



## VIBRATION WHITE FINGER



# SAFETY INSTRUCTIONS

## What is “Vibration White Finger”?

Vibration white finger is the most common form of hand-arm vibration syndrome. It is also sometimes called “white finger disease”, “dead hand”, “dead finger”, or “Raynaud’s phenomenon”. The 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 vibrating 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 cases, pain, 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.

## What leads to vibration white finger?

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 — some common tools are listed below in three risk groups.

### **High vibration risk equipment**

Road breaker	Rotary hammer
Hammer drill	Needle gun
Scabbler	Trench compactor
Plate compactor	Screed
Impact wrench	Chainsaw
Brushcutter	Clearing saw
Angle grinder	Nibbler
Hammering or chipping tools not listed elsewhere	

### **Medium vibration risk equipment**

Lawnmower	Stump grinder
Hedge trimmer	Auger
Cultivator	Jigsaw
Sander	Power plane
Reciprocating saw	Cut-off saw
Chase cutter	Floor grinder/plane
Floor saw	Vibrating roller
Poker vibrator	
Any cutting or rotating equipment not listed elsewhere	

### **Low vibration risk equipment**

Router	Screwdriver
Floor polisher	Circular saw
Drill (no impact or hammer action)	
Vacuum cleaner	Pressure washer

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 as a few minutes, to a few hours. You will need adequate precautions or control if you use this equipment regularly.

Medium vibration risk equipment could cause vibration injury if you use it for a significant part of the working day — from a few hours to most of the day. You should monitor and control your actual usage of this equipment to ensure that you are not at risk from using it constantly.

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

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.

If your equipment is not listed, and no near equivalent is listed, 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 a day’s use, the equipment should be considered “medium vibration risk”.

Even equipment which is listed as 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 from vibration white finger.

## **Reducing the risk**

### **Before you start working**

- 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 condition: for example that the cutting edges are sharp, and that handles are secure.

### **While you’re working**

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

### **At the end of the day**

- If you have any persistent tingling or numbness in your fingers and hands — tell your supervisor. Show them this leaflet. If you are self-employed, you should consider seeing your doctor.
- If tools are worn or need repair, arrange this now with the hire company or your supervisor so that you have proper equipment ready for the next morning.
- If you can, store the tools so that the handles will not get too cold overnight. Hired equipment should always be locked away to keep it safe from theft.

## Generally

- Cutting down on smoking can help improve poor blood circulation — even if it is only just before work, and during work.
- Don't ignore the early signs of vibration white finger — it can become a serious condition which can affect your work, your capacity for work, and your leisure time.

## If you are the employer, or you are self-employed

- Make sure that suitable gloves and warm clothing are available for anybody who would benefit from them.
- Check that you are providing the best tool for the job in hand — talk to the hire company to see what alternatives they have available.
- Keep tools sharp and well maintained. If you get a report from a user that a tool needs attention, then report it to the hire company.
- Make sure that all users are aware of the hazards which can arise from work with high-vibration tools, and the simple precautions that they can take. Ask the hire company for more copies of this leaflet so that everyone can see it.
- Organise patterns of work where you can to avoid lengthy and continuous use of high and medium vibration tools.
- Make facilities for rest periods in warm, dry shelter with hot drinks.
- If a user reports signs of vibration white finger, move them away from work with high vibration tools if you can, and take steps to have them checked by their own doctor or an occupational health and safety advisor.
- The Health and Safety Executive recommend a programme of preventive measures and health surveillance when workers' exposure regularly exceeds 2.8m/s<sup>2</sup>A(8). This will apply to most tools we have classed as high or medium risk and to some that we have classed as low risk if they are regularly used for long periods.

## For more information

- Contact Torrent Trackside 24 Hour Hotline Number 0845 7697168 for more information about the right tool for the job, and vibration reduced tools.
- Contact the Health and Safety Executive information service for more guidance on the law in the UK — telephone HSE Infoline on 0541 545500. In the Republic of Ireland, call the Health and Safety Authority on (Dublin) 01 614 7000.

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