Baseball Victoria

ADVERSE WEATHER GUIDELINES

Baseball is a year round sport and it is therefore inevitable some games will be scheduled for play during extreme weather conditions. All officials, coaches, managers, and umpires owe a duty of care to players and officials and should take all reasonable steps to minimise foreseeable risks which may result in injury or damage.

High intensity exercise in a hot environment, with associated fluid loss and elevated bodytemperature, can lead to dehydration, heat exhaustion and heat stroke. Heat stroke is a potentially fatal condition and must be treated immediately by a medical professional.

To assist organisations and individuals when considering their duty of care responsibilities, SportsMedicine Australia – South Australia (SMA SA) has produced guidelines and a checklist for reference, which Baseball Victoria has used to develop these guidelines.

The guidelines are not binding. Baseball Victoria urge all parties to use commonsense and to act responsibly during activities.

Cancellation of games may be appropriate even in circumstances falling outside these guidelines.

1 Dehydration, heat exhaustion, heat stroke

Dehydration

Fluid loss occurs during exercise, mainly due to perspiration and respiration. It makes an athlete more susceptible to fatigue and muscle cramps. Inadequate fluid replacement before, during and after exercise will lead to excessive dehydration and may lead to heat exhaustion and heat stroke.

Heat exhaustion

Dehydration can lead to heat exhaustion, symptoms include:

1. Fatigue, high heart rate, light-headedness, dizziness, headache, loss of endurance and skills, confusion, and nausea
2. Athletes will pass little urine, which will be highly concentrated
3. Cramps may be associated with dehydration.

Heat stroke

Severe dehydration may lead to heat stroke. Symptoms are similar to heat exhaustion with the addition of dry skin, confusion and collapse.

An athlete may suffer from heat stroke even though they have not been identified as suffering from heat exhaustion. Heat exhaustion and heat stroke can still occur even in the presence of good hydration.

Heat stroke is a potentially fatal condition and must be treated immediately by a medical professional.

2 Recommended preventative strategies

Hydration

1. Drink at least 500mls (2-3 glasses) before an activity
2. Drink 200mls (1-2 glasses) every 15 minutes during activity, preferably water however dilutes cordial, or sports drinks may be appropriate
3. Drink at least 500mls after an activity

Timing of games and training

Where possible, avoid scheduling training and matches during the hottest part of the day (usually between 11am and 3pm, or noon and 4pm during daylight saving time).

Early morning or night games minimise the likelihood of unacceptable playing conditions.

Player rest and rotation

Consider using substitutions more often during play.

Ensure all dugouts are equipped with shade and fluids for appropriate rest, recovery and hydration when a team is batting.

Team managers and coaches should be especially vigilant and monitor players' physical condition in extreme temperatures.

Clothing

It is essential that everyone is made aware of the importance of:

1. Wearing appropriate clothing during play
2. Wearing hats whilst on the field
3. Appropriate application and re-application of SPF 30+ sunscreen
4. The use of wet towels
5. Sunglasses

In extreme heat conditions:

1. The welfare of players and umpires is paramount
2. On days of extreme heat coaches, players, umpires and officials should be aware of the possible risks and carefully monitor all participants. If any show signs of heat distress, swift and appropriate action must be taken
3. In baseball, pitchers and catchers are most at risk
4. Be aware that junior players are more susceptible to heat injury, especially those doubling up in senior competitions on the same day as their junior games
5. Teams playing back to back games or more than two games in a day may require more breaks
6. Ensure there are sufficient shaded areas at grounds for both players and spectators
7. Ensure there are qualified first aiders at the ground
8. Consider cancelling or postponing scheduled games

The *Hot Weather Guidelines Checklist* below will assist in decision-making.

The information in this guideline is of a general nature only and is not intended to be relied upon as, nor as asubstitute for, specific professional advice. No responsibility for the loss occasioned to any person acting onor refraining from action as a result of any material in this guideline can be accepted.

