

# BEAT THE HEAT

Frequently Asked Questions

## What is a heat wave?

A heat wave is a period of abnormally hot weather generally lasting more than two days. Heat waves can occur with or without high humidity. They have the potential to cover a large area, exposing a high number of people to hazardous heat.

## What are the temperatures in a heatwave?

A heatwave in Malta is defined as a spell of three or more consecutive days with daytime highs exceeding the mean temperature of the month by 5°C or more. This means that the daily maximum temperature during a heatwave is significantly higher than the average maximum temperature for that month. In some cases, a heatwave may last for a week or more, with temperatures reaching 37°C or higher.

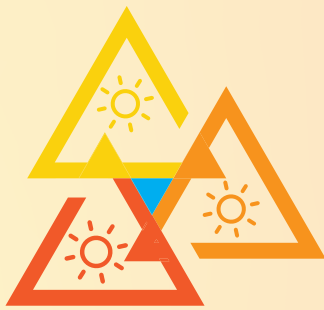
Heatwave colour codes	Temperature levels
Yellow	Heatwave predicted in the next few days - <b>temperature more than 33°C but less than 36°C</b>
Amber	Heatwave warning issued by Met Office - <b>temperature equals or more than 36°C but less than 40°C</b>
Red	Heatwave and extreme temperature warning issued by Met Office - <b>temperature equals 40°C or more</b>

Table 1: Temperature-based explanation of Heatwave Colour Codes.

**Yellow:** This code represents a 'watch and stay updated' situation. High temperatures are expected over the next few days.

**Amber:** This code indicates an increased likelihood of impacts from weather. There is a higher chance of interruption to power, and potential risk to life. People should follow the advice of the Health Authorities.

**Red:** This code represents a 'take action' situation. Extreme heat is expected, and people should take action now to keep themselves and others safe. Widespread power disruption and risk of adverse health effects and risk to life are possible. People must avoid going out when possible, take precautions (listed below) and follow the advice of the Health Authorities.



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## Who is most at risk during a heatwave?

### Vulnerable groups of people include:

- **Those living in poor housing and with low income.**
- **Pregnant persons**

Pregnant persons are more susceptible to the effects of heat due to physiological changes during pregnancy that can impact their ability to regulate body temperature effectively. When exposed to extreme heat, pregnant persons may experience challenges in dissipating internal heat, leading to an increase in core body temperature. This temperature rise can potentially result in adverse outcomes for both the mother and the foetus, including dehydration, which impairs the body's cooling mechanisms like sweating.

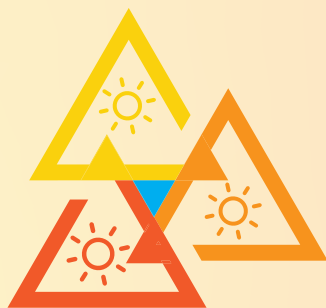
- **Infants and children up to four years of age**

Infants and young children have a higher metabolism and kidneys that are not fully mature, which can lead to dehydration more quickly, increasing their risk of heat-related illnesses when exposed to extreme heat. Additionally, infants have more sensitive skin, making them prone to sunburns, which can exacerbate heat-related issues. Unlike adults, infants cannot sweat effectively, and this impairs their ability to regulate body temperature, making them more susceptible to heat-related illnesses such as heat stroke.

- **Older adults (over 65 years old)**

Older adults aged 65 and above are more exposed to heat effects due to physiological changes that reduce their ability to regulate body temperature, pre-existing chronic health conditions that can be exacerbated by heat stress, medications that affect temperature regulation, cognitive decline impacting awareness of heat-related risks, and socioeconomic factors like limited access to cooling facilities.

