

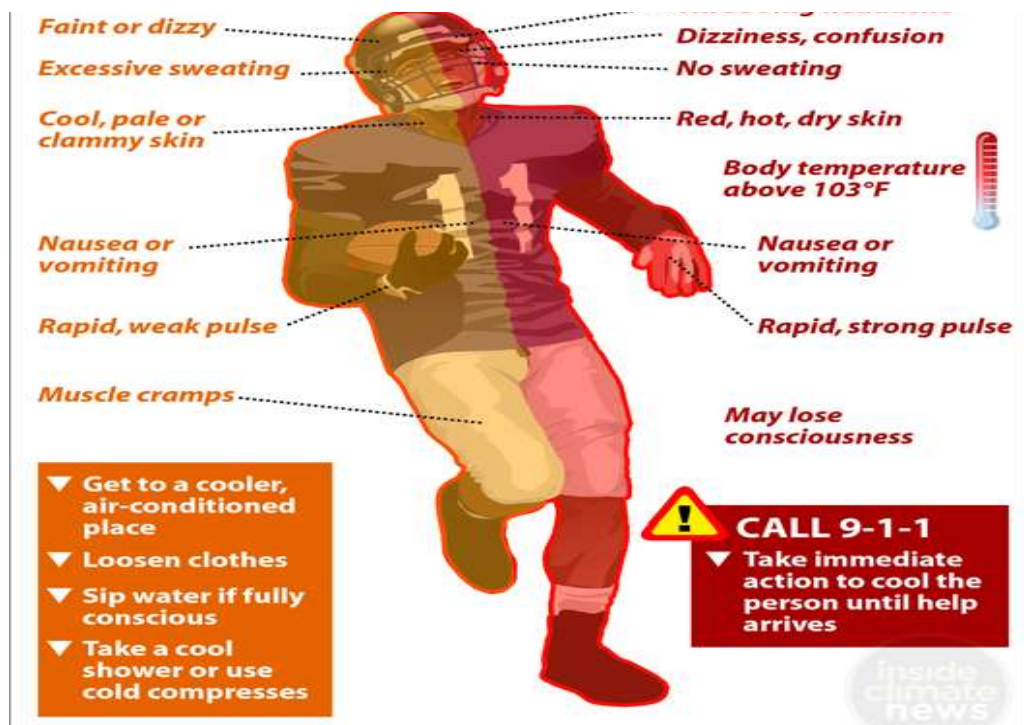
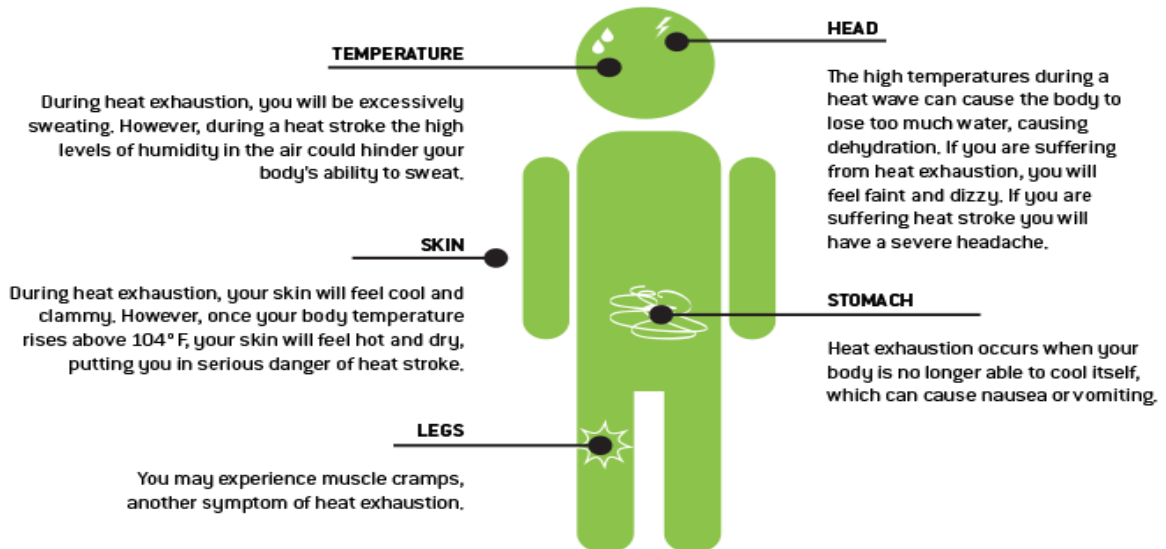
Impact of heat wave on Human Beings

DR Bhanu

Impact of the heatwave on Human beings

- <https://www.youtube.com/watch?v=4bV16i62-Vs>

How does a heat wave affect humans?



