

Public Health Advisory: Extreme Heat/Heatwave

Do's

For general population

Stay hydrated:

- Drink sufficient water whenever possible, even if you are not thirsty. Thirst is not a good indicator of dehydration.
- Carry drinking water when traveling
- Use Oral Rehydration Solution (ORS), and consume homemade drinks like lemon water, butter milk/lassi, fruit juices with some added salt.
- Eat seasonal fruits and vegetables with high water content like water melon, musk melon, orange, grapes, pineapple, cucumber, lettuce or other locally available fruits and vegetables.

Stay covered:

- Wear thin loose, cotton garments preferably light coloured
- Cover your head: use umbrella, hat, cap, towel and other traditional head gears during exposure to direct sunlight
- Wear shoes or chappals while going out in sun

Stay alert:

- Listen to Radio; watch TV; read Newspaper for local weather news. Get the latest update of weather on India Meteorological Department (IMD) website at <https://mausam.imd.gov.in/>

Stay indoors/in shade as much as possible:

- In well ventilated and cool places
- Block direct sunlight and heat waves: Keep windows and curtains closed during the day, especially on the sunny side of your house. Open them up at night to let cooler air in.
- If going outdoor, limit your outdoor activity to cooler times of the day i.e., morning and evening
- Reschedule or plan outdoor activities during cooler parts of the day.

For vulnerable population

Although anyone at any time can suffer from the heat stress & heat-related illness, some people are at greater risk than others and should be given additional attention.

These include:

- Infants and young children
- Pregnant women
- Physically ill, especially with heart disease or high blood pressure
- Travelers from colder climate to a hot climate should allow one week's time for their bodies to acclimatized to heat, avoid overexertion, and should drink plenty of water. Acclimatization is achieved by gradual increase (over 10-15days) in exposure/physical activity in hot environment
- People working outdoors
- People who have a mental illness

Other precautions

- Elderly or sick people living alone should be supervised and their health monitored on a daily basis.
- Keep your home cool, use curtains, shutters or sunshade and open windows at night.
- Try to remain on lower floors during the day.
- Use fan, spray bottles, damp cloths, ice towels to cool down body.
- Immersing feet in 20°C water above ankle provides rapid cooling by reducing dehydration and thermal discomfort.

Don'ts

- Avoid getting out in the sun, especially between 12:00 noon and 03:00 pm
- Avoid strenuous activities when outside in the afternoon
- Do not go out barefoot
- Avoid cooking during peak summer hours. Open doors and windows to ventilate cooking area adequately
- Avoid alcohol, tea, coffee and carbonated soft drinks or drinks with large amount of sugar- as these actually, lead to loss of more body fluid or may cause stomach cramps
- Avoid high-protein food and do not eat stale food
- Do not leave children or pets in parked vehicle. Temperature inside a vehicle could get dangerous.

For Employers and workers

- Provide cool drinking water at work place and remind them to drink a cup of water every 20minutes or more frequently to stay hydrated
- Caution workers to avoid direct sunlight
- Provide shaded work area for workers. Temporary shelter can be created at work site.
- Schedule strenuous and outdoor jobs to cooler times of the day i.e., morning and evening hours
- Increase the frequency and length of rest breaks for outdoor activities- at least every 5 minutes after 1 hour of labour work
- Listen to Radio; watch TV; read Newspaper for local weather news and act accordingly. Get the latest update of weather on India Meteorological Department (IMD) website at <https://mausam.imd.gov.in/>
- Assign additional workers or slow down the pace of work
- Make sure everyone is properly acclimatized: it takes weeks to acclimatize to a hotter climate. Do not work for more than three hours in one day for the first five days of work. Gradually increase the amount and time of work.
- Train workers to recognize factors which may increase the risk of developing a heat related illness and the signs and symptoms of heat stress and start a “buddy system” since people are not likely to notice their own symptoms
- Trained First Aid providers should be available and an emergency response plan should be in place in the event of a heat-related illness.
- Pregnant workers and workers with a medical condition or those taking certain medications should discuss with their physicians about working in the heat.
- If working outdoors wear light-coloured clothing preferably long sleeve shirt and pants, and cover the head to prevent exposure to direct sunlight.
- Organize awareness campaigns for employees
- Install temperature and forecast display at the workplace.
- Distribute informational pamphlets and organize training for employers and workers regarding health impacts of extreme heat and recommendations to protect themselves during high temperatures.