- **Overweight people**
- **People with chronic diseases** such as heart failure, renal failure, diabetes, and mental health disorders.
- **People living in heavily built environments.** The urban environment in Malta, especially in the presence of concrete and the lack of mature trees, means that the temperature is often higher than in small villages.
- **Outdoor workers.** Due to constant exposure to heat.
- **People who take certain medications** such as certain types of antipsychotics and antihypertensives (N.B. never stop or change medications without consulting your doctor).
  - **Antipsychotics** can change your regulation of heat, your ability to sense that you're too hot and your ability to sweat.
  - **Antihypertensives** like diuretics cause more water to be lost, which increases a person's susceptibility to the effects of heat.



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## What do I do if I need to talk to a Healthcare Professional about heat-related symptoms or medical concerns?

To speak with a doctor you can call the 24/7 Telemedicine Client Support Centre at 21231 231 or 21222 444

## What are the health risks associated with heatwaves?

Heatwaves can pose various health risks, including dehydration, heat exhaustion, and heatstroke. Vulnerable populations listed above are particularly at risk.

Very high body temperatures may damage the brain or other vital organs. Several factors affect the body's ability to cool itself during extremely hot weather. When the humidity is high, sweat will not evaporate as quickly, preventing the body from releasing heat quickly. Other conditions that can limit the ability to regulate temperature include old age, very young age (age 0-4), obesity, fever, dehydration, heart disease, mental disorders, poor circulation, sunburn, some types of prescription drugs and alcohol use.

### Dehydration

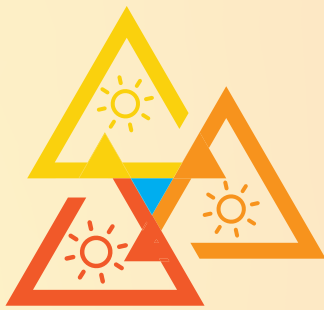
Dehydration occurs when the body loses more fluids than it takes in.

**Symptoms:** dark concentrated urine, dizziness, dry mouth, fatigue, and the heart beats faster

#### How to manage it:

- Rehydration is essential, and individuals should drink water regularly even if not thirsty, especially in hot weather or when engaging in physical activities.





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## Heat rash

Heat rash is a skin irritation caused by excessive sweating during hot, humid weather. It can occur at any age but is most common in young children.

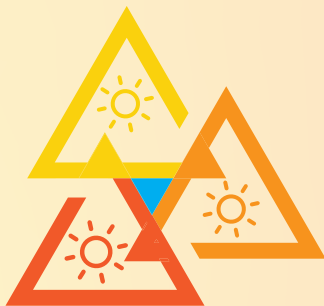
**Symptoms:** Heat rash looks like a red cluster of pimples or small blisters. It is more likely to occur on the neck and upper chest, in the groin, under the breasts, and in elbow creases.

### How to manage it:

- **Maintain a cool skin environment to prevent further sweating and aggravation of the rash:**
  - Opt for loose-fitting cotton garments.
  - Choose light bedding.
  - Take cool baths or showers
  - Drink ample fluids to stay hydrated.
- **To alleviate itching or prickliness:**
  - Apply a cold compress, like a chilled cloth or ice pack enveloped in a towel, for a maximum of 20 minutes at a time.
  - Gently tap or pat the rash rather than scratching.
  - Avoid scented bath products and lotions.
- **Medical assistance for heat rash:**
  - Consult with your family doctor or pharmacist regarding heat rash for advice and appropriate treatment options.



