

# occupational musculoskeletal disorders

RESEARCH & INTERVENTION FOR THE TRUCKING INDUSTRY



a summary of work done by

The Washington State Safety and Health Assessment and Research for Prevention (SHARP) Program, Truck Industry Reduction Emphasis (TIRES) Group, Washington State Department of Labor and Industries (LNI), Washington Trucking Association (WTA), and the University of Washington Department of Environmental and Occupational Health Sciences (UW DEOHS)

## WHOLE BODY VIBRATION

Truck drivers, through the daily operation of their trucks, are exposed to Whole Body Vibration (WBV). Several scientific studies have indicated that WBV induces back-related wear-and-tear which contributes and leads to occupationally-related low back pain.

## SHARP & TIRES FINDINGS

Work done by SHARP in conjunction with the Trucking Injury Reduction Emphasis (TIRES) group has shown that work-related musculoskeletal disorders/sprains and strains are the single largest component of a transportation company's workers compensation claims.

**33%** *Musculoskeletal disorders and sprains/strains are the single largest component accounting for approximately 43% of all workers compensation claim costs in Washington.*

**30%** *The low back is the most affected region accounting for approximately 30% of the musculoskeletal disorders and sprains/strains claims.*

## THE SHIP GRANT

In 2007 the Washington State Legislature appropriated funds from the Washington State Medical Aid and Accident Fund to create the Safety & Health Investment Projects (SHIP) Grant Program. As part of LNI, the mandate of the SHIP grant program is to get Washington State employers, employees and their representatives to develop Safety & Health projects and ideas to reduce workplace injuries, illnesses, and fatalities and fund viable projects.

## UW DEOHS & WTA INTERVENTION RESEARCH

In 2011 the UW Department of Environmental and Occupational Health Sciences (UW DEOHS) teamed up with the Washington Trucking Association (WTA) and received a \$250,000 SHIP grant to determine if new truck driver seats could reduce low back pain.

The UW conducted a one-year randomized controlled trial (RCT) which compared WBV and self-reported low back pain outcomes between 20 truck drivers receiving industry standard air-suspension truck seats and 20 truck drivers receiving active vibration cancelling (AVC) truck seats. The AVC seats, developed by Bose Corporation, were commercially introduced in 2010.

The key findings of this study were:

**0%** *There was no change in self-reported low back pain in the group of truck drivers that received the industry standard, air-suspension seats, and only a 15% reduction in WBV.*

**47%** *There was a 47% reduction in WBV among drivers who received the active vibration cancelling (AVC) truck seats.*

**30%** *Self-reported low back pain decreased by 30% among the drivers who received the active vibration cancelling (AVC) truck seats.*

*For additional information on this study, and to discover more work from UW DEOHS, please visit [deohs.washington.edu](http://deohs.washington.edu)*