BASEBALL VICTORIA HOT WEATHER CHECKLIST

This checklist will help you determine whether to commence or continue play in hot weather conditions. Allocate a score for each item – if in doubt err on the side of caution and apply a higher score. Some categories may not be applicable to your circumstance, in which case use your best judgment.

1	Wet bulb globe temperature[1] (or equivalent)		7	Time between available drinks	
	<18 degrees	12		Less than 15 minutes	2
	18 to 22 degrees	10		15 to 25 minutes	4
	23 to 28 degrees	14		25 to 35 minutes	6
	Above 28 degrees	20		35 to 45 minutes	8
				45 minutes plus	10
2	Overall duration of event		8	Time of the event	
	Less than 30 minutes	2		Before 9am	2
	30 to 60 minutes	4		After dark	2
	60 minutes to 2 hours	6		9am till 11am	5
	Greater than 2 hours	8		3pm till sunset	5
				11am to 3pm	10
3	Individual intensity during the event		9	Surface type	
	Easy pace throughout	2		Water	1
	Moderate pace, breaks in intensity	4		Grass	2
	Moderate pace throughout Sustained	6		Boards	4
	effort with some breaksSustained effort	8		Sand	6
	throughout	10		Synthetic surface	6
				Asphalt	8
4	Acclimatisation of participants		10	Venue	
	Used to hot weather conditions	2		Indoor air conditioning	1
	Used to warm weather conditions	5		Indoor no air conditioning	4
	Used to cool/cold conditions	8		Outdoor	8
5	Athletic ability of individuals		11	Other predisposed medical conditionsof participants	
	Elite fitness levels	2		No	0
	Good fitness level	6		Yes	6
	Moderate fitness levels	6			
	Low fitness levels	8			
6	Age of participants		12	Other factors to consider	
	18 to 30	2		Shade available during breaks	Yes/No
	13 to 17	5		Water freely available at venue	Yes/No
	30 to 40	5		Sports trainer/first aid person on site	Yes/No
	Over 40	8		Body fat of individual participants	High/Low
	Under 13	8			

[1] To obtain the Wet Bulb Globe Temperature or equivalent, required to complete the checklist, please refer toyour State or Territory Bureau of Meteorology.

RECOMMENDED GUIDELINES POINT SCORE

Above 75	Baseball Victoria and SMA SA recommend you take appropriate preventative strategies to ensure the welfare of players, coaches and officials

66 to 74	Baseball Victoria and SMA SA recommend you take appropriate preventative strategies to ensure the welfare of players, coaches and officials if:
	• The Wet Bulb Globe Temp (or equivalent) is above 28 or
	• The age of the participants gets a point value of 8
	• If this is not the case and the event goes on, then:
	  • Extra drink breaks should be allowed
	  • Shade should be provided
	  • Promotion of fluid replacement should be actively encouraged by coaches, umpires, and PA announcements

56 to 65	Baseball Victoria and SMA SA recommend play may go ahead BUT • Extra drink breaks should be allowed • Shade should be provided • Promotion of fluid replacement should be actively encouraged by coaches, umpires and public announcements
55 and below	Baseball Victoria and SMA SA recommend play with usual fluid replacement measures in place

Baseball Victoria and SMA SA reminds sporting groups and individuals that:

- Cancellation of events or withdrawal from participation may be appropriate even in circumstances falling outside of these recommendations.
- Individuals can use the guidelines and point scores to ascertain whether they should be involved in a particular event.

Recommended Breaks

1. The Baseball Victoria Hot Weather Guidelines contain the criteria for invoking the heat policy, the Local Bureau of Meteorology or a Bulb Meter will be used for wet bulb/humidity readings
2. Dependent on the Hot Weather Guidelines and points risk range, five-minute breaks should be implemented
3. Teams playing back to back games or a third game for the day may need to take more mandatory breaks
4. Teams that have spent a longer time than usual in the field may request to the plate umpire to take a longer break in the innings change over to hydrate
5. Time may also be requested by a team to supply water to any player
6. Team Management should bring this or any other concern in regard to heat effects on participants to the attention of the plate umpire and game management

Note: In all cases when the heat policy is invoked it is mandatory to take the five-minute break.

