

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. Current objectives of the program are to address the underlying injury mechanisms and impact of MSDs, especially on older workers; to better understand risk factors through improved risk assessment methods; and to develop and evaluate interventions and emerging risk control technologies.

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 rates 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?

- Published and distributed the Revised NIOSH lifting equation calculator ([NLE Calc](#)) mobile app for determining safe manual lifting. It has been downloaded almost 8,000 times in its first six months.
- Incorporated data about musculoskeletal health from the National Health Interview Survey (NHIS) core questions and the 2015 NHIS occupational health supplement into the NIOSH Worker Health Charts [data visualization tool](#).
- Administered a survey to an international group of certified professional ergonomists to identify assessment methods most commonly used to address risk factors for work-related MSDs.
- Presented NIOSH research efforts on emerging technologies (e.g., wearable sensors and exoskeletons) that may impact workplace risk assessments and interventions at the Human Factors and Ergonomic Society annual conference.

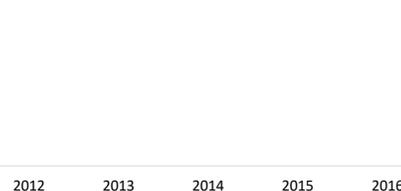
What's next?

- Host a series of webinars discussing elements of an effective ergonomic program, such as return on investment and effective interventions.
- Promote awareness of the importance of preventing workplace musculoskeletal disorders through the NIOSH Science Blog, eNews, and the MSD web page.
- Publish research findings about the relationship between workplace psychosocial stress and musculoskeletal health outcomes.
- Publish research results from the application of new technologies (e.g. vacuum lift, wearable sensors, exoskeletons, computer vision) in risk assessments of MSDs.

At-A-Glance

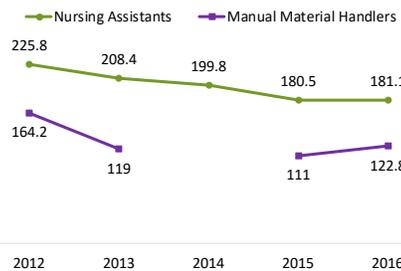
The mission of the Musculoskeletal Health Program is to reduce work-related musculoskeletal disorders (MSDs), such as carpal tunnel syndrome and low back pain. This snapshot shows recent accomplishments and upcoming work.

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.

NIOSH NLE Calc: Screen Shot



Calculate the lifting index for a single lift or the composite lifting index for multiple lifts using the Revised NIOSH Lifting Equation.



Calculate LI/CLI



My Saved Jobs