



# Surviving The Sun In Heat Wave: Gentle Approach Of Homoeopathy To Heat Stroke

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## ABSTRACT

One of the most dangerous conditions brought on by high temperatures is heat stroke. This illness results in severe damage to the brain and other key organs in the body as the body's cooling mechanism fails on its own. Though it primarily affects those over 50, heat stroke also has an adverse effect on healthy adolescents.

**KEYWORDS:** Heatstroke, Causes, Complications, Prevention, Homoeopathy

## INTRODUCTION

Humans are homoeothermic animals, meaning that their bodies strive to keep a constant core temperature of 37 °C (36 °C to 38 °C).

A combination of physiological (such as peripheral vasodilatation or constriction, variations in heart rate, sweating or shivering) and behavioral (such as voluntary physical activity, seeking suitable shelter, etc.) mechanisms are used to achieve the necessary balance between the body's heat production and heat loss.<sup>2</sup>

Furthermore, environmental factors such as temperature, humidity, and air velocity significantly impact an individual's susceptibility to thermal stress. Any level of ambient heat or cold that triggers the activation of physiological thermoregulatory mechanisms is referred to as "heat stress" or "cold stress." Therefore, comprehending these physiological, behavioral, and environmental mechanisms and effectively adjusting them is necessary for the prevention and management of heat stress diseases.<sup>2</sup>

The human body can be regarded as having two layers for the purpose of thermoregulation: an inner "core" made up of the brain, heart, and viscera, and an outer peripheral or "shell" made up of skin, muscles, and subcutaneous tissue.

## EPIDEMIOLOGY OF HEAT STROKE

The detrimental effects of high temperatures are a major factor in the rates of sickness and mortality in both rich and developing countries. Government statistics show that heat stroke claimed the lives of 1071 Indians in 2009 and 1274 in 2010, accounting for around 0.3% of all fatalities in the nation annually.<sup>2</sup> Stated differently, one out of every 300 deaths in India is attributed to heat stroke. The real figure could be much

higher. In India's central and northern plains, western deserts, and northeastern tropical forest zones, heat stress is most prevalent from April to September.

## **PATHOPHYSIOLOGY**

As part of the thermoregulatory process, the hypothalamus thermoregulatory center gets signals from even a minor increase in blood temperature of one degree Celsius. This causes an increase in cardiac output and heart rate, which, when paired with sympathetic cutaneous vasodilation, raises blood flow to the skin. Sweating occurs when the air surrounding the body isn't totally saturated, and the evaporation of perspiration cools the skin. An increase in the airflow in contact with the body enhances cooling by promoting the evaporation of perspiration.<sup>2</sup>

Sweating can result in a loss of water and salt of up to two lit/hr when there is high humidity and physical activity.

If the lost salt and water were not replaced, the body's fluid reserves would be exhausted even though the core temperature might not be very high. This condition is known as heat exhaustion. There are times when the body's stores of salt and water are sufficient, but the heat might still overwhelm the thermoregulatory response. The three main causes of heat stroke are altered heat shock protein expression, an elevated acute phase response, and a breakdown in thermoregulation.

## **TYPES OF HEAT STROKE:**

Two forms of heat strokes are recognized:

1. Classical heat stroke – this kind may result from advanced age or underlying medical issues. It usually takes several days to manifest.<sup>3</sup>
2. Exertional heat stroke- Usually, physical overexertion in humid, hot weather results in this type of heatstroke. It can take a few hours to develop<sup>3</sup>.

## **SIGNS AND SYMPTOMS <sup>4</sup>**

- Fainting
- Throbbing headache
- Core body temperature above 104 F
- Dizziness and light headedness
- Lack of sweating despite the heat
- Red, hot, and dry skin
- Muscle weakness or cramps
- Nausea and vomiting
- Rapid heartbeat, which may be either strong or weak
- Rapid shallow breathing
- Behavioral changes such as confusion, disorientation, or staggering
- Seizures
- Unconsciousness