SPORTS MEDICINE AUSTRALIA (SMA) 'BEAT THE HEAT' FACT SHEET

SMA website: https://sma.org.au/resources-advice/policies-and-guidelines/hot-weather/

» What is heat stress?

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 be able to produce enough sweat for adequate cooling.
- High humidity may prevent adequate evaporation of sweat.

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

In hot weather, we need to take more precautions, especially as we need to exercise or play sport regularly to stay healthy.

This brochure will help to recognise and manage potentially dangerous situations that may arise during participation in sport or physical activity in hot conditions – **or where exertion levels are out of the ordinary.**

By understanding the causes of heat illness event organisers, coaches, officials, players and the general public can take common sense steps to enjoy sport and physical activity and minimise the extra risks arising during hot or humid weather. (For more details, download a copy of the Sports Medicine Australia Hot Weather Guidelines from www.sma.org.au)

» Keep the "fun" in Fun Runs

The highest incidence of sports heat illness occurs in fun runs of 10 km and longer.

Running at an intensity close to exhaustion, and much greater than training pace, entails a risk of heat illness. Setting targets helps achieve goals, but athletes pushing themselves close to exhaustion and who ignore the symptoms of heat illness to finish in a personal best can risk serious injury.

Run within personal limits. If feeling overstressed or unwell, slow down or stop. If you see another runner who appears unwell persuade them to stop and assist them.

» How do you tell if someone has heat illness?

Heat illness occurs in strenuous sports, but may also occur in activities such as cricket, golf, and lawn bowls with prolonged exposure to hot weather. 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 (postural hypotension), 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.

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6. Drinking (Hydration)

Substantial amounts of water are lost through sweating when exercising vigorously in the heat. During strenuous exercise sports people often replace only half their sweat losses, but they tolerate moderate levels of dehydration well.

To minimise dehydration, drink about two cups of water in the 2 hours before exercising. During exercise lasting 60 minutes or longer, 2-3 cups (500-750 ml) of cool water or sports drink per hour are sufficient for most sports.

Dehydration is rarely the sole cause of sports heat illness, but maintaining an adequate water intake assists temperature control. Carbohydrate and electrolytes in sports drinks help to maintain performance in endurance events.

Water intake exceeding sweat loss in events lasting several hours can lead to the harmful condition of hyponatraemia (low blood sodium).

7. Heat waves, unusually hot weather and travelling

Extra caution needs to be taken during unseasonal heat waves or unusually hot or humid weather, or if travelling from a cool region to a hot or humid climate. In these circumstances athletes lack acclimatisation and are at increased risk of heat illness if they exercise at their cool climate intensity.

8. Other considerations

Age and medical conditions:

- If you have recently experienced a high temperature, infection, diarrhoea, or vomiting you should NOT take part in strenuous exercise.
- People over 65 or who suffer from a variety of medical conditions, who are taking medication or who are pregnant may experience difficulties exercising in the heat. Examples include, asthma, diabetes, heart conditions, epilepsy, overweight and obesity. Medication may also include those purchased over the counter. If you are unsure of their effect, ask your doctor or pharmacist.

» *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 opposite.

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.

» Dehydration is rarely the sole cause of sports heat illness, but maintaining good hydration assists temperature control

If a sports participant is exhibiting signs of heat illness 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.

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.

Note: following exercise body temperature can be measured reliably only in the rectum because the mouth and armpit seriously underestimate true body temperature. Rectal temperature greater than 41°C is dangerous. Rectal temperature should only be measured by a doctor or nurse.

» *Hats and sunscreen*

Wear well-vented broad brim hats and water-soluble sunscreen for sun protection. Caps do not provide adequate sun protection.

