POLICY – Sport Delivery

Policy Number SD1 – Adverse Weather Conditions Policy

Document Control

Version Control

Date	Version	Details	Author
14/07/21	7	Update	
21/05/24	8	Revision	Michael Wright (Governance, Policy and Integrity Manager)

Approval

Delegation required for approval: Chief Executive Officer

Name: Kate Davies Position: Chief Executive Officer

Signature:  Date: 1 June 2024

Definitions

Term	Definition
Affiliate	Means a HART Sapphire/Ruby Series licensee, a Netball Association, or a Netball Club, howsoever described, whether incorporated, unincorporated, a company limited by guarantee, or otherwise, which is a member of Netball Queensland.
Air Temperature	Temperature of the surrounding air, measured in the shade, and not taking into account humidity or wind in the air.
Dehydration	Loss of body water and salts essential for normal body function. Excessive dehydration in a sporting environment may lead to heat exhaustion and heat stroke.
Drizzle	To rain gently in fine, mist like drops
Fog	Condensed water vapour in cloudlike masses lying close to the ground and limiting visibility
Frost	A deposit of minute ice crystals formed when water vapour condenses at a temperature below freezing point
Heat exhaustion	A form of heat illness characterised by a high heart rate, dizziness, headache and loss of endurance/skill/confusion and nausea.
Heat illness	Medical conditions which occur as a result of high intensity activity that elevates the body temperature and/or prolonged exposure to hot weather. Characterised by nausea, dizziness, vomiting and syncope.
Heat stroke	A form of heat illness with characteristics similar to heat exhaustion in conjunction with dry skin, confusion and in some cases collapse. Heat stroke

	may arise in a participant who has not been identified as suffering from heat exhaustion and has persisted in further activity
Intermittent	Stopping and starting at intervals.
Lightning	A flash of light in the sky, occurring during a thunderstorm and caused by a discharge of electricity, either between clouds or between a cloud and the earth
Match Official	For the purpose of this policy a Match Official is a person responsible for the planning, organising and/or management of a competition or Netball Activity and may include, but not limited to, Netball Queensland Staff, Affiliate Executive, and/or Umpires.
Netball Activity	Means any Netball Competitions, matches, training, player camps, team selections, courses and or events organized, controlled or sanctioned by Netball Queensland and / or its Affiliates.
Relative Humidity	The percentage ratio of vapour pressure to saturation vapour pressure which is a commonly used indicator of the amount of moisture in the air
Storm	An atmospheric disturbance manifested in strong winds accompanied by rain, snow, and/or other precipitation and often by thunder and lightning
Thunder	The crashing or booming sound produced by rapidly expanding air along the path of the electrical discharge of lightning
Wet Bulb Globe Temperature (WBGT)	Is a composite temperature used to estimate the effect of temperature, humidity, wind speed (wind chill, and visible and infrared radiation, usually sunlight) on humans. It is used by industrial hygienists, athletes, and the military to determine approximate exposure levels to high temperature.
30/30 Rule	If it takes less than 30 seconds to hear thunder after seeing the flash, lightning is near enough to pose a threat; after the storm ends, wait 30 minutes before resuming outdoor activities.

1. Purpose and Background

Netball Queensland (NQ) recognises that adverse weather conditions present some level of risk that can harm the performance and/or the health of participants. Netball activities that occur in adverse weather conditions can place participants at risk of injury, illness and in extreme circumstances, even death.

Protecting the health, safety and wellbeing of all participants, officials, and spectators is of paramount importance to NQ and its Affiliates. As such, to reduce the risk of injury and manage potentially dangerous weather situations, NQ aims to provide a safe sporting environment through a range of risk management strategies including this Adverse Weather Conditions Policy.

2. Policy Statement

This Policy is designed to provide clear guidance to NQ and its Affiliates in relation to the effective management of adverse weather conditions that pose an unacceptable risk to health, safety and wellbeing.

Adverse weather conditions may include, but are not limited to:

a) Hot Weather
b) Wet Weather
c) Lightning & Electrical Storms
d) Poor Air Quality

3. Organisational Responsibilities & Procedure

NQ reserves the right to cancel, postpone or modify/alter a NQ-controlled Netball Activity due to adverse weather conditions in the interest of participant health and safety and as such has developed clear guidelines. These guidelines aim to assist when managing events in adverse weather conditions and minimise the risk of injury and illness for all participants involved.

