

On the Job Tool Box Safety Talks - Whole Body Vibration

Adverse affects of whole body vibration range from simple fatigue to motion sickness, low back pain, degeneration of the lumbar spinal system and herniated disks. Whole body vibration can also cause psychological irritation. All of these things create health and safety hazards for construction workers.

It is thought whole body vibration causes reduced blood flow to the spine which in turn may cause the adverse reactions noted above. Vibration may also cause continuous compression and stretching of spine resulting in structural fatigue or micro-trauma.

Control Techniques

There are three basic means to control whole body vibration exposure.

1. Eliminating the source of vibration - either modifications to the machinery to reduce vibration, or for vehicles, smoothing of the work surface.

2. Disrupting the path of vibration transmission
 - Vehicle suspension - this can be of limited use for heavy haul vehicles as they usually need tight suspensions which increase vibration transmission
 - Installation of an independent suspension for cabs of vehicles
 - Proper tire inflation
 - Seats
 - i. Adjustable seat back and pan, lumbar support, arm rest
 - ii. Regular preventive maintenance on seats
 - iii. A/V seats are commercially available - but use caution in retrofitting seats into cabs without an assessment of vehicle vibration characteristics. Amplification of vibration can occur if the wrong seat characteristics are selected.

3. Training
 - Need for, and how to adjust seats in cab
 - Avoid bending or twisting spine after exposure (use simple motions to get out of cab)
 - Avoid heavy lifting right after exposure

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