Precautions During Mass gathering/Sport event

- Outdoor/indoor crowded situations increase risk of acute heat-related illnesses (HRI) even in absence of active heatwave alerts in the area.
- Physical exertion, direct sun exposure, overcrowding, and difficult access to water, food and shade may worsen health in vulnerable groups.
- Attendees should stay hydrated, cool, be aware of HRI signs, symptoms and seek medical care.

Health Impact of Heat: Heat-Related Illnesses

- Normal human body temperature ranges between 36.4°C to 37.2°C (97.5°F to 98.9°F)
- Exposure to high outdoor and/ indoor temperatures can induce heat stress, directly and indirectly, leading to heat-related illnesses
- Heat-related illnesses include (from mild to severe)—**heat rash** (prickly heat), **heat oedema** (swelling of hands, feet and ankles), **heat cramps** (muscle cramps), **heat tetany**, **heat syncope** (fainting), **heat exhaustion**, and **heat stroke**.
- Heat stress may also exacerbate chronic diseases like cardiovascular, respiratory, kidney diseases
 - *Watch out for symptoms of heat stress, which include:*
 - dizziness or fainting;
 - nausea or vomiting;
 - headache
 - extreme thirst
 - decreased urination with unusually dark yellow urine
 - rapid breathing and heartbeat

Heat-related illnesses are preventable

If you or others feel unwell and experience any of above symptoms during extreme heat,

- Immediately move to a cool place and drink liquids. **Water is best.**
- Get help/medical attention
- Measure your body temperature

If you experience painful muscular spasms (particularly in the legs, arms or abdomen, in many cases after sustained exercise during very hot weather),

- Rest immediately in a cool place, and drink oral rehydration solutions containing electrolytes
- Medical attention is needed if heat cramps last more than one hour

Heatstroke is a medical emergency!

Be aware of **Danger signs** & seek immediate medical attention if you observe

In adults	In children
<ul style="list-style-type: none">• Altered mental sensorium with disorientation, confusion and agitation, irritability, ataxia, seizure or coma• Hot, red and dry skin• Core body temperature $\geq 40^{\circ}\text{C}$ or 104°F• Throbbing headache• Anxiety, Dizziness, fainting and light headedness• Muscle weakness or cramps• Nausea and vomiting• Rapid heartbeat/Rapid, shallow breathing	<ul style="list-style-type: none">• Refusal to feed• Excessive irritability• Decreased urine output• Dry oral mucosa & absence of tear/sunken eyes• Lethargy/altered sensorium• Seizures• Bleeding from any site

Call 108/102 immediately
if you find someone with
high body temperature and is either
unconscious, confused, or
has **stopped sweating**

Cool the person right away, while waiting, by:

- moving them to a cool place, if you can;
- applying cold water to large areas of the skin or clothing; and
- fanning the person as much as possible

PUBLIC HEALTH ADVISORY: HEATWAVE

Recommended General Measures

Stay Hydrated: Drink plenty of water throughout the day to keep your body hydrated. You can also include buttermilk, coconut water, and fruit juices to maintain fluid levels and stay cool.

Use Cooling Beverages: Incorporate naturally cooling drinks into your routine, such as coconut water, lemon juice, or fruit-based drinks. These help to lower body temperature and keep you refreshed.

Avoid Direct Sunlight: When going outside, use an umbrella or wear a wide-brimmed hat to minimize sun exposure. This helps prevent heatstroke and sunburn.

