



NORA

Struck-by Workgroup

NIOSH NORA Construction Sector
Council

What we've been
up to . . .

National Stand Down on Struck-by
Incidents





Tower Crane Safety



✘ Keep clear of overhead electric power lines and maintain a safe working clearance from



Lift Zone Safety: Planning a Lift

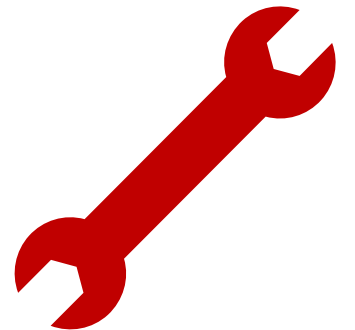
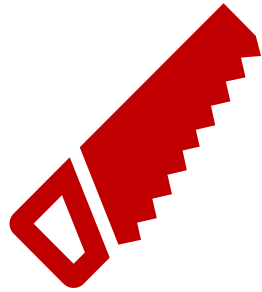


✘ DO NOT lift a load that exceeds the lifting capacity of the crane or rigging.

What we've been
up to . . .

Work Group Activities





Breaking the Trend Series
Module 7 - Stop the Drop 2.0

Purpose The Stop The Drop 2.0 Educational Module improves awareness of the potential of injury due to dropped and falling objects. Falling and dropped objects present a serious workplace hazard to all employees, and this module provides insight, discussion and case studies which help employees to prevent this hazard.

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Breaking the Trend Series
Module 1 - Stop the Drop

Purpose The purpose of the Stop The Drop Module is to emphasize and heighten awareness of the potential for injury due to dropped and falling objects. By educating each employee on the opportunity of falling objects and how to mitigate that opportunity they have a conscious opportunity to take necessary precautions to prevent any present or potential falling object hazards.

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Dropped Tools Work Group

Caught-In Moving Equipment Work Group

CPWR TOOLBOX TALK
THE CENTER FOR CONSTRUCTION RESEARCH AND TRAINING

Prevent Being Caught in/between Equipment and Machinery

Almost all projects use machinery that has moving or rotating parts. "Caught-in" or "caught-between" hazards are present on most job sites and are among the construction industry's leading causes of death and injury. These injuries result from being squeezed, caught, crushed, pinched, or compressed between two or more objects or between parts of an object.

Using machinery might seem safe, but the use of equipment requires training to educate workers on safe work practices. Injuries can occur when clothing, hair, jewelry, or body parts become caught within unguarded parts and components. Often, workers must repair or complete maintenance on machinery and equipment, putting themselves at risk for potential injuries, ranging from amputations and fractures to death.

Bob's Story
Bob was performing repairs to a bulldozer on a job site. He did not lock out/tag out the dozer before starting the repair. As he was repairing a cylinder rod on the hydraulic system, stored energy in the hydraulic line unexpectedly caused the cylinder rod to kick, resulting in Bob's right hand becoming caught in the machine and ultimately amputated.

❗ What caused this incident?
❗ How could this have been prevented?

Remember This
When working with machinery and equipment, the following controls should be in place to reduce the likelihood of injuries from rolling, sliding, or shifting objects:

- Install emergency stop systems to shut down the machine. Ensure markings for emergency shut offs are present and conduct periodic testing to ensure that they are functional.
- Place guards and barricades on machinery and equipment to prevent contact with moving parts.
 - Evaluate equipment points of operation, transmission parts, rotating parts, etc. and determine if protection is required or is missing.
- Eliminate need to remove guards for simple maintenance tasks by extending lube points.
- Attach guards so workers cannot remove them and, when available, install interlocking guards, which requires a special tool for removal.
- Requirements for Safeguards:
 - Prevent Contact
 - Be Secure
 - Protect from falling objects
 - Create no new hazards
 - Create no interference
 - Allow for safe lubrication
- Train supervisors, equipment operators, and workers on safe work practices.
 - Only qualified personnel should perform maintenance and repairs.
 - Safe work practices should include procedures for lockout/tagout of equipment when completing maintenance work. Ensure any stored energy is bled (air, hydraulics, capacitors, etc.) before maintenance and repair work.
 - Workers should understand how to stop equipment if a worker becomes entangled.
 - Post warning signs to alert workers and bystanders of potential dangers.
 - Inspect guards for damage and repair or replace guards before re-energizing and restarting equipment.
 - Select appropriate clothing for the task.
 - Avoid loose or baggy clothing. Pants and shirt should fit comfortably, however, pants should not be too long, shirts/sleeves should fit appropriately, and shorts should be tucked in.
 - Do not wear jewelry.
 - Tie back long hair and tuck it into clothing to reduce entanglement risk.
 - If gloves are needed, ensure that they fit appropriately.

