

## At-A-Glance

The mission of the Musculoskeletal Health Program is to reduce work-related musculoskeletal disorders (MSDs), such as carpal tunnel syndrome and low back pain. This snapshot shows recent accomplishments and upcoming work.

### What are our priorities?

The National Institute for Occupational Safety and Health (NIOSH) Musculoskeletal Health Program works with partners in industry, labor, trade associations, professional organizations, and academia to prevent work-related musculoskeletal disorders (MSDs). MSDs are soft-tissue injuries caused by sudden or sustained exposure to repetitive motion, force, vibration, and awkward positions.

### What do we do?

- **Surveillance:** Locate and use unique sources of surveillance data (including surveys, insurance and workers compensation data) to identify and prioritize areas of needed MSD research for underserved worker populations.
- **Intervention Effectiveness:** Develop and evaluate cost-effective interventions to prevent or minimize MSDs in the workplace. Many businesses with jobs with high rate of MSDs (e.g., manual material handlers, nursing assistants, and hotel housekeepers) do not have effective programs, technologies, and strategies available to prevent MSDs.
- **Communication:** Share new information, control technologies, and prevention methods through a variety of formats tailored to the needs of specific worker and employer populations.

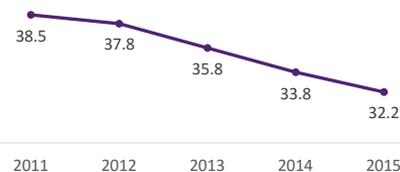
### What have we accomplished?

- Evaluated the process of identifying standardized test procedures for using exoskeletons in industry settings with the Department of Defense, the National Institute of Standards and Technology and other stakeholders.
- Edited and contributed to [special issue of peer-reviewed journal](#) focusing on the impact of the Revised NIOSH Lifting Equation, both domestically and internationally.
- Conducted and reported on several studies on the transmissibility of vibration to the hands in mining and manufacturing industries while using vibration-reducing gloves.
- Developed ErgoMine software, an ergonomics audit tool for the mining industry which provides recommendations for improvements.
- Published a study on the assessment of self-reports of MSDs and the use of the revised NIOSH Lifting Equation to identify specific factors related to low back pain among a group of manufacturing workers.

### What's next?

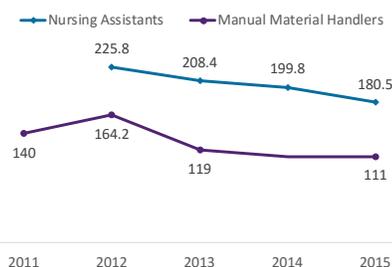
- Analyze survey data from three global professional ergonomist associations to understand how NIOSH risk assessment tools are being used.
- Distribute a NIOSH-created mobile application to automate the Revised NIOSH Lifting Equation calculations for determining safe manual material handling tasks.
- Host a series of webinars on musculoskeletal health related topics including the use of wearable sensors to automate data collection and risk assessment of work tasks.
- Conduct panel sessions at 3 scientific conferences to discuss advances and research on wearable sensor technology, exoskeletons and mobile applications of NIOSH-developed risk assessment tools.

Rate of lost workdays due to musculoskeletal disorders, per 10,000 workers, all sectors



Source: U.S. Bureau of Labor Statistics

Lost workday musculoskeletal disorder rate per 10,000 workers



Source: U.S. Bureau of Labor Statistics. 2014 data unavailable for manual material handlers. 2011 data unavailable for nursing assistants

Cumulative web downloads of document titled "Observation-Based Posture Assessment"



Source: NIOSH program records

To learn more, visit  
<https://www.cdc.gov/niosh/programs/msd/default.html>