CRICKET AUSTRALIA

Cricket Australia Extreme Heat Guidelines

This document is to be used as a guide only and will assist in the management of issues related to conditions of extreme heat during the delivery of cricket matches and related promotional activities. It should not be used as a substitute for professional advice and does not cater for individual circumstances. In the event of a heat stress-related medical emergency, seek immediate professional medical help or call 000.

Background

As a predominantly outdoor and summer sport, cricket and cricket players are often exposed to extreme weather conditions. As such, heat stress/illness is a very real risk that needs to be guarded against in conditions of extreme heat and humidity.

Whilst the overall risk of heat stress in cricket is relatively low, the physiological differences between children and adults places children at a greater risk of suffering from the effects heat stress.

Cricket Australia has a responsibility to ensure the health, safety and wellbeing of all staff, players, officials, volunteers and spectators at any Cricket Australia-managed event. Standard procedures are in place for normal summer conditions, such as drinks breaks, adequate provision of water, first aid services at venues and the promotion of Sunsmart policies. However in the event of extreme heat Cricket Australia may take further (yet proportionate) steps to minimise foreseeable risks which may result in injury or damage.

1. Temperature Readings and Regional Considerations

Due to the variety of activities undertaken in cricket and in individuals' heat tolerance, appointing a specific temperature at which to suspend play or promotional activities in all circumstances is difficult, restrictive and potentially counterproductive.

Ultimately, the event organiser/director and/or tournament referee/director (individually and collectively referred to hereinafter as "Decision Makers") is/are responsible for monitoring the weather forecast prior to the event using both the ambient temperature readings as well as the Wet Bulb Globe Temperature (WBGT) (see below) index available from the Bureau of Meteorology. Decision Makers, leveraging the expertise of medical, OHS and/or risk professionals should determine the appropriate course of action with regards to managing issues related to the delivery of cricket matches and related promotional activities in the event of extreme heat. This must involve consulting with staff from Cricket Australia's international cricket events, commercial sponsorship, event presentation, game & market development and risk management teams, state and territory cricket association representatives and with other stakeholders as relevant. Ultimately however, decision-making responsibility rests with the relevant Decision Maker as outlined above.

Decision Makers must be mindful of regional considerations with regards to 'blanket rules', even with regard to the guiding temperature readings referred to in this document. For example, players (including underage cricketers) in Perth may be better equipped to deal with ambient temperatures of 35° than those in Hobart. Therefore, lower temperature thresholds may need to be set for regions not so accustomed to extreme weather conditions.

Wet Bulb Globe Temperature
Ambient air temperature is not the only factor affecting our level comfort when involved in sport, and the WBGT index takes in account the effects of wind, humidity and sunshine (as well as the ambient temperature) to generate a more realistic assessment of thermal (heat) stress.

The Bureau of Meteorology produces WBGT readings for many locations around Australia. These can be found on the following webpage, with readings for each state available at the relevant link in the middle of the page: www.bom.gov.au/info/thermal_stress/index.shtml.

Alternatively, an approximate guide to the WBGT index is available in the following table, using ambient temperature and relative humidity. Ambient temperature and relative humidity are available on a number of websites and smartphone apps for iPhone and Android devices.

Wet Bulb Globe Temperature (WBGT) from Temperature and Relative Humidity

Relative Humidity (%) \ Temperature (°C)	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
0	15	16	16	17	18	18	19	19	20	20	21	22	22	23	23	24	24	25	25	26	27	27	28	28	29	29	30	31	31	32	32
5	16	16	17	18	18	19	19	20	21	21	22	22	23	24	24	25	26	26	27	27	28	29	29	30	31	31	32	33	33	34	35
10	16	17	17	18	19	19	20	21	21	22	23	23	24	25	25	26	27	27	28	29	30	30	31	32	32	33	34	35	36	36	37
15	17	17	18	19	19	20	21	21	22	23	23	24	25	26	26	27	28	29	29	30	31	32	33	33	34	35	36	37	38	39	
20	17	18	18	19	20	21	21	22	23	24	24	25	26	27	27	28	29	30	31	32	32	33	34	35	36	37	38	39			
25	18	18	19	20	20	21	22	23	24	24	25	26	27	28	28	29	30	31	32	33	34	35	36	37	38	39					
30	18	19	20	20	21	22	23	23	24	25	26	27	28	29	29	30	31	32	33	34	35	36	37	39							
35	18	19	20	21	22	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39								
40	19	20	21	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39									
45	19	20	21	22	23	24	25	26	27	27	28	29	30	32	33	34	35	36	37	38											
50	20	21	22	23	23	24	25	26	27	28	29	30	31	33	34	35	36	37	39												
55	20	21	22	23	24	25	26	27	28	29	30	31	32	34	35	36	37	38													
60	21	22	23	24	25	26	27	28	29	30	31	32	33	35	36	37	38														
65	21	22	23	24	25	26	27	28	29	31	32	33	34	36	37	38															
70	22	23	24	25	26	27	28	29	30	31	33	34	35	36	38	39															
75	22	23	24	25	26	27	29	30	31	32	33	35	36	37	39																
80	23	24	25	26	27	28	29	30	32	33	34	36	37	38																	
85	23	24	25	26	28	29	30	31	32	34	35	37	38	39																	
90	24	25	26	27	28	29	31	32	33	35	36	37	39																		
95	24	25	26	27	29	30	31	33	34	35	37	38																			
100	24	26	27	28	29	31	32	33	35	36	38	39																			

