

NIOSH Construction Program Update

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NIOSH Office of Construction Safety & Health

November 2021

NORA CONSTRUCTION WORK GROUPS



Preventing COVID-19

Co-Chairs:

Travis Parsons

Ann Marie Dale



Preventing Falls

Chair:

Tom Shanahan



Preventing Struck-by

Co-Chairs:

Brad Sant

Alanna Klein



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ROBOTICS IN CONSTRUCTION






Study to identify hazards and risk factors for demolition robot operators

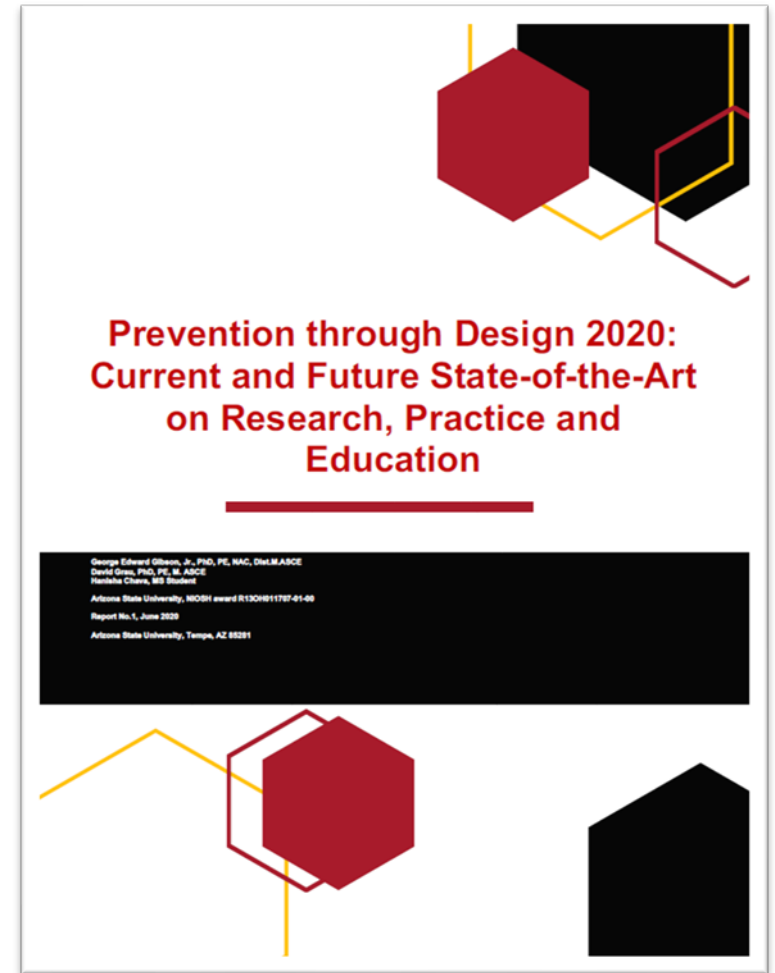
Hugo Camargo, Hongwei Hsiao, Doug Ammons, Justin Haney, Christopher Pan

-  Assessed machine-related, human-related, and environment-related contributing factors of demolition robot hazards.
-  Assessed the preparedness of demolition robot operators to unexpected robot motions.

PREVENTION THROUGH DESIGN (PtD)

Series of workshops funded by NIOSH in collaboration with Arizona State University

- 2nd Workshop: May 26–27 '21
- 3rd Workshop planned for Spring '22
- Goals
 -  To drive the implementation of PtD at large industry organizations
 -  To advance knowledge in PtD
 -  To promote the instruction of PtD in construction management and construction engineering programs at US universities



[Prevention through Design | \(asu.edu\)](https://asu.edu)



Prevention Through Design

NSC Construction & Utilities Division

March 18, 2021

POWERED INDUSTRIAL TRUCK – WORKPLACE SOLUTION

(OCT 2021)



WORKPLACE SOLUTIONS

From the National Institute for Occupational Safety and Health

Conducting a Daily Inspection of Powered Industrial Trucks (Forklift, Narrow-Aisle Reach Truck, Walkie Pallet Lift, and Tow Tractor/Tug)

Summary

Workers use powered industrial trucks (PITs) to move or lift materials in warehouses, retail, manufacturing facilities, dockyards, and construction sites. The Occupational Safety and Health Administration (OSHA) standard 29 CFR § 1910.178¹ details the safety requirements for PITs. The requirements of 29 CFR § 1910.178 are applicable to general industry workplaces². However, the information and recommendations in this Workplace Solutions document can be useful for construction, agricultural, long-shore, maritime, and mining workplaces as well. Section (q)(7) of the OSHA standard requires a daily examination (inspection) of PITs before they are placed in service, or after each shift for vehicles used on a round-the-clock basis. Employers must provide PIT operators with adequate training to properly con-

¹Code of Federal Regulations. See CFR in References.