Guidelines to Environmental Conditions and Risk

Remember, sports heat illness can occur with high intensity exercise in cool conditions and with well-hydrated participants.

Because sports heat stress is complex, and because individual responses to heat stress vary, it is not possible to provide overall recommendations about limiting conditions to cover all sports. Since heat stress increases with increasing exercise intensity, potential for heat illness may be rated according to the exercise characteristics of the sport. The following sports are rated by decreasing levels of sustained exertion and therefore decreasing potential for risk of heat illness.

1. Endurance running in competition or training (higher intensity/higher risk)
2. Football codes and hockey
3. Tennis
4. Cricket (lower intensity/lower risk)

Individual tolerance to heat stress varies widely. Discomfort is the best personal indication of heat stress. Even in team sports individuals should pace themselves according to their personal feelings of stress. In warm weather if you feel uncomfortably hot reduce exercise intensity. In humid conditions sweat may not evaporate sufficiently for effective cooling; if your skin is dripping wet all over with sweat, reduce exercise intensity.

The following tables provide estimates of risk related to the weather and also guidelines to managing activity in order to minimise heat stress.

» Ambient temperature

Easily understood, most useful on hot, dry days.

Ambient temperature °C	Relative humidity	Risk of heat illness	Recommended management for sports activities
15 - 20		Low	Heat illness can occur in running Caution over-motivation
21 - 25	Exceeds 70%	Low - moderate	Increase vigilance Caution over-motivation
26 - 30	Exceeds 60%	Moderate - high	Moderate early pre-season training Reduce intensity and duration of play/training Take more breaks
31 - 35	Exceeds 50%	High - very high	Uncomfortable for most people Limit intensity, take more breaks Limit duration to less than 60 minutes
36 and above	Exceeds 30%	Extreme	Very stressful for most people Postpone to cooler conditions (or cooler part of the day) or cancel

» Heat stress increases with increases in air temperature but be aware that there are not clear demarcations in risk between temperature ranges. At relative humidity levels above those indicated in the table, stress increases markedly.

Further guidance might be gained from the Wet Bulb Globe Temperature (WBGT) index. The WBGT is useful when humidity is high.

» WBGT

Suitable for hot, humid days.

WBGT	Risk of heat illness	Recommended management for sports activities
Less than 20	Low	Heat illness can occur in distance running Caution over-motivation
21 - 25	Moderate - high	Increase vigilance Caution over-motivation Moderate early pre-season training Take more breaks
26 - 29	High - very high	Limit intensity, take more breaks Limit duration to less than 60 minutes per session
30 and above	Extreme	Consider postponement to a cooler part of the day or cancellation (allow swimming)

» Check local weather conditions

The Bureau of Meteorology provides detailed information about temperature conditions (both ambient and WBGT), wind speed and relative humidity for many regions in Australia (www.bom.gov.au).

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SMARTPLAY

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Baseball Victoria Lightning Strikes Guidelines

In statistical terms, lightning poses a greater threat to individuals than almost any other natural hazard in Australia, accounting for five to ten lives and well over 100 injuries annually. These figures are likely to increase in line with the growing proportion of people who are engaging in outdoor recreational activities.

Lightning can cause injuries or death in several ways, including:

1. Direct strike – when a person is directly struck by lightning
2. Contact voltage – when a person is in direct contact with a conductor that has been struck by lightning, either inside or outside a structure, or dugout
3. Side flash – when a person is struck by an arc or flash from a conductor carrying a lightning strike near the person; and
4. Ground current – injuries can occur when standing in the area of a lightning strike as the current can flow through the ground and enter and exit the body through the feet

Lightning can also travel long distances in electrical conducting materials such as metal wires, fences, pipes, plumbing or other metal surfaces. Metal does not attract lightning, but it provides a path for the lightning to follow. Whether inside or outside, contact with metal wires, electrical appliances, pipes, plumbing, landline telephones, windows and doors should be avoided.