Figure 2: Heat Rash



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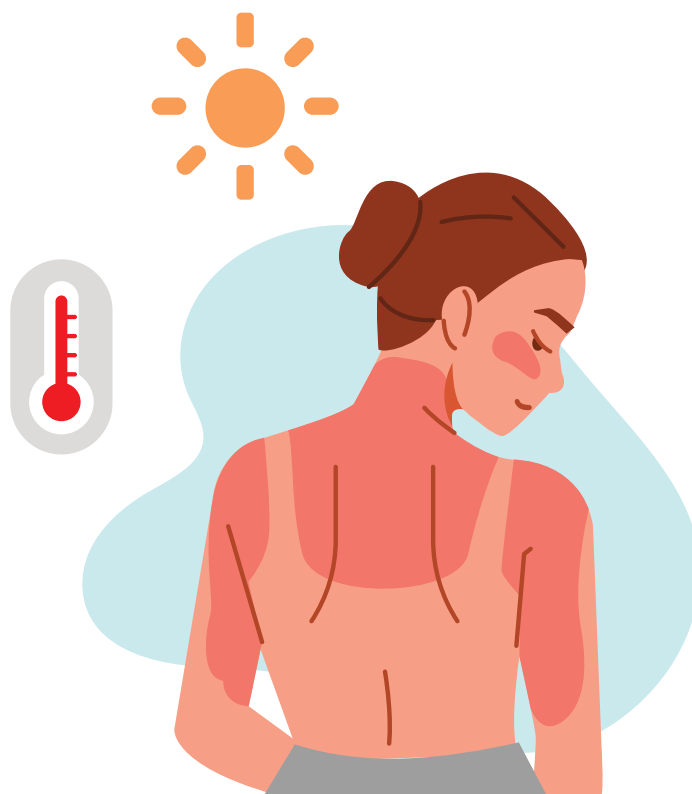
Frequently Asked Questions

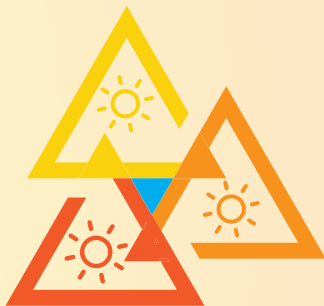
## Sunburn

A sunburn is a form of skin damage caused by excessive exposure to ultraviolet (UV) rays from the sun. It results in the reddening and inflammation of the skin, which can vary in severity.

### Symptoms:

- **Redness and discoloration:** The affected skin appears red or redder than usual, and can feel warm or hot to the touch.
- **Pain and tenderness:** The sunburned area is often painful, sensitive, or tender.
- **Swelling:** Some people may experience swelling in the affected areas.
- **Blistering:** In severe cases, small to large blisters can form, which may break and cause further pain and risk of infection.
- **Peeling:** A few days following the burn, the affected skin may start to peel and itch as the body tries to rid itself of damaged cells.
- **General fatigue and malaise:** Particularly with severe sunburns, individuals might experience headaches, fever, nausea, or fatigue.





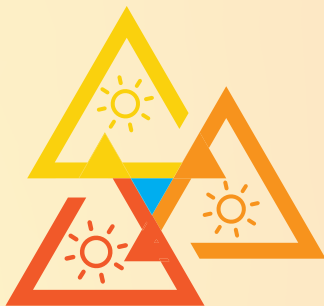
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## How to manage it:

- **Cool the skin:** Apply cool compresses to the sunburned areas or take a cool bath.
- **Hydrate:** Drinking plenty of water helps to rehydrate the skin and body, as sunburn can cause fluid loss through the skin.
- **Moisturise:** After cooling the skin, use aloe vera or a soothing moisturiser (consult with your doctor or pharmacist) to help alleviate the discomfort and keep the skin moist.
- **Protect the skin:** Keep the sunburned areas covered to protect from further UV exposure. Avoid further sun exposure: Stay out of the sun until the sunburn heals to prevent further damage.
- **Consult with your doctor or pharmacist for pain relief medication.**
- **Monitor for severe symptoms:** In cases of extensive burns, severe pain, dehydration, fever, or blistering, seek medical attention.





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## Heat Cramps

Heat cramps may be the first sign of heat-related illness and may lead to heat exhaustion or stroke. People who sweat a lot during strenuous activity are prone to heat cramps. This sweating depletes the body's salt and moisture. The low salt level in the muscles causes painful cramps. Heat cramps may also be a symptom of heat exhaustion. If you have heart problems seek medical attention for heat cramps. If muscle pain ensues, muscle breakdown, also known as rhabdomyolysis, may occur. This results in muscle pain, dark urine or reduced urine output and weakness. Rhabdomyolysis is often a complication of heat exhaustion and heat stroke.