Prior to the commencement of NQ-controlled Netball Activity, an Adverse Weather Panel may be formed as required. This panel is to consist of members who officiate or manage netball competitions and events ('Match Officials'), with the specific panel makeup outlined in the relevant Event Manual. For example, at Junior State Age the Adverse Weather Panel (as per its Event Manual) would consist of four (4) members:

- A NQ staff representative
- The Host Association Convenor
- The Umpire Coordinator of the event
- A Host Association Committee member

With guidance from the procedures listed below, the Adverse Weather Panel has the authority to make a decision regarding the management of adverse weather conditions in order to ensure the safety of all participants. Decisions may be reviewed in light of changed weather conditions.

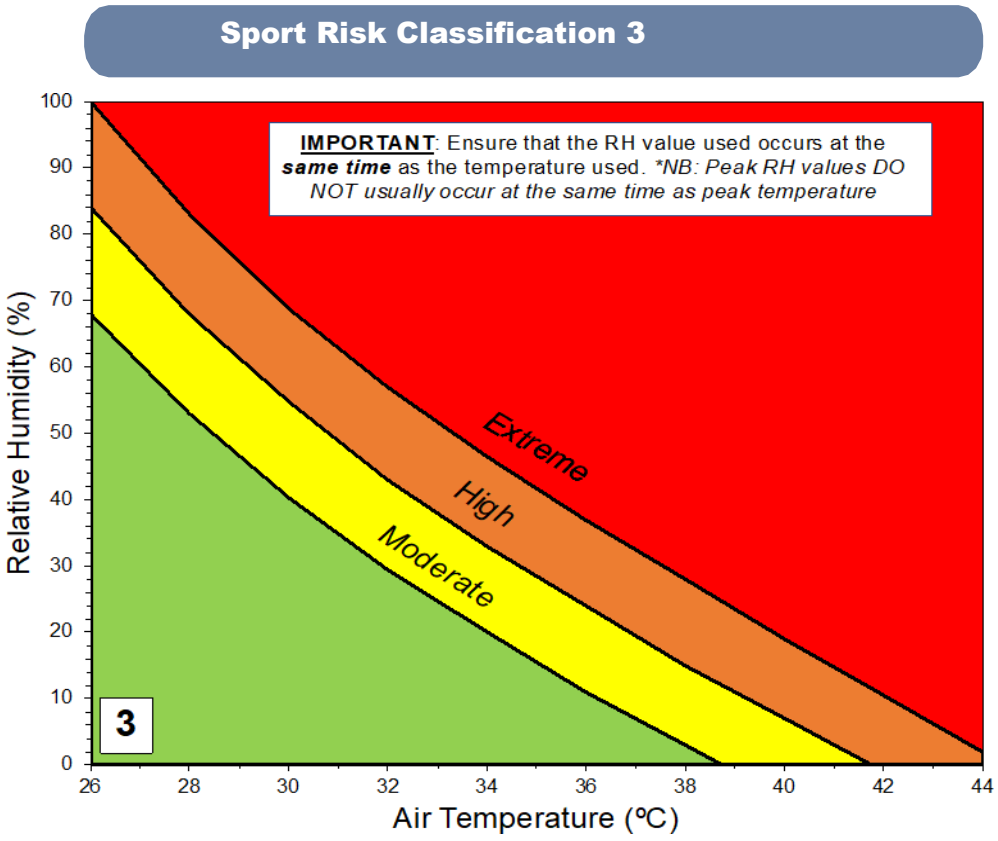
4. Hot Weather

4.1 Match Official/s should:

a) Obtain an accurate temperature and humidity reading for your location from the Bureau of Meteorology (BOM), per the instructions below (extracted from Sports Medicine Australia – Extreme Heat Policy 2021 (pg 5):

    1. Visit: http://www.bom.gov.au/places/ and enter your location/post code.
    2. Click on: "DETAILED 3-HOURLY FORECAST"
    3. Select the specific day/date of enquiry
    4. Identify the column with the nearest time to the planned Netball Activity
    5. Note the "Air Temperature (˚C)" value
    6. AND IN THE SAME COLUMN, note the concurrent "Relative Humidity (%)" value found towards the bottom of the entry for that date.

b) Using this information assess the severity of the conditions by utilising the 'Sport Risk Classification 3' table below to identify the relevant risk level of the Netball Activity:



c) Use the tables and information in clauses 4.2 and 4.3 to identify and follow the appropriate method if risk management depending on whether conditions are 'hot and dry' or 'hot and humid'.