²OSHA uses the term "general industry" to refer to all industries not included in agriculture, construction or maritime.

duct a PIT inspection. The National Institute for Occupational Safety and Health (NIOSH) developed this Workplace Solutions document to provide information about conducting a thorough daily inspection of a forklift/sit-down rider, consistent with 29 CFR § 1910.178 (q)(7), to reduce the likelihood of worker injuries during the use of PITs.

Introduction

PITs are powered by electric (battery) or internal combustion engines (diesel, gas, or liquefied petroleum gas [LPG]). In addition to forklifts, narrow-aisle reach trucks, walkie pallet lifts, and tow tractor/tugs, there are many other variations of PITs [OSHA n.d.]. Some examples include the following³:

- Sit-down riders
- Narrow-aisle order pickers
- Narrow-aisle high-lift straddles
- Narrow-aisle side-loader platforms

³With the increase in ecommerce, narrow-aisle reach trucks and narrow-aisle order pickers are becoming more common in warehouses.

- Narrow-aisle side-loader high-lift platforms
- Narrow-aisle turrets
- Narrow-aisle low-lift platforms
- Stacker pallets
- Walkie platform low lifts
- Walkie-pallet low lifts
- Walkie-pallet high lifts
- Tractor/walkie riders, and electric pallet jacks

OSHA standard 29 CFR § 1910.178 (q)(7) specifies that PITs must not be placed in service if the inspection shows any conditions adversely affecting the safety of the vehicle. In addition, all defects must be reported immediately and corrected before the vehicle can return to service. Section (l)(3)(i)(j) of the OSHA standard requires employers to provide PIT operators with the training⁴ needed to perform an inspection of the PIT. NIOSH investigations of forklift-related fatalities indicate that

⁴Training must consist of a combination of formal instruction (e.g., lecture, discussion, interactive computer learning, video tape, written material), practical training (demonstrations performed by the trainer and practical exercises performed by the trainee), and evaluation of the operator's performance in the workplace [29 CFR 1910.178(l)(2)(ii)].

- Powered industrial trucks (Forklift, Narrow-Aisle Reach Truck, Walkie Pallet Lift, and Tow Tractor/Tug, etc.) must be inspected daily, before they are placed in service (or after each shift for vehicles used on a round-the-clock basis).
- Pgs. 4-5 can be printed to conduct a thorough inspection

<https://www.cdc.gov/niosh/docs/wp-solutions/2022-100/>



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

Co-branded NEW! Toolbox Talk on Respiratory Protection with CPWR

Andrea's Story

Andrea spent the day on a renovation project sawing concrete with a handheld masonry saw. Andrea did not wear a respirator because she used water to suppress the dust. However, due to the direction of the wind that day, the water suppression was less effective than usual, and she was still exposed to airborne contaminants. After completing the project, Andrea noticed her chronic bronchitis worsened.

- ① **What should Andrea have done to protect herself from the airborne contaminants?**
- ① **Have you or someone you know ever suffered from an occupational lung disease?**



How can we stay safe today?

What will we do at the worksite to promote respirator use and prevent respiratory-related illnesses?

1. _____
2. _____



NIOSH FACE PROGRAM

California Department of Public Health
Occupational Health Branch



HAZARD ALERT

Electrocutions in the Construction Industry

Kentucky Occupational Safety and Health Surveillance, February 2021

What is the hazard?

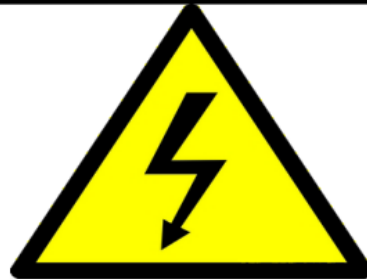
From 2000-2019, 64 workers in Kentucky died by electrocution, accounting for 3.2% of all work-related fatalities in the state during that time. Of the 64 deaths, 25 (39%) occurred in the construction industry¹. Nationally, electrocution is one of the construction's 'Fatal Four', and accounted for 8.5% of the industry's 1008 fatalities in 2018².