WBGT > 40

Note: This table is compiled from an approximate formula which only depends on temperature and humidity. The formula is valid for full sunshine and a light wind

If an **ambient temperature of 36° and above or a WBGT rating of 28 and above** is forecast or prevalent the measures outlined in this guidance must be considered for implementation.

2. Cricket Australia staff, contractors & volunteers

In the event of extreme heat the Decision Maker is to ensure that all Cricket Australia staff, volunteers and contractors at the event are aware of the weather forecast and signs and the symptoms of heat stress. The following steps should be considered, on top of the existing measures already in place to combat hot weather:

- The day's briefing should include reminders around the signs of heat stress, location of first aid points and emergency management plans
- More water (both tepid and cold) to be made readily available for all staff, volunteers and contractors
- Procurement of more ice

- Reminders throughout the day (in person or where appropriate via radio) of the general messages to monitor sun exposure and drink plenty of fluids
- Proper attire to be made available (via uniform) to comply with the Cricket Australia Sunsmart policy (for those required to wear a Cricket Australia uniform), such as broad brim hats and light-coloured, loose-fitting clothing
- If relevant at the event, all third parties (e.g. merchandise, The Outfield etc) are to ensure that their staff are made aware of forecast extreme heat and take steps in line with this guidance.
- Cricket Australia staff, volunteers and contractors at Indoor Cricket tournaments should adopt the above guidance as appropriate

3. Players and Match Officials

The guidance in this section applies only to players and match officials participating in CA development/pathway tournaments (including underage competitions and CA-managed Indoor Cricket Tournaments). Players and match officials participating in elite/professional tournaments operate under the direction of the ICC playing conditions, CA Playing Conditions and (for players) the CA-ACA heat guidelines[1]. However as host cricket board CA has a responsibility to ensure that umpires, match officials and players have adequate resources required to combat the effects of extreme heat such as drinks, ice and cooling fans.

In all cases the match officials shall be the sole judge of the suitability of the weather conditions.

Timing of Matches/Session Times

The following should be considered by a Decision Maker, in conjunction with the match officials (where applicable):

- Where possible matches should be scheduled to start earlier/later to avoid the hottest parts of the day
- Session times should be altered to avoid play during the hottest parts of the day
- Reduce length of session to allow for additional drinks breaks
- Increase length of lunch/tea breaks
- Consideration can also be given to stopping play for such period of time until it is deemed that conditions are safe for play to resume
- The above can be applied where necessary for Indoor Cricket tournaments

In taking these steps, Decision Makers and match officials shall wherever possible continue to seek that matches be completed.

Hydration

High levels of dehydration may increase the risk of heat stress and as such regular hydration is essential. Decision Makers should ensure:

- Adequate water or other appropriate drinks are made available to all players, officials, staff and volunteers. Increased water supply should be also available for the wetting of towels, head, body etc
- Temperate water as well as cold (4°c) water should be made available
- No restrictions should be placed on players or officials accessing fluids or placing them appropriately on the field

[1] CA-ACA Joint Committee on Player Occupational Health & Safety - "*Heat Guidelines in Australian Cricket*".

- Drinks eskies are to be placed on the boundary (for example, at third man and fine leg)
- A minimum of 250ml of water or other suitable fluids such as sports drinks should be consumed at drinks intervals
- As far as is possible, sufficient water should be drunk to replace at least half the individual's sweat loss
- To assist in rapid drinking, fluids can be provided in 300-500ml mugs or beakers rather than in bottles. However, universal infection policy must still apply (i.e. no shared bottles/mugs and no dipping of bottles/mugs into common fluid containers)
- Slushee machines can also be an effective method of cooling, where available

Clothing

Appropriate clothing can help lessen the effects of extreme heat, as well as preventing related issues of over-exposure to UV radiation and sunburn.

