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## [How Extreme Heat Affects the Body After 50](#)

### [EN ESPAÑOL](#)

It's not your imagination: It really is hotter than when you were a kid. In fact, 2023 was the hottest year on record since 1850, according to the National Oceanic and Atmospheric Administration. And the nine years from 2014 to 2022 round out the top 10 warmest.

Climate experts warn that bouts of extreme heat are [going to become more common](#) as global temperatures continue to rise. That's bad news for the growing population of older adults, who are more likely to get sick from heat — even die from it.

In 2023, soaring temps sent nearly 120,000 people in the U.S. to emergency rooms, [a 2024 report](#) from the Centers for Disease Control and Prevention (CDC) shows.

Heat-related deaths have been increasing in recent years, with approximately 2,302 occurring in 2023, up from 1,722 in 2022, according to federal data, though other research suggests the number is much higher. A study published in 2020 in the journal *Environmental Epidemiology* finds an average of 5,608 deaths are attributable to heat each year. A study from a team of Duke University researchers estimates that 12,000 Americans die annually from heat-related causes.

Regardless of the total tally, most people who die from the heat are over the age of 50, the National Institute on Aging says.

"It has everything to do with our body's ability to deal with heat as we age," Aaron Bernstein, M.D., told AARP in 2022, when he was the interim director of the Center for Climate, Health and the Global Environment at the Harvard T.H. Chan School of Public Health. Bernstein is now the director of the National Center for Environmental Health and the Agency for Toxic Substances and Disease Registry at the CDC.

"People who are older, our bodies may not be able to dissipate heat as well as people who are younger. We also tend to have more [chronic health problems](#) and

may take more medications that affect our body's ability to deal with heat.”

Here's a closer look at why heat is such a health risk for older adults, and what you can do to stay safe as heat waves become more frequent.

### **Cooling down the body becomes harder**

People get into trouble when they can't cool themselves down. That's when heat exhaustion can occur, often marked by dizziness, fatigue and a weak, rapid pulse. If that goes untreated, heatstroke can set in, bringing with it the potential for long-term organ damage or death.

Sweating is the top way that humans cool themselves, Bernstein says. It's not the sweat itself that is particularly cooling but rather the evaporation process. It takes energy to evaporate sweat off the skin, and the energy source in this equation is heat. So as sweat switches from liquid to vapor, heat leaves your body and you start to cool down.

Sweat glands become less effective with age. “They can't pump out as much sweat as quickly,” Daniel Van Durme, M.D., former chief medical officer at the Florida State University College of Medicine, told AARP.

What's more, several [medications common among older adults](#) can interfere with how efficiently the body sweats or handles heat, Van Durme said, including some antihistamines (to ease allergy symptoms) and drugs used to treat overactive bladder. Certain antidepressants and some blood pressure medicines can also hinder the body's ability to cool itself — and experts say there are likely many more that inflict this effect.

Another disadvantage for older adults is heat's impact on the heart. Hand in hand with sweating, the body releases heat by increasing blood flow to the skin to push the heat away from the core. This requires the heart to work harder. “And if you have heart disease, that puts strain on an already potentially weak heart,” Bernstein says. “So you see people during heat events having heart attacks, arrhythmias, strokes — there's a big risk for that.”

More than 20 million adults in the U.S. have the most [common type of heart disease](#), federal statistics show, and its prevalence increases with age. Nearly half of U.S. adults are affected by diseases of the heart and blood vessels, the American Heart

Association reports.

A [study](#) published in 2023 in the journal *Circulation* found that the risk of a fatal heart attack among older adults in Jiangsu province, China, was higher during two- and four-day heat waves. The most dangerous days were those of extreme heat and high levels of air pollution, including pollution from wildfires. The researchers estimated that up to 2.8 percent of heart attack deaths may be attributed to the combination.

## **Dehydration amps up the danger**

Hydration plays a major role when it comes to staying healthy in extreme heat. You need fluid to produce the sweat that cools you down; it's also essential to keeping the cells functioning and the organs running.

Older adults have a harder time staying hydrated, mostly because of a decreased sense of thirst that sets in as you age, says Eric De Jonge, M.D., director of geriatrics at MedStar Washington Hospital Center in Washington, D.C. Certain medications that draw fluid from the body — including diuretics, used to treat high blood pressure and heart failure, and laxatives — can further complicate matters.

When you're dehydrated, the kidneys "can spiral into dysfunction," kicking off a domino effect of destruction throughout the body, Bernstein says. Dehydration is especially risky for the nearly 40 percent of U.S. adults 65 and older who already have kidney disease. Bernstein urges caution among those who routinely take medications that are hard on the kidneys, including over-the-counter drugs such as ibuprofen.

In addition to kidney disease, another chronic condition that can be worsened by dehydration is diabetes, which the CDC says affects an estimated 29 percent of U.S. adults 65 and older and roughly 19 percent of those ages 45 to 64. Blood sugar becomes more concentrated when there's less water in the body, the CDC explains, and it becomes "incredibly difficult" to manage blood sugar levels, Bernstein says.

