

**PURPOSE/APPLICATION**

Exposure to mechanical vibration, can lead to musculoskeletal, neurological, and vascular disorders. The scope of this practice is to protect workers from the risks arising from the exposure to mechanical vibration.

**PPE**

- CPES minimum requirements
- Anti-vibration Gloves

**TRAINING****HAZARDS & CONCERNS**

- Vibration

**PRECAUTIONS**

Workers typically experience vibration in two forms

1. Hand-arm vibration
2. Whole-body vibration

Hand-arm vibration is that vibration that, when transmitted to the human hand-arm system poses a risk to the health and safety of the workers; in particular, vascular, bone or joint, neurological, or muscular disorders. This may come from the use of handheld power tools.

Whole-body vibration is vibration that, when transmitted to the whole body poses a risk to the health and safety of the workers; in particular, lower back morbidity and trauma of the spine. This may come from riding in heavy vehicles/machinery, particularly over rough ground.

**Risk controls for vibration include:*****1) Equipment selection***

- Make sure that equipment selected or allocated for tasks is suitable and can do the work efficiently. Equipment that is unsuitable, too small or not powerful enough is likely to take much longer to complete the task and expose employees to vibration for longer than is necessary.
- Select the lowest vibration tool that is suitable and can do the work efficiently.
- Limit the use of high-vibration tools wherever possible.

***Example:*** To cut large holes in brickwork, use a diamond-tipped hole-cutting drill bit with a rotary action rather than a tungsten-tipped hole bit which requires rotary and hammer action.

***2) Alternative work methods***

- Look for alternative work methods which eliminate or reduce exposure to vibration. Your trade association, other industry contacts, equipment suppliers and trade journals may help you identify good practice in your industry.
- Mechanize or automate the work.

***Example:*** Use a breaker attachment on an excavating machine to break concrete rather than using a hand-held breaker.

**3) Maintenance**

- Introduce appropriate maintenance programs for your equipment to prevent avoidable increases in vibration (following the manufacturer's recommendations where appropriate).
- Do not use blunt or damaged concrete breaker and chipping hammer chisels and replace consumable items such as grinding wheels, so that equipment is efficient and keeps employee exposure as short as possible.

**Example:** Check and sharpen chainsaw teeth regularly (following the manufacturer's recommendations) to maintain the chainsaw's efficiency and to reduce the time it takes to complete the work.

**4) Work schedules**

- Limit the time that your employees are exposed to vibration.
- Plan work to avoid individuals being exposed to vibration for long, continuous periods – several shorter periods is preferable.
- Where tools require continual or frequent use, introduce employee rotations to limit exposure times

**Example:** Organize employees to work in teams where they switch tasks within the team to avoid individuals having unnecessarily high exposure to vibration.

**5) Clothing**

- Provide your employees with protective clothing when necessary to keep them warm and dry. This will encourage good blood circulation which should help protect them from developing vibration white finger.
- Gloves can be used to keep hands warm but should not be relied upon to provide protection from vibration.

**REFERENCES / ADDITIONAL INFORMATION**

None

**REGULATIONS**

Alberta OHS Code

None

Saskatchewan OHS Regulation

None

British Columbia OHS Regulation

None



**SAFE WORK PRACTICE**

**SWP-42**

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**MECHANICAL VIBRATION EQUIPMENT/TOOLS**

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