

# Heat kills

A warming planet is increasing the risk of dying from heat, but OSHA has ignored calls to protect workers.

By Noah Wass

On a warming planet, extreme heat is becoming more and more common. And for those who work outdoors, that can mean a trip to the hospital, or worse.

A 2019 study by a group of occupational health researchers found that a gradual increase in summer temperatures led to an increase in heat-related deaths among construction workers in the United States from 1992 to 2016. Over that 24-year period, 783 workers died from heat-related causes. Construction workers—just 6% of the U.S. workforce—accounted for 36% of the heat-related deaths, study authors found. Within construction, the occupations at highest risk from heat were cement masons and roofers.

The human body does an excellent job cooling itself by sweating, says Dede Montgomery, an occupational safety expert at Oregon Institute of Occupational Health Sciences at OHSU (formerly CROET). As air circulates over the skin, sweat evaporates and takes the heat with it, cooling the whole body. But Montgomery says that only works if the air humidity is low enough, and if the skin has some exposure to air. Wearing personal protective equipment like coated suits, fire proof clothing, or masks, can slow down or eliminate your body's ability to sweat, Montgomery says. That's when things start to get dangerous.

"Now we've started to lose fluids," Montgomery said. "The most important thing to avoid heat stress or exhaustion is to be drinking enough fluids to replace the fluids lost in sweating. Heat stroke is soon to follow if this loss of fluids and exposure to heat is not quickly remedied."

"Heat stroke is the point when you have no fluids left. You have dry skin, you're not sweating at this point; your body is not cooling and is taking in all of the heat from the surrounding environment. This is a true medical emergency, and you must call 911."



In California, employers must provide water, shade, and extra rest breaks to protect you in extreme heat. In Oregon, there's no such requirement.

Heat stroke can become a real threat on days when the "heat index" — the "feels like" temperature that combines temperature and humidity — is above 103 degrees Fahrenheit. Symptoms of heat stroke include hot, red, dry skin or profuse sweating; very high body temperature; a fast strong pulse; and confusion, slurred speech, vomiting, dizziness, seizures and loss of consciousness.

Walter Jones, director of Occupational Safety and Health at Laborers' Health and Safety Fund of North America (LHSFNA), describes it as "cooking your body, not unlike an egg in a frying pan."

"Your body begins to shut down in an attempt to conserve energy, to protect the core and vital organs. Folks recover, but not unlike a stroke there will be certain parts of your brain that you lose access to permanently."

Heat stroke kills when vital organs become dehydrated.

In high humidity, the human body's ability to cool itself through sweating decreases, and the moisture from the surrounding air starts to ADD heat to the body instead of removing it. In the Pacific Northwest, where humidity often stays quite low dur-

ing the hottest months, direct sunlight exposure poses the greatest risk. Working in full sunlight can increase heat index values by 15 degrees Fahrenheit.

UA Local 598 assistant business manager Jeremy Moddrell, president of the Pendleton Building Trades Council, says Eastern Oregon workers contend with high heat and sun exposure every summer.

"We just had three days in a row of over 100 degree weather up here in Prineville," Moddrell says. Contractors are usually good about providing cold water, Moddrell says, but he'd like to see electrolytes be more of a priority. Moddrell says employers should also provide breaks in the shade every hour to cool off.

Another group of Northwest workers for whom extreme heat is a hazard: Paper mill workers. Greg Pallesen, president of 4,500-member Association of Western Pulp and Paper Workers (AWPPW), says paper mill workers are at risk because they labor in extremely high humidity environments and are frequently exposed to dangerous temperatures. Last summer, numerous AWPPW members at the Nippon Dynawave paper

mill in Longview, Washington, reported symptoms of heat stress and heat related injuries. Pallesen says that's the result of long hours without proper breaks to drink water and cool off. One worker even walked out after she was repeatedly denied a break.