## **Physical examination**

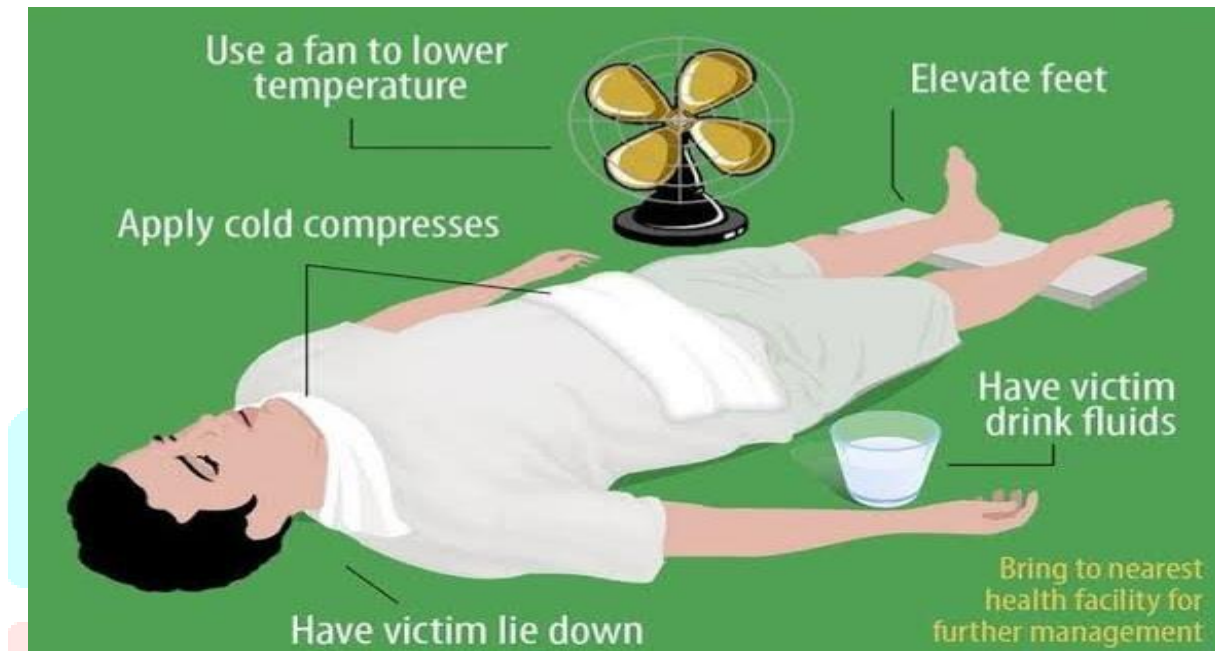
- General appearance – disoriented, tired appearance
- Vital signs – fever, hypotension
- Cardiovascular system – tachycardia, widened pulse pressure
- Central nervous system – impaired judgement, delirium, coma, seizures, poor coordination
- Musculoskeletal system – muscle spasms, muscle pain
- Respiratory system – hyperventilation

- Dermatological - decreased skin turgor, skin rash, sun burn.

### COMPLICATIONS:<sup>2</sup>

- Hepatic failure
- Renal failure
- Cerebellar damage
- Cerebral oedema
- Arrhythmias
- Disseminated intravascular coagulation
- Death

### GENERAL MANAGEMENT



Heat stroke needs to be handled like a major medical emergency. A mere few-minute delay in starting the right therapy could be the difference between life and death. The goals of the treatment are: rehydrating and tending to the unconscious patient; lowering the core temperature quickly to less than 39 °C and decreasing it by around 0.2 °C per minute; and sustaining the organ system.<sup>2</sup> As soon as the core temperature drops below 39 C, cooling efforts should be discontinued.

Record the rectal temperature. If it is not possible to record rectal temperature, record oral temperature add 0.5 °C and Try and move patient to a cooler and shaded place. Remove the clothes Spray skin with water at 25-30 °C soaked in water at 25-30 °C. Continue fanning manually or with an electrical fan, vigorously massage the skin to prevent cutaneous vasoconstriction during cooling.<sup>2</sup> Apply ice packs or mops soaked in cold water around the neck, axillae, groin and head. Establish intravenous (IV) line and start IV isotonic saline, if facilities are available Start oxygen inhalation 4 liters/minute, if facilities are unavailable nurse in the comatose position; clear oral secretions. Transport to the medical facility as an emergency.