The following deaths by electrocution occurred in Kentucky's construction industry:

Case 1: An electrical foreman was working on a 480-volt electrical enclosure, pulling cable for a new pump that was being installed, when he contacted energized conductors. (2013)

Case 2: The contract field service technician was on top of an electrical cabinet performing testing. He came into contact with a wire and yelled to workers to shut off the power. He was taken by ambulance to a medical center where he later died. (2015)

Case 3: A dump truck driver was backing up to unload a load of debris with the dump bed extended in the raised position. The bed made contact with the overhead power lines, causing one of the wheels to catch on fire. The driver was electrocuted as he tried to exit the truck cab. (2018)



Recommendations:

- Perform a job hazard analysis prior to beginning work at a new or changing worksite.
- Train employees on and enforce proper lock-out/tag-out practices to ensure equipment is de-energized.
- Ensure all electrical equipment is properly grounded.
- Personally disconnect the plug from electrical outlet prior to inspecting or repairing any power tool.
- Inspect tools and electrical cords before use to ensure they are in good repair. If damaged, remove from service.

FATALITY ASSESSMENT AND CONTROL EVALUATION PROGRAM (CA/FACE)

A pipefitter, working in a trench, died when he was struck by an excavator bucket that detached from a quick coupler

Case Report: 20CA002

SUMMARY

A pipefitter, working in a trench, died after being struck by an excavator bucket that detached from a quick coupling device (quick coupler) that was attached to the end of the boom. The operator of the excavator was curling the bucket into the boom when the bucket came loose and fell on the victim. There was no competent person onsite the day of the incident. The CA/FACE investigator determined that, in order to prevent similar incidents, construction companies who operate excavators should:

NIOSH and State FACE Reports by Keyword

Search FACE Reports



Exhibit 4. Slope and depth of the trench.

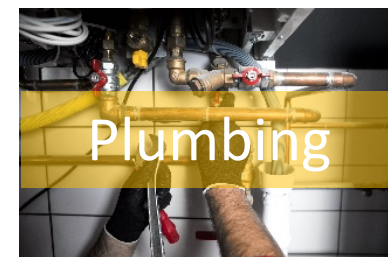
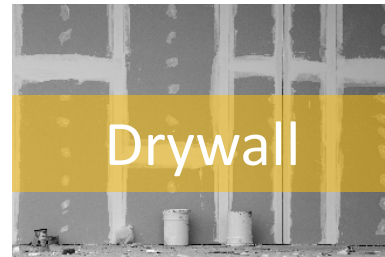
<https://www.cdc.gov/niosh/face/default.html>

<https://www.cpwr.com/research/data-center/construction-face-database/>

The National Institute for Occupational Safety and Health (NIOSH)

VIRTUAL SAFETY CONSULTANT FOR SMALL CONSTRUCTION CONTRACTORS

- Small business - VSC
 - [Case studies](#)
 - [Toolbox talks](#)
 - [Checklists](#)



COVID-19

NIOSH Science Blog

COVID-19 Poses Big Challenges for Small Construction Firms

March 9, 2021 by Claudia Parvanta, PhD; Tessa Bonney, MPH, PhD; Lee Newman, MD, MA; Eileen Betit; and CDR Elizabeth Garza, MPH, CPH

Occupational safety and health (OSH) professionals can help small construction firms build safety into their worksites, even during the COVID-19 pandemic.

https://blogs.cdc.gov/niosh-science-blog/2021/03/09/construction_covid/



<https://www.constructforstl.org/vax-facts-stl/>



COVID-19 Vaccine FAQs for the Construction Industry

Version 5: September 3, 2021

Información N.º 3 sobre la vacuna contra la COVID-19

Se debe vacunar incluso si ha tenido COVID-19.

Debido a los graves riesgos para la salud asociados a la COVID-19 y al hecho de que la reinfección es posible, se recomienda la vacuna independientemente de si ya se contagió con el virus.

En este momento, los expertos no saben cuánto tiempo está protegida una persona de volver a enfermarse después de recuperarse de la COVID-19. La inmunidad que se obtiene al tener una infección, llamada inmunidad natural, varía de persona a persona. Algunas pruebas preliminares sugieren que la inmunidad natural puede no durar más de 90 días.

Obtenga más información en www.cpwr.com/covid-19-resources/covid-19-vaccine-resources.



Para obtener información sobre diversos temas relacionados con la COVID-19 y la industria de la construcción, visite el Centro de Intercambio de Información de la COVID-19 en la construcción perteneciente al Centro de Investigación y Capacitación en Construcción (Center for Construction Research and Training, CPWR) en covid.eclosh.org.

<https://www.cpwr.com/covid-19-resources/covid-19-vaccine-resources/>

Why is it important that construction workers get vaccinated?

This document was developed by the NH Occupational Health Surveillance Program at University of New Hampshire in coordination with the National Institute for Occupational Safety & Health (NIOSH)

Construction work is considered essential during the pandemic. Because most construction work continues in-person, your workers are at greater risk of becoming infected with SARS-CoV-2, the virus that causes COVID-19.ⁱ

For the 2020-2021 season, construction occupations experienced a 3.43% absenteeism rate compared to 2.32% for all other occupations.ⁱⁱ

The estimated cost of lost work hours, among U.S. full-time construction workers, associated with the COVID-19 pandemic due to health-related issues was \$360 million.ⁱⁱⁱ

Unplanned absences due to illness are among the most costly impacts of COVID-19 within essential workplaces. And with the quarantine requirements around COVID, unplanned absences become a 10-day loss of productivity versus one day of planned (or even unplanned) productivity.

