

Heat and exercise

In this unit you will learn:

1. Learn the symptoms of heat related illness such as heat stroke and heat exhaustion
2. Learn to prevent and treat common heat related illnesses

Keeping cool in hot weather

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

By Mayo Clinic Staff

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 its self, 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. Affected muscles may feel firm to the touch. Your body temperature may be normal.
- **Heat syncope and exercise-associated collapse.** Heat syncope is a feeling of lightheadedness or fainting caused by high temperatures, often occurring after standing for a long period of time, or standing quickly after sitting for a long period of time. Exercise-associated collapse is feeling lightheaded or fainting immediately after exercising, such as after a race.
- **Heat exhaustion.** With heat exhaustion, your body temperature rises as high as 104 F (40 C), and you may experience signs and symptoms including nausea, vomiting, headache, 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. If your heatstroke occurs during exercise in hot, humid weather, you may continue to sweat for a short time after exercising. You may develop signs and symptoms including confusion, irritability, heart rhythm problems, dizziness, nausea, visual problems and fatigue. **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.

If you develop any of these symptoms, you must

1 - lower your body temperature - To lower your body temperature:

Remove extra clothing or sports equipment.

If possible, fan your body or wet down your body with cool water.

You may place cool, wet towels or ice packs on your neck, forehead and under your arms, spray yourself with water from a hose or shower, or sit in a tub filled with cold water.

2 - get hydrated. Drink fluids — water or a sports drink.

3 - Stop exercising immediately and get out of the heat.

4 - If possible, have someone stay with you who can help monitor your condition.

If you experience heat cramps, stretch, and massage the cramping muscle.

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 fluids. If you plan to exercise intensely, 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, loose fitting 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 and increases the risk of skin cancer.
- **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.

1. Complete the chart below for the four heat related illnesses:

HEAT RELATED ILLNESS	SYMPTOMS	TREATMENT
Heat cramps	1- 2- 3-	1 – 2 – 3 – 4 – 5 -
Heat syncope	1 – Or 2 -	1 – 2 – 3 – 4 –
Heat Exhaustion	1- 2- 3- 4- 5-	1 – 2 – 3 – 4 –
Heat Stroke	1- 2- 3- 4- 5-	1 – 2 – 3 – 4 – 5 – Seek _____

2. List nine precautions, you can do, to help prevent heat related illnesses.