

Heatstroke in kids: What to watch for and know

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Running, jumping, lounging in the sun, waiting in a car: The ways to heat up when the weather is hot are endless. When days are cold, we look forward to summer, but feeling the heat can be too much for your health,

especially if you are pre-pubescent. In 2022, 33 children in the United States died from heatstroke.

"Heatstroke is a serious medical condition. Children feel heat and [humidity](#) faster and more severely than adults and have a harder time cooling down," says Columbia pediatrician Connie Kostacos, M.D.

Infants and toddlers are most at risk, in part because they cannot take care of themselves. But older children are susceptible too.

"It's not black and white. Age is not the only factor," says Kostacos. Medications, weight, and other health conditions can heighten the risk. High humidity can too. "The higher the humidity, the less you sweat and release heat. Humidity is debilitating."

One mom reached out to Kostacos because her daughter had been running sprints on a very hot and humid day in sports practice, felt very warm to touch, and was complaining of headache, [dizziness](#), vomiting, and diarrhea.

"If symptoms like these do not subside within 30 minutes, it's a cause for concern and a trip to the emergency department," says Kostacos. "Watch for mental changes too, like confusion, slurred speech, and unusual behavior. These are serious warning signs something is wrong."

Here's what everyone who knows kids should know.

What is heatstroke?

Heatstroke is a medical emergency that happens when someone cannot maintain normal body temperature and the body creates or absorbs more heat than it can release. Core body temperature rises to greater than 104 degrees Fahrenheit. Heatstroke can lead to death.

What does heatstroke look like? Is there a visible warning before 'feeling hot' escalates to heatstroke?

Heatstroke may be preceded by heat exhaustion, but it can occur more suddenly. Signs vary from person to person.

General signs of heatstroke include:

- Dry and/or flushed skin
- Faster breathing than normal
- Headache
- Dizziness
- Confusion
- Odd behaviors (e.g., saying weird things that don't make sense; being unusually combative)
- Slurred speech
- Cramps
- Nausea
- Vomiting

Is heatstroke different in children than it is in adults?

A child's body temperature rises three to five times faster than an adult's. Compared to adults, children have more surface area relative to their mass, and that's why they absorb heat faster. Children also lose heat more slowly due to a less developed sweating mechanism and lower blood volume compared to adults.

Note: Elderly adults can experience [heatstroke](#) the same way young children do.

Where does heatstroke happen?

Heatstroke can happen in any hot or humid environment, such as a parked car, on public transportation, on beaches, at pools, or in apartments without air conditioning.

It's best to exercise and run around before 10 a.m. and after 2 p.m. Avoiding the hottest part of the day minimizes risk.

What should you do if you think a child has heatstroke?

Heatstroke is a severe medical emergency that requires immediate attention. Call 911 for emergency medical assistance.

While waiting for medical professionals to arrive:

- Move child to a cooler place (shade, inside a room with air conditioning, or near a fan) to help lower body temperature.
- Remove unnecessary, excess clothing that could trap heat and restrict air circulation.
- Apply cool, damp cloths, sponges, or fans to the child's neck, armpits, and groin areas, where large blood vessels are closer to the skin's surface to facilitate heat loss.
- If the child is conscious and able to swallow, give them cool liquids to sip (preferably water or electrolyte drinks).

Can heatstroke happen when kids are bundled up too much?

Yes. Children can get overheated if they are overbundled. Because the youngest children cannot undress themselves, it's important to pay attention and help them.

What are the differences among heatstroke, heat exhaustion, and fever?

Fever is the body's normal response to infections (viral or bacterial) or inflammatory processes.

Living, playing, and/or working in a high temperature or humid environment for longer than the body can handle leads to abnormal responses:

- Heat exhaustion is serious but can usually be resolved within 30 minutes of actively cooling down.
- Heatstroke is dangerous. It's an extremely serious health condition that can lead to death. If someone has a fever over 104 F and/or mental symptoms like confusion, slurring, and the like, seek immediate medical help.

Provided by Columbia University Irving Medical Center

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