Even the brain feels heat's effects: The part that's responsible for long-term planning "goes on vacation," Bernstein says, "and the part of your brain that is in crisis mode is calling the shots." Judgment can become impaired, and injuries may ensue.

## **To stay safe, make a plan for high-heat days**

The list of health complications that can arise when temperatures rise seems never-ending — add to it that hot air can aggravate the lungs and trigger breathing issues, even in people who aren't prone to respiratory distress — but experts say a little planning can go a long way when it comes to staying safe during summer.

Here's what you can do:

**Check the heat forecast.** New this year, [the CDC has a dashboard](#) that can show you the heat risk in your community. Just type in your ZIP code, and check the forecast.

**Pay attention to humidity.** There isn't a single temperature at which things get dangerous, experts say — so much depends on what an individual is used to and how their body acclimates to heat. But one thing that can ramp up the danger is humidity, since sweat, the body's cooling mechanism, "doesn't want to evaporate into air that's got a lot of water in it already," Bernstein says.

As a rule of thumb, "85 [degrees] and humid is when we start to really think a lot and talk to our patients and families a lot about preventive measures," De Jonge says.

**Talk to your doctor about your medications.** If you take a medication that can affect how your body deals with heat, don't stop taking it just because high temperatures are on the horizon. "The dangers of stopping may be far worse," Van Durme warned. Instead, take extra caution in the heat, he says. Your doctor may decide to switch up your medications during the warmer months.

**Drink past the point of thirst — and get creative with hydration.** Don't use thirst as your guide for hydration because "by the time you feel thirsty, you are already significantly dehydrated," Van Durme said. The color of your urine is a good indicator of whether you're well hydrated. Thumbs-up if it's a pale yellow; bottoms up if it's dark yellow or orange, De Jonge says. That's a sign you need to keep drinking — just not alcohol or caffeine.

You don't have to limit yourself to water. Cold fruit — think watermelon and cantaloupe — can boost your hydration levels. Mixing in fruit juice can keep things more interesting for people who get tired of plain water.

**Have a fan handy.** If you don't have air-conditioning — or even if you do — fans can keep you cool by helping sweat to quickly evaporate from the body. But when the temperature is above a certain level, they're not very helpful. "When the temperature is hotter outside than in our bodies, fans work like a convection oven; we're actually blowing heat in," Bernstein says. A cool shower or bath is another way to cool off at home when things get too warm.

**Pay attention to your thermostat.** If you have a chronic health condition that could put you at higher risk for heat-related illness and the temperature in your home is over 80 degrees, "you need to do something," Bernstein says. That might mean turning on a fan, relocating to a cooler level in your home or building, or going to an air-conditioned space, even if it's a neighbor's house.

**Know your cooling centers.** Many communities set up centers during heat waves to provide a safe space for people to cool down. Identify the closest one, and plan how to get there if you need to use it. If you have pets, check to see whether they're welcome, says Diane Garcia-Gonzales, a research scientist with the Fielding School of Public Health at the University of California, Los Angeles, who was part of a team that created community heat maps so state residents can stay informed about heat events in their areas.

Don't forget about other air-conditioned spaces — a church, a library, even a trip to the grocery store or the mall can provide relief.

**Have a backup plan.** It's always good to have a plan in place in case your air-conditioning goes out or your electricity fizzles and your home starts to heat up, Garcia-Gonzales says. Of course, this depends on whether the issue is widespread. If it's limited, identify a place where you know you and the members of your household can stay cool. If your air-conditioning goes out during a hot stretch, don't try to wait out the wave before getting it fixed.

**Know the warning signs of heat illness — and what to do.** Watch out for confusion and slurred speech. Neurological issues mean you need to get to an emergency room. "That's the one that you don't want to mess with," Van Durme said. If someone just needs to sit down — maybe gets a little woozy but is able to carry on a conversation — get them to cool off by moving them into an air-conditioned place or positioning them near a fan. And get them to drink.

Another thing: Pay attention to others around you. If you're at an event or gathering and one person goes down from the heat, "then everybody's at risk," Van Durme said.

**Check in on others.** Finally, if you have a neighbor, friend or family member who's at higher risk for heat-related illness, check in on them when things get warm to make sure they're keeping up their fluids and staying cool and comfortable. "There's no substitute for the human, in-person daily visits," De Jonge says.

## **Heat Exhaustion Vs. Heat Stroke**

Getting overheated can be dangerous. Keep an eye out for these warning signs.

Heat exhaustion:

- Feeling faint or dizzy
- Excessive sweating
- Cool, pale, clammy skin
- Nausea or vomiting
- Rapid, weak pulse
- Muscle cramps

If you experience these symptoms, get to an air-conditioned space, drink water and take a cool shower or use a cool compress.

Heat stroke:

- Headache or confusion
- No sweating
- Body temperature above 103 degrees Fahrenheit
- Red, hot, dry skin
- Nausea or vomiting
- Rapid, strong pulse
- Loss of consciousness

If you notice someone experiencing these symptoms, call 911, move the person to a cooler place and cool them down with wet cloths or a bath.

*Source: Harvard T.H. Chan School of Public Health C-CHANGE/Americares*

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----- Updated by Rachel Nania, AARP, June 2024

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