1 Overview

The observation of approaching storm clouds from the first flash of lightning or clap of thunder, nomatter how far away, should heighten lightning awareness. The level of risk depends on one's location (direction and distance) relative to the storm cell and the direction in which the storm system is traveling.

A simple method of determining the distance to the storm cell is to measure the time elapsed fromwhen the lightning flash is observed and when the associated clap of thunder is heard.

Light travels faster than sound. If the light from the flash reaches the observer instantaneously, and knowing that sound takes approximately three seconds to travel one kilometer, the distancecan be determined by using the following rule:

Distance (in Km) = Time from observing the flash to hearing thunder (in three seconds)

It is important to remember that lightning may be obscured by clouds so it must be assumed that when thunder is heard, lightning is in the vicinity. In such cases, careful judgment must be used todetermine whether a threat exists.

Access to Bureau of Meteorology

An official monitor should be assigned to monitor and advise on the weather, especially the possibility of thunderstorms. Local knowledge would be considered preferable.

In the lead up to the game, it is recommended that a designated official monitor weather forecasts on the Bureau of Meteorology (BOM) website. This can assist with the direction of the storm and warnings.

If the weather patterns show a storm is imminent a decision to start or not start should be considered by the Tournament Management Committee in consultation with the designated officialweather monitor.

After a game has started the 30/30 rule is recommended along with monitoring of the BOM website.

If access to BOM is not available on the day, the 30/30 rule is recommended.
The first part of the 30/30 rules is a guide to the postponement or suspension of games.
During a thunderstorm, a 'flash-to-bang' count of 30 seconds indicates that the lightning is 10km away (1km per three seconds) and the chances of being struck by lightning is high. This indicates a potential for significant risk and the plate umpire should suspend the game.

The second part of the 30/30 rule provides a guide to the resumption of games. It is recommended that a period of 30 minutes should elapse after the last sight of lightning or the sound of thunder before resuming the game.

> **Note:** blue sky and lack of rainfall is not a reason to breach the 30 minute return-to-activity rule. 'Australia Wide First Aid' encourages you to find solid shelter during a storm. This does not include a tree or a dugout. Try and find shelter within a building, bus shelter or car and avoid water and objects that conduct electricity. Substantial buildings with wiring and plumbing to dissipate the charge provides the greatest amount of protection.

If you're unable to find safe shelter, crouch down in the open, feet together with your head tucked down towards your chest. You should aim to make yourself as small as you can. Laying down flat on the ground increases your total body surface area, which also increases your chance of getting struck by lightning. You should wait approximately 30 minutes after the last flash of lightning before you leave your shelter. More than half of lightning deaths occur once the storm has passed.

Unsafe locations and situations

Avoid:

- Open field
- Close vicinity to the tallest structure (e.g., tree, light pole)
- Small structures (e.g., rain/picnic shelters, tents, lightweight dugouts
- Umbrellas, bats or other objects that increase an individual's height
- Avoid the use of portable radios, mobile and landline telephones, computers and other electrical equipment. If emergency calls are required, keep them brief

2 Game responsibilities

On game day, the Umpires have the responsibility to decide when it is safe to play baseball, giving consideration to the risk of injury from lightning.

During practice, the Club Coach is responsible for deciding when it is safe to be practicing. In the absence of the Club Coach, the highest ranking present member of the Club Committee

3 First aid

If some is struck by lightning, get medical attention as quickly as possible.

Ensure the rescuer is in no danger of being struck by lightning. If the patient is not breathingcommence resuscitation immediately.

Check for burns in two places – the injured person may be burned, both where they were struck and where the electricity left their body. Being struck by lightning can also cause nervous systemdamage, broken bones, and loss of hearing or eyesight.

Be aware that *the victim will not retain an electrical charge, so it is safe to touch them*.

4 References

BOM:	Weather
First Aid:	Lightning Strikes
Baseball Victoria:	By-Laws