Heat related illnesses

Heat syncope – dizziness and fainting, due to dehydration, vasodilation, cardiovascular disease and certain medications

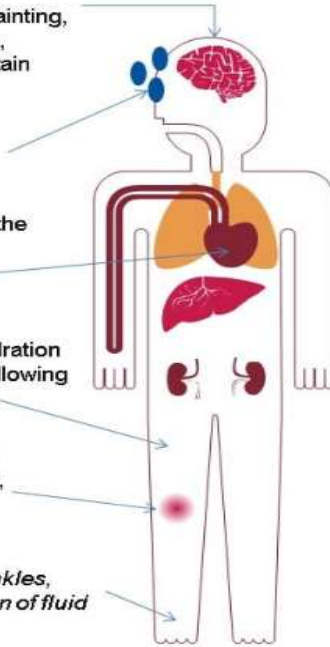
Excessive sweating can deplete fluid and salts

When blood temperature rises, the body stimulates sweat glands, dilates blood vessels and increases the heart rate

Heat cramps – caused by dehydration and loss of electrolytes, often following exercise

Increased blood flow to the skin cools the body by radiating heat, leading to heat rash (small, red itchy papules)

Heat oedema – mainly in the ankles, due to vasodilation and retention of fluid



Health effects of heat

The main causes of illness and death during a heatwave are respiratory and cardiovascular diseases. Additionally, there are specific heat-related illnesses including:

Heat Exhaustion

- Nausea or irritability
- Dizziness
- Muscle Cramps or weakness
- Feeling faint
- Headache
- Fatigue
- Heavy sweating
- High body temperature

Heatstroke

- Hot, dry skin or profuse sweating
- Confusion
- Loss of consciousness
- Seizures
- Very high body temperature

Heatwaves can be one of the **most threatening weather phenomena?**




Heatwaves not only have high **temperatures** but also high levels of **humidity**.

Humidity hinders the body's ability to sweat and the higher the **humidity** the **hotter** the day feels.

Main dangers –

- **Dehydration,**
- **Heat exhaustion,**
- **Heatstroke and**
- **Death?**

Extremely dangerous for **infants** and the **elderly** because both have difficulty maintaining body temperature.

	Danger	Symptoms	Response
	Dehydration	Thirsty, feeling faint, dizziness	Drink water with lime and salt or Gatorade Drinks to Rehydrate, Replenish and Refuel
	Heat Exhaustion	Rapid breathing, dizziness, nausea, excessive sweating, clammy skin, muscle cramps	Drink water, take a cool shower, seek a cool air-conditioned place
	Heat Stroke	Headache, high body temperature, quick pulse, nausea, loss of consciousness	Call 112; seek out medical assistance

Impact of Heatwave on Health?

- Extreme heat events can be **dangerous to health** – even fatal.
- **Can cause severe dehydration and acute cerebrovascular accidents and lead to thrombogenesis (blood clots).**
- People with chronic diseases that take daily medications have a greater risk of complications and death during a heatwave, as do older people and children.
- **What does extreme heat do to our bodies? As the body gets hotter, blood vessels open up. This leads to lower blood pressure and makes the heart work harder to push the blood around the body.**
- **This can cause mild symptoms such as an itchy heat rash or swollen feet as blood vessels become leaky.**

What to do when the weather is too hot?

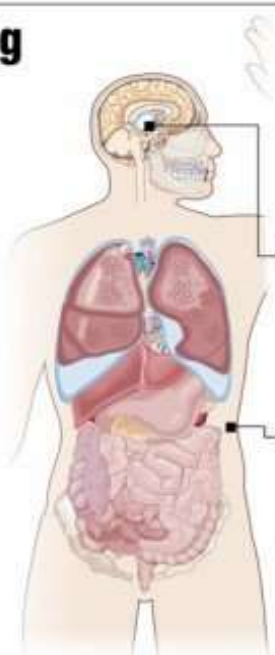
- Keep your
 - Home as cool as possible
 - Open your windows at night to let in cool air.
 - Morning close windows early to try and shut out the day's heat for as long as possible,
 - Place fans strategically in your home to create cross-breezes.

When heat becomes life-threatening

Increased physical activity and prolonged exposure to the sun during hot, humid weather can bring on heatstroke, a dangerous condition in which the body is unable to cool itself. Heat exhaustion is a condition in which the body becomes dehydrated.