Motivating workers to receive their vaccination is one of the most important steps toward ending the pandemic, getting back to life as we knew it, and for maintaining business activities.

Your employees are your most valuable asset. When one worker is down, the whole crew feels it. This impacts every aspect of the business, causing indirect costs such as:

- Training replacement employees
- Increased stress
- Lower morale
- Reduced productivity
- Increased mandatory overtime
- Increased # of safety issues
- Increased employee health problems
- Higher turnover rates

What can you do to prevent these added costs to your bottom line?

- Provide accurate information about COVID-19 vaccination.
- Establish supportive policies and practices to allow your workers to take the time to get the vaccine.

Waiting to get the COVID-19 vaccine is like leaving your tools out overnight. You're taking your chances and throwing away good money.

For more information about the COVID-19 vaccines, visit:
<https://www.cdc.gov/coronavirus/2019-ncov/vaccines/index.html>

ⁱNIOSH Blog, "COVID-19 Poses Big Challenges for Small Construction Firms," at: https://blogs.cdc.gov/niosh-science-blog/2021/03/09/construction_covid/
ⁱⁱCompilation from U.S. Census Bureau Current Population Survey (CPS) Questionnaire. Available at: <https://www.census.gov/programs-surveys/cps/technical-documentation/questionnaires.html>

ⁱⁱⁱNIOSH Absenteeism in the Workplace at: <https://www.cdc.gov/niosh/topics/absences/default.html>
Compilation from U.S. Census Bureau Current Population Survey (CPS) Questionnaire. Available at: <https://www.census.gov/programs-surveys/cps/technical-documentation/questionnaires.html>

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<https://www.cpwr.com/covid-19-resources/covid-19-vaccine-resources/>

COVID-19 continued



Workplaces and Businesses

Plan, Prepare, and Respond

Updated Oct. 18, 2021 Languages Print

CDC has archived several workplace-related guidance documents, factsheets, and toolkits. The Occupational Safety and Health Administration (OSHA) provides resources to assist employers and workers in identifying COVID-19 exposure risks and help take appropriate steps to prevent exposure and infection. See the OSHA [Coronavirus Disease \(COVID-19\) topic page](#) for the most current requirements, guidance, and tools.

Workplace Prevention Strategies

To prevent and reduce transmission and maintain healthy business operations and work environments

[Workplace Vaccination Program](#)



**COVID-19
County Check**

Find community transmission levels and masking guidance by county.

<https://www.cdc.gov/coronavirus/2019-ncov/community/workplaces-businesses/index.html>


Construction Covid-19 Safety Checklist for Employees

<https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/construction-worker-checklists.html>

MENTAL HEALTH, SUICIDE PREVENTION, & SUBSTANCE USE


August 2021

Mental Health Suffers during Pandemic: Support Fellow Construction Workers



Male construction workers have a suicide rate 65% higher than all U.S. male workers¹


In June 2020, 11% of all U.S. adults seriously considered suicide²



In June 2020, 40% of all U.S. adults struggled with mental health or substance use²

Need Help? Know Someone Who Does? Contact the National Suicide Prevention Lifeline
Call 1-800-273-TALK (1-800-273-8255)

Source 1: Suicide Rates by Industry and Occupation – National Violent Death Reporting System, 32 States, 2016 <https://www.cdc.gov/mmwr/volumes/69/wr/mm6903a1.htm>
 Source 2: Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic – United States, June 24–30, 2020 <https://www.cdc.gov/mmwr/volumes/69/wr/mm6932a1.htm>



WORK, STRESS, AND HEALTH: APA 2021 CONFERENCE, Poster presentation: Pandemic Squeeze on Already Fragile Workforce: Work Conditions and Mental Health in the Construction Industry and Interventions to Prevent Injuries and Support the Workforce

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH

Pandemic Squeeze on Already Fragile Workforce: Work Conditions and Mental Health in the Construction Industry and Interventions to Prevent Injuries and Support the Workforce

Felix Newkirk, PhD, Assistant Coordinator for the Construction Sector; CDR Elizabeth Burns, MPH, CHL, Coordinator for the Construction Sector; Scott Earnest, PhD, PE, CPE, is the Associate Director for Construction Safety and Health; Douglas Trout, MD, Deputy Director for Construction Safety and Health; Bryan Wilmer, PhD, Assistant Coordinator for the Construction Sector in the NIOSH Office of Construction Safety and Health

OBJECTIVES
 The COVID-19 pandemic has worsened the nation's long-standing problem with both falls and mental health. This poster presentation will discuss the construction industry's role in addressing these issues and the role of the construction industry in supporting the mental health of its workers.