- Well-vented broad brim hats are most effective for sun protection
- Broad spectrum 30+ sunscreen should be used to prevent sunburn
- In line with any applicable uniform policy, loose-fitting, lightweight, light-coloured clothing that provides adequate ventilation is most appropriate in the heat
- The above applies to players, umpires, other officials and volunteers
- Refer to the CA Sunsmart policy for further information

Player Rest and Rotation

The following should be monitored and implemented by coaches or player support staff where applicable.

- In extreme temperatures it is recommended that wherever possible surplus players should be selected in addition to the 12th man. (Note that these players can be used for fielding duties only; they will not be allowed to bowl or bat unless additional players are permitted in the competition playing conditions).
- Rotation of these players on and off the field should be considered, especially for fast bowlers who have finished spells of 4 overs or more
- Limit bowling/individual batting spells
- Ensure sufficient shade/cooling is available when players and officials are not on the field

Environment Control Factors

Where possible the following actions should be undertaken to control/minimise the effect of extreme heat.

- Adequate ice to be made available to allow for cold water immersion or ice vest usage
- Adequate shade for rest areas
- Water misting and/or industrial fans or normal fans in both team areas and official areas

Additional Medical Assistance

All development/pathway tournaments (including underage tournaments) will have a Level 3 First Aider in attendance and the relevant State Medical Officer on call. For days of forecast extreme heat the Decision Maker(s) should consider whether further first aid or paramedic services are required. The medical response plan detailed in the competition's Event Plan should include procedures relevant for managing a medical response related to extreme heat.

Education

When extreme heat is forecast the Decision Maker(s) should ensure all team managers, officials, staff, players and volunteers are notified and educated around:

- Early recognition of symptoms and signs of heat stress
- Understanding of the potential ill effects
- Recognition of the importance of resting or removing players from the field who are adversely affected
- Refer to guidance in Appendix 1 for more information

4. Activation Participants

Activations are an important part of commercial sponsors' involvement with the game, and their interests must be considered. However, at all times the health, safety and wellbeing of all participants, CA staff and volunteers is paramount.

CA activations are exposed to the same prevailing weather conditions as matches and this can include extreme heat. **In all situations the Decision Maker has complete discretion to cancel or modify all activations to ensure the safety of participants**, however Decision Makers must consult with other CA staff such as commercial sponsorship, event presentation and game & market development staff before altering or cancelling an activation. In the event of forecast extreme heat, Decision Makers should ensure a backup plan for activations is discussed and documented before match day so that where possible activations can continue in one form or another.

Underage activation participants such as Milo kids and their parents will have been advised by their Milo co-ordinators prior to attending an activation that in the event of extreme heat it may have to be amended or cancelled. This advice, provided via the STCA to Milo co-ordinators, contains guidance around the symptoms of heat stress and how to combat it, and a request to parents to advise the coordinator if their child is particularly prone to heat stress.

On event day, changes to the activation at the Decision Maker's discretion may include:

- Providing additional bodies on field to enhance the constant monitoring of participants and assist with the provision of water
- Increasing water/drinks availability before/during and after the activation
- Reducing the duration of the activation
- Reducing the intensity of the activation, e.g. children walking on/off field instead of running (allowing extra time for this)
- Cancelling of the activation
- Moving activity to shaded area of FOP (if appropriate)
- Considering an alternate activation in lieu of physical activity

5. Spectators

Crowd numbers at CA events vary significantly. Where possible, for example through the use of big screen announcements at international cricket events, CA will remind spectators during days of extreme heat of the general messages of drinking plenty of water and adhering to the advice of the 'slip, slop, slap' sun exposure campaign.

Contingent upon crowd numbers and capacity, medical support at elite/professional events that has been provided for players may be able to assist spectators in distress. This is likely to be feasible only at events with very low crowd numbers, such as Sheffield Shield or one-day domestic matches.

For international cricket events and Big Bash League matches, venue management is responsible for providing first aid services for spectators. The Decision Maker should look to influence venue management where necessary to ensure an appropriate number of first aiders are present during days of forecast extreme heat.

Misting fans are present at the WACA during international cricket events, to help mitigate against the general lack of shade; Decision Maker(s) should consider whether these are appropriate for other venues during days of extreme heat.

