



THE CENTER FOR CONSTRUCTION
RESEARCH AND TRAINING

CPWR Heat Webinar: Beyond Water, Rest, and Shade

July 30, 2026

Gavin West, MPH, Director, Health Research, CPWR

Brenda Jacklitsch, PhD, Research Health Scientist, Division of Science
Integration, NIOSH

Nate Schreiber, CIH, Industrial Hygienist, Laborers' Health & Safety Fund
of North America

Housekeeping

- Today's webinar will be recorded and automatically shared via follow-up email.
- The recording and slides will also be posted on cpwr.com/webinars.
- Attendees are automatically muted! Please submit panelist questions via the chat or Q&A box.
- Spanish audio is available via simultaneous interpretation

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Interpretación simultánea

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1. En los controles del seminario web, haga clic en **Interpretación** 
2. Haga clic en el idioma que desee escuchar.
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Nota: Hay que unirse al audio del seminario web a través de audio o VoIP de la computadora. No podrá escuchar la interpretación de idiomas si utiliza las funciones de audio de teléfono [llamada directa](#) o [recibir llamada](#).

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2. Toque **Interpretación de idiomas**.
3. Toque el idioma que desee escuchar.
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Gavin H. West, MPH
Director, Health Research
CPWR – The Center for Construction
Research and Training
301-495-8522
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Image credit: U.S. Department of Agriculture

This CPWR hazard alert card explains how to prevent, recognize, and respond to severe forms of heat illness



**HAZARD
ALERT**
CPWR
THE CENTER FOR CONSTRUCTION
RESEARCH AND TRAINING

WORKING IN THE HEAT



Am I in danger?

Thousands of U.S. workers suffer from heat-related illness every year. Over a third (38%) of heat-related workplace deaths in 2020 were among construction workers.*

You are at risk if you:

- ▶ Work in hot and humid conditions;
- ▶ Do heavy physical labor; or
- ▶ Wear personal protective equipment (PPE) or clothing that limits airflow

Other factors can increase your risk, including not being used to working in the heat, low physical fitness, and certain health conditions or medications.

Your employer is required to protect you from workplace hazards, including heat, and you can also take steps to protect yourself.

Heat stroke is the most serious heat-related illness and can quickly lead to death or permanent disability.

*U.S. Bureau of Labor Statistics. (2022). *Season of Heat: Occupational Safety 2019*. Retrieved from <https://www.bls.gov/news.release/seasonofheat.pdf>

Call 911 if there are signs of

Heat Stroke:

- ▶ Confusion, altered mental status, or slurred speech
- ▶ Loss of consciousness
- ▶ Seizures
- ▶ Heavy sweating or hot, dry skin
- ▶ Very high body temperature or rapid heart rate

Call 911 if onsite medical care is unavailable for suspected **Heat Exhaustion**:

- ▶ Headache, dizziness, or lightheadedness
- ▶ Nausea or vomiting
- ▶ Weakness, irritability, or fatigue
- ▶ Thirst, heavy sweating, less urine output
- ▶ High body temperature or fast heart rate

HEAT STROKE IS A MEDICAL EMERGENCY.
When in doubt, cool the worker and call 911.
Move the worker to a cool area and have someone stay with them until help arrives. Remove excess clothing and begin cooling immediately. Submersion or other methods to wet the skin with ice water are most effective.

**If you think you
are in danger:**
Contact your supervisor
Contact your union
Call OSHA
1-800-321-OSHA

Protect yourself and Others!



1 Recognize and respond to heat-related illness

Report symptoms promptly to a supervisor and **know how to respond in an emergency**, including first aid, cooling procedures, and how to direct emergency responders to your location.

If you notice possible signs of heat exhaustion or heat stroke in yourself or a coworker, **begin cooling the person down and call 911 immediately.**



2 Stay hydrated

Drink 1 cup (8 oz.) of water every 15-20 minutes when working in the heat.

DO NOT wait until you are thirsty to drink water.

If sweating for several hours, drink sports drinks containing balanced electrolytes.

Avoid alcohol and drinks high in caffeine or sugar.



3 Take Breaks

Take frequent rest breaks in shaded, cooled or air-conditioned areas.

Remove personal protective equipment and extra clothing during breaks to help you cool down.

Your employer should:

- ▶ Have a written heat illness prevention program and emergency plan.
- ▶ Provide sufficient rest, shade, and fluids.
- ▶ Assess heat illness risks throughout the workday both indoors and outdoors.
- ▶ Use engineering controls to cool the work environment and reduce physical demands: for example, by insulating hot surfaces or using a forklift to transport material.
- ▶ Use work practices to reduce heat stress, like scheduling work for cooler times of the day.
- ▶ Take extra precautions to protect new workers.
- ▶ Use a buddy system and encourage workers to report symptoms of heat-related illness.
- ▶ Train supervisors and workers to recognize and prevent heat-related illness.

Learn more about heat-related illnesses and how to prevent them at
<http://bit.ly/CPWRHotWeather>

Find out more about construction hazards.
To receive copies of this Hazard Alert and cards on other topics:
call 301-578-8500 or visit
cpwr.com/hazardalerts

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www.cpwr.com

Access the hazard alert card and other free resources at www.cpwr.com/heat

[A-Z Index](#)[Lista de recursos en español](#)

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HANDOUTS, PLANNING TOOLS & TRAINING PROGRAMS

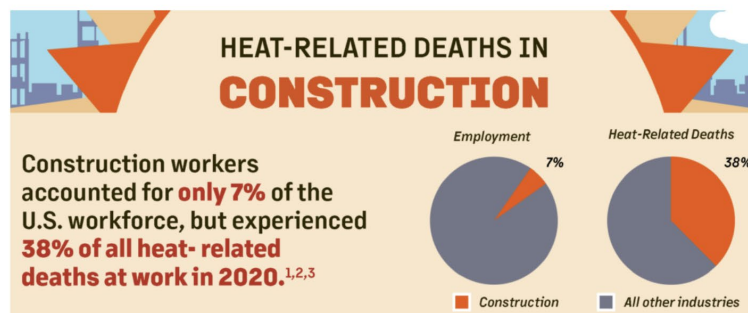
[Home](#) > [Research](#) > [Research to Practice \(r2p\)](#) > [r2p Library](#) > [Handouts, Planning Tools & Training Programs](#) > [Heat Hazards](#)

Heat Hazards

Construction workers, who often work outdoors in direct sunlight or in hot, enclosed spaces, are at risk for heat-related illnesses and, in severe cases, death. Rising global temperatures in recent decades increase that risk. However, **these illnesses and deaths are preventable.**

The resources below are organized by topic and contain information about heat hazards in construction and ways to prevent related illnesses. The sections correspond to the following new checklists from the CPWR-OSHA Alliance:

- [Overall Heat-Illness Prevention Program Checklist for Construction \(en español\)](#)
- [Daily Heat-Illness Prevention Checklist for Construction \(en español\)](#)



HEAT ILLNESS PREVENTION PROGRAM CHECKLIST
June 2023

According to OSHA, employers are responsible for providing workplaces free of known safety and health hazards, including heat-related hazards. Use this checklist to make sure your Heat Illness Prevention (HIP) program is up to date and follows best practices, aligning with heat abatement recommendations made by OSHA and promoted through their 2022 [National Emphasis Program on Outdoor and Indoor Heat-Related Hazards](#). To help execute the measure identified in this list on the job, see [CPWR's Daily HIP Checklist](#).

Place a check next to each measure you have in place or plan to implement as part of your HIP program on this specific jobsite:

- ☐ Identification of a competent person
- ☐ Procedures for pre-task heat assessment
- ☐ A site-specific, written HIP plan, including unanticipated situations, scheduling adjustments, and communication
- ☐ An acclimatization plan, including schedules and work practices for new workers, pregnant workers, those with significantly higher heat sensitivity, and those with pre-existing conditions. Special attention should be given to acclimatizing and changing PPE that is not suitable for the heat.
- ☐ Established trigger points for heat-related actions
- ☐ Employee training on recognizing and responding to heat-related hazards
- ☐ A method to monitor heat conditions outdoors and indoors
- ☐ A response and communication plan

If you left boxes unchecked, visit [CPWR's Hot Weather webpage Model Heat Illness Prevention Program](#) for more information. QR code: [CPWR: Work Safe in Hot Weather](#) [www.cpwr.com/heat](#)

DAILY HEAT ILLNESS PREVENTION CHECKLIST
June 2023

Before beginning work, ask yourself whether your crew will be exposed to heat or hot weather. Are you working outside in the heat or direct sunlight? Are you working indoors in a hot environment or in a space with heat-generating machinery? If you and your crew might be at risk for heat-related illness or death, make sure you have a heat-illness prevention (HIP) program in place. A HIP program should include plans for training workers, monitoring heat conditions, ensuring controls and solutions are available when needed, acclimatizing workers, and more. The plan should be updated for each job site with clear guidance on when and how it will be implemented at the worksite for (new and experienced) workers. If you do not have an established program in place, use [CPWR's Heat Illness Prevention Program Checklist](#) before continuing to the checklist below if you do.