BACKGROUND
 The COVID-19 pandemic has worsened the nation's long-standing problem with both falls and mental health. This poster presentation will discuss the construction industry's role in addressing these issues and the role of the construction industry in supporting the mental health of its workers.

METHODS
 This poster presentation is based on a review of the literature and a survey of construction workers and their families. The survey was conducted in June 2020 and included questions about mental health, substance use, and suicidal ideation.

FINDINGS
 The United States saw a record number of workplace deaths in 2020. Total deaths exceeded 40,000, up from 38,000 in 2019. The construction industry is one of the most dangerous in the United States. In June 2020, 11% of all U.S. adults seriously considered suicide, and 40% of all U.S. adults struggled with mental health or substance use.

RESULTS
 The poster will discuss the role of the construction industry in addressing these issues and the role of the construction industry in supporting the mental health of its workers.

CONCLUSIONS
 The construction industry has a role to play in addressing these issues and supporting the mental health of its workers.

Invest in workplace safety to reduce injuries and help your workers get support and treatment so they can stay healthy – and stay on the job.

Work conditions make construction workers more vulnerable

Program Activities

DO NOT USE THIS SPACE. VIDEO WILL BE INSERTED HERE BY CONFERENCE PLANNERS

CONTACT INFO
 FELIX NEWKIRK, PH.D.
 fnewkirk@niOSH.gov

CONTACT WEB
 https://www.niosh.gov

https://www.cdc.gov/niosh/construction/pdfs/Suicide-Awareness-Graphic_FINAL_8-19_SP.pdf

Workplace Supported Recovery (WSR) Program 🧠

- Eliminate workplace factors that could cause or maintain a substance use disorder
- Lower barriers to seeking and receiving care and maintaining recovery.
- Educate management and workers on substance use disorders
- Reduce stigma surrounding substance use disorder and recovery



<https://www.cdc.gov/niosh/topics/opioids/wsrp/default.html>

OPIOID USE DISORDER

Times are Tough: Protect Construction Workers from Opioid Risks

The ongoing COVID-19 pandemic overlapped with the deadliest months of the opioid overdose epidemic, challenging all of us and our mental health.



Nearly **250** U.S. lives were lost to drug overdoses every day in 2020.¹



~**50%** of Americans report the COVID-19 pandemic is negatively impacted their mental health.²



75% of overdose deaths in 2020 were caused by opioids.¹

Construction workers already face higher opioid-related risks from work conditions:



1 out of 3 construction workers have a musculoskeletal disorder (MSD).³



Prescription opioid use **3 times** higher among construction workers with MSDs.³



Overdose deaths in construction increased **9 times** from 2011–2018.⁴

Invest in workplace safety to reduce injuries, provide health care and paid sick leave, and help your workers get support and treatment so they can stay healthy – and stay on the job.

For help visit: <https://www.cdc.gov/niosh/topics/opioids/wsrp/default.html>

¹CDC [2021] Products-Vital statistics rapid release—provisional drug overdose data. Centers for Disease Control and Prevention. www.cdc.gov/hctis/nvss/vsrp/drug-overdose-data.htm

²NIEH [2021]. Opioids and the workplace prevention and response. National Institute of Environmental Health Sciences. <https://tools.niehs.nih.gov/>

³Dong XS et al. [2020]. Musculoskeletal disorders and prescription opioids use among U.S. construction workers. *J Occup Environ Med*. 62(11):973–979. <https://doi.org/10.1097/JOM.0000000000002017>

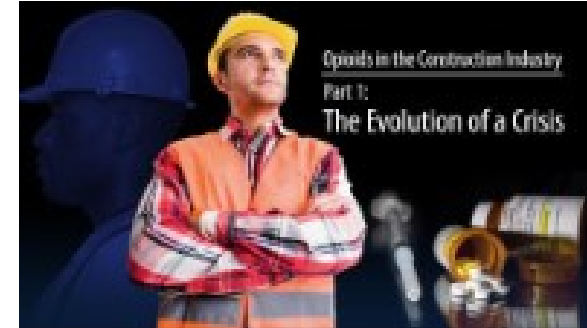
⁴Dong XS et al. [2019]. Overdose fatalities at workites and opioid use in the construction industry. CPWR Quarterly Data Report: Fourth Quarter.



[Addressing the Opioid Overdose Epidemic in Construction: Minimize Work Factors that Cause Injury and Pain | Blogs | CDC](#)

[CPWR | Resources to Prevent Opioid Deaths in Construction](#)

Evolution of a Crisis



Impacting Lives



Pathways to Recovery



Not all workers have the same risk of experiencing a work-related health problem, even when they have the same job.