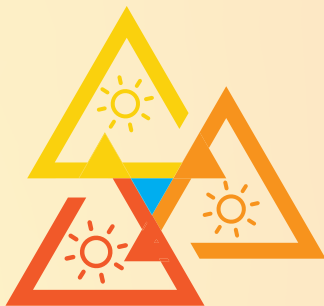
### Symptoms:

Painful muscle cramps and spasms, usually in the legs and abdomen are associated with heavy sweating which can occur at rest or with strenuous activity.

### How to manage it: if medical attention is not necessary, take the following steps:

- Stop all activity and sit quietly in a cool shaded place.
- Apply firm pressure on cramping muscles or gently massage to relieve spasms.
- Drink water.
- Do not return to strenuous activity for a few hours after the cramps subside because further exertion may lead to heat exhaustion or heat stroke.
- Seek medical attention for heat cramps if they do not subside in 1 hour.





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## Heat Exhaustion

Heat exhaustion occurs when the body loses a large amount of water and salt, typically due to heavy sweating. If heat exhaustion is untreated, it may progress to heat stroke. Seek medical attention immediately by calling 21231231 and if symptoms worsen or last longer than 30 minutes call 112.

### Symptoms:

Temperature may be normal or elevated (but not usually  $>40^{\circ}\text{C}$ ), heavy sweating, weakness or tiredness, cool, pale and clammy skin, the heart beats fast, muscle cramps, dizziness, nausea or vomiting, headache, fainting.

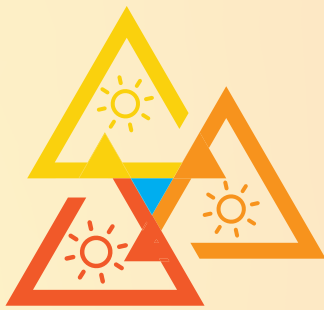
### How to manage it:

#### • Give First Aid:

- Move the person to a cooler environment, preferably a well-air-conditioned room.
- Loosen clothing.
- Apply cool, wet cloths, or have the person sit in a cool bath (not if dizzy or with altered level of consciousness).
- Place the person in a cool shower (do not do this if the person is dizzy); spray the person gently with cool water; sponge the person with cool water and use a fan/air-conditioning. Placing ice packs in axilla and/or groin is also helpful.
- Offer sips of water. **N.B. Any patient with an altered level of consciousness should not be given fluids to drink since this can lead to aspiration (the accidental breathing in of food or fluid into the lungs) .**
- Seek immediate medical attention if the person vomits, symptoms worsen or last longer than 30 minutes.







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## Heat Stroke

Heat stroke is the most severe form of heat-related illness. It happens when the body loses the ability to regulate its temperature, leading to a swift increase in body heat. As the sweating mechanism shuts down, the body cannot cool itself, exacerbating the condition.

### Symptoms:

Elevated core body temperature  $>40^{\circ}\text{C}$  ( $104^{\circ}\text{F}$ ) and altered mental status (inappropriate behaviour, confusion, seizures, decreased consciousness, coma), throbbing headache, nausea, dizziness, hot, red, dry or damp skin, fainting, loss of consciousness.

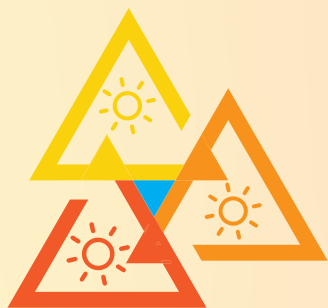
### How to manage it:

- **Call 112 or get the victim to a hospital immediately.** Heat stroke is a severe medical emergency. Delay can be fatal.
- Move the victim to a cooler, preferably air-conditioned environment.
- Reduce body temperature with cool clothes. Apply cool, wet cloths, spray the person gently with cool water; sponge the person with cool water and use fan/air-conditioning. Ice packs in the axilla and/or groin are also helpful.
- Do NOT give fluids.

