

Ergonomics -

Occupational Driving / Operating Risks for Musculoskeletal Injury

Potential Hazard:

Musculoskeletal injuries (MSIs) account for many injuries suffered by workers who drive vehicles or operate equipment as part of their job. The most common injury area is the lower-back, mostly due to long periods of sitting, especially if followed by manually handling heavy loads. Injuries to the knees and ankles are also common, likely occurring when vehicles or machines are not properly exited.

How to Control the Hazard:

Employers and workers must be aware of these key factors to help prevent MSIs:

- Vehicles and machines should have well-designed, adjustable seating and controls.
- Train driver/operators to adjust their seat and controls to a position where the lumbar curve is supported and forward reaching is reduced or eliminated as far as reasonably practical (e.g. keep the elbows close to the body).
- Develop and implement policies for required breaks from the seated posture.
- Develop and implement policies and safe work procedures for the safe exit from a vehicle/machine.
- Develop a warm-up routine for drivers/operators to perform AFTER long periods of sitting, and BEFORE physical exertion, e.g. unloading the vehicle/machine.
- Develop and implement policies and safe work procedures for material handling.

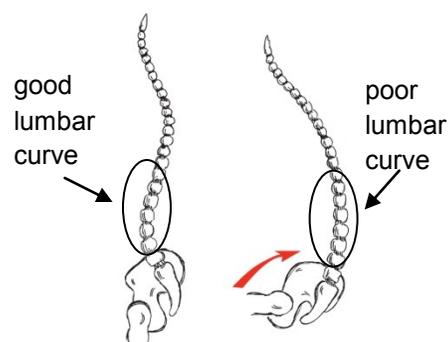
More Information/Examples of Occupational Driving Risks for MSI

Description

- The seated posture causes the back to lose its good lumbar curve, causing increased stress on the muscles, discs and other structures of the lower back.
- The risk of injury to the lower-back is increased where there is inadequate or no lumbar support.
- At a minimum, an operator's chair should be equipped with adequate and adjustable lumbar support.

Hazards

Sustained or Awkward Postures



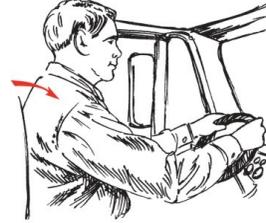


Description

- The seated posture, combined with reaching to grip and maneuver controls, places the upper back, shoulders, arms and hands at greater risk for injury. The further the reach and the greater the gripping requirements, the greater the stress placed on the muscles, ligaments and joints.
 - Seating and control design should allow operators to reduce reaching and awkward hand positions. Controls should be maintained to prevent the use of stiff or jerky motions.
 - Controls should be designed and maintained to prevent the use of stiff, jerky or awkward motions.
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- Vibration while in the seated posture increases the risk of injury to the lower back.
 - Whole body vibration has been linked to feelings of nausea, dizziness and ill health.
 - Operator/driver seating should be designed and maintained to reduce the transfer of vibration to the body.
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- Injuries to the foot, ankle, and lower leg are common in operators/drivers due to improper egress from a vehicle/machine.
 - Jumping or swinging down from a vehicle/machine increases the risk of injury.
 - Always use the three-point contact technique for exiting a vehicle/machine
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- Prolonged sitting can cause the muscles around the lower trunk to become inactive.
 - Sudden demands placed on an inactive muscle can increase the risk for injury, as compared to an engaged muscle.
 - The operator/driver must be made aware of the risk of injury due to inactive trunk muscles and of methods to reduce this risk.
 - Appropriate warm up (exercise/stretch) should be carried out prior to physical exertion.

Hazards

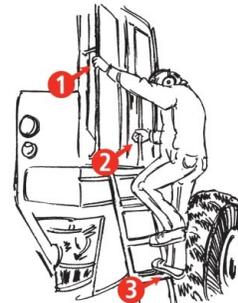
Sustained or Awkward Postures



Vibration



Unsafe Egress (Exit) from a machine/vehicle



Lack of Appropriate Warm-up



Reference to legal requirements under workplace safety and health legislation:

- Safe Work Procedures: Manitoba Regulation 217/2006 Part 2.1
- Musculoskeletal Injuries: Manitoba Regulation 217/2006 Part 8

Additional workplace safety and health information available at: safemanitoba.com