In 2019, 374 Hispanic construction workers died at workplaces, surging nearly 27% from 2018 and 90% since 2011. For comparison, Hispanic employment in construction rose 55% from 2011 to 2019.




Occupational health inequities

Avoidable differences in work-related disease incidence, mental illness, or morbidity and mortality that are closely linked with social, economic, and/or environmental disadvantage such as:

- work arrangements (e.g. contingent work),
- socio-demographic characteristics (e.g. age, sex, race, and class),
- and organizational factors (e.g. business size)

[Occupational Health Equity | NIOSH | CDC](#)



Growing awareness of diversity and social inequality is a top Administration and CDC priority.

INTERESTED IN HEALTH EQUITY RESEARCH?

NIOSH [Occupational Health Equity](#) Program and Mission:

Promote **research, outreach, and prevention activities** that reduce avoidable differences in workplace injury and illness that are closely linked with **social, economic, and environmental disadvantage**.

HEALTH EQUITY Dissemination & Implementation

1 IN 3 CONSTRUCTION WORKERS ARE HISPANIC

Provide training in the language workers use and images that reflect their culture.



- Developing resources in other languages for fall prevention
- Translating construction safety products into Spanish 2021
- Developing original factsheets and posters/not translations for Hispanic audiences Spring 2022
- Holding a Spanish language heat stress webinar in Spring 2022
- Continuing focused outreach to construction workers most at risk

Abril del 2021

EL CALOR EXTREMO Y LAS CAÍDAS EN LA CONSTRUCCIÓN

Los trabajadores de la construcción representan

Más de 1 de cada 3

de todas las muertes relacionadas con el trabajo debidas al calor.



El calor extremo puede afectar el equilibrio, reducir la percepción del peligro y el tiempo de reacción.

La exposición al calor **AUMENTA EL RIESGO** de lesiones traumáticas, como las caídas.

Los trabajadores **JOVENES Y MAYORES** (18–34) (>54) tienen más riesgo.

Qué hacer:

- Proveer agua y acceso fácil a baños.
- Capacitar a los trabajadores en las formas que el estrés por calor afecta su salud y seguridad.
- Crear una campaña de concientización sobre el calor que incluye las lesiones por caídas.
- En el sitio de trabajo, asegurarse de que todos



PROTECTING TEMPORARY WORKERS



Protecting Temporary Workers: Best Practices for Host Employers



FALLS




ROOFERS HAVE
10X the rate of fatal falls
of all other construction occupations combined

91%
of construction companies have fewer than 20 employees



Construction companies with fewer than 20 employees account for **75%** of fatal falls



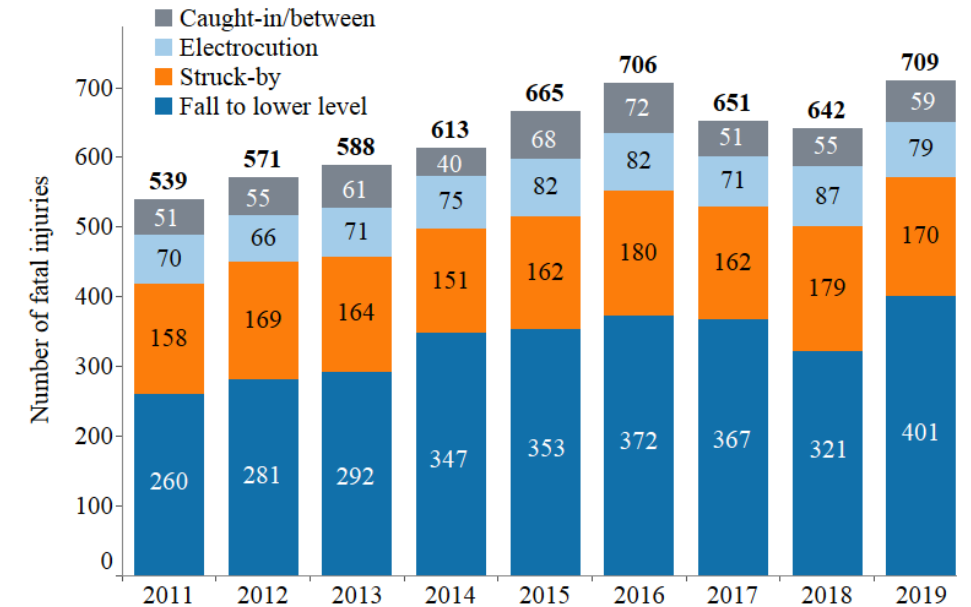
2022

- 🛑 10-Year Anniversary of National Campaign to Prevent Falls in Construction
- 🛑 9th National Stand-Down to Prevent Falls
- 🛑 Focus on outreach to most at-risk
 - Small residential contractors, immigrant (Hispanic), roofer
 - [Other Languages | Stop Construction Falls](#)
 - En español (coming) NIOSH Construction YouTube Playlist