4.2 Hot, Dry Weather Conditions (Indoor and Outdoor facilities)

The following table provides recommendations on the management of activities in hot, dry weather conditions depending on the risk level identified at 4.1 above as follows:

a) GREEN: Low Risk
b) YELLOW: Moderate Risk
c) ORANGE: High Risk
d) RED: Extreme Risk

Risk of Heat Illness	Recommended Management
Low	• Heat Illness can occur. • Caution over-motivation.
Low-Moderate	• Increase vigilance. • Caution over-motivation. • Encourage participants to drink regularly before, during and after exercise.
Moderate	• Moderate early pre-season training. • Reduce intensity and duration of play/training. • Increase the frequency and/or duration of hydration breaks (provide a minimum of 15 minutes rest for every 45 minutes of activity).
High-Very High	• Limit intensity and take more rest and hydration breaks.

	• Extend scheduled quarter time breaks. • Employ active cooling strategies where available (e.g. provide sponges, spray bottles, ice packs, damp towels, fans etc). • Limit duration to less than 60 minutes per session.
Extreme	• Postpone games to cooler conditions or the cooler part of the day, shorten the game time OR cancel.

4.3 Hot, Humid Weather Conditions (Indoor and Outdoor facilities)

The most effective way of evaluating the risk of activities in hot, humid weather is by measuring the WBGT or obtaining information from the BOM (see: Thermal Comfort Observations - WGBT and Apparent Temperature for Queensland (bom.gov.au)).

The following table provides recommendations on the management of activities in hot, humid weather conditions.

WBGT	Risk of Heat Illness	Recommended Management
Less than 20	Low	• Heat Illness can occur. • Caution over-motivation.
21-25	Moderate-High	• Caution over-motivation. • Incorporate more rest and hydration breaks.
26-29	High-Very High	• Limit intensity and take more rest and hydration breaks. • Limit duration to less than 60 minutes per session – consider shortening the game time.
30 and above	Extreme	• Postpone games to cooler conditions or cooler part of the day, modify/shorten the game time OR cancel.

4.4 When preparing for a competition or Netball Activity, the following issues and strategies should also be considered:

- ***Duration and intensity of the event*** – strategies include reduced playing time; extended rest periods; provisions for extra water, wetting clothes and face; fan to enhance air flow and player/official rotation.
- ***Conduct of the competition*** – strategies include dividing games into shorter periods; longer breaks and alternative training times.
- ***Time of the day*** – strategies such as scheduling events outside the hottest part of the day should be considered.
- ***Local environment*** – considerations include radiant heat from surfaces and surface type; amount of sunlight on the surface; airflow and air conditioning within venues.

4.5 Factors to consider in determining your approach include the following:

- ***Fitness levels/athletic ability of participant*** – An unconditioned participant will generally be more susceptible to heat illness.
- ***Age of participant*** – Veteran participants are generally more susceptible to heat illness due to reduced cardiac function. Also children are more likely to continue exercising past the onset of mild heat illness either because they don't recognize the symptoms or because they feel pressure to continue practicing or playing

- ***Surface Type*** – A solid, black asphalt court area in direct sunlight will retain heat. Surface type and amount of direct sunlight will vary from facility to facility.
- ***Prior medical conditions*** – It is important to be aware of the participants who have a medical condition or are taking medication that may predispose them to heat illness. Examples includes asthma, diabetes, pregnancy, heart conditions and epilepsy. Some medications and conditions may require special allowances. Any player that is experiencing a high temperature, viral infection, diarrhoea or vomiting should be excluded from participating due to increased risk of heat illness.
- ***Heat waves*** – Extra caution needs to be taken during unseasonal heat waves or unusually hot or humid climates, or if participants have travelled from a cooler area to a hot and humid climate.

