

## MSI RISK FACTORS

### Whole-Body Vibration

Whole-Body Vibration (WBV) is vibration from machines and vehicles transmitted into the body through the buttocks, back, or feet – e.g., from sitting on a vibrating seat or standing on a vibrating floor. WBV typically occurs where riding in or driving construction or transportation equipment is required.

Short-term exposure is linked to abdominal and chest pain, headaches, nausea, and loss of balance. Long-term exposure has been linked to back disorders, including lower back pain, as well as having a negative effect on the digestive system and visual performance.

#### Examples of WBV sources:

- Skid steer vehicle
- Load, haul, dump truck
- Bulldozer
- Backhoe
- Compactor
- Grader
- Forklift
- Asphalt paver
- Transport truck



#### Risk of injury increases with:

- Increased intensity, frequency and length of exposure over the short term.
- Longer-term, regular and higher intensity exposure.
- Severe shocks or jolts.
- Prolonged seated posture or awkward spine posture.

# Move WELL Work WELL

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#### Engineering Controls

- Choose the most appropriate vehicle/equipment design for the job while also considering vibration emissions and the ability of the operator to avoid awkward postures such as back bending and twisting:
  - Quality of suspension system.
  - Seat suspension design.
  - Seat profile and adjustments (size, fit, lumbar support, seat height adjustment independent of suspension).
  - Cab design and visibility.
- Use high-intensity lighting to better judge surface conditions.
- Use remote-controlled equipment to move material rather than human-operated equipment.
- Design work to reduce transport distance.

#### Administrative Controls

- Develop and implement written safe work practices and procedures.
- Have a policy on the removal/reduction of vibration.
- Keep vehicles/equipment regularly maintained, including drive-train isolation, vehicle suspension systems and operator platform and seat.
- Keep regular maintenance of road surfaces and other rough terrains.
- Limit operator's exposure to fewer hours per day.
- Incorporate adequate rest periods in work schedules.
- Provide warm, waterproof clothing during cold weather so muscles do not tighten.
- Train operators in the safe use of equipment and health risks of WBV.

#### What can you do?

- Perform physical exercises to warm up the body.
- Adjust the vehicle seat to your body weight and accommodate a neutral posture.
- Reduce driving speed for surface conditions.
- Take frequent breaks to minimize exposure. Vehicle operators should stand and stretch every hour.
- Report rough terrain requiring maintenance.
- Report any poorly maintained equipment (e.g., insufficient tire pressure).
- Report any vibration-related symptoms.



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