### What other complications can arise from extreme heat?

- Low quality sleep
- Acute kidney injury
- Complications with pregnancy, for example low birth weight baby and pre-term birth.
- It may cause the deterioration of pre-existing cardiovascular and respiratory diseases.
- An increase in the incidence of chronic kidney disease (CKD) has also been linked to heat waves.



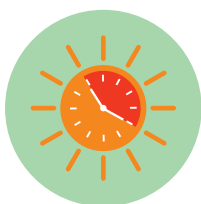
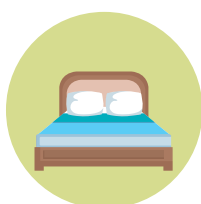


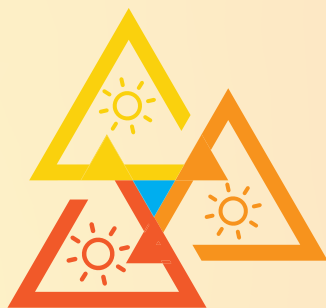
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## How can I stay cool during a heatwave?

- The peak hours of heat can vary, but generally, they occur during the middle of the day, around 11:00 AM to 4:00 PM.
- Avoid direct sunlight during peak hours.
- Stay hydrated by drinking plenty of water. Please consult with your doctor if you suffer from heart or kidney failure. Drink regularly but avoid alcohol, caffeine and sugary drinks.
- Seek shade.
- Wear lightweight and light-coloured, loose-fitting clothing of natural materials such as cotton.
- Avoid strenuous activities during peak heat hours.
- Take cool showers or baths.
- Use cold packs and wrap towels, sponging, and foot baths to keep cool.
- If you go outside, wear a wide-brimmed hat or cap and sunglasses.
- If you must go outdoors, be sure to apply sunscreen 30 minutes prior to going out and continue to reapply according to the package directions. Sunburn affects your body's ability to cool itself and causes loss of body fluids. It also causes pain and damages the skin.
- Use light bed linen and sheets, and no cushions, to avoid heat accumulation.
- Eat small, light meals, frequently.
- Avoid foods that are high in protein or spicy food.



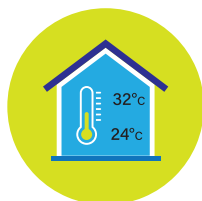
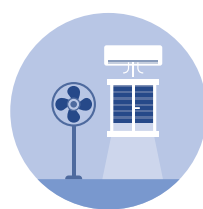


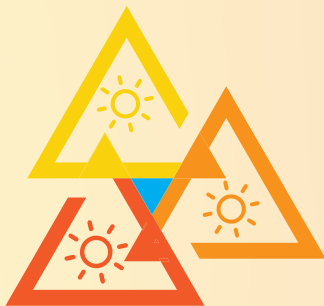
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## How to keep the house cool?

- Prepare no-cook or minimal-cook meals with fresh ingredients that have high water content like fruits and vegetables.
- Use air conditioning and regularly service air-conditioning units to keep them working well.
- Keep your living space cool.
- Ideally, the room temperature should be kept below 32°C during the day and 24°C during the night. This is especially important for infants or adults over the age of 60 or who have chronic health conditions.
- At night and early morning when the outside temperature is lower, open all the windows and shutters in your home. During the day, close the windows and shutters or curtains (if available), especially those facing the sun during the day.
- Turn off artificial lighting and as many electrical devices as possible, such as ovens. Never turn off your fridge or freezer.
- If your residence is air conditioned, close the doors and windows, so that the cool air is not lost. This will save and conserve electricity not needed to keep you cool. It also helps to ensure that power remains available and reduces the chance of a community-wide outage.
- Electric fans may provide relief, but when the temperature is above 35°C, they may not prevent heat-related illness.