Recognizing and treating heat-induced illnesses

	Heat exhaustion	Heatstroke
How it starts	Insufficient water and salt intake are the primary causes; faintness, dizziness and fatigue usually are the first signs	Heat exhaustion, if untreated, can develop into heatstroke as heat builds up in the body; people who aren't treated quickly can die
Skin	Usually cold and clammy, with heavy sweating	Hot, dry and red; perspiration usually stops completely
Pulse	Rapid and weak	Rapid and strong
Body temperature	Usually low or normal	Above 103 F (39.4 C); at 107 F (41.7 C), it usually is fatal
Other symptoms	Thirst, giddiness, weakness and lack of coordination	Fainting or staggering, confusion or delirium
Treatment	Lie down in a cool, shady place; loosen clothing; sip water (unless nauseated); seek medical attention immediately if vomiting occurs	Seek medical attention immediately; move to a cool place; remove clothing; apply a wet sheet or immerse in cool water



How heatstroke affects the body

Sweat evaporating from the skin cools the body. When it is humid, it is harder to cool off because moisture in the air prevents sweat from evaporating as much.

- 1 When blood temperature rises, the hypothalamus sends signals to stimulate sweat glands, dilate blood vessels and increase heart rate
- 2 Increased blood flow to the skin cools the body by radiating heat
- 3 Excessive sweating can deplete fluid and salts; if fluids are not replaced, heat remains in the blood, and organs slowly break down, usually resulting in death

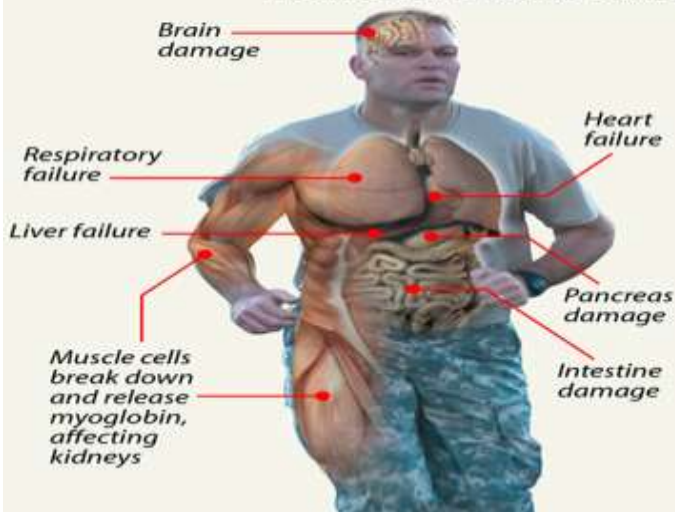
Source: CDC Center for Disease Control and Prevention, American Medical Association, *Handbook of Medicine*, *Prevention Guide to Sports Injuries*

Chicago Tribune

Heat Stroke at a Glance

Heat stroke occurs when the human body can no longer regulate its core temperature, and is characterized by a temperature of 104 degrees Fahrenheit or higher. It can quickly affect the central nervous system. Death comes from organ failure and because the heart stops pumping effectively.

HOW OVERHEATING CAN LEAD TO DEATH



Heat stroke requires aggressive treatments, including rapid cooling and therapies to stabilize organ function.



Even people who survive can face permanent brain damage or other organ injury if their core temperature has been above 105°F for more than an hour or two.



High exertion coupled with multiple layers of clothing may produce heat illness even in more moderate temperatures.



Hyponatremia, or low sodium levels in the blood, results from overhydration and can be deadly.

How to keep you and your pet cool during a heat wave:

How to stay cool in a heat wave?

Stay Inside! As much as possible stay inside air conditioned buildings.

Dress Light! Wear loose fitting and light weight clothes.

Keep hydrated! Limit the risk of dehydration by consciously consuming enough water.

Eat Less! You'll feel the effects of heat waves less if you eat lighter meals and avoid feeling full.

Find Shade! If you have to go outside, seek out shaded areas.

Stay Smart! Don't use appliances like ovens, dishwashers and dryers during the day to avoid heating up your house.



Bring your pet indoors – even if they are an outside animals the high temperatures and high humidity could easily cause your pet to overheat!

Consider shaving your pet – the shorter hair will help your pet regulate their body temperature more easily.

Make sure they have plenty of water – this helps keep your pet from experiencing dehydration and heatstroke.

Feed them less than normal – full stomachs can help increase symptoms of dehydration and nausea. Help your pet stay cool by not letting them eat too much.