4.6 For more information on recognising signs and symptoms of heat-related illness and treatment methods refer to extracts from the Sports Medicine Australia Extreme Heat Policy in Appendix A and which is fully accessible at the following link: https://sma.org.au/wp-content/uploads/2023/03/SMA-Extreme-Heat-Policy-2021-Final-1.pdf

5. Sun Protection

5.1 Match Officials, participants and spectators are encouraged to access the SunSmart UV Alert to view local UV levels. The SunSmart UV Alert can be accessed via the Cancer Council's SunSmart App. Likewise the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) provides UV alerts on their website https://www.arpansa.gov.au/our-services/monitoring/ultraviolet-radiation-monitoring/ultraviolet-radiation-index

5.2 NQ and Associations should use wherever possible a combination of the recommendation sun protection practices outlined below:

a) **SLIP** on clothing that covers as much skin as possible during training sessions and in-between times during play. Grab a cool, light shirt made of densely woven fabric (preferably rated UPF50+) to pop-on when off the court. NQ's Inclusive Uniform Policy should serve as a guide on the range of garments available that may offer greater sun protection than traditional uniforms.
b) Netball unforms don't typically provide much coverage so it's important to **SLOP** on SPF30 (or higher) broad-spectrum, water-resistant sunscreen to any exposed skin at least 20 minutes before play starts. Sunscreen should be reapplied regularly (every two hours) if you're excessively sweating, so put a tube in your sports bag for later. Hydration breaks and half-time provide the perfect opportunities to reapply. Remember, sunscreen is not a suit of armour and should be used with other sun protection practices.
c) **SLAP** on a wide-brimmed hat when you are off court to protect your face, neck and ears from the constant UV.
d) **SEEK SHADE**: Whether you are practising, warming up or playing, take advantage of shady breaks whenever you can. Hydrate in the shade and find shady spots when off the court. Use trees, built shade structures, or bring you own (such as a sunshade tent/marquee). Shade reduces UV radiation, but it can still reach you via reflection, so make sure you use shade in combination with the other sun protection practices. Try to schedule training and games earlier in the morning or later in the day when the sun's UV isn't as intense.
e) **SLIDE ON SUNGLASSES**: Outdoor netball courts can reflect high levels of UV. Bring sunglasses, which when worn in conjunction with a broad-brimmed hat, can reduce UV radiation exposure to the eyes by up to 98%. For the best protection, look for wrap-around sunglasses which meet the Australian Standard AS/NSZ 1067.

For more information on how to apply the best Sun Protection practices, please refer to the Cancer Council website - https://www.cancer.org.au/cancer-information/causes-and-prevention/sun-safety/be-sunsmart

5.3 NQ will support the dissemination of sun safety information by advocating to members via communication means. Examples include notice boards, newsletters, online communications, announcements at event and competitions.

6. Cold Weather

6.1 Children and young people are also susceptible to illness in cold weather as they lose body heat more easily. Physical activity is one of the best ways to stay warm in a cold environment. However, coaches, parents and Match Officials should pay particular attention to children and young people playing sports or activities subject to cold and wet conditions because water increases the loss of body heat.

6.2 Have some flexibility within competition rules about clothing to allow children and young people to feel more comfortable in extremely cold weather. This includes allowing tracksuit pants in cold weather, even if not part of regulation uniform. Refer to NQ's Inclusive Uniform Policy for further information.

7. Wet Weather

7.1 Match Officials should, prior to the match or Netball Activity, ensure a proactive approach and obtain details about local weather conditions from the Bureau of Meteorology (BOM), www.bom.gov.au

7.2 Assess the severity of the conditions by utilising the table and information below. Ensure the recommended method of management is undertaken.

CONTINUE/MODIFY	CANCEL/POSTPONE/MODIFY
Light drizzle.	Continuous driving rain (including hail).
Intermittent rain.	Court surface is slippery due to excess water – and sweeping doesn't assist the court surface.
Intermittent heavy rain.	Frost and/or ice on the court surface.
Court surface is wet.	Heavy fog.
Water pooling on court surface – but can be swept away.	Snow (light or heavy).

