

# As temperatures soar, study warns of fatal heat stroke at work

July 5 2018, by E.j. Mundell, Healthday Reporter

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(HealthDay)—Much of the United States has been sweltering in triple-

digit heat this week, but new research finds outdoor workers can suffer fatal heat stroke from temperatures that only reach the high 80s.

In fact, six of 14 cases of fatal [heat stroke](#) investigated in the new study "occurred when the Heat Index was below 91 degrees Fahrenheit," noted a team led by Dr. Aaron Tustin, from the U.S. Occupational Safety and Health Administration (OSHA).

The Heat Index—often announced on media weather forecasts—is a calculation of heat and humidity that gauges how the combination "feels" to the human body. It also assumes the person is in the shade, wearing a single layer of light clothing.

Early summer heat waves are particularly deadly, the OSHA researchers said, since people may not yet be acclimatized to high temperatures.

Dr. Robert Glatter, an ER doctor at Lenox Hill Hospital in New York City, has seen many cases of heat stroke.

"It's important to remember that extreme heat combined with humidity can kill," said Glatter, who wasn't involved in the new study. "Extremes of heat are most concerning to public safety, and a large number of heat-related deaths are generally preventable."

Glatter called heat stroke "a medical emergency. Patients may develop temperatures of up to 106-108 F, with confusion and disorientation, and loss of ability to produce sweat to cool the body. Skin is generally is red, hot and dry ... Cooling ice baths and misting fans can help reduce core temperatures."

Workers—who often wear bulky clothing and have little choice but to labor outside in searing temperatures—are at particular risk.

In the new report, Tustin and his colleagues focused on 25 cases of outdoor, on-the-job heat stroke occurring between 2011 and 2016, 14 of which proved fatal.

The study found that in half the cases, victims had at least one "predisposing personal risk factor" for heat stroke—illnesses such as diabetes or heart disease, or use of certain medications or illicit drugs. According to Glatter, medicines such as blood pressure pills or diuretics affect a person's "fluid balance," upping the odds for dehydration in severe heat.

A strenuous workload also increases the risk. On the day workers suffered an attack, "workload was moderate, heavy or very heavy in 13 of 14 fatalities," the OSHA researchers noted.

Four cases were also likely exacerbated by workers wearing heavier clothing, another known risk factor for heat stroke, they said.

Across the 25 cases, the median Heat Index was 91 degrees, but temperatures for individual cases of heat stroke ranged from just 83 degrees to 110.

Glatter said hydration is crucial for people who must work outside in the heat. "Water is the ideal fluid for hydration, and it is recommended to avoid excessive amounts of caffeine, which can lead to dehydration," he said.

Tustin's team offered these tips to stay safe from the heat when working outside:

- Make sure workplace supervisors are trained to recognize the signs of heat [stroke](#), and in first aid to help if it occurs.
- Designate at worksite heat "monitor" to be mindful of rising

temperatures and oversee protective measures.

- Make sure new workers get the protective measures they need to acclimatize to working outdoors in the [heat](#), and be mindful that workers with predisposing [risk factors](#) might need extra precautions.
- Schedule frequent breaks in shade or air-conditioned spaces to allow workers to cool down, and adjust work schedules to try and avoid the worst conditions.
- Provide plenty of accessible water or electrolyte-bearing beverages.

The new report was published July 5 in *Morbidity and Mortality Weekly Report*, a journal of the U.S. Centers for Disease Control and Prevention.

**More information:** Robert Glatter, M.D., emergency physician, Lenox Hill Hospital, New York City; July 5, 2018, *Morbidity and Mortality Weekly Report*

There's more on summertime heat safety at the [U.S. National Weather Service](#).

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Citation: As temperatures soar, study warns of fatal heat stroke at work (2018, July 5) retrieved 3 May 2024 from <https://medicalxpress.com/news/2018-07-temperatures-soar-fatal.html>

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