

Q&A: Effects of hot weather, humidity on blood pressure, heart

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DEAR MAYO CLINIC: I'm retired and enjoy spending time outdoors in my garden and kayaking with my family. I have high blood pressure, which has been managed by medication for nearly 10 years. Recently I've

noticed that I develop a headache, nausea and sometimes dizziness after a few hours in the heat and sun. What is causing these symptoms?

ANSWER: Weather can play a role in triggering certain [health problems](#). High temperatures and high humidity are two factors that can cause serious health consequences for people with [high blood pressure](#) and [heart disease](#).

In summer weather, [blood pressure](#) can be affected by the body's attempts to radiate heat. High temperatures and [high humidity](#) can cause more [blood flow](#) to the skin. This causes the heart to beat faster while circulating twice as much blood per minute than on a normal day.

The greatest risks are when the temperature is above 70 degrees and the humidity is more than 70%. The higher the humidity, the more moisture in the air. Some people are at higher risk of being affected by humidity, including people over age 50; those who are overweight; or those with heart, lung or kidney conditions.

Heat and sweating also can lower the amount of fluid in the body, which can reduce blood volume and lead to dehydration. This can interfere with the body's ability to cool off and may strain the heart.

When the body loses more fluid than is taken in, the body may not have enough water or other fluids to carry out its normal functions. Anyone can become dehydrated, and it can lead to serious complications for people at greater risk due to age, chronic conditions, or outdoor activity such as work or exercise.

Other risk factors include:

- Heart, lung, and kidney problems
- The use of diuretics, sedatives or [blood pressure medication](#)

- Following a low-salt or low-sodium diet
- Circulatory disease or problems with circulation

People with a history of high blood pressure should monitor their blood pressure during heat waves. They also should drink plenty of fluids to stay hydrated, avoid the midday heat, eat a healthy diet, and apply sunscreen and wear a hat while outdoors. In most cases, when in doubt, stay inside a cool environment.

Warning signs

Signs that your body isn't keeping up with the heat include:

- Cold, clammy skin
- Confusion
- Dizziness
- Disorientation
- Rapid pulse
- Excessive sweating or an inability to sweat
- Fatigue
- Headache
- Muscle cramps or spasms
- Nausea
- Swelling in your arms or legs

If you or a loved one are exhibiting more than one or two of these symptoms, take shelter out of the heat and seek medical intervention immediately.

Heat and medication

Just like you should find ways to keep your body cool during high

temperatures, you also should store your medications properly, so they are not exposed to extreme heat. Some medications can become degraded during temperature changes, including insulin used for diabetes management.

Store medication in a cool, dry place. If you store medications in a bathroom with a shower, on a window ledge or in a vehicle, keep the [medication](#) in the original container to help seal out excess heat and moisture.

Some medications can affect your ability to stay hydrated and respond to high temperatures, including medications used to:

- Treat high blood pressure, including beta blockers and diuretics
- Reduce allergy symptoms, such as antihistamines or decongestants
- Decrease psychiatric symptoms, such as antipsychotics

Talk with your care team about concerns you may have regarding how your body responds to specific medications during high temperatures.

—Molly Paulino , Nurse Practitioner, Cardiology, Mayo Clinic Health System, La Crosse, Wisconsin

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