Options for modification (where appropriate) may include introducing additional breaks to allow for more opportunities to dry courts or reducing playing time.

7.3 Court surface (Outdoor Venue)
In rain, hail, snow or fog, court conditions should be assessed by Match Officials prior to the commencement of play. If there are several games to be played, an ongoing assessment should be undertaken between games to ensure safety of players, umpires and team officials. If the weather deteriorates during a game, a further assessment may be made mid game.

Factors for the event organiser/Match Official to consider when assessing the court surface:

a) Is the court/s slippery?
b) Is there snow or hail on the court/s?
c) Is water pooling on the court/s surface that can't be swept off?

7.4 Once the assessment is completed a decision by the event organiser/Match Official should be made to commence/continue play or cancel, postpone or modify the match or Netball Activity. Section 5.9 (c) of World Netball's '2024 Rules of Netball' allows for the event organiser to invoke any event delay, postponement or cancellation policy, if required. The event organiser/Match Official shall then instruct the umpires to abandon a match if the safety of players and/or officials is considered to be at risk (Section 5.9 d).

8. Lightning & Electrical Storms

8.1 Lightning can strike more than 10km from the edge of a thunderstorm and it is generally agreed that 10km is the minimum safe distance from a storm.

8.2 NQ supports the '30/30' rule which will be enacted for lightning safety and serves as a guide for event cancellation and subsequent resumption. The '30/30' rule is the recommended approach supported by the Centre for Sports Medicine Research and Education at the University of Melbourne.

8.3 The '30/30' rule is not an absolute rule. A storm may move very quickly, or not generate any lightning or thunder until it is very close. Topographical or wind conditions may also prevent sound from travelling to your position. These conditions are especially common in mountain areas. It is important that Match Officials observe weather conditions and be alert to the possibility of the above occurring.

8.4 In the event of an approaching storm, count the seconds from when the lightning flash is seen to when the thunder is heard ('flash to bang count'). If there is a thunder occurrence within 30 seconds from when the lightning is observed, activity is to cease immediately. Participants are at risk and are to be advised to seek safe shelter to ensure safety.

8.5 Wait 30 minutes after the last thunder is heard or lightning is seen before resuming activities. This will ensure the lightning storm is at least 20 kms away from the venue.

8.6 Prior to the match or Netball Activity, Match Officials should obtain details about local weather conditions from the BOM, www.bom.gov.au.

8.7 Match Officials are to define a list of safe structures and location to be utilised in the event of a lightning storm occurring.

8.8 Safe shelter includes:

a) Large/substantial enclosed buildings;
b) Fully enclosed metal vehicles with windows closed;
c) Low ground;
d) Tree of uniform height (i.e. forest)

8.9 Unsafe locations and situations:

a) High, open ground;
b) Swimming pools (both indoor and outdoor);

c) Close vicinity to the tallest structure in the area – isolated or tall trees, light pole, communication towers;
d) Near outdoor metal structures – rain shelters, tents, seating/benches, poles, gates and fences;
e) Objects that increase an individual's height – umbrella.

9. Catastrophic Fire Danger

9.1 Prior to a match of Netball Activity, Match Officials should obtain details about local weather conditions from the BOM, www.bom.gov.au. In the event that weather conditions are conducive to the spread of dangerous bushfires, BOM will issue Fire Danger Warnings within 24 hour of the potential onset of hazardous conditions (Queensland Fire Danger Ratings (bom.gov.au)). These warnings are also broadcast on radio and television.

9.2 In the event that a competition or Netball Activity is scheduled to take place on a day in an area subject to a "Catastrophic" Bush Fire Danger Rating issued by the BOM or Queensland Fire and Emergency Services, all netball related activities within the area affected by the Catastrophic rating must be postponed/cancelled.

9.3 If prior warning is received on the potential onset of hazardous conditions (High or Extreme Fire Danger Ratings), including bushfire, smoke and haze, the Match Officials are to convene and decide whether the event or Netball Activity is to be altered, cancelled or postponed to ensure safety of participants.