Once you have a HIP plan set up, use the following checklist to identify daily risks and preventive and protective measures that will be implemented accordingly. If you have questions about the items on the checklist visit [cpwr.com/heat](#) for more information.

Date: _____

Jobsite: _____

Heat Illness Prevention (HIP) Competent Person: _____

1. Are any of these risk factors for heat exposure present on your job site today? (check all that apply)

☐ Outdoor work in warm/hot weather or direct sun
☐ Radiant heat sources such as hot asphalt, power tools, machinery, furnaces, boilers, steam piping, or other radiant heat sources
☐ Low wind speed and/or physical elements of the construction site that block wind
☐ Work in confined spaces - for example, attics, crawl spaces, and/or the interior of tanks
☐ Moderate to strenuous physical activity performed in warm/hot indoor or outdoor environments
☐ Heavy or non-breathable work clothes and/or personal protective equipment worn in warm/hot indoor or outdoor environments
☐ High relative humidity combined with a warm/hot indoor or outdoor environment (heat index)
☐ Mobile worksites with the potential for variable levels of heat exposure
☐ Workers that have not yet been trained on heat exposure and heat-related illness

alliance
THE CENTER FOR CONSTRUCTION RESEARCH AND TRAINING

Continued → CPWR
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Participate in CPWR's ongoing research to advance heat safety in construction

- Surveys
 - Workers
 - Trainers
 - Small construction employers
- Interviews
 - Workers
 - Management
- Site visits

Construction Workers and Contractors Help prevent heat-related deaths

Share your experiences and knowledge about working in the heat and make jobsites safer.

CPWR—The Center for Construction Research and Training is the country's leading nonprofit dedicated to reducing injuries, illnesses, and fatalities in construction. We are conducting a research study to improve heat illness prevention and better protect construction workers.



Two ways you can help

- 1 Take a short survey and share the survey. → cpwr.com/heat-survey



- 2 Invite CPWR researchers to one of your worksites this summer so they can see the protections you've already developed. → If interested, contact Project Director, Gavin West at 301-495-8522 or gwest@cpwr.com.

CPWR already offers a number of FREE resources to keep workers safe on the job, such as:

- Daily Heat-Illness Prevention Checklist for Construction
- Overall Heat-Illness Prevention Program Checklist for Construction
- Hazard Alert Cards
- Toolbox Talks
- Infographics
- Training Materials



Many resources are in both English and Spanish. See them at: cpwr.com/heat, or scan the QR Code.

Our heat research team works with CPWR's Data Center and external collaborators to examine risks, trends, and how the industry is responding

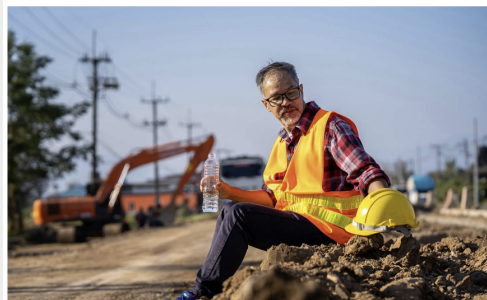
Heat Injuries and Illnesses among Construction Workers

William Harris, MS, Amber Trueblood, DrPH, Derek Dufoe, M.S., Raina D. Brooks, MPH, Gavin West, MPH, Cora Roelofs, ScD¹

OVERVIEW

Construction workers are disproportionately affected by heat stress. Their jobs often require prolonged physical exertion in hot or humid environments, both indoors and out, where heat sources (e.g., high temperature and humidity, sun exposure, indoor heat sources) and personal protective equipment (PPE) can increase the risk of heat-related illnesses and injuries (HRI). Although construction workers are only **7% of the overall workforce**, they account for **more than one-third** of occupational heat-related deaths. Heat—the **leading cause** of weather-related deaths globally—also increases the risk of injuries from **safety hazards** such as working at heights, and it can trigger or **worsen existing health conditions** like asthma, diabetes, or cardiovascular disease. Heat's impact is likely even higher given the well documented **underreporting and undercounting** of HRI's. New research also suggests that **chronic underhydration** contributes to the development of chronic diseases and premature mortality. With each of the past **10 years being the warmest ever recorded**, HRI prevention remains critical for construction workers and other occupations impacted by heat.

This issue examines heat-related illnesses and injuries among construction workers using multiple data sources. Fatal injury data comes from the U.S. Bureau of Labor Statistics (BLS) Census of Fatal Occupational Injuries (CFOI) and CPWR's **Fatality Map**. Nonfatal injury data come from the BLS Survey of Occupational Injuries and Illnesses (SOII) and OSHA's **Severe Injury** database. SOII data shows nonfatal injuries that resulted in **days away from work (DAFW)** among private industry workers and are shown in two-year periods due to the data changing to biennial estimates in 2021. Rates per 100,000 **full-time equivalents (FTEs)** were calculated using Current Population Survey (CPS) estimates in chart 1, chart 4, chart 5, chart 6, and chart 10.



¹CPWR-The Center for Construction Research and Training. Correspondence to: datacenter@cpwr.com.

THIS ISSUE

This issue examines heat-related injuries and illnesses among construction workers.

KEY FINDINGS

In 2023, the construction industry accounted for over one-third of heat-related fatal injuries in the U.S.

Chart 2

Heat-related fatalities occur throughout the year, with the majority of deaths (71.4%) taking place during the summer.

Chart 3

Construction had the highest number of fatal heat-related injuries and the fifth-highest number of nonfatal heat-related injuries resulting in days away from work.

Charts 2 and 6

Specialty Trade Contractors (NAICS 238) made up the largest share of heat-related severe construction injuries reported to federal OSHA (55.2%) from 2015 to 2023.

Chart 11

NEXT DATA BULLETIN

Medical Expenditures among Construction Workers

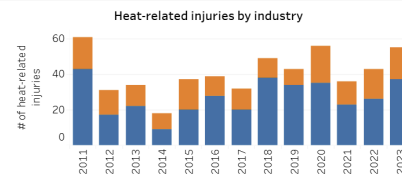
Heat Illnesses and Injuries

Year: (All)
Injury Type: Fatal/Severe

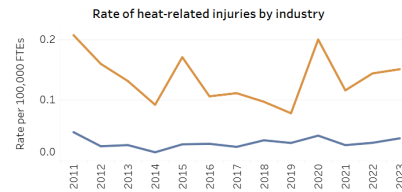
Fatal/Severe heat injuries

On average annually from 2011 to 2023, there were **41** fatal heat-related injuries. By industry there were:

- **14** fatal heat-related injuries among construction workers
- **27** fatal heat-related injuries among non-construction workers



During this time, the rate of fatal heat-related injuries was:

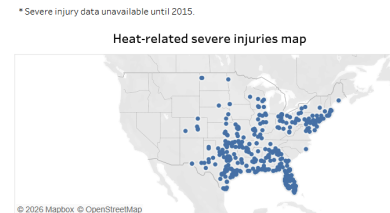


- All industries: **0.03 per 100,000 FTEs**
- Construction: **0.1 per 100,000 FTEs**

Heat-related severe injuries

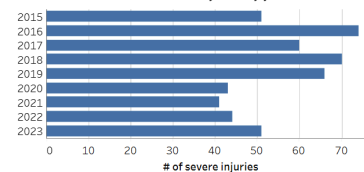
On average annually from 2015 to 2023*, states with the highest number of heat-related severe injuries in construction were:

1. Texas: **15** severe injuries
2. Florida: **12** severe injuries
3. Arkansas: **3** severe injuries
3. Georgia: **3** severe injuries



© 2025 Mapbox © OpenStreetMap

Heat-related severe injuries by year



During this period, there were an average of **56** severe heat-related injuries annually.

