



Loss Control Insights

Hand-Arm Vibration Syndrome

Hand-Arm Vibration Syndrome (HAVS) is a preventable neurovascular condition typified by symptoms that include increasingly frequent numbness, tingling and poor function in the fingers.

HAVS is often associated with occupations requiring prolonged use of power tools that produce high levels of vibration, such as in construction, metal fabrication, vehicle manufacturing and repair, utilities, landscape maintenance, forestry, mining and shipyards. Tools with high levels of exposure include impact wrenches, chainsaws, chipping hammers, grinders, impact drills and hammers, sanders, rammers, and rock drills, among others.

Symptoms and Effects

An exposed individual may experience early symptoms that can result in sensation changes, tingling or numbness in the fingers. Although mild and intermittent at first, continued exposure can damage blood vessels, which can cause fingers to whiten (blanch) or become red and painful following the exposure. These changes may lead to muscular aches, pains and loss of function. Eventually, with jobs that present continued exposure to vibration, particularly within cold work environments, these changes can become irreversible. Ultimately the effects on workers can include:

- Pain, distress and sleep disturbance
- Inability to accomplish tasks with dexterity (fastening buttons, for example)
- Inability to work in cold or damp conditions
- Reduced grip strength, reducing competency and the ability to work safely

Management Responsibilities

Management should work to reduce the potential for HAVS by developing strategies to identify and reduce the exposure throughout their organizations. Steps include:

- Identifying tasks that involve the use of vibrating and impact tools or factors that may exacerbate exposure
- Measuring the vibration produced by the tools:
 - Test tools with an acceleration/velocity meter
 - Work with tool vendors to identify vibration levels
- Identifying the workers, including those with greater susceptibility, likely to have exposure and the degree and duration of exposure
- Adopting control measures to reduce exposures:

- Remove or avoid exposure by finding alternate working methods
- Replace older tools with tools designed to produce less vibration
- Maintain tools and tool appendages to offset vibration caused by worn mechanisms, bearings, shafts, etc.
- Manage workstation design to minimize poor posture and provide supplementary devices to reduce loading
- Reduce exposure time through job rotations or activity scheduling
- Provide affected employees training on the potential impact of vibration exposure
- Introduce health surveillance to monitor the success of the HAVS strategy

Employee Responsibilities

Many of the precautions to effectively manage HAVS involve employees. Engage with your employees to help identify and manage the risk of HAVS. The following steps can help employees reduce the risk:

- Follow precautions established to reduce the risk of HAVS
- Consider alternate methods that eliminate or reduce the need to work with vibrating tools and escalate suggestions to management
- Select the right tool for each task
- Inspect the tool prior to use to ensure it works as intended
- Report tool defects promptly
- Avoid gripping tools too tightly and minimize excessive force or awkward posture
- Plan tasks to reduce vibrating tool use for prolonged periods
- Report HAVS symptoms promptly
- Encourage good blood circulation by keeping warm and dry with appropriate clothing