9.4 If prior warning is not received and hazardous conditions are approaching, make contact with the Queensland Fire and Emergency Services and follow all instructions given.

9.5 If needed, venue evacuation will be handled by the appropriate venue representative.

10. Poor Air Quality (Smoke, haze and other hazards)

10.1 Prior to a match or Netball Activity, Match Officials should obtain details about local weather conditions from the BOM, www.bom.gov.au.

10.2 In the event of poor air quality, NQ recommends that the following steps are taken:

a) Go to the Live Air Data section on the Department of Environment and Science website - Live air data | Environment, land and water | Queensland Government (des.qld.gov.au)
b) A list of areas and suburbs will appear in a table. Find the nearest suburbs or area to the venue location of the Netball Activity.
c) Click on that area or suburb, which will take you to the current air quality measurements and include the legend below that outlines air quality categories.

(**Note:** PM10 = course particles, e.g. dust and ash. PM2.5 = fine particles, e.g. smoke)

Air quality

Parameter	Measurement	Running average
Particle $PM_{2.5}$	7µg/m³	5.4µg/m³ (24hr avg)
Particle PM_{10}	16.9µg/m³	14.6µg/m³ (24hr avg)
Visibility	10Mm⁻¹	10Mm⁻¹ (1hr avg)

Legend to air quality category colours about category values

Good	Fair	Poor	Very poor	Extremely poor

10.3 Where the air quality readings are Fair or Poor, it is recommended that consideration be given by Match Officials to suspend or cancel the match or Netball Activity, or modify such until the air quality improves.

10.4 Where the air quality readings are Very Poor or Extremely Poor, it is recommended Match Officials suspend or cancel the match or Netball Activity until the air quality improves.

10.5 Consideration should be based on information obtained from the Live Air Data website and a local assessment of conditions, including indoor venues.

10.6 Where a decision is made to continue a match or Netball Activity with readings that are Fair to Extremely Poor, warnings should be issued to officials, players, and all involved in the match or Netball Activity at the venue or on an associated website/social media platform, or both. The warning should provide information that current conditions may pose a health hazard, particularly to those with respiratory or cardiovascular conditions and they should make their own decision in regard to participating.

10.7 Further information and a number of Air Quality Fact Sheet are available on the QLD Health website: Air quality in a disaster | Queensland Health

11. Review

This policy must be reviewed every two years, or earlier if required.

12. References

Sports Medicine Australia (SMA)
Extreme Heat Policy, February 2021
SMA-Extreme-Heat-Policy-2021-Final-1.pdf

Bureau of Meteorology (BOM)
www.bom.gov.au
http://www.bom.gov.au/places/
Queensland Fire Danger Ratings (bom.gov.au)
Thermal Comfort Observations - WGBT and Apparent Temperature for Queensland (bom.gov.au)

Queensland Health
Air quality in a disaster | Queensland Health

QLD Department of Environment and Science
Live air data | Environment, land and water | Queensland Government (des.qld.gov.au)

Cancer Council
SunSmart App
https://www.cancer.org.au/cancer-information/causes-and-prevention/sun-safety/be-sunsmart

Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)
https://www.arpansa.gov.au/our-services/monitoring/ultraviolet-radiation-monitoring/ultraviolet-radiation-index

Australian Medical Association
Making sport safer ... from lightning! | Australian Medical Association (ama.com.au)

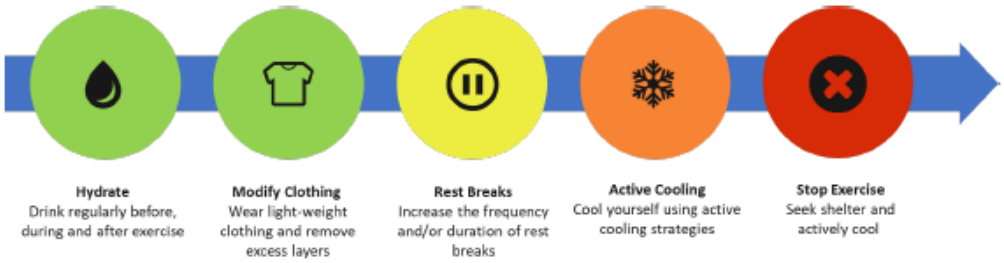
Australia Institute of Sport (AIS)
Smoke Pollution and Exercise | Australian Institute of Sport (ais.gov.au)