How can we stay safe today?
What will you do at the worksite to prevent getting caught in moving equipment and machinery?


- _____
- _____

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CPWR TOOLBOX TALK
THE CENTER FOR CONSTRUCTION RESEARCH AND TRAINING

Prevent Being Caught in/between Equipment and Machinery



- ❗ Be familiar with the locations of emergency stop buttons.
- ❗ Do not use unguarded equipment and machinery.
- ❗ Only qualified personnel should perform maintenance and repair work on equipment.
- ❗ Use proper lockout/tagout procedures when completing repairs.

Trench Safety: Before you Dig IT, Plan IT!

1 cubic yard of dirt
weighs the same as a
compact car!

1 of 5 deaths
in confined spaces involved
construction workers
from 2011 to 2018.

203 lives were lost
in ditches, channels,
trenches, or excavations
from 2011 to 2018.



Trench Safety Work Group

BEFORE YOU DIG IT, PLAN IT!

- Designate and train a competent person.
- Call 811 to mark underground utility lines.
- Evaluate the soil to determine its stability.
- Plan the job layout to identify safe locations for spoil piles and heavy equipment routes.
- Setup a protective system for the job before workers startup: slope, shore, or shield it.

WHEN YOU DIG IT

- Inspect the excavation, adjacent areas, and equipment every day before the start of work and after every rainstorm.
- Maintain signage, barriers, and safety equipment.
- Keep all vehicles and equipment out of the trench.
- Ensure ladders are used properly and workers are trained in their use.
- Remove any debris from the trench.

Safety Nudges

ATTENTION CONTRACTORS:

Looking to prevent struck-by injuries on the job site?

CPWR – The Center for Construction Research & Training is developing and pilot testing a **FREE Struck-by Prevention Planning Program** and we want your input! The program will include a planning resource with questions and prompts to help complete a pre-job plan to prevent injuries, links to pre-task planning and training resources, and “nudges” to encourage foremen and other workers to pause and plan before carrying out a lift, using tools at heights, bringing heavy equipment onto the job site, or other activities that could result in someone being struck by an object or machine.

We're looking for **construction company owners, safety & health pros, project managers, supervisors, foremen, and any others responsible for jobsite safety planning** to provide input on the development of the new program and feedback on its use once created. By signing on for this study, participants agree to participate in one or more of the activities listed below. Participation is completely voluntary, and the degree and length of time for which your company participates is up to you. You may drop out at any time and for any reason.

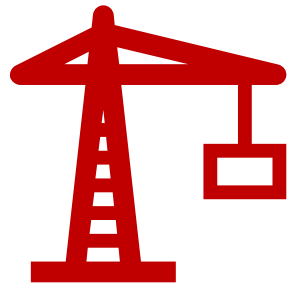
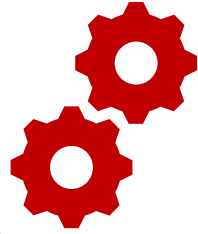
1. **Baseline surveys** – Our first step is a simple survey to find out what your company is doing already and what would be helpful for us to include in the program. |
2. **Review & feedback on program** – We want to make sure we're getting it right and will be seeking feedback on the initial program prior to its use.
3. **Pilot-test the program** – Use some or all of the program on your jobsite(s) and let us know what you think!
4. **Follow-up surveys** – We hope to follow up with you and your workers at different points in time after using the program to find out if it's effective.

If you are interested in participating (or just want to learn more), contact Jessica Bunting at CPWR:

jbunting@cpwr.com
610-823-0108



- Completed a literature review on the use of behavioral economics in the construction industry.
- Developing and pilot testing a program focused on pre-job and pre-task planning.
- Creating a planning tool component consisting of questions and prompts.
- Supplemental resources (toolbox talks, pre-task checklists, etc).



Planning for 2022 National Stand-Down

- Series of webinars over several days
- Build Upon Past Events
 - Work Zone
 - Lift Zone
 - Dropped Tools
 - Caught-In

Talk to us!

1. Are you happy with the products of the WGs?
Are there other products we should be working toward developing that we are not currently?
2. What groups or segments of the construction industry do we need more representation from?
 1. Are there other groups or organizations that the WG chairs should invite to participate or engage with?
3. What do you feel is the optimum frequency and time for WG meetings?



Thank
You!