Safety Management in the Construction Industry 2026



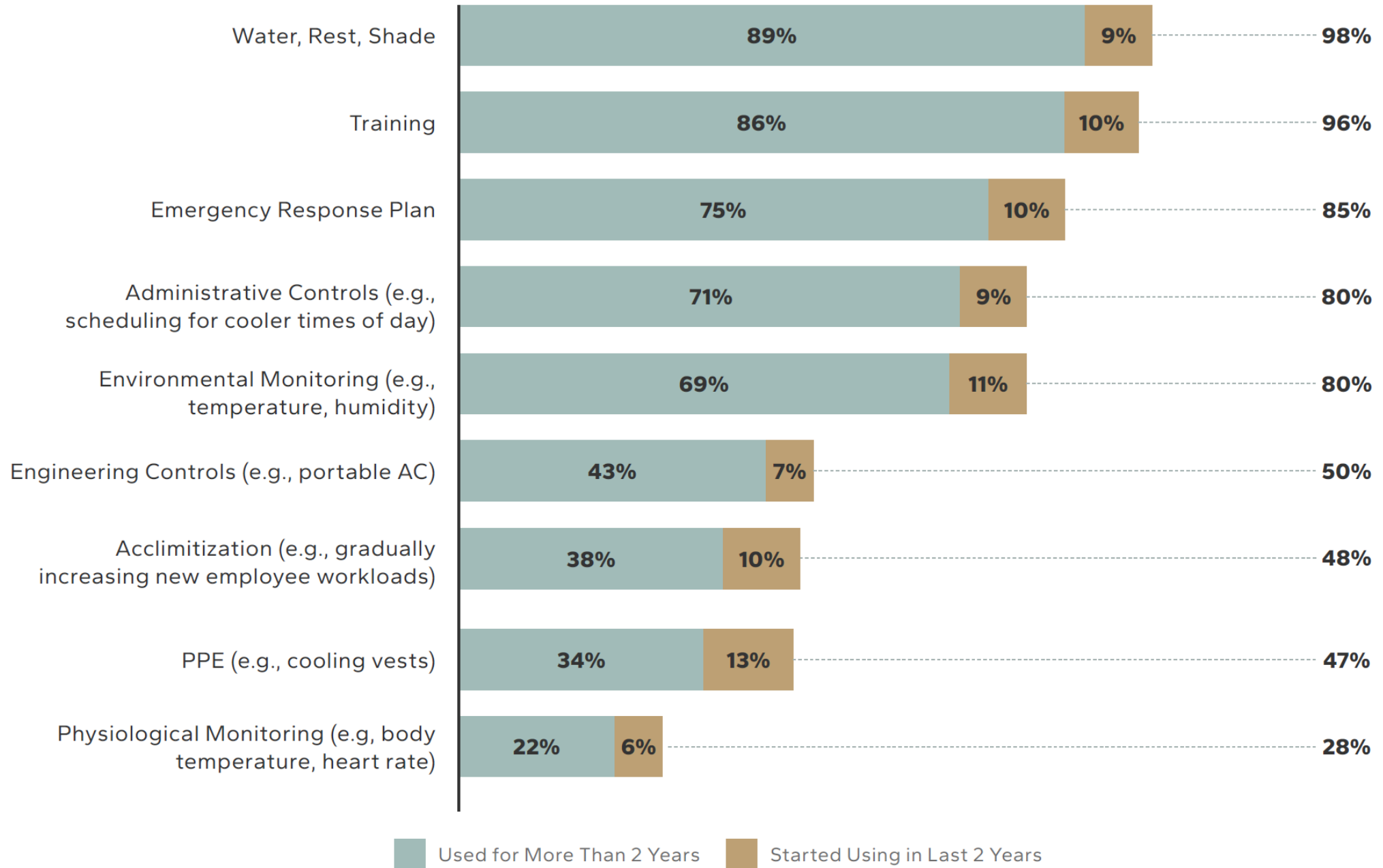
The Dodge survey sheds light on practices contractors use to assess and manage risks

Means Used to Assess Heat Risk

Commonly Used	
Weather Forecasts	87%
Heat Index (Temperature and Humidity)	84%
Physical Demands of the Work	79%
Moderately Used	
Types of Clothing and PPE	62%
Direct Jobsite Measurement	42%
Infrequently Used	
Temperature Only	27%
Mobile Heat Safety Apps (e.g., from OSHA-NIOSH, AIHA)	22%
Wet Bulb Globe Temperature	13%
Wearable Sensors	3%

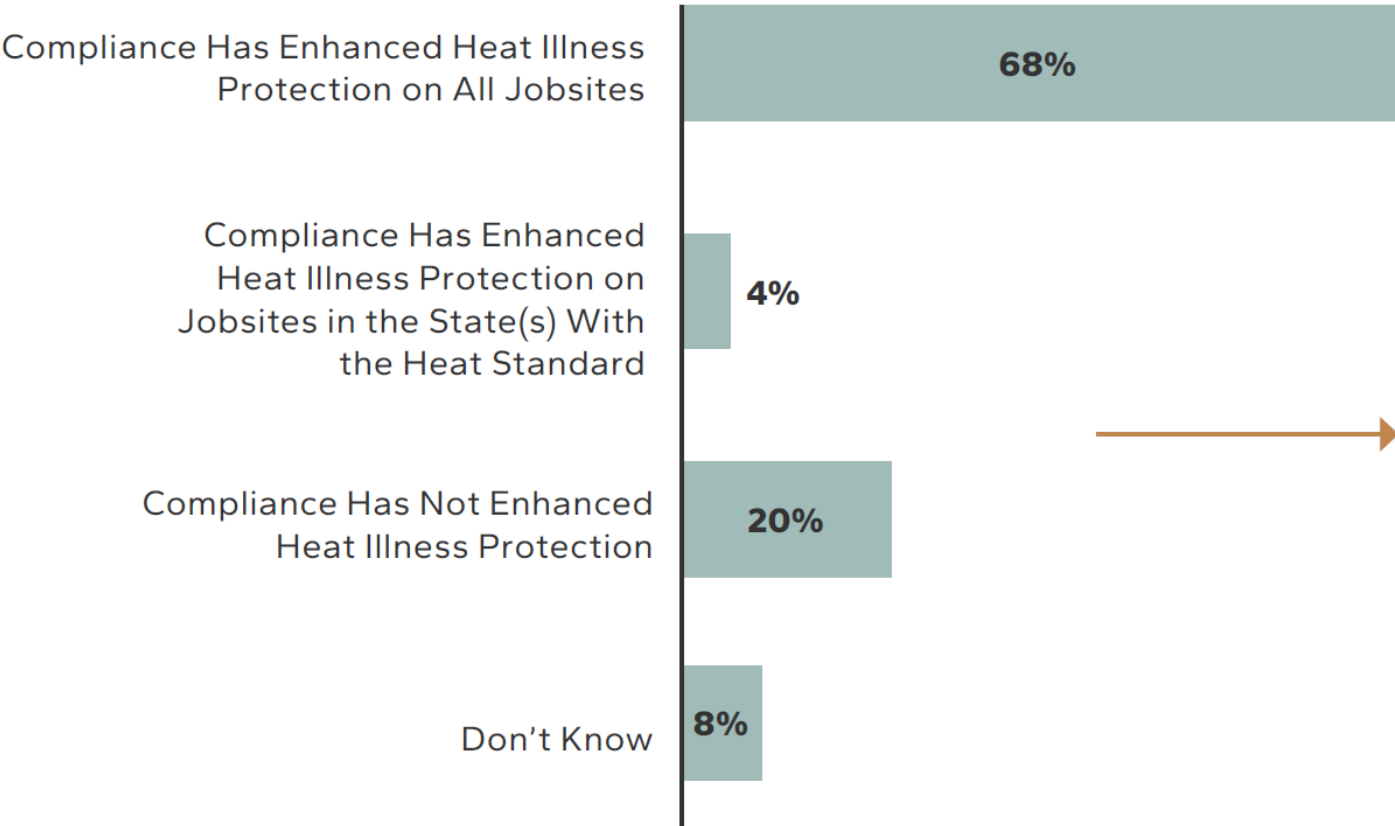
Use of Procedures to Manage Heat Exposure