Appendix A – Extracts from Sports Medicine Australia's *Extreme Heat Policy*, 2021

Mitigating Heat Stress Risk

Accompanying each rating are recommended actions that can be taken to mitigate the prevailing heat stress risk:

AT A GLANCE – MITIGATING HEAT STRESS RISK



The specific heat stress mitigation strategy used depends on the type of sporting activity, however general recommendations that can be implemented across most sports are detailed below.

Plan ahead to ensure you are able take the most appropriate precaution to stay safe when exercising in the heat.

GREEN: *Hydrate and Modify Clothing*

When heat stress risk is low, maintaining hydration through regular fluid consumption and modifying clothing is still a simple, yet effective, way of keeping cool and preserving health and performance during the summer months.

You should:

- Ensure pre-exercise hydration by consuming 6 ml of water per kilogram of body weight every 2-3 hours before exercise. For a 70kg individual, this equates to 420ml of fluid every 2-3 hours (a standard sports drink bottle contains 500ml).
- Drink regularly throughout exercise. You should aim to drink enough to offset sweat losses, but it is important to avoid over-drinking because this can also have negative health effects. To familiarise yourself with how much you typically sweat, become accustomed to weighing yourself before and after practice or competition.

The clothing/equipment you wear can influence how quickly you heat-up during exercise. Simple clothing modifications can help to keep you cool.
You should:

- Where possible, select light-weight and breathable clothing with extra ventilation
- Remove unnecessary clothing/equipment and/or excess clothing layers
- Reduce the amount of skin that is covered by clothing – this will help increase your sweat evaporation, which will help you dissipate heat.

NOTE: Sunscreen does NOT impede sweating or affect heat loss from the skin. Sunscreen should be applied regularly, as per instructions, to avoid sunburn.

YELLOW: *Rest Breaks*

When the heat stress risk is moderate, increasing the frequency and/or duration of your rest breaks during exercise or sporting activities is an effective way of reducing your risk for heat illness even if minimal resources are available.

- During training sessions, provide a minimum of 15 minutes of rest for every 45 minutes of practice.
- Extend scheduled rest breaks that naturally occur during match-play of a particular sport (e.g. half-time) by ~10 mins. This is effective for sports such as soccer/football and rugby and can be implemented across other sports such as field hockey.
- Implement additional rest breaks that are not normally scheduled to occur. For example, 3 to 5-min "quarter-time" breaks can be introduced mid-way through each half of a football or rugby match, or an extended 10-min drinks break can be introduced every hour of a cricket match or after the second set of a tennis match.
- For sports with continuous play without any scheduled breaks, courses or play duration can be shortened
- During all breaks in play or practice, everyone should seek shade – if natural shade is not available, portable sun shelters should be provided, and water freely available.

NOTE: While hats provide UV protection, they provide minimal protection against the heat.

ORANGE: *Active Cooling*

When the heat stress risk is high, active cooling strategies should be applied during scheduled and additional rest breaks, or before and during activity if play is continuous. Below are strategies that have been shown to effectively reduce body temperature. The suitability and feasibility of each strategy will depend on the type of sport or exercise you are performing.

- Drinking cold fluids and/or ice slushies before exercise commences. Note that cold water and ice slushy ingestion during exercise is less effective for cooling
- Submerging your arms/feet in cold water
- Water dousing – wetting your skin with cool water using a sponge or a spray bottle helps increase evaporation, which is the most effective cooling mechanism in the heat
- Ice packs/towels – placing an ice pack or damp towel filled with crushed ice around your neck
- Electric (misting) fans – outdoor fans can help keep your body cool, especially when combined with a water misting system

NOTE: The application of substances such as menthol to the skin can induce a cool sensation, but they do not physically cool the body and therefore do not lower the risk of heat related illness.

RED: *Stop Exercising*

When the heat stress risk is extreme, exercise/play should be suspended. If play has commenced, then all activities should be stopped as soon as possible.