Eat Light Meals: Before leaving the house, opt for light, easy-to-digest meals. Avoid heavy or oily foods, as they can increase body heat.

Wear Appropriate Clothing: Dress in full-sleeved, loose-fitting clothes made from fabrics like cotton. This provides better protection against direct sunlight and helps to keep you cool.

Use Cooling Water Infusions: Prepare your drinking water with cooling ingredients like khus (vetiver), sariva (Indian sarsaparilla), jeera (cumin), and dhanyaka (coriander seeds). This can help reduce body heat.

Enjoy Sattu-based Refreshments: Consume sattu (a coarse powder made from roasted barley or Bengal gram) mixed with jaggery or rock salt for a cooling and refreshing treat.

Eat Cooling Snacks: Include foods like falsa (Indian blackberry), munakka (raisins), laja (parched paddy), and petha (candied ash gourd) in your diet for their cooling properties.

Apply Cooling Pastes: Use pastes made from aromatic medicinal plants like sandalwood and vetiver on your skin to help cool down during hot weather.

Include Hydrating Fruits and Vegetables: Consume fruits and vegetables that contain high water content, such as grapes, cucumber, watermelon, water chestnut, muskmelon, mango, and sugarcane juice. Bael sharbat is also an excellent option to beat the heat.

Drink Milk with Sugar: A simple way to stay hydrated and maintain energy is by drinking milk with added sugar.

Take a Midday Nap: Resting during the hottest part of the day can help reduce the risk of heat-related illnesses and keep your energy levels up. A short nap can be refreshing and beneficial in hot weather.

Ayurveda Practices to Combat Heatwave

Lemon-Flavored Refreshment (Nimbukaphala Panaka):

Ingredients:

Nimbukaphala svarasa (lemon juice): 1 part
Sharkarodaka (Sugar dissolved in Water): 6 parts
Lavanga (Clove) & Maricha (black pepper): as per requirement

Method of preparation: To 1 part of Nimbukaphala svarasa add 6 parts of Sharkarodaka (Sugar dissolved in Water) and mix well along with the powder of Lavanga (Clove) & Maricha (black pepper). It may be taken in the quantity of 50-100 ml /as per the requirement.

Raw Mango Refreshment (Amra Prapanaka)

Ingredients:

Unripe mango pulp: 1 part
Sharkarodaka (Sugar dissolved in Water): 6 parts
Maricha (black pepper): as per requirement

Method of preparation- Take 1 part of Unripe mango pulp, macerate it with the help of hands, and add 6 parts of Sharkarodaka (Sugar dissolved in Water), mix well along with the pinch of powder of Maricha (black pepper). The Amra prapanaka may be taken in the quantity of 50-100 ml as per the requirement.

Tamarind-Based Drink (Chincha Panaka)

Ingredients:

Pakva Chincha (ripened tamarind) pulp: 1 part
Water: 6 parts
Sita/Mishri (Candied Sugar): as per the requirement
Madhu (Honey): as per the requirement

Method of preparation: Soak 1 part of tamarind pulp in 6 parts of water & extract the juice. Add Sita/Mishri (Candied Sugar) & Madhu (Honey) as per the requirement. The Chincha panaka may be taken in the quantity of 25-50 ml as per the requirement.

Siddha Practices to Combat Heatwave

Nannari Flavoured refreshment (Nannari Paanagam):

Ingredients:

Indian Sarsaparilla syrup: 3 Table spoon
Lemon juice : 5ml
Soaked Basil seeds (Sabja Seeds):1 Tea spoon
Water : 1 cup

Method of Preparation: All the ingredients are mixed well and served.

Gooseberry infused Butter Milk (Nelli mor):

Ingredients:

Butter Milk : 300ml
Deseeded Indian gooseberry (Nellikai): 1 Part
Curry leaves (Karuvaepillai): 4
Ginger (Inji): ½ inch piece
Rock Salt (Indhuppu): as per requirement

Method of Preparation: Deseeded Indian gooseberry, Curry leaves and Ginger are grinded smoothly and mixed well with butter Milk with required rock Salt.

