



Overview

Heat exhaustion is a condition that happens when your body overheats. Symptoms may include heavy sweating and a rapid pulse. Heat exhaustion is one of three heat-related illnesses, with heat cramps being the mildest and heatstroke being the most serious.

Causes of heat illness include exposure to high temperatures, particularly when there is also high humidity, and strenuous physical activity. Without prompt treatment, heat exhaustion can lead to heatstroke, a life-threatening condition. Fortunately, heat exhaustion is preventable.

Symptoms

Symptoms of heat exhaustion may start suddenly or progress over time, especially with prolonged periods of exercise. Possible heat exhaustion symptoms include:

- Cool, moist skin with goose bumps when in the heat.
- Heavy sweating.
- Faintness.
- Dizziness.
- Fatigue.
- Weak, rapid pulse.
- Low blood pressure upon standing.
- Muscle cramps.
- Nausea.
- Headache.

When to see a doctor

If you think you have heat exhaustion:

- Stop all activity and rest.
- Move to a cooler place.
- Drink cool water or sports drinks.

Contact your doctor if your symptoms get worse or they don't improve within one hour.

If you're with someone who has heat exhaustion, seek immediate medical help if they become confused or distressed, lose consciousness, or are unable to drink. If their core body temperature — measured by a rectal thermometer — reaches 104 F (40 C) or higher, they need immediate cooling and urgent medical attention.

Causes

The body's heat combined with environmental heat results in what's called your core temperature. This is your body's inner temperature. Your body needs to regulate heat gain in hot weather or heat loss in cold weather to keep a core temperature that's typical for you. The average core temperature is about 98.6 F (37 C).

When your body can't cool itself

In hot weather, your body cools itself mainly by sweating. The evaporation of your sweat regulates your body temperature. But when you exercise strenuously or otherwise overexert in hot, humid weather, your body is less able to cool itself efficiently.

As a result, heat cramps may start in your body. Heat cramps are the mildest form of heat-related illness. Symptoms of heat cramps often include heavy sweating, fatigue, thirst and muscle cramps. Prompt treatment may prevent heat cramps from progressing to more-serious heat illnesses such as heat exhaustion.

Drinking fluids or sports drinks that have electrolytes (Gatorade, Powerade, others) can help treat heat cramps. Other treatments for heat cramps include getting into cooler temperatures, such as an air-conditioned or shaded place, and resting.

Other causes

Besides hot weather and strenuous activity, other causes of heat exhaustion include:

- **Dehydration**, which lessens your body's ability to sweat and keep a normal temperature.
- **Alcohol use**, which can affect your body's ability to regulate your temperature.
- **Overdressing**, particularly in clothes that don't allow sweat to evaporate easily.

Risk factors

Anyone can get heat illness, but certain factors increase your sensitivity to heat. They include:

- **Young age or old age.** Infants and children younger than 4 and adults older than 65 are at higher risk of heat exhaustion. The body's ability to regulate its temperature isn't fully developed in children. In older adults, illness, medicines or other factors can affect the body's ability to control temperature.
- **Certain drugs.** Some medicines can affect your body's ability to stay hydrated and respond properly to heat. These include some medicines used to treat high blood pressure and heart problems (beta blockers, diuretics), reduce allergy symptoms (antihistamines), calm you (tranquilizers), or reduce psychiatric symptoms such as delusions (antipsychotics). Some illegal drugs, such as cocaine and amphetamines, can increase your core temperature.
- **Obesity.** Carrying excess weight can affect your body's ability to regulate its temperature and cause your body to keep more heat.
- **Sudden temperature changes.** If you're not used to the heat, you're more susceptible to heat-related illnesses, such as heat exhaustion. The body needs time to get used to higher temperatures. Traveling to a warm climate from a cold one or living in an area that experiences an early heat wave can put you at risk of a heat-related illness. The body hasn't had a chance to get used to the higher temperatures.
- **A high heat index.** The heat index is a single temperature value that considers how both the outdoor temperature and humidity make you feel. When the humidity is high, your sweat can't evaporate as easily, and your body has more trouble cooling itself. This makes you more prone to heat exhaustion and heatstroke. When the heat index is 91 F (33 C) or higher, you should take precautions to keep cool.

Complications

If heat exhaustion isn't treated, it can lead to heatstroke. Heatstroke is a life-threatening condition. It happens when your core body temperature reaches 104 F (40 C) or higher. Heatstroke needs immediate medical attention to prevent permanent damage to your brain and other vital organs that can result in death.

Prevention

There are a lot of things you can do to prevent heat exhaustion and other heat-related illnesses. When temperatures climb, remember to:

- **Wear loose fitting, lightweight clothing.** Wearing too much clothing or clothing that fits tightly won't allow your body to cool properly.
- **Protect against sunburn.** Sunburn affects your body's ability to cool itself. Protect yourself outdoors with a wide-brimmed hat and sunglasses. Use a broad-spectrum sunscreen with an SPF of at least 15. Apply sunscreen generously and reapply every two hours. Reapply more often if you're swimming or sweating.
- **Drink plenty of fluids.** Staying hydrated helps your body sweat and keep a normal body temperature.
- **Be careful with certain medicines.** Watch for heat-related problems if you take medicines that can affect your body's ability to stay hydrated and respond to heat.
- **Never leave anyone in a parked car.** This is a common cause of heat-related deaths in children. When parked in the sun, the temperature in your car can rise 20 degrees Fahrenheit (more than 11 C) in 10 minutes.

It's not safe to leave someone in a parked car in warm or hot weather, even if the windows are cracked or the car is in shade. Keep parked cars locked to prevent a child from getting inside.

- **Take it easy during the hottest parts of the day.** If you can't avoid strenuous activity in hot weather, drink fluids and rest often in a cool spot. Try to schedule exercise or physical labor for cooler parts of the day, such as early morning or evening.
- **Get acclimated.** Limit time spent working or exercising in heat until you're conditioned to it. People who aren't used to hot weather are especially susceptible to heat-related illness. It can take several weeks for your body to adjust to hot weather.
- **Be cautious if you're at increased risk.** If you take medicines or have a condition that increases your risk of heat-related problems, such as a history of prior heat illness, be cautious. Avoid the heat and act quickly if you notice symptoms of overheating. If you take part in a strenuous sporting event or activity in hot weather, make sure there are medical services ready in case of a heat emergency.

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