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## Why is it important to stay hydrated in hot weather?

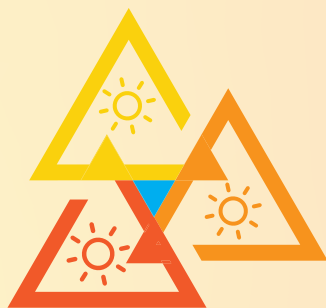
Staying hydrated in hot weather is crucial to decrease the risk of dehydration and heat-related illness. When it's hot, your body loses more water through sweating, which can lead to dehydration if not replenished adequately. Dehydration impairs bodily functions like regulating temperature, digestion, and moving oxygen throughout the body.

Additionally, staying hydrated in hot weather helps regulate body temperature, prevents heat stroke, and supports overall health and well-being. One can also drink oral rehydration supplements.

**Regardless of your activity level, during hot weather you will need to increase your fluid intake.**

Don't wait until you are thirsty to drink. The amount of water intake may vary depending on factors like the duration of sun exposure and physical activity levels, but generally, consuming approximately three litres of water daily is advised to combat dehydration and maintain proper hydration levels in hot weather. If you suffer from heart failure or renal failure, always consult with your doctor regarding the amount of fluid intake during hot weather.





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## Can certain medications increase sensitivity to heat?

The risk for heat-related illness and death may increase among people using the following drugs:

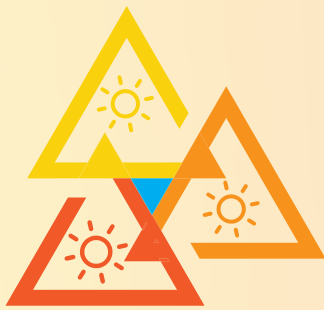
1. Psychotropics - medications used for certain mental health conditions.
2. Medications used for Parkinson's disease.
3. Tranquillisers such as phenothiazines, butyrophenones, and thioxanthenes; and
4. Diuretic medications or "water pills" that affect fluid balance in the body.

It's essential to check with a healthcare professional about any potential side effects your medications might have and take precautions during hot weather. Never change or stop any medications without consulting your doctor.

## Should I take salt tablets during hot weather?

Do not take salt tablets unless directed by your doctor. Heavy sweating removes salt and minerals from the body. These are necessary for your body and must be replaced. The easiest and safest way to do this is through your diet. Drink infused water when you exercise or work in the heat.





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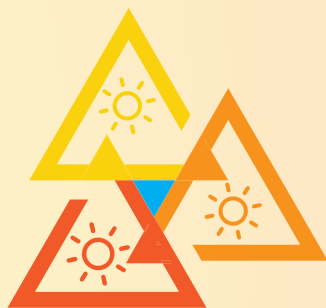
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## How can I protect my children during a heatwave?

To protect children during a heatwave, it is essential to take several precautions to ensure their safety and well-being. Here are some key tips:

- **Keep them hydrated:**  
Encourage children to drink water frequently and have it readily available, even before they ask for it.
- **Keep them cool:**  
Stay in the shade, when possible, keep children hydrated with water, fruits, and vegetables, and have them wear breathable clothing and a wide-brimmed hat. Take breaks in cool places and never leave a child unsupervised in a car, regardless of the temperature.
- **Avoid outdoor activities during peak heat hours**  
Be attentive to outdoor activities scheduled for children, especially on hot days. Ensure there is a shaded area for cooling down during breaks and provide plenty of water. Consider rescheduling activities if the weather is too hot.  
Avoid going out during the hottest parts of the day between 11 AM-4 PM. Apply sunscreen with high SPF 30 minutes prior to going out and continue to reapply according to the package directions. Use sunglasses to protect against harmful UV rays.
- **Recognize Signs of Distress:**  
Watch out for signs of heat-related illness in children, such as excessive sweating, dizziness, extreme thirst, headache and nausea, and behavioural changes. Taking these precautions and monitoring for distress signals will help prevent heat-related issues.
- **Cooling Measures:**  
When children feel hot, move them to a shaded area if outdoors but preferably move them to an airconditioned area indoors. Offer them refreshing fluids such as water or infused water, a cool bath, water mist, or swimming to cool down. Supervise them while swimming or in a cool bath to prevent accidents.