If applicable for the event the Decision Maker can also consult with the Broadcast Manager to request broadcast partners include messages concerning extreme heat conditions where possible in the lead up to the event.

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Appendix 1: Playing and Exercising safely in hot weather

Extracted from Sports Medicine Australia's "Beat the Heat" fact sheet.

1. What is heat illness?

Vigorous exercise in sport places some people at risk of heat illness. Even in cool weather, heat illness may occur in those exercising at high intensity for more than 45 minutes. Heat illness may also occur with prolonged exposure to hot weather.

The risk of heat illness is increased in hot and humid weather because:

- People may not able to produce enough sweat for adequate cooling
- High humidity may prevent adequate evaporation of sweat

Heat illness is not a trivial matter – if untreated, it can lead to the rare but life-threatening condition of heat stroke.

2. How do you tell if someone has heat illness?

Heat illness occurs in strenuous sports as well as sports with prolonged exposure to hot weather such as cricket. During sports activities participants should "listen to their bodies". If they start to experience any of the following symptoms or signs they should stop immediately.

Symptoms of heat illness may include:

- Light headedness, dizziness
- Nausea
- Obvious fatigue
- Cessation of sweating
- Obvious loss of skill and coordination/clumsiness or unsteadiness
- Confusion
- Aggressive or irrational behaviour
- Altered consciousness
- Collapse
- Ashen grey pale skin

Heat illness in sport presents as heat exhaustion or heat stroke. Heat exhaustion is the more common sports-related heat illness. Heat stroke is rare but it is a life-threatening condition.

Heat exhaustion. Participants who collapse **after** exercise are likely suffering from a post-exercise drop in blood pressure, but some may have heat stroke.

Heat stroke. Those who show signs of altered mental function, loss of consciousness or collapse **during** exercise are likely suffering heat stroke. Sports participants showing signs of confusion, loss of skill, loss of coordination or irrational behaviour should be stopped and removed from the field immediately.

Factors that increase the risk of heat illness include:

- High exercise intensity e.g. exercising close to personal capacity
- Lack of fitness
- Previous history of heat illness or heat intolerance
- High air temperature and high humidity
- Low air movement/no wind

- Prolonged exposure to hot conditions
- Lack of acclimatisation to hot conditions
- Heavy clothing and protective equipment e.g. pads, helmet
- Dehydration (inadequate water intake before exercise and during activity longer than 60 minutes)
- Illness and medical conditions such as current or recent infectious illness and chronic conditions

Children and Heat Illness
Children sweat less and get less evaporative cooling than adults. In warm and hot weather they have greater difficulty getting rid of heat; they look flushed, and feel hotter and more stressed than adults. Overweight children are particularly disadvantaged exercising in warm weather.

Children seem to be effective at "listening to their bodies" and regulating their physical activity. For this reason, children should always be allowed to exercise at their preferred intensity. They should never be urged to exercise harder or compelled to play strenuous sport in warm weather. If children appear distressed or complain of feeling unwell, they should stop exercising.

3. Treating Heat Illness

Heat Exhaustion
Sports heat exhaustion is characterised by low blood pressure at the cessation of exercise. Victims suffer a faint-like collapse with ashen-grey skin. Athletes with heat exhaustion usually recover rapidly on lying down with legs raised. Because the difference between simple heat exhaustion and the high risk of heat stroke is not always obvious, athletes who have collapsed following strenuous exercise should be cooled as outlined below.

Heat Stroke
Heat stroke is a condition in which body temperature control is impaired. Heat stroke can lead to devastating injuries and is potentially fatal. The severity of complications of heat stroke increases with the duration of high body temperature. Immediate first aid is essential and life-saving. The aim is to lower body temperature rapidly.

If a sports participant is exhibiting signs of heat illness then take the following action:

- Remove from the field
- Lay the person down in a cool place
- Raise legs and pelvis to improve blood pressure
- Remove excess clothing
- Cool by wetting skin liberally and vigorous fanning (evaporative cooling)
- Apply ice packs to groin, armpits and neck
- Give cool water if conscious

Persons suffering from heat exhaustion usually recover rapidly with this assistance. **If the athlete remains seriously ill, confused, vomiting or shows signs of altered consciousness call an ambulance immediately and seek medical help**. If in doubt, treat for heat stroke as below.

Treat for heat stroke:

- Continue cooling. If available, cool in a shallow canvas/plastic bath of iced water (5-10 minutes)
- If necessary cooling should continue during removal to hospital