- All players should seek shade or cool refuge in an air-conditioned space if available
- Active cooling strategies should be applied

Preparing for exercise in the heat

On the day

Optimally preparing for exercise in the heat will reduce the subsequent risk of heat related illness. If hot weather is forecasted, during the preceding 24 hours you should:

- Avoid extended strenuous exercise that will substantially pre-elevate core temperature
- Ensure you are well hydrated – drink water regularly the day before and drink 500ml of water 1-2 hours before play begins
- If caffeine-habituated (e.g. you typically drink multiple cups of coffee a day), you should avoid high caffeine doses in the hours leading up to play as lower levels of skin blood flow result in higher core temperatures
- Immediately before exercise, you can pre-cool the body by drinking cold water or an ice slushy, immersing the lower half of your body in cold water, or wearing an ice vest

NOTE: Taking anti-pyretic medication such as acetaminophen (i.e. paracetamol) does NOT lower the body temperature response to exercise, and is therefore NOT recommended as a way to reduce heat stress risk.

In the days/weeks before

Acclimatising to hot weather is a well-established longer-term method for reducing the risk of heat-related illness during exercise. Physiological adaptations include a reduction in core temperature, an expanded blood plasma volume that lowers heart rate, an increase in maximum sweat rate, a cooler thermal sensation, and a reduction level of perceived exertion.

To optimally acclimatise to the heat, you should:

- Frequently (i.e. daily) expose yourself to the type of conditions that you will be playing in (e.g. hot/humid, very hot/dry) for 45-90 minutes per day for a minimum of 5, and preferably up to 14, consecutive days.
- Exercise in these conditions at the same perceived effort – as you begin to adapt the absolute level that you are working at will increase.
- If protective equipment is usually worn, none should be worn for the first 3-4 days, and then the equipment levels should be gradually increased each subsequent day.

NOTE: Because extended and frequent exposure to exercise-heat stress is required to attain complete adaptation, additional thermal protection from heat acclimatisation should not be assumed if exercise intensities and exposure frequency is low.

Who is especially at risk of heat-related illness?

While even the fittest athlete can fall victim to heat-related illness, certain people are especially vulnerable:

- Aged over 65 years, especially if unfit. Note that age effects on thermoregulation may become progressively worse with age, so risk is generally greater with more advanced age
- Heart or kidney disorders / disease presents a greater risk of cardiovascular or renal failure during or following exercise in the heat
- Recently sick with a fever
- Taking prescription medications that impair sweating
- A reduced ability to behaviourally respond to heat, e.g. due to mental health challenges or substance abuse
- Very high body fat
- Recently (in the past week) arrived from a cold climate

	Heat Exhaustion / Syncope	Exertional Heat Stroke (EHS)

Symptoms (what the person might feel)	- Headache
	- Dizziness
	- Weakness
	- Nausea
	- Vomiting
		- Brain symptoms including:
		  ○ Confusion
		  ○ Agitation
		- Symptoms can develop rapidly
		- EHS is a medical emergency

Signs (what you might see)	- Fainting
	- ↑Heart rate
	- ↓Blood pressure
	- Core temperature usually < 40°C
	- Absence of brain symptoms
		- Brain symptoms including:
		  ○ Confusion
		  ○ Unsteadiness
		  ○ Aggressive or irrational behaviour
		  ○ Altered level of consciousness, seizures, coma
		- ↑Heart rate, ↑breathing rate, ↓blood pressure
		- Core temperature usually > 40°C

Immediate management	- Move to shade and cool - Remove as much clothing as possible - Remove protective equipment (e.g. helmet, pads) - Apply lots of water to skin - Oral Fluids - Lie on back with legs elevated - Watch for worsening	- ABC (airways, breathing, circulation) - Aggressively col the body with ice and water - Call ambulance - Continue cooling while transfer to hospital * Cool first, transport second *

NOTE: It is currently unclear if heat stress risk is truly elevated in children. Similarly, some reports indicate that pregnant women exposed to extreme heat may be at elevated risk negative birth outcomes, but no evidence links this with exercise, which is known to provide extensive benefits to mother and baby. Thermoregulatory capacity during pregnancy is also not compromised.