## OSHA fails to protect workers

The Occupational Safety and Health Act of 1970 says employers have a "general duty" to provide a place of employment free from recognized hazards that may cause death or serious harm. But federal OSHA has never developed specific workplace protections addressing heat safety, despite the fact that worker safety experts have been pushing since the 1970s for a national rule to protect workers from heat stress.

And enforcement of unsafe exposure to heat appears to be getting worse. According to a 2019 review of data by the AFL-CIO, the number of federal OSHA inspections for extreme heat exposure declined by nearly half in the first two years of the Trump administration, from 187 inspections in 2016 to 95 in 2018.

Over the years and in the face of federal inaction, California,

Washington, and Minnesota developed specific rules to protect workers from extreme heat.

California's rule was the first—signed into law in 2005—and it remains the strongest in the nation. It covers nearly all outdoor workers in California, and requires employers to provide adequate shade, water, and cool-down rest periods. The rule covers construction and agriculture, industries in which workers spend the most time outdoors exposed to direct sunlight.

Washington's heat rule covers all outside employees and applies from May 1 to September 30 each year. The rule requires that employees have a written plan of action for working in high heat conditions. Workers are responsible for monitoring their own personal hydration, and the rule requires that employers allow enough time for employees to drink one quart of water per hour. But no part of Washington's rule requires employers to provide shade or more frequent cool down breaks on extreme heat days—which OHSU's Montgomery says are a critical part of heat safety according.

And Oregon and 46 other states have no rule protecting workers from heat exposure. Oregon OSHA does provide employers a set of guidelines to follow in order to protect workers from heat. But Kate Suisman, attorney at the Northwest Workers' Justice Project, has little faith in the program's effectiveness for workers that need protection the most.

"We need to have an actual written rule that requires water and frequent breaks," Suisman said. "Guidelines aren't enough, and OSHA doesn't like to use its power to punish employers."

Suisman's group provides legal resources to low-income and immigrant workers. Together with a coalition of labor leaders and farm worker advocates called Safe Jobs Oregon, Suisman has been pushing Oregon OSHA to pass a heat rule since 2018. She's not hopeful that Oregon will see a heat rule any time soon.

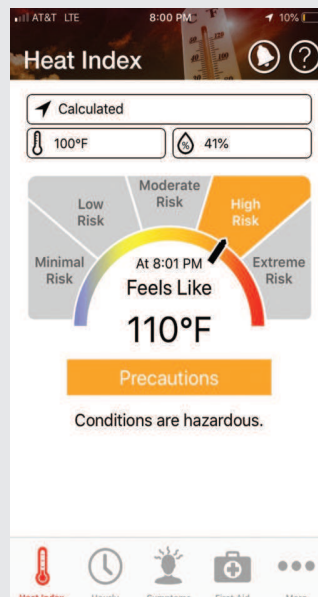
Without a binding permanent rule requiring employers to provide adequate water, shade and breaks, workers will continue to die of extreme heat exposure. Suisman believes the solution is simple.

"This is not a high tech issue," Suisman said. "This is not something about aerosols or infectious diseases. This is about making sure workers have access to shade, water and breaks. It should be easy."

## How to stay safe when it gets hot

OHSU occupational safety expert Dede Montgomery stresses the importance of having a plan to avoid unsafe exposure to heat. It helps to know what your work environment will be like, and the heat index can give you a sense of the risks. OSHA has an app for iPhone and Android smart phones that can tell you the current and forecasted heat index so you can plan accordingly.

- Drink one to two cups of cool water every 15-20 minutes
- Take a rest break out of the sun or away from any hot environment (at least 15 minutes and should be taken each hour)
- Avoid consuming alcohol and caffeine (including caffeinated sodas) before and during hot weather



An OSHA smartphone app lets you see and predict if the "feels like" temperature will put you at risk, and lists the symptoms of dangerous heat-related illnesses. Download it at [bit.ly/3iMQvkd](https://bit.ly/3iMQvkd)