2021

- 🛑 5 NIOSH NORA Falls videos published in 2021
- 🛑 [CDC Construction Safety & Health YouTube Playlist](#)
- 🛑 [CPWR Fall Hazards & Prevention YouTube Playlist](#)

6. Number of fatal injuries caused by Construction Focus Four, 2011-2019

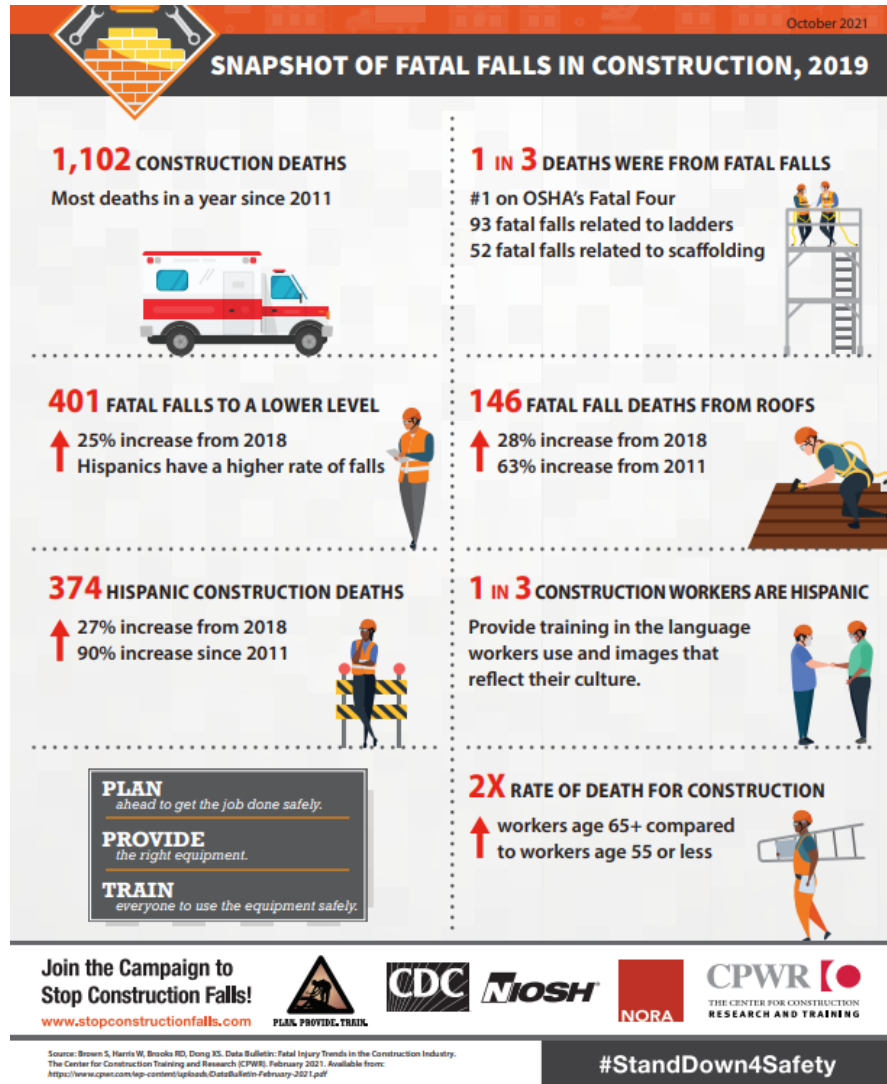


Source: U.S. Bureau of Labor Statistics, Census of Fatal Occupational Injuries.

