



Race Director Fact Sheet Number 16:

Medical Advice - Hot Weather

Warm or Hot Weather

While the United Kingdom and Ireland are not famed for their seasonally high temperatures, it is a regular occurrence that it will be warmer than 20°C with intermittent highs over 25°C being recorded.

Regardless of a person's activity level, high temperatures can have an impact on health – and for those taking part in sport (particularly endurance sport) this can be an issue.

Accordingly, UK Athletics (UKA), has devised a recommended hot weather action plan to minimise the risk to all participants, spectators, event staff and volunteers on site.

This action plan should be sanctioned and activated by the event medical team and event organisers if the long-range forecast (1 week) is of any concern. If the plan is implemented, it should be done with the aid of the event medical provider.

The following information on heatwaves and the consequences of warm weather has been taken and edited from the [NHS choices webpages](#).

Heat wave

An average temperature of 30°C by day and 15°C overnight would trigger a health alert within the UK.

The Meteorological Office has a warning system that issues alerts if a heat wave is likely. Level one is the minimum alert and is in place from June 1 until September 15 (which is the period that heat wave alerts are likely to be raised).

Why is a heat wave a problem?

The main risks posed by a heatwave are:

- Dehydration (not having enough water within the body)
- Overheating, which can make symptoms worse for people who already have problems with their heart or breathing.
- Heat exhaustion or heat stroke

Who is most at risk?

Hot weather can affect anyone, but the most vulnerable people in extreme heat are:

- older people, especially those over 75
- babies and young children
- people with a serious chronic condition, especially heart or breathing problems.
- people with mobility problems, for example people with Parkinson's disease or who have had a stroke.
- people with serious mental health problems

- people on certain medications, including those that affect sweating and temperature control.
- people who misuse alcohol or drugs
- people who are physically active, for example those doing sports.

Dehydration

Dehydration occurs when the body loses more fluid than it takes in. When the normal water content of the body is reduced, it upsets the balance of minerals (salts and sugar) in the body, which affects the way that it functions.

Water makes up over two-thirds of the healthy human body. It lubricates the joints and eyes, aids digestion, flushes out waste and toxins and keeps the skin healthy.

Some of the early warning signs of dehydration include:

- feeling thirsty and lightheaded
- having dark coloured, strong-smelling urine
- passing urine less often than usual

Dehydration is usually caused by not drinking enough fluid or by fluid that is lost and not replaced. The climate, the amount of physical exercise being done and diet can also contribute to dehydration.

Dehydration can also occur because of illness, such as persistent vomiting and diarrhoea or sweating from a fever or exercising in hot conditions.

Heat Exhaustion

Heat exhaustion is where a person experiences fatigue (extreme tiredness) because of a decrease in blood pressure and blood volume. It is caused by a loss of body fluids and salts after being exposed to heat for a prolonged period of time.

Someone with heat exhaustion may feel sick, faint, and sweat heavily.

If a person with heat exhaustion is quickly taken to a cool place and is given water to drink, and if excess clothing is removed, they should start to feel better within half an hour and have no long-term complications.

However, without treatment, they could develop heatstroke (see below). Certain groups are more at risk of developing heatstroke or suffering complications from dehydration and should be taken to hospital. These include:

- children under two years of age
- very elderly people
- people with kidney, heart, or circulation problems
- people with diabetes who use insulin.

Heatstroke

Heatstroke is a more serious condition than heat exhaustion. It occurs when the body's temperature becomes dangerously high due to excessive heat exposure. The body is no longer able to cool itself and starts to overheat.

Signs of heatstroke include dry skin, vertigo, confusion, headache, thirst, nausea, rapid shallow breathing (hyperventilation) and muscle cramps.

Suspected heatstroke should always be regarded as a medical emergency.

- Immediately move the person to a cool area
- Increase ventilation by opening windows or using a fan
- Give water to drink (if the patient is conscious) but don't give them any medication
- Shower their skin with cool but not cold water (15-18°C). Alternatively cover their body with cool, damp towels or sheets, or immerse them in cool (not cold) water

Left untreated, heatstroke can lead to complications, such as brain damage and organ failure. It's also possible to die from heatstroke.

EA Recommendations:

One week before the event is due to take place, the event/race director and the medical provider should review at the long-range forecast from a number of reputable weather forecasting websites. This process should be repeated daily up until the day of the event.

Looking at the real feel temperature on these websites rather than the air temperature will give a more realistic prediction of what the athletes (and those involved in managing the event), will feel on event day. It should be remembered that warm/hot weather will not only affect the participants, but also stewards, volunteers, medical team members etc.

If the Met Office has issued warnings regarding the temperature then the organisers should pay particular attention to those warnings and cancellation, postponement or alternatives to the event distance or timings should be considered.

If the long-range forecast (1 week or less) is of concern regarding the potential to cause dehydration, heat exhaustion or heat stroke then the following actions are recommended.

- 1) Emails sent out to all participants and information posted on the event website / social media (in advance of event day), warning of the expected hot weather, and advising people of the following:
 - To dress appropriately for the weather
 - To drink to thirst
 - To keep in the shade where possible
 - To ask for medical help if they feel unwell.
 - To not take part if they have been unwell recently.
- 2) Ensure that additional supplies of water are available on site for distribution.
- 3) Cooling fans for use at all static medical posts.

- 4) Plentiful supplies of ice to cool drinks and externally cooling collapsed casualties. This should be provided along with buckets, towels, and sandwich bags within Medical Tents / areas to aid cooling.
- 5) All mobile resources to carry ice/water to cool participants as/when required.
- 6) Medical team should consider performing rectal temperatures (rather than any other form of temperature measurements), on any collapsed patients, and to initiate cooling with ice and cold wet towels in anyone with a rectal temperature of 39.0 degrees or above (or 38.0 and unconscious). These temperatures will require checking every 15 minutes until normal, or arrival at hospital (if required).
- 7) Consider reducing the intensity of the pre- start warm up to more of a "stretch" based warm up rather than a cardiovascular warm up.
- 8) Look at the feasibility of adding misting stations along the course route.
- 9) Consider reducing the course distance, re-routing the course through more shaded areas where possible, or starting the event at a cooler time if possible.
- 10) Preplan potential course cuts to implement if the number of casualties becomes overwhelming to the medical team/local NHS services.
- 11) Volunteers positioned at the finish should be well briefed to encourage participants to go and cool off in the shade upon completion of the race. They should also be advised to shade any casualties (who cannot move) on the course until medical support arrives.
- 12) In the case of extreme warm weather predictions (heatwave), the event shall ensure adequate shelter from the sun is provided in the start area for both spectators and participants.
- 13) During the event, the medical provider shall monitor the temperature hourly using a wet bulb globe thermometer and update the event team on the results and casualty figures whenever possible. Note: Wet bulb globes can be purchased freely on the internet from a number of sources.
- 14) For every rise in the predicted real feel temperature above 25.0, an increase of first aiders should be considered.
- 15) For predicted temperatures of 28.0 and above an additional blue light capable ambulance should be added to the medical provision.
- 16) Add an additional paramedic to the medical provision if the temperature is over 28.0(real feel), and by 2 if the temperature is over 30.0C(real feel).