Total



Most contractors who do business in states with heat illness prevention standards reported positive impacts of the standards across all jobsites

Impact of Complying With Heat Illness Prevention Standards
ACCORDING TO THOSE WHO HAVE DONE BUSINESS IN A STATE WITH THOSE STANDARDS



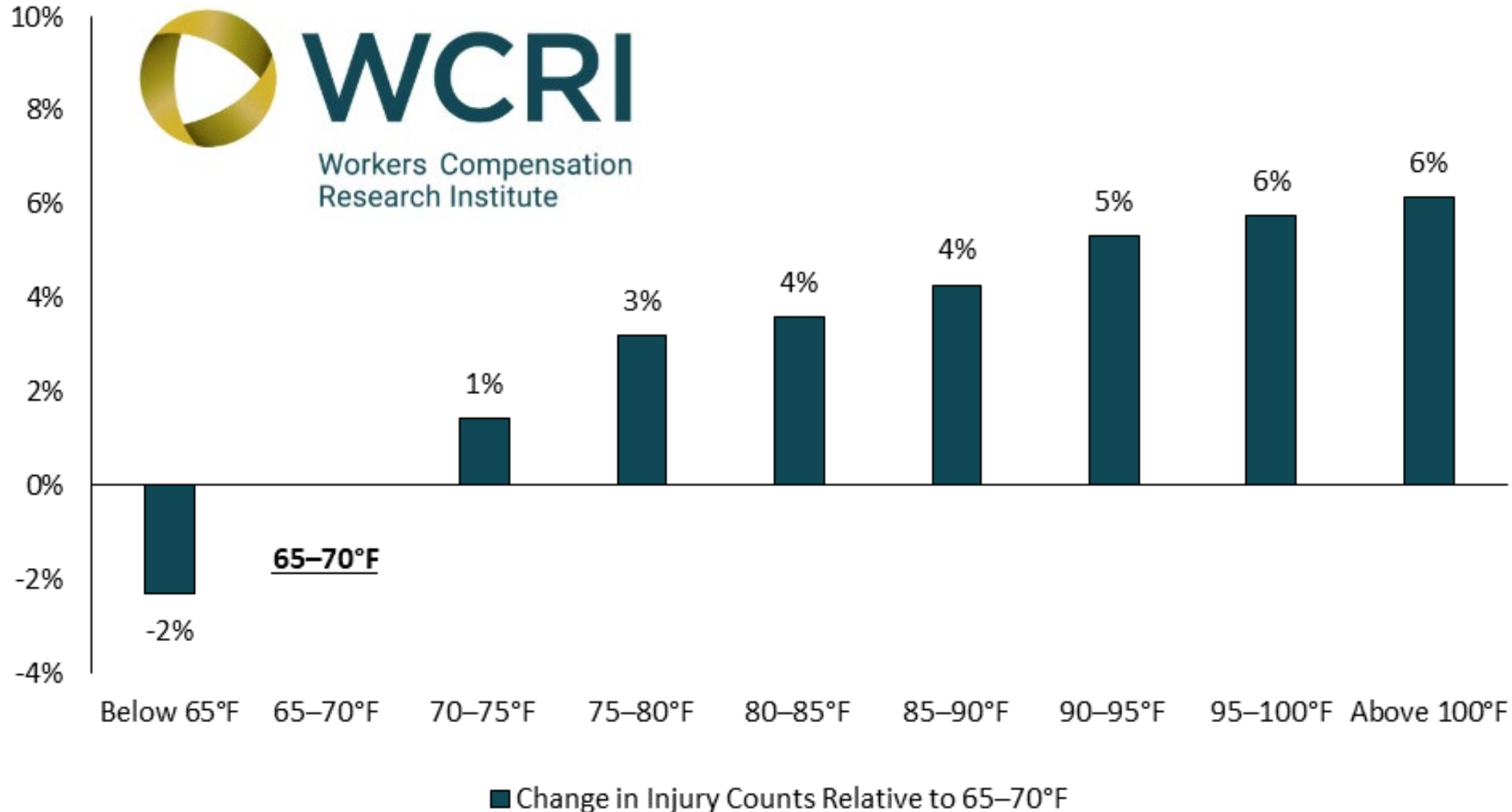
IMPACTS REPORTED	
Fewer Heat-Related Illnesses	78%
Fewer Injuries From any Cause	35%
Increased Productivity	35%

Heat strain can increase the risk of injuries and work errors

- Cognitive impairment
- Muscle fatigue
- Reduced endurance
- Loss of fine motor control
- Cardiovascular strain



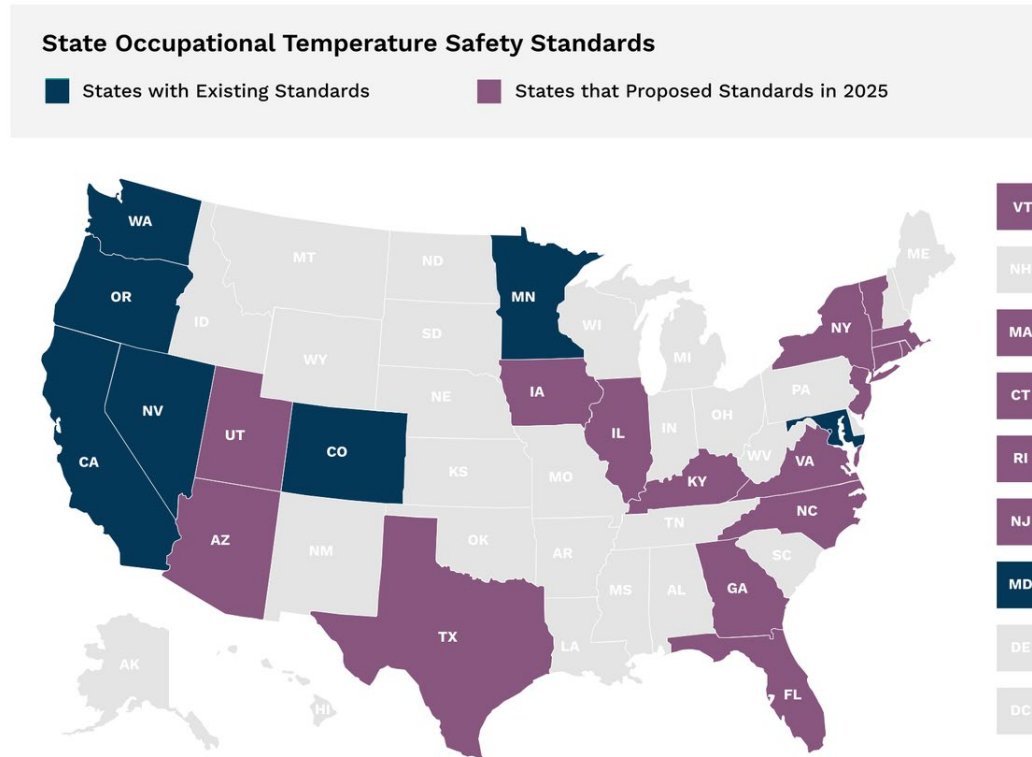
Workers' comp data from 24 states show that injuries occur more frequently on hotter days



This effect was even stronger in construction!

<https://www.wcrinet.org/reports/impact-of-excessive-heat-on-the-frequency-of-work-related-injuries>

Harvard and GWU researchers estimated that ~28k non-fatal injuries (e.g., falls) are attributable to heat each year



Source: MultiState. Data as of July 9, 2025. Note: Current Colorado regulations only apply standards to agricultural workers, but a bill was introduced in 2025 to apply temperature safety standards to all employers. Nevada introduced a bill in 2025 to codify its regulations with a few modifications.



