

Your Health

by Dr. Paul Roumeliotis

Heat Exposure Injury and Its Prevention

With the hot weather here, I thought it would be timely to talk about heat and its effects on our bodies. Generally, humans can control their internal temperature in the heat by sweating. However, under extreme heat and humidity conditions the body cannot keep up and will suffer from heat stress. The elderly and young children, as well as those with chronic respiratory and heart conditions, are more susceptible to heat. Heat exhaustion usually occurs after prolonged exposure to heat and/or heavy exercise in the heat resulting in increased loss of body fluids through heavy sweating. The signs of heat exhaustion include:

- clammy, pale skin
- sweating
- dry mouth
- tiredness (fatigue)
- headache and/or dizziness

Persons suffering from heat exhaustion need to be removed from the heat immediately and given water to drink and cool compresses on their skin. Fortunately, heat exhaustion is not life threatening, and will resolve with rest, fluids and cooling down.

However, heat stroke is very dangerous and potentially deadly. The body is so overwhelmed by the heat and humidity that it loses the capacity to sweat. This results in very high body temperature, which in severe cases can actually cause brain damage and tragically, even lead to death. The signs of heat stroke include:

- very high body temperature (39°C [103°F] or higher)
- hot, red and dry skin
- absence of sweating
- deep or shallow breathing
- a weak pulse rate
- confusion or hallucinations
- seizures
- loss of consciousness

Heat stroke can occur suddenly and is an emergency requiring immediate medical attention.

The best approach is to prevent heat injury as it can potentially result in heat stroke, which is very dangerous. Here are some ways to prevent heat injury during heat/humidity waves:

- Dress young children and babies very lightly.
- Stay out of the heat and humidity by staying indoors during the hottest time of the day (usually mid-morning to mid-afternoon). The use of air conditioners if available helps, even for young babies.
- If there are no air conditioners, try to stay at the lowest level of the house, as it tends to be cooler. Also, try to keep the house as shaded as possible by closing window blinds and curtains. A fan will help as well.
- Do not stay or leave children in parked cars during hot weather.
- Avoid vigorous exercise in the heat.
- Drink plenty of fluids. Water is good. Sports drinks are good too as they contain added salt. It is important to know that children may not feel thirsty but will still need to drink regularly. Avoid salt tablets and caffeine-containing beverages.
- Keep track of how long you or your child has been outside in the heat, and learn to recognize heat exhaustion.
- When swimming, be aware that high humidity and sunrays are still a potential threat. Proper sunscreen protection as well as frequent rests in the shade are still necessary.

Children are unable to perspire as much as adults and therefore are more prone to heat stress during exercise than adults. A sensible approach should be used in determining if children can safely partake in sports activities during heat/humidity waves.

Dr. Paul Roumeliotis is the Medical Officer of Health for the Eastern Ontario Health Unit and Assistant Professor of Pediatrics, McGill University. © Dr. Paul Roumeliotis