For guidance on managing construction health risks go to
www.hse.gov.uk/construction

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# What is “Hand Arm Vibration”?

Hand arm vibration syndrome is also sometimes called (white finger disease), “dead hand”, “dead finger” or “Raynaud’s phenomenon”. This condition affects people who regularly use high vibration equipment, such as power tools.

Vibration from the equipment can damage blood vessels in the fingers, reducing the supply of blood. It can also damage nerves, leading to a loss of feeling in the fingers and hands – especially when they become cold. The muscles and bones may also become damaged.

Sufferers find it hard to move their fingers and lose their ability to grip things properly. Work with hand – held tools can become difficult. Picking up small items – such as nails – can be almost impossible. The condition can become very painful.

### Typical symptoms

At first, hand – arm vibration syndrome can cause a tingling sensation, or “pins and needles” in the fingers, maybe with some numbness. This will usually happen at the end of a day working with vibrating equipment.

As the condition gets worse, symptoms may be triggered by the cold, without using vibration equipment. The fingers will become white and numb, initially just the tips, but the area can get larger if you continue to work with high – vibration equipment. As blood circulation returns, the fingers may get a red flush and become painful.

In worse case, pains, stiffness and difficulty in handling small items can last for up to an hour, and be triggered by any exposure to mild cold, for example when washing the car, or fishing.

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## WHAT LEADS TO HAND ARM VIBRATION?

Vibration from tools such as breakers, angle grinders and chainsaws is transmitted straight into your hands through the handles. Even equipment which you walk behind, such as a plate compactor, can cause high levels of vibration in your hands and arms.

Some equipment causes more vibration than others. Members of the HAE and the Construction Confederation have developed a simple indicator of the vibration risk from hand tools. The following stickers will be displayed on vibrating hand tools for your guidance. See if you can use another tool with lower vibration levels

High Vibration
Risk Equipment

High vibration risk equipment could cause vibration injury even when used for a short time each day – this could vary from as short a period of a few minutes, to a few hours. You will need adequate precautions or control if you use this equipment regularly.

Find out how long you can use the tool safely.

Medium Vibration
Risk Equipment

Medium vibration risk equipment can be used safely for up to 2 hours. Some medium vibration equipment can be used longer, but only if a risk assessment is done based on the actual vibration levels the tool will produce under normal working conditions. Consult your supervisor if you are not sure how to do this risk assessment.

Find out how long you can use the tool safely.

Low Vibration
Risk Equipment

Low vibration risk equipment can usually be used regularly throughout an eight-hour working day with low likelihood of vibration injury.

Find out how long you can use the tool safely.

High vibration risk or medium vibration risk equipment should not be used throughout the day. If you need to use the equipment for long periods each day, ask the hire company if they can provide a vibration-reduced version of the tool. This could increase the amount of time that you could use the tool without risk of injury. Alternatively, they may suggest a different tool or different method of doing the job, which could also be more efficient. Check to see if the Hire Company or manufacturer has fixed a label on the equipment, giving information about the levels of vibration to expect in normal use.

If you have no information about vibration levels, then you should monitor the effect of any vibration on your fingers. Anything which causes numbness or tingling in your fingers during or after use should be considered “high vibration risk”, until you can find out more about the vibration risk from the tool.

If the numbness or tingling is noticeable only after the best part of the day’s use, the equipment should be considered “medium vibration risk”.

Even equipment which is causing low vibration risk can cause a problem if it is badly maintained or abused during the day.

Cold hands are more likely to be affected by vibration from tools, as the blood supply is already reduced.

Gripping too tightly onto the tool can lead to more vibration being transmitted to your hands.

Poor blood circulation generally, due to lack of exercise, or smoking can also mean that some people are more likely to suffer vibration white finger.

## Before Starting Work...

### REDUCING THE RISK

**Before you start working**

- See if you can use another tool with lower vibration levels.
- In cold conditions, make sure that you are warm before you start work – and that you will be able to keep warm and dry through the day. It is especially important to think about keeping your hands warm. Wearing gloves can help. Ask your supervisor or the hire company if you need gloves.
- Check that you have the right tool for the job. If you have to force the tool, the tool may cause more vibration, you may have to grip it tighter, and the job will take longer. Talk to the hire company about the job that you plan to do, to check if you have the best tool for the job.
- Make sure that the tool is in good conditions: for example that the cutting edges are sharp, and that the handles are secure.

**While you’re working**

- Keep warm – especially hands.
- Check that the tool is not becoming blunt – this makes for more hard work.
- Take short breaks regularly. Exercise hands and fingers to keep them warm and flexible.

**At the end of the day**

- If you have any persistent tingling or numbness in fingers and hands – tell the supervisor. Show them this leaflet. If you are self-employed, consider seeing your doctor.

## Useful Reference Points • www.hae.org.uk/businessguard