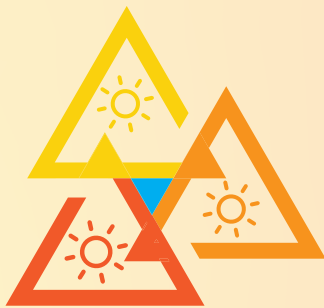
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## How can we protect vulnerable relatives, neighbours, and friends like the elderly during a heatwave?

- **Ensure Proper Hydration:**  
Encourage elderly relatives to drink plenty of water and keep it easily accessible. The thirst mechanism may not work as effectively in older individuals, so they may need reminders to stay hydrated.
- **Maintain Cool Environments:**  
Ensure that air conditioning and fans are used during hot months to help older adults stay cool. If they are unable to leave their homes to cool down, make sure they have access to cooling methods within their living spaces. Fans do not help in cooling above a temperature of 35°C. Ensure adequate maintenance and upkeep of air conditioning units before summer sets in. Ensure that these individuals remain in the coolest part of the house during the day and that they ventilate their house at night.
- **Regular Communication:**  
Stay in regular contact with elderly and vulnerable people, especially if you do not live in the same area. Monitor their well-being by checking on them daily and ensuring they are coping well with the heat.
- **Medication Considerations:**  
Be aware that certain medications can increase sensitivity to the heat, making older adults more prone to heat-related issues. Consult with healthcare providers about any necessary precautions for medication-related risks.





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## How can I protect my pets during a heatwave?

- **Provide Fresh Water:**  
Ensure your pets have access to fresh, cool water at all times in a tip-proof bowl to prevent dehydration.
- **Limit Exercise:**  
Avoid forcing animals to exercise in hot and humid conditions. Instead, walk them during the cooler hours of the day and limit outdoor activities on hot days. Avoid exercising them during the hottest parts of the day from 11 AM - 4 PM.
- **Protect Paws:**  
Walk your pets in the grass or shade to prevent their paws from burning on hot surfaces like asphalt. If surfaces are too hot, wet them with water before letting your pets walk on them. **DO THE TARMAC TEST!** If you can't comfortably hold your hand on the tarmac for five seconds, then postpone your walk until it's cooler.
- **Avoid Overheating:**  
Never leave your pet in a hot vehicle, even for a few minutes, as temperatures inside a car can quickly become dangerously high. Provide different temperature zones within your house for your pet's comfort.  
Give your pet damp towels to lie on (never place a damp towel over your dog as this can trap the heat or leave an ice pack wrapped in a towel for them to lie near).
- **Recognize Signs of Heat Stress:**  
Be vigilant for signs of heat-related illness in pets, such as excessive panting, restlessness, drooling, unsteadiness, and abnormal gum and tongue colour. Seek emergency veterinary care if you observe these signs. Take care - flat-faced, overweight, unwell and older dogs are at an increased risk of heatstroke.







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## Are there specific foods that can help regulate body temperature in hot weather?

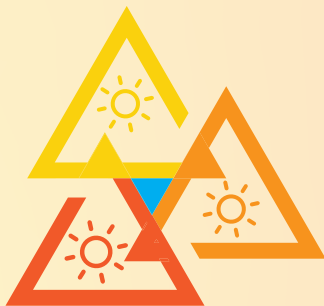
Foods with high water content, namely fruits and vegetables such as watermelon and cucumber, can contribute to hydration. Additionally, light and easily digestible meals including salads are recommended during the hot weather.

