



Construction Program

What are our priorities?

The National Institute for Occupational Safety and Health (NIOSH) Construction Program works with partners in industry, labor, trade associations, academia, professional organizations, and other government organizations. The program focuses on construction worker safety and health in these areas:

- Preventing injuries and fatalities related to falls and struck-by incidents
- Addressing adverse health outcomes associated with mental health and substance use disorders
- Reducing hazardous exposures including to respiratory hazards and excessive noise
- Reducing injuries and musculoskeletal disorders by greater use of emerging technologies

What do we do?

Raise awareness of evidence-based ways to prevent fatalities in the construction industry:

- Promote, plan and evaluate the NIOSH research-based national initiatives to address [falls](#) and [struck-by](#) incidents, leading work-related causes of construction worker deaths, in collaboration with the NIOSH-funded Center for Construction Research and Training (CPWR) and the Occupational Safety and Health Administration (OSHA).
- Develop fall prevention, struck-by and other [Focus Four Hazard](#) tools, educational materials, trainings, and other resources and disseminate through various channels, like web and social media.
- Provide information, tools, and resources to advance hearing loss prevention efforts and to address other topics such as [substance use disorders](#), [suicides](#), and workplace stress in construction.
- Increase availability and use of [silica](#) controls.
- Increase the availability and use of effective interventions in the construction industry.

What have we accomplished?

- Developed [infographics and related materials](#) that address various aspects of construction safety and health including extreme heat, falls, trench safety, struck-by incidents, and mental health and substance use disorders.
- Published [NIOSH Science blogs](#) on excavator struck-by fatalities, Prevention through Design, exoskeletons and musculoskeletal disorders, the opioid epidemic, and heat stress. Two NIOSH science blogs about the opioid epidemic were further disseminated in an online magazine by an investigative news organization called [Mother Jones](#).
- Oversaw the work of three partner workgroups addressing falls, struck-by incidents, and COVID-19. Each workgroup developed significant new products and materials related to construction hazards of interest, such as an infographic on [extreme heat and construction falls](#) and a toolbox talk on [challenges preventing falling objects](#).

What's next?

- Conduct research and develop communication products targeting key construction stakeholder groups to prevent ongoing safety and health hazards as well as emerging hazards in construction.
 - Work with partners to maintain worker health and safety during the [national infrastructure buildout](#) which includes a \$550 billion investment for construction projects.
- Develop and support research to address important emerging construction topics including:
 - Use of robotics, exoskeletons, drones, and other emerging technologies.
 - Improving healthy work design interventions to advance the well-being of construction workers, including attention to substance use disorders mental health concerns and suicide prevention.
 - Effects of a changing climate, including hazards related to excessive heat and dangerous winds.
 - Issues related to worker impairment, for example from excessive fatigue or substance use.
- Publish a series of toolbox talks on longstanding safety and health topics including various aspects of struck-by incident prevention.

At-A-Glance

The NIOSH Construction Program aims to eliminate work-related injuries, diseases, and fatalities among construction workers. This snapshot shows recent accomplishments and upcoming work.

Number of fatalities from falls in construction (all employment), 2006-2020



Source: U.S. Bureau of Labor Statistics, 1992-2020 Census of Fatal Occupational Injuries. Numbers are from the online Census of Fatal Occupational Injuries (CFOI) database.

Publication Spotlight:

Extreme Heat and Construction Falls Infographic

Construction workers account for more than 1 out of 3 of all work-related heat deaths.

Heat exposure INCREASES RISK of traumatic injuries such as falls.

YOUNGER AND OLDER (18-34) (>54) workers are most at risk.

What to do:

- Provide water and easy access to toilets.
- Train workers to understand how heat stress affects their health and safety.
- Develop a heat awareness campaign that addresses fall injuries.
- Onsite, have everyone drink extra water to prevent the onset of heat stress.

Download and use the free

Construction Trenching Infographic

BEFORE YOU DIG IT, PLAN IT!

- Assign and train a competent person.
- Call 811 to identify and mark underground utility lines.
- Dig a minimum 5 ft away from utility lines.
- Evaluate the soil to determine its stability.
- Plan the job layout to identify safe locations for spoil piles and heavy equipment routes.
- Before the job starts, if the trench will be 5 ft or deeper, set up a protective system. If the trench will be 20 ft or deeper, provide engineering protections.
- Have a traffic control plan and lane-closure permits.

WHEN YOU DIG IT, USE CAUTION!

- Have the competent person inspect the trench, nearby areas, and protective systems each day before the start of work, when conditions change throughout the shift, and after every rainstorm.
- Maintain signs, barriers, and protection around the trench.
- Keep all vehicles and machinery a safe distance from the excavation.
- Ensure ladders and mats are never more than 25 ft away from any worker in the trench.
- Remove workers from the excavation upon any evidence that could cause a cave-in.
- Monitor other types of trench-related hazards that can occur, such as falls from the edge, rigging hazards, or toxic and combustible gases, or oxygen-deficient conditions.
- Enforce procedures to ensure that work in an unprotected trench.

To learn more, visit www.cdc.gov/niosh/programs/const July 2022



Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

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