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Contact: Dudley Improta, Campus Recreation, (406) 243-2802, dimprota@mso.umt.edu, or Brian Sharkey, (406) 549-8202, bsharkey@fs.fed.us.

DON'T OVERDOSE ON EXERCISE IN HOT WEATHER

By Terry Brenner
University Relations

Summer in Montana can be brief, so people often try to capture as much of it as possible before it gets away. They flock to the out-of-doors for a big dose of exercise or recreation, somehow believing that doing so can't be anything but good for them.

The truth is, it can be dangerous, and outdoor sports buffs could be setting themselves up for some uncomfortable and possibly life-threatening conditions: heat cramps, heat exhaustion or heatstroke.

The most serious of those is heatstroke, says Dudley Improta, manager of Outdoor and Special Programs at The University of Montana. Heatstroke is life threatening and requires immediate medical attention because the body's temperature-control system has basically stopped working.

"Heatstroke is pretty much tied in to the inability to sweat," Improta says. "The body is not cooling itself off properly." Body temperature can rise suddenly, sometimes as high as 106 degrees, resulting in brain damage and death in up to 40 percent of victims.

Warning signs include dry, hot, red skin; a fast, weak pulse; fast, shallow breathing; throbbing headache or dizziness; nausea; confusion; or unconsciousness. These signal the need to get medical help fast.

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"If not treated quickly and transported to a medical facility soon, the person will die," says Brian Sharkey, exercise physiologist and UM professor emeritus of health and human performance. Many body organs can fail in heatstroke.

Meanwhile, until help arrives, concentrate on cooling the victim: Get him out of the heat and into a cool bath, or wrap him in wet sheets. Fan him. And if he is conscious, let him sip cool water slowly -- about 4 ounces every 15 minutes.

In the kind of activities Improta organizes -- such as summer backpacking or rafting trips -- heat exhaustion is much more common and, if treated quickly, far less dangerous than heatstroke, he says. But it can progress to heatstroke if untreated.

"With heat exhaustion, you're sweating profusely, not replacing body fluids and just basically hitting the wall," he says. "Heat exhaustion is almost always some sort of dehydrated state. You've also lost electrolytes because when you sweat, you lose minerals as well as water."

Besides heavy sweating, the most common symptoms are extreme fatigue and pale, cold, clammy skin, Improta says. Dizziness, nausea, vomiting, fainting or slightly increased temperature can also be part of the picture.

Fortunately, heat exhaustion is easily remedied by getting in the shade, resting and drinking some water, he says.

"Those sports drinks can help, too," he says. "Anytime your body starts throwing off fluid, you get an electrolyte imbalance. It doesn't matter whether you're sweating or vomiting or having diarrhea." Sports drinks like Gatorade contain electrolytes such as calcium, potassium and sodium, which the body needs to function properly.

Once upon a time people who did strenuous work or exercise outside on hot days would take salt pills, Improta says. In fact, when he played high school football in Florida and Alabama, players were given salt tablets to help them retain water.

"That's no good for you," he says. "Nobody does that anymore. Too much salt is not good for you. You really want to drink plenty of water when you're outside." But not too much, he says.

Sharkey agrees. "Don't drink more than a quart an hour," he says, "because [drinking more than] that can dilute the salts in your blood. But try to get a quart an hour, and part of that should be an electrolyte drink. It keeps the energy level up and helps the brain function. ... And the carbohydrate in the fluid helps keep the blood glucose up and helps maintain your immune system."

Heat cramps are muscle pains and spasms, usually in the abdomen or legs, caused by heavy exertion and sweating.They tend to ease off once the victim rests in a cool place and sips water or an electrolyte drink.

"Other things work, too, like stretching and massage," Sharkey says.

Anyone who works or exercises in the heat would be wise to know the symptoms of these heat-related conditions and quick or temporary remedies for them. Better yet, know how to prevent them.

"Prevention is the name of the game," Improta says. His advice?

- Stay hydrated. Hydration is the big No. 1.
- Eat. Maintain a positive caloric balance.
- Stay within your range. If you're feeling tired and weak, sit down and rest. Don't push beyond what you can handle.
- Cover up. Wear big, wide-brimmed hats and light-colored, well-ventilated clothes. Sharkey can't deal with big hats and wears a sweat band instead, but he says, "Clothing is important. Wear light-colored fabric that allows the air to pass through and lets sweat evaporate. If sweat just drips off you, it doesn't do much good. In summer you want it to evaporate somewhere near the skin to get the cooling effect. Cotton is fine."

- Stay out of the sun as much as you can.

Sharkey adds three things to do further in advance of your hot-weather activity:

- Acclimatize. "Over a period of five to 10 days expose yourself to the heat conditions you're going to have to work in. Firefighters can do this in advance by doing hard work. People who hike can build acclimatization into hikes. Athletes sometimes put on extra clothing or do high-intensity stuff which prepares them for higher temperatures."

- Check with your pharmacist about any drugs you're taking. Some prescription and over-the-counter drugs interfere with heat tolerance. And Sharkey adds, "All recreational drugs like amphetamines, cocaine and alcohol are terrible things to have in you when you're going to be out in a hot climate."

- Improve your aerobic fitness.

Improta agrees. "One of the most important things you can have in your emergency kit is a minimum level of fitness," he says. "It keeps you out of a lot of trouble."

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