Heat Index 110 F vs. 80 F

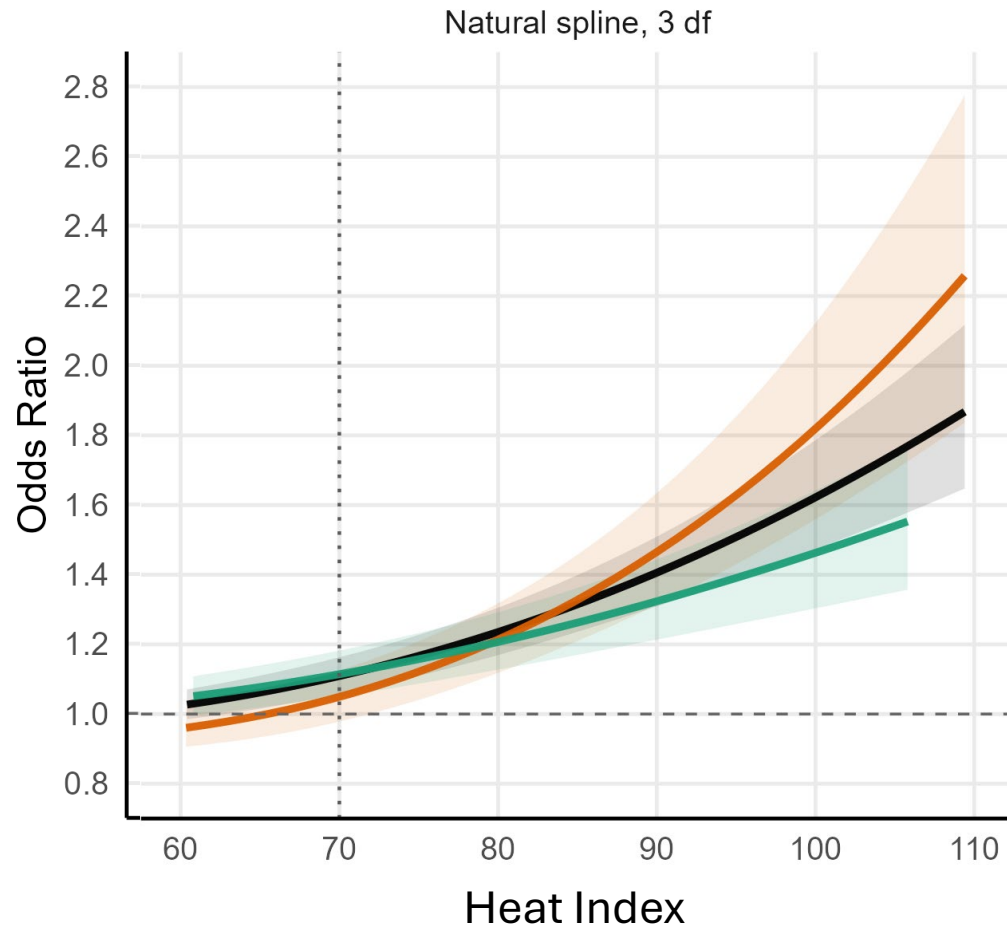
Odds of non-fatal work injuries increased:

- 22% in states without heat standards
- 9% in states with heat standards

Alahmad B, Kessler W, Alwadi Y, Schwartz J, Wagner GR, Michaels D. A nationwide analysis of heat and workplace injuries in the United States. Environ Health. 2025 Oct 6;24(1):65. doi: 10.1186/s12940-025-01231-1.

<https://publichealth.gwu.edu/nearly-28000-work-injuries-every-year-are-linked-hot-weather>

CPWR is working with that group to examine ~25k fatal construction injuries in relation to heat index



	Odds Ratios (95% Confidence Intervals)*		
	90 F v. 70 F	100 F v. 70 F	110 F v. 70 F
Overall	1.29 (1.23, 1.34)	1.57 (1.50, 1.63)	1.94 (1.71, 2.20)
Construction	1.38 (1.30, 1.46)	1.79 (1.68, 1.92)	2.40 (1.96, 2.96)
Other Industries	1.23 (1.17, 1.29)	1.43 (1.35, 1.50)	1.67 (1.46, 1.91)

*Preliminary results being prepared for publication.

La Isla Network has led the way in identifying and preventing work-related chronic kidney disease

<https://time.com/6303020/chronic-kidney-disease-climate-change/>



Image by Momolebo2020 from Pixabay

Repeated acute kidney injury is a suspected pathway to chronic kidney disease progression

Gagnon et al (2025)

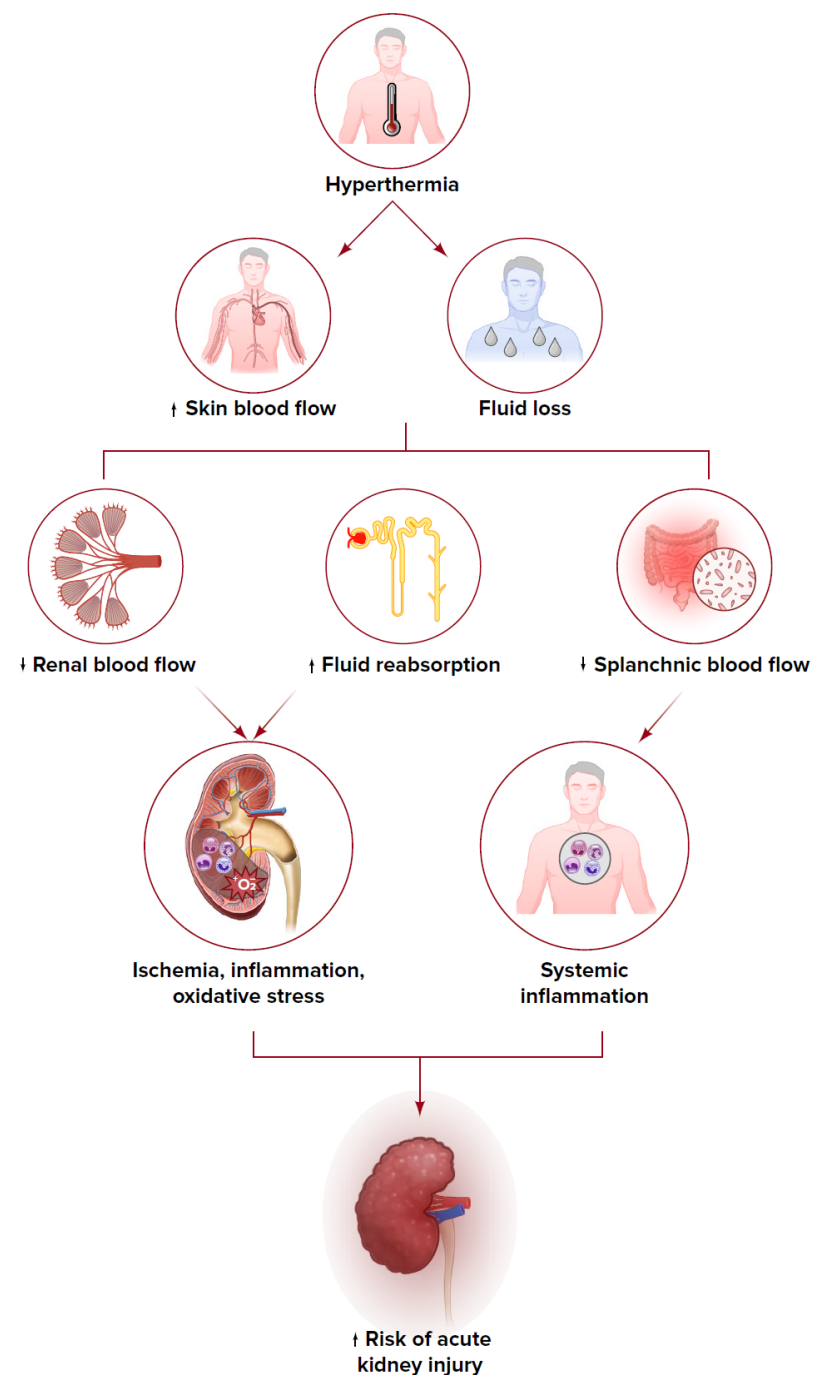


FIGURE 4. The pathophysiology of heat-related kidney risk

Research on the impacts of heat stress on kidney health among US construction workers is limited

- One-day pilot study in Florida ([Chicas et al 2025](#))
 - 58 construction workers
 - Surveyed, monitored pre- and post-shift
 - Mean heat index 88.4°F
 - Severe dehydration increased from 16% to 33%
 - 42% reported heat illness symptoms
 - **Acute kidney injury observed in 38%**



“Construction workers, even in low to moderate environmental heat exposure, experienced significant heat strain, primarily due to an elevated metabolic rate.”