**For example, tomato and olives bruschetta, watermelon and feta salad, potato and tuna salad, Mediterranean bulgur salad, grilled vegetables and barley salad, as well as tuna ftira salad.**

## What precautions should I take when exercising in the heat?

- Exercise during the cooler parts of the day such as early morning or late evening to avoid exercising during peak heat hours.
- One can participate in activities that are more tolerable in the heat, such as swimming, water aerobics, or indoor activities like yoga, Pilates, or gym workouts. These exercises will reduce the risk of hyperthermia (increased body temperature) and dehydration.
- Stay hydrated before, during, and after physical activity. Carry a water bottle and take regular sips to prevent dehydration.
- Wear lightweight, loose-fitting, and light-coloured clothing which allows the body to breathe and sweat to evaporate, thus helping in cooling down the body.
- Apply sunscreen with a high SPF, wear hats, and use sunglasses to protect against harmful UV rays.
- Encourage a gradual increase in the intensity and duration of physical activities to allow the body to adapt to the heat.
- Pay attention to the body's signals. If you feel dizzy, nauseous, or overly fatigued, you should stop the activity and seek a cooler environment.
- Use shaded paths for walking or running. Indoor activities in air-conditioned venues can also be a good alternative.
- Stay informed about weather conditions. Check the weather forecast to plan physical activities accordingly. Avoid the hottest parts of the day.
- Group exercises, whether in-person or virtual, can provide motivation and a sense of community, encouraging regular participation.
- Set achievable and realistic fitness goals for the summer months, considering the challenges posed by the heat.
- Take regular breaks during exercise to rest and hydrate, especially during high-intensity activities or longer sessions.





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## What should I do if I work in a hot environment?

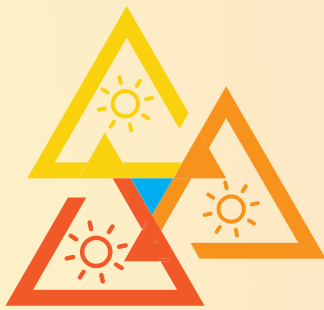
Pace yourself. If working in the heat makes your heart pound and leaves you gasping for breath, **STOP** all activity. **Get into a cool area or at least in the shade, and rest, especially if you become lightheaded, confused, weak, or faint.**

Several heat-related illnesses can affect workers. Some of the symptoms are non-specific as described in section 5. This means that when a worker is performing physical labour in a warm environment, any unusual symptom can be a sign of overheating.

**Employers and workers should become familiar with the heat symptoms.** When any of these symptoms are present, promptly provide first aid. Do not try to diagnose which illness is occurring. Diagnosis is often difficult because symptoms of multiple heat-related illnesses can occur together. Time is of the essence. These conditions can worsen quickly and result in fatalities.

**When in doubt, cool the worker and call 112.**





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## First aid for heat-related illness:

- Take the affected worker to a cooler area (e.g., shade or preferably air conditioned room).
- **Cool the worker immediately. Use active cooling techniques such as:**
  - Apply cool, wet cloths, or have the person sit in a cool bath (not if dizzy or with an altered level of consciousness).
  - Place the person in a cool shower (do not do this if the person is dizzy); spray the person gently with cool water; sponge the person with cool water and use a fan/air-conditioning.
  - Remove outer layers of clothing, especially heavy protective clothing.
  - Place ice or cold wet towels on the head, neck, trunk, armpits, and groin.
  - Use fans to circulate air around the worker and a wet towel around his/her neck.
- Never leave a worker with heat-related illness alone. The illness can rapidly become worse. Stay with the worker.

**Confusion, slurred speech, or unconsciousness are signs of heat stroke. When these types of symptoms are present, call 112 immediately and cool the worker with ice or cold water until help arrives.**