<http://stopconstructionfalls.com/>

<https://www.osha.gov/stop-falls-stand-down>

FALLS continued



2021 True Fall Video Series



The Impact on Lives



Saving Lives



Changing Old Behaviors

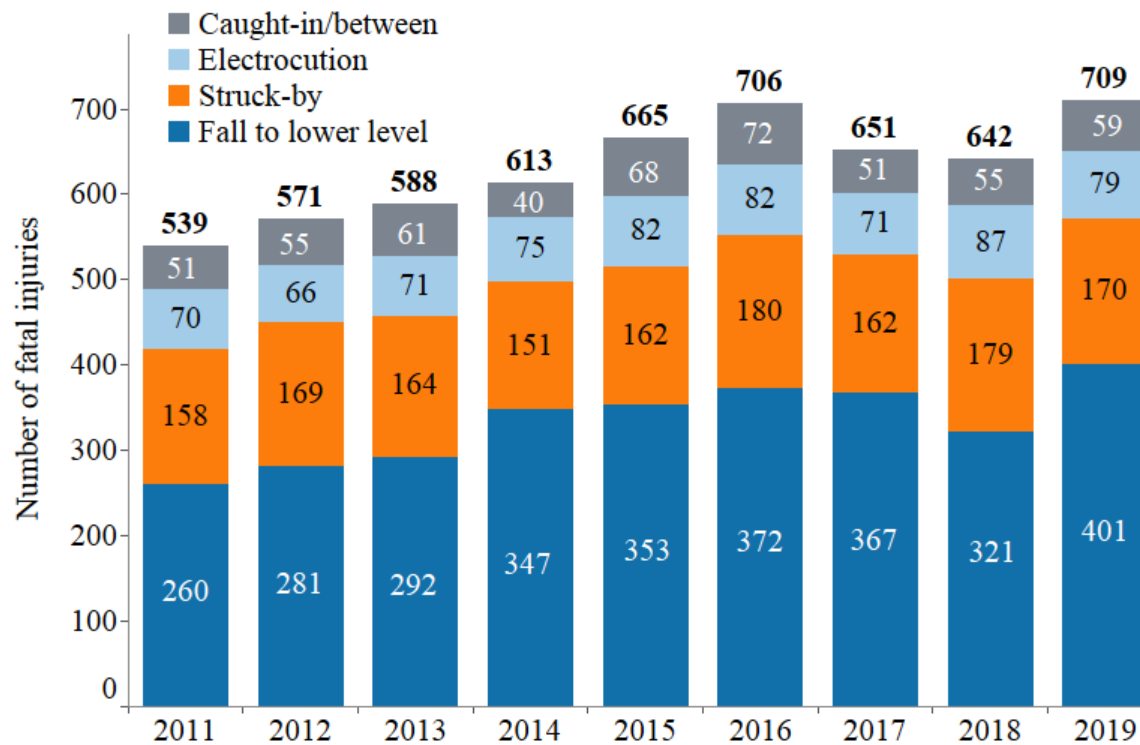
<https://www.cdc.gov/niosh/construction/infographics.html>

<https://stopconstructionfalls.com/infographics/>

STRUCK-BY

2022— 3rd National Stand-Down to Prevent Struck-by Injuries

6. Number of fatal injuries caused by Construction Focus Four, 2011-2019



Source: U.S. Bureau of Labor Statistics, Census of Fatal Occupational Injuries.

<https://www.cpwr.com/struck-by-hazards>

Trench Safety: Before You Dig It, Plan It!

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

137 deaths were caused by excavation and trench cave-ins from 2011 to 2018.



BEFORE YOU DIG IT, PLAN IT!

- Designate 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.
- Develop a trench emergency action plan.

WHEN YOU DIG IT, USE CAUTION!

- Have a competent person inspect the trench, nearby areas, and protective systems each day before the start of work, as needed 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 exits are never more than 2 ft from any worker in the trench.
- Remove any material from the trench that could cause a cave-in.
- Monitor for types of hazards that could occur, such as falls from height, gas, and toxic and combustible gases and oxygen deficient conditions.
- Enforce procedures to ensure that work in an unprotected trench does not occur.

DRAFT

IF YOU WORK IN A TRENCH:

- Inspect a trench before entering and never enter an unprotected trench.
- Make sure there is safe entry and exit before entering.
- When there is evidence of problems, exit the trench and inform the competent person.
- Never assume there will be a warning before a cave-in, or that you will have time to get out.



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

References:
BLS (2020). Injuries, illnesses, and fatalities. Fact Sheet | Fatal Occupational Injuries Involving Confined Spaces, July 2020. Washington, DC: U.S. Bureau of Labor Statistics. <https://www.bls.gov/iif/oshwc/cfoi/confined-spaces-2011-18.htm>
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NIOSH (2011). Preventing worker deaths from trench cave-ins. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2011-108. <https://www.cdc.gov/niosh/docs/ta2226/ta2226.pdf>



- 👷 Addressing the Opioid Overdose Epidemic (Sep 2021)
- 👷 50 Years of NIOSH Construction Safety & Health Research (Aug 21)
- 👷 Heat Stress in Construction (May 2021)
- 👷 Preventing Struck-by Injuries: Lift Zone Safety (April 2021)
- 👷 COVID-19 Poses Big Challenges for Small Construction Firms (Mar '21)
- 👷 Future of Construction: Challenges and Opportunities (Feb 2021)
- 👷 Hearing Loss among Construction Workers (Oct 2020)

SELECTION OF RECENT NIOSH PUBLICATIONS



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QUESTIONS?



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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