Yoga Practices to Combat Heatwave

Breathing Techniques to Stay Cool

- Pranayama techniques like Sheetalī is designed to cool the body through controlled breathing.
- These practices can be taught to both individuals and groups to help manage heat stress during extreme heat waves.

Yoga Asanas for Temperature Regulation

- Certain Yoga postures, such as those involving gentle stretching and relaxation (sukshma vyayam), can help maintain a lower body temperature.
- Practicing Yoga in a calm and cool environment enhances these effects.

(For learning of these Yoga and Pranayama techniques download the application on play store at https://play.google.com/store/apps/details?id=org.who.APPMYOGA&hl=en_IN&gl=US&pli=1)

Unani Practices to Combat Heatwave

- Drink decanted water of unripe mango (Zulāl-i Amba Khām) sweetened with sugar.
- Consume Pannā, a refreshing drink made with roasted unripe mango pulp, water, and sugar.
- Prepare a foot bath with leaves of Salix alba Linn. (Barg-i Bed Sāda), flowers of Ipomoea alba Linn. (Gul-i Chāndnī), flowers of Nymphaea lotus Linn. (Gul-i Nīlofar), wheat husk (Sabūs-i Gandum), and potassium nitrate (Shora Qalmī)
- Apply a paste of sticky substances such as mucilage of psyllium, quince fruit seeds, gum acacia, tragacanth, egg whites, and purslane seeds to the face on sunny days to protect the skin from sunburn.

Homoeopathy Practices to Combat Heatwave

- One dose (6 pills) of Glonoine 30C, could be taken as prophylactic medicine against heat wave related illnesses.
- The dose may be taken before going out in sun, especially during peak heat hours i.e. from 12.00 pm to 3.00 pm.

Traditional Food Items to Combat Heatwave

Coconut Water: Coconut water is rich in electrolytes, vitamins, and minerals, making it highly hydrating and refreshing. It is often used for rehydration and to cool the body.

Cucumber: With its high water content, cucumber is an excellent choice for hydration. It can be enjoyed raw, in salads, or juiced for a cooling effect.

Watermelon: Watermelon is a sweet and refreshing fruit with high water content, making it a perfect summer snack. It also contains vitamins, antioxidants, and electrolytes.

Lime: Lime has a cooling effect on the body and can be added to water for a zesty flavor or used to enhance the taste of dishes and beverages.

Musk Melon (Cantaloupe): This fruit is known for its high water content and sweet taste. It can be eaten on its own or included in fruit salads for a refreshing treat.

Ash Gourd (Winter Melon): Ash gourd is a cooling vegetable often used in Siddha recipes, particularly in soups. It has a high water content, contributing to hydration.

Tomatoes: Tomatoes are versatile and hydrating, whether eaten raw in salads or used in cooked dishes. They are also rich in vitamins and antioxidants.

Tender Coconut Flesh: Apart from coconut water, the flesh of tender coconut is a hydrating and nutritious snack. It can be added to smoothies, desserts, or enjoyed on its own.

DONT's

- Avoid going outside during the hottest hours of the day, typically between 12:00 noon and 3:00 pm, when the sun is at its strongest.
- If you must be outside in the afternoon, avoid strenuous activities to prevent overheating and dehydration.
- Do not go outside barefoot to avoid burning your feet on hot surfaces.
- Avoid cooking during the hottest parts of the day. If you must cook, ensure proper ventilation by opening doors and windows to let in fresh air.
- Reduce or avoid alcohol, tea, coffee, and carbonated drinks with high sugar content. These can lead to increased fluid loss or cause stomach cramps.
- Never leave children or pets in a parked vehicle, even for a short time. The temperature inside can rise rapidly to dangerous levels.