32 construction workers

3 days of monitoring

43% exceeded
38°C core temp

4% exceeded
38.5°C core temp

Peak metabolic rate and post-shift hydration status were most associated with core temp.



**Studies show that
hotter temperatures
are associated with
increased risk of:**

- 1. Suicide**
- 2. Hospital admissions for
mental illness**
- 3. Violent crime**



CPWR interview question: “How does working in the heat impact you?”



“You can lose focus when the heat is too much, and it can be a safety issue if you are working near a leading edge.”

Selected themes and quotes:

- Fatigue, irritability, aggression
- Loss of concentration, focus, sweating
- Increased injury risk
- Decreased productivity
- Work-life balance

“I can tell you that 9 out of 10 fights happen when it’s hot out.”

“It definitely can impact your work-life balance as you can be so worn out. It can really change what happens at home, especially with a wife and kids.”

Heat exposure can exacerbate or trigger a wide range of health conditions:

- ischemic heart disease
- cardiac dysrhythmias
- ischemic stroke
- asthma
- chronic obstructive pulmonary disease
- respiratory tract infections
- hyperglycemia
- kidney failure
- neuropsychiatric disorders (e.g., psychosis, suicides, homicides, anxiety, and depression),
- adverse birth outcomes



Sorensen C, Hess J.
Treatment and Prevention
of Heat-Related Illness.
N Engl J Med. 2022 Oct
13;387(15):1404-1413.

Co-exposure to extreme heat and wildfire smoke magnifies their impacts but warning systems function separately



Understanding the **AIR QUALITY INDEX (AQI)**

Good

No health impacts expected.
AQI 0-50

Moderate

Very sensitive people may wish to limit outdoor exertion.
AQI 51-100

Unhealthy for Sensitive Groups

Sensitive people should limit outdoor exertion.
AQI 101-150

Unhealthy

Everyone should limit exertion outdoors.
AQI 151-200

Very Unhealthy

Sensitive people should avoid all outdoor activity.
AQI 201-300

Hazardous

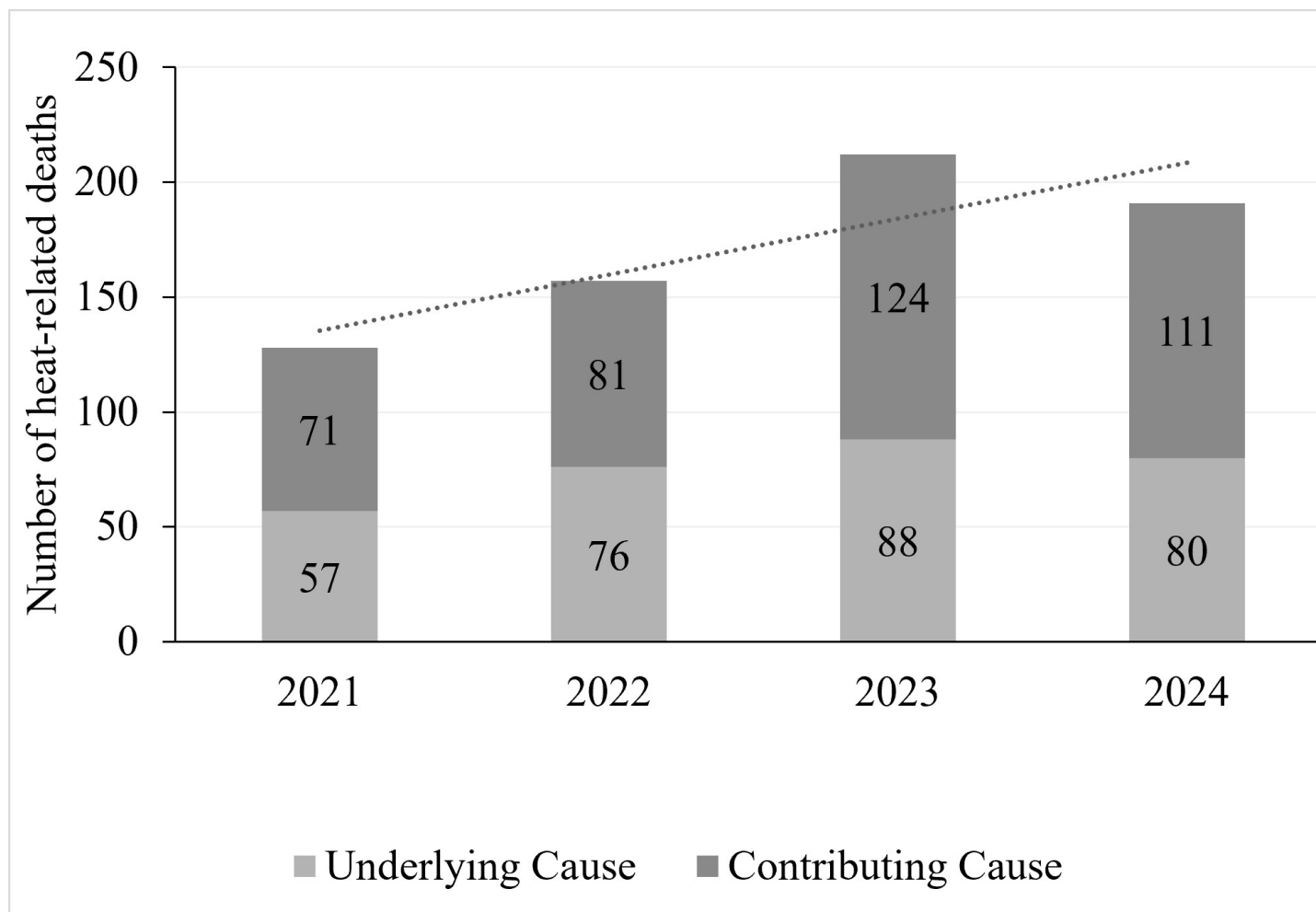
Everyone should avoid all outdoor activity.
AQI 301-500

weather.gov



CPWR is analyzing death certificate information to better understand how heat exposure contributes to deaths among construction workers

Heat-related deaths among construction workers*



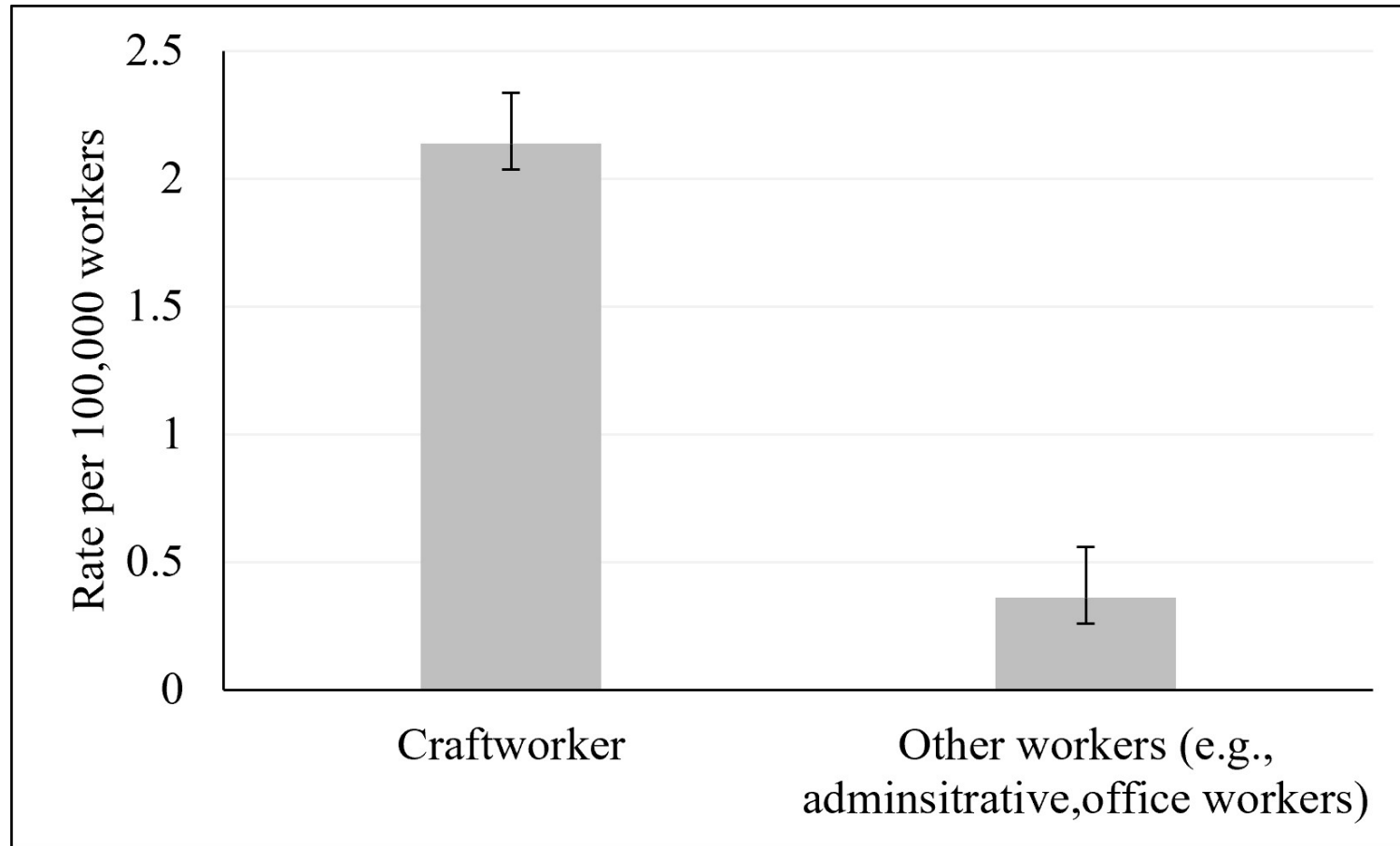
Examples of heat contributing to other causes of death:

