it is simple hand clenching and stretching exercises to help with blood flow / circulation- especially in the colder weather.

## **Where can I find out more?**

HSE have published a number of leaflets, books and a video on hand-arm vibration. All are available via the HSE website with many of the leaflets freely available online. A number of Council Services now have specific information available on CONNECT. Check with your line manger/ supervisor for additional information as required.

**Should you require any further information on any of the above areas, please contact Safety & Wellbeing Team [healthandsafety@northlan.gov.uk](mailto:healthandsafety@northlan.gov.uk) for advice.**