Heat and exercise: Keeping cool in hot weather

By Mayo Clinic staff

Stay safe during hot-weather exercise by drinking enough fluids, wearing proper clothing and timing your workout to avoid extreme heat.

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Whether you're running, playing a pickup game of basketball or going for a power walk, take care when the temperatures rise. If you exercise outdoors in hot weather, use these common-sense precautions to prevent heat-related illnesses.

How heat affects your body

Exercising in hot weather puts extra stress on your body. If you don't take care when exercising in the heat, you risk serious illness. Both the exercise itself and the air temperature increase your core body temperature. To help cool itself, your body sends more blood to circulate through your skin. This leaves less blood for your muscles, which in turn increases your heart rate. If the humidity also is high, your body faces added stress because sweat doesn't readily evaporate from your skin. That pushes your body temperature even higher.

Heat-related illness
Under normal conditions, your skin, blood vessels and perspiration level adjust to the heat. But these natural cooling systems may fail if you're exposed to high temperatures and humidity for too long, you sweat heavily and you don't drink enough fluids. The result may be a heat-related illness. Heat-related illnesses occur along a spectrum, starting out mild but worsening if left untreated. Heat illnesses include:

- **Heat cramps.** Heat cramps are painful muscle contractions, mainly affecting the calves, quadriceps and abdominals. Affected muscles may feel firm to the touch. Your body temperature may be normal.

- **Heat exhaustion.** With heat exhaustion, your body temperature rises as high as 104 F (40 C) and you may experience nausea, vomiting, headache, fainting, weakness and cold, clammy skin. If left untreated, this can lead to heatstroke.

- **Heatstroke.** Heatstroke is a life-threatening emergency condition that occurs when your body temperature is greater than 104 F (40 C). Your skin may be hot, but your body may stop sweating to help cool itself. You may develop confusion and irritability. You need immediate medical attention to prevent brain damage, organ failure or even death.

**Pay attention to warning signs**

During hot-weather exercise, watch for signs and symptoms of heat-related illness. If you ignore these symptoms, your condition can worsen, resulting in a medical emergency. Signs and symptoms include:

- Muscle cramps
- Nausea or vomiting
- Weakness
- Headache
- Dizziness
- Confusion

If you develop any of these symptoms, you must lower your body temperature and get hydrated. Stop exercising immediately and get out of the heat. If possible, have someone stay with you who can help monitor your condition. Remove extra clothing or sports equipment. Drink fluids — water or a sports drink. If possible, fan your body or wet down your body with cool water. If you don't feel better within 30 minutes, contact your doctor. If you have signs of heatstroke, seek immediate medical help.

Once you've had heatstroke, you're at a higher risk of getting a heat illness again. Get
cleared by your doctor before you return to exercise if you've had heatstroke.

How to avoid heat-related illnesses

When you exercise in hot weather, keep these precautions in mind:

- **Watch the temperature.** Pay attention to weather forecasts and heat alerts. Know what the temperature is expected to be for the duration of your planned outdoor activity.

- **Get acclimated.** If you're used to exercising indoors or in cooler weather, take it easy at first when you exercise in the heat. As your body adapts to the heat over the course of one to two weeks, gradually increase the length and intensity of your workouts.

- **Know your fitness level.** If you're unfit or new to exercise, be extra cautious when working out in the heat. Your body may have a lower tolerance to the heat. Reduce your exercise intensity and take frequent breaks.

- **Drink plenty of fluids.** Dehydration is a key factor in heat illness. Help your body sweat and cool down by staying well hydrated with water. Don't wait until you're thirsty to drink. If you plan to exercise intensely or for longer than one hour, consider a sports drink instead of water. Sports drinks can replace the sodium, chloride and potassium you lose through sweating. Avoid alcoholic drinks because they can actually promote fluid loss.

- **Dress appropriately.** Lightweight, loosefitting clothing helps sweat evaporate and keeps you cooler. Avoid dark colors, which can absorb heat. If possible, wear a light-colored, wide-brimmed hat.

- **Avoid midday sun.** Exercise in the morning or evening, when it's likely to be cooler outdoors. If possible, exercise in shady areas — or do a water workout in a pool.

- **Wear sunscreen.** A sunburn decreases your body's ability to cool itself.

- **Have a backup plan.** If you're concerned about the heat or humidity, stay indoors. Work out at the gym, walk laps inside the mall or climb stairs inside an air-conditioned building.

- **Understand your medical risks.** Certain medical conditions or medications can increase your risk of a heat-related illness. If you plan to exercise in the heat, talk to your doctor about precautions.

Heat-related illnesses are largely preventable. By taking some basic precautions, your
exercise routine doesn't have to be sidelined when the heat is on.

References

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