- Diabetes
- Heart disease, CVD
- Emphysema
- Kidney failure
- Falls
- Motor vehicle accidents
- Drowning
- Poisoning (e.g., drugs, meds)

* Preliminary unpublished results

Determination of work-relatedness in death certificates is important to consider

Rate of heat-related deaths among US construction workers, 2021-2024.*



* Preliminary unpublished results

Thank you, and please feel free to contact me for more info!

Gavin H. West, MPH

Director, Health Research

**CPWR – The Center for Construction
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**THE CENTER FOR CONSTRUCTION
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Occupational Heat Stress and NIOSH Resources



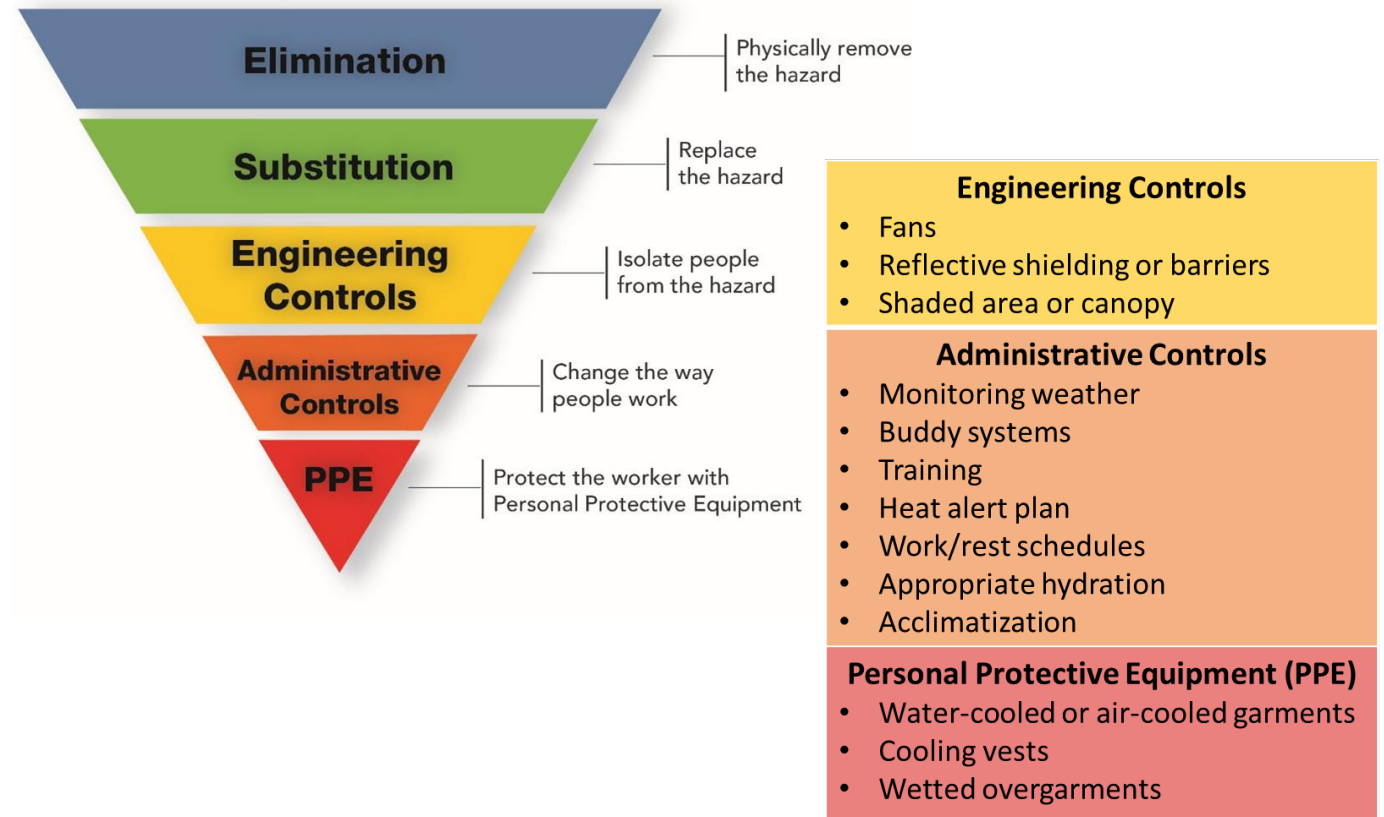
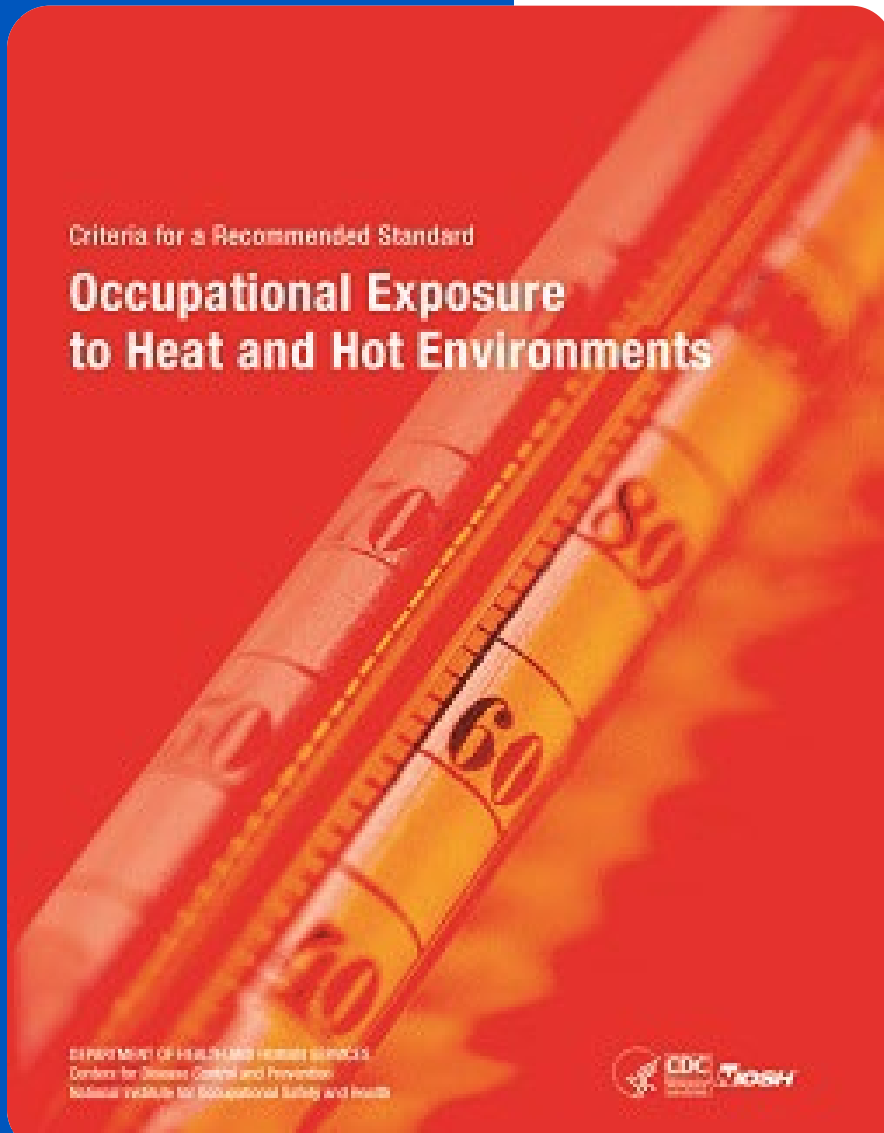
Brenda Jacklitsch, PhD, MS
CDC/NIOSH