### PREVENTION:

- Drink plenty of fluids.
- Replace salt and minerals
- Choose lightweight, loose-fitting clothing.<sup>5</sup>
- Stay indoors as much as possible.
- Limit outdoor activities.
- Avoid exercising in hot temperatures

**HOMOEOPATHIC THERAPEUTICS:**

**Aconite** - Burning heat in the head and face accompanied by dry skin, redness in the cheeks and eyes, anxiety and fear of dying, nausea and vertigo complaints, and severe headache. fast heartbeat, particularly in those exposed to extreme temperatures.<sup>6</sup>

**Amyl nitrosum**- anxiety, desire for fresh air. Surging of blood to head and face, with heat and redness. Throbbing headache.

**Ant-crud** – aching, worse in vertex from heat of the sun. heaviness in forehead with vertigo, nausea and nose bleed. All conditions are aggravated by heat and cold bathing. Cannot bear the heat of sun. gastric complaints from overheating, hot weather.<sup>6</sup>

**Arnica** – head hot with cold body, confused. Sensitiveness of brain with sharp, pinching pains.

**Belladonna** – skin is flushed, hot and dry, rapid strong pulse. Pupils are fixed and dilated. Headache is better by dark, silence and rest. Violent shooting pains in the head which come and go suddenly making the patient cry out. Heat about the head with cold feet. Blood shot eyes and visible throbbing of the carotids.

**Bryonia** - Severe headache worse after slight movement. Intense unquenchable thirst for cold water. Better by lying down, rest.

**Cactus** – sensation as of a weight on vertex. Right sided pulsating pain. Congestive headaches, periodical, threatening apoplexy. Pulsating in ears. Dim sight. Right sided prosoplasia, constricting pains returns at same hour daily.<sup>6</sup>

**Gelsimium** – light headed, droopy, drowsy, thirst less despite the heat. Occasional chills running up and down the spine. Useful in sunstroke where there is a high temperature with drowsiness or tendency to coma.

**Glonoinum** – throbbing, bursting headache with a hot face and sweaty skin. A great remedy for the effects of sun stroke. Great remedy for congestive headaches, hyperemia of the brain from excess of heat.

**Natrum carb** – sensitive people who always get headaches from being in the sun. debility and exhaustion and headache caused by the sun. good for chronic effects of sunstroke.

**Veratrum** - Anxious fearful, and even maybe ranting and hysterical or they may have collapsed or fainted. Coldness of hands and feet and pale face with clammy sweat. Pulse is fast and weak.

**Carbo veg** – the person will be collapsed from heat with low energy and offensive breath, sweat or stool. Gas in the upper abdomen. There is constant desire to be fanned.

**China** – feeling totally wiped out, drained along with trembling. Useful when there has been excessive sweating and severe dehydration is a factor.

**Cuprum met** – cramps and jerking motion of the muscles. Light headedness, rapid pulse and cold sweat.

**Lachesis** – good remedy for sun headaches or after being in the sun where there is faintness and dizziness. The person feels worse after a sleep or nap.

**Lycopodium** – heat exhaustion with gastric symptoms, flatulence or a heavy stomach immediately after eating and worse 4-8 pm. Generally better by uncovering and getting cooled down.

**Natrum mur** – good for sunstroke with heat in the head and a red face, nausea and vomiting. Bursting headache or pain like tiny hammers banging. Fiery zigzags before the eyes. Very thirsty and a marked desire or aversion to salty food.<sup>6</sup>

**Nux moschata** - likely to faint or feel very drowsy. Nasal passages, throat and mouth feel incredibly dry yet the person is not thirsty.

**Selenium** - general exhaustion, drowsiness, and fatigue after being in the sun. highly recommended for the elderly or babies suffering from the heat.

## CONCLUSION

Heat stroke is a prevalent condition in day-to-day life. When the medication is administered at the appropriate time, there is little risk to life, and many complications can be prevented by contacting a doctor right away. By taking a few simple preventative measures, such as drinking plenty of water and avoiding the sun, heat stroke can be avoided. Homeopathy has shown to be effective in giving relief to the complaints caused by heatstroke.

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