Heat: Beyond Water, Rest, and Shade
CPWR Webinar - July 30, 2026



OCCUPATIONAL HEAT STRESS

NIOSH Criteria for a Recommended Standard: Occupational Exposure to Heat and Hot Environments



Literature Review
(2010)

Internal Review

Public Comment

External
Peer Review

Clearance

Publication
(2016)



OCCUPATIONAL HEAT STRESS NIOSH Heat Communication Resources

Additional products for safety and health professionals, employers, and workers.

- CDC/NIOSH website
- Infographic
- Workplace Solution
- OSHA-NIOSH Infosheet
- Fast Facts card
- Poster
- OSHA-NIOSH app





What's Next?

Evaluation of NIOSH Heat Products

Objectives: To evaluate NIOSH heat products to better reach small business owners and workers in construction and outdoor service industries.

- OSHA-NIOSH Heat App
- NIOSH Infographic
- NIOSH Fast Facts Card
- Draft Heat Stress Prevention Training for Employers of Outdoor Workers.

Methods: 13 focus groups of outdoor workers and employers across Illinois, Texas, and California.

Findings: Coming Soon!

Thank you.

For additional information on Occupational Heat Stress

SEARCH: NIOSH heat stress

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HEAT: BEYOND WATER, REST AND SHADE

High and Low-Tech Solutions for Heat Safety

How wearables, rapid cooling methods, and environmental monitoring close the gap left by water, rest, and shade.

Nate Schreiber, CIH

Industrial Hygienist, Laborers' Health & Safety Fund of North America

Webinar: Heat — Beyond Water, Rest and Shade | Thursday, July 30, 2026



Data shows the fundamentals aren't enough on their own

Construction accounts for

36%

of all heat-related workplace deaths

While being only 5% of the U.S. workforce.

Source: CPWR & CDC



The problem with a checklist approach: Water, rest, and shade are essential but they're reactive and generic.

Four layers on top of water, rest, and shade

1



Physiological Monitoring

Wearables that read the worker's heat strain in real time

2



Rapid Cooling Methods

Low-tech, evidence-based techniques to quickly pull heat out of the body

3



Jobsite Monitoring

Jobsite sensors and forecasting that drive acclimatization decisions before shifts start

4



Standards & Advocacy

Consensus standards and worker protections that push controls beyond any one site

Wearables that catch heat strain before it becomes heat illness



Easy to wear

Sensor modules clip on arm bands or into hi-viz vests measuring heart rate, skin temperature, and estimated core temperature, with zero behavior change required.



Predictive, not just reactive

Nearly half of heat-related worker deaths happen on day one on the job; over 70% happen in the first week (NIOSH). Platforms like SlateSafety flag a worker trending toward heat exhaustion 15–30 minutes before symptoms show, so a foreman can pull them off task early.



Personalized thresholds

Customized alerts account for age, fitness and acclimatization status instead of one generic cutoff for the whole crew.



Contractor entry point: No annual contracts needed. SlateSafety's BAND V2 rents for \$80/day or \$160/week per unit; enough to cover a heat wave or one job.

Match your cooling method to the climate



Fans - humid climates

Increasing the air speed can accelerate sweat evaporation from the skin. Each liter of sweat evaporated pulls about 580 kilocalories of heat with it. This practice is less effective in very dry climates, where there's little sweat on the skin.



Misting - dry climates

Adding moisture to the skin lets evaporation happen even when the sweat rate is low. This technique is effective in dry climates like the desert Southwest. Keep in mind misting can actually be counterproductive in humid climates.



Fast, low-tech cooling: water and ice slurry



Arm Immersion Cooling

3–5 MIN

in near-freezing water

Drops core body temperature by up to 1°F every 10 minutes and significantly reduces heart rate (10-25 bpm).

All that's needed is a bucket, cooler or container of cold water and ice; nothing more.



Ice Slurry Consumption

~30 MIN before

the shift or task

This pre shift task can lower core body temperature by up to 1°F, increase heat storage capacity and reduce cardiovascular strain during heat stress.

7 g of ice per kg body weight (roughly 0.5 L or slushy sized)



Assessing the jobsite



Jobsite Monitors

Fixed and wearable sensors can track heat stress, radiant heat, and humidity across a jobsite.

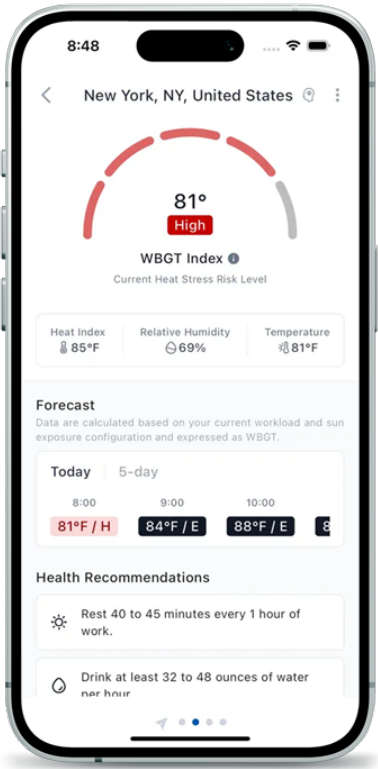
Contractor entry point: one handheld WBGT meter (roughly \$65) covers a whole site, check it hourly and post or communicate the reading to your crew. No networked system required.



Predictive scheduling

Forecast-driven planning tools flag high-risk days before the crew ever shows up, so acclimatization schedules and task sequencing can shift in advance.

Contractor entry point: OSHA-NIOSH and AIHA’s free Heat Safety app and the National Weather Service’s free HeatRisk forecast give same day and forecast planning. No software or subscription required.



Cost to implement

Layer	Real-world example	Approx. cost
Arm immersion cooling	Bucket, sink, or tub + cold tap water and ice	\$10 — ice and equipment already on hand
Ice slurry consumption	Ice + water or sports drink, blended on site	\$0–\$20 — ice and cups already on hand
Fans (humid climates)	Mobile fans	~\$30–60, reusable
Misting (dry climates)	Hose mister, Ryobi bucket mister, Spray bottle	~\$15–60, reusable
Heat-index forecasting	OSHA-NIOSH Heat Safety Tool / AIHA Heat Stress App / NWS HeatRisk Tool	Free
Site WBGT monitoring	Triplett Heat Stress Meter (WBGT)	~\$65 one-time
Wearable monitoring (rental)	SlateSafety BAND V2	\$80/day or \$160/week per unit through RaeCo
Program & plan consulting	LHSFNA OSH Division	Included for signatory contractors

For comparison: a single heat-related injury averages roughly \$79,000 in direct and indirect emergency care cost. Arm immersion and ice consumption both cost next to nothing. *Source: OSHA Safety Pays Cost Estimator*

Prices are approximate manufacturer or rental list prices as of mid-2026; confirm current pricing with vendors before budgeting.

Driving safety culture through advocacy



ANSI/ASSP A10.50

LHSFNA staff helped write the first national voluntary consensus standard for heat stress management in construction and demolition.



A seat at the table

LHSFNA continues to work for members and all workers alike by advocating for the most protective heat standard in order to prevent further workplace fatalities.



Filling the gap

OSHA's proposed federal heat standard remains stalled but its heat National Emphasis Program was recently renewed through 2031. LHSFNA offers free plan help through its OSH Division for signatory contractors. CPWR heat safety resources are available free of charge via their website also.



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Thank you!
Questions?