Rev:1/2020
Published 16 Jan 2020

Rowing Queensland
HEAT POLICY

EXPLANATION

Rowing Queensland Limited (Rowing Queensland or RQ) uses the Sports Medicine Australia Heat policy and guidelines along with the Rowing Australia Rowing Australia Extreme Heat Recommendations.

Sports Medicine Australia has written a document to fit Australia and the many sports played here. This document aims to clarify how RQ interprets some of the points outlined in the two above listed documents and how RQ intends to implement their guidelines or recommendations.

These recommendations and guidelines shall apply to all competitions conducted in Queensland under the auspices of, and sanctioned by RQ during 2020 including:

- Queensland Championships, January.
- Time Trials and Summer Series, Sep, Oct, Nov, Dec.
- Queensland Masters Championships, April.
- Winter series.
- Queensland Schools Championships, Sep.
- RQ Premiership & Regional Championship Regattas.

The following are points from and hence should be read with the Rowing Australia - Extreme Heat Recommendations, Updated 2011.

Three documents are referenced by this policy as presented in the attachments to this policy:

- Sports Medicine Australia – Hot Weather Guidelines, Attachment 1;
- Rowing Australia Extreme Heat Recommendation, Attachment 2,
- Sports Medicine Australia – Beat the Heat, playing and exercising safely in hot weather – fact sheet.

1. Scope of these Recommendations

As outlined above.

3. Activating the Extreme Heat Recommendations

The following minimum requirements will determine activation of the Extreme Heat Recommendations. Temperatures are to be measured on the regatta course, ***150cm above the water level at the 1000m mark of the course***. This aims to give a reading as close to the conditions the athletes are racing in.

For competitors 16 years and younger, all racing must be suspended (on completion of the current race) and no further races are to commence if; The ***Heat Index is 35 or greater or the Absolute Temperature is 34 degrees C or greater***.

For competitors over 16 years of age (Open), all racing must be suspended (on completion of the current race) and no further races are to commence if; the Heat Index is 35 or greater.

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4. Heat Index

RQ to follow and implement as read in the Rowing Australia policy, Attachment 2.

5. Requirements of Competition Manager/Event Director

- Competition Manager will have on site, the appropriate instrument to measure temperature and relative humidity to determine Heat Index levels. RQ staff will also monitor the Bureau of Meteorology website.
- Once the air temperature reaches 25°C, RQ will test and record the temperature every 30 minutes.
- Where racing is suspended, Competition Manager must ensure that all competitors, coaches and managers involved in the regatta are made aware of the action - and made aware of procedures involving the next round of scheduled races/session.
- Once the Extreme Heat Recommendations are invoked, the Competition Manager must ensure that the minimum rest time for an athlete between races is one hour.
- RQ will provide drinking water for athletes suffering from heat related illness.
- RQ will provide an athlete shower and/ or ice bath where possible.
- RQ will provide Ice for heat stress emergencies.
- RQ will provide a shaded and ventilated area for athletes suffering from heat related illness.
- The Referee **will consult with** the RQ's Competition Manager, RQ and QAS Staff and potentially with Club Head Coaches and may invoke the Extreme Heat Recommendations if he/she believes there is real danger to the competitors' health.

6. Recommendations to Competition Manager/Event Directors

RQ

- will provide some drinking water for events but may not be able to have enough water for every competitor. It is the competitor / team manager's responsibility to ensure that they have sufficient drinking water for the conditions.
- will observe all guidelines addressed in the Rowing Australia's ''Guidelines for Medical Services provisions at Rowing Australia conducted events', 2015
- strongly encourages competitors to wear hats, sunscreen, sunglasses, and long sleeve shirts both on and off the water and to carry drinking water in their boat for the row down and period before commencing a race. The water may be disposed of immediately prior to the commencement of a race.
- will make every effort to avoid scheduling races in the hottest part of the day when the risk of heat stress is highest.

7. Important Information and who suspends racing

At RQ events the Referee has the responsibility to suspend racing or postpone any race on account of the weather conditions. At RQ events, the Referee will consult with the Competition Manager, RQ & QAS staff and club head coaches as to when to invoke the Extreme Heat Recommendations if he/she believes there is real danger to the competitors' health.

8. Role and Responsibility of the Referee

Under the RQ Rules of Racing, the Referee has the responsibility to suspend racing or postpone any race on account of the weather conditions. The Referee **will consult with** RQ Staff, the Competition Manager, RQ & QAS staff and club head coaches as to when and how the regatta will be affected due to the increasing heat.

Upgrading the risk level and even suspending racing may be appropriate in environmental circumstances falling outside the cut-offs listed in the Extreme Heat Recommendations, particularly if Heat Index values are being used – for example, extreme heat combined with high winds.

9. Instruments for measuring Heat Index

RQ to follow and implement as read in the Rowing Australia policy, Attachment 2.

10. Heat Index Table

RQ uses the Rowing Australia Heat Index Table in their policy.

11. Procedures for Reducing the Risk of Heat Stress

RQ advises athletes and coaches to follow the Sports Medicine Australia, Beat the Heat fact sheet, Attachment 3, which has a number of ways athletes can remain well during hot regattas. RA's policy also has some suggestions for athletes.

The following relates to and should be read with the Sports Medicine Australia (SMA) - Hot Weather Guidelines, Attachment 1.

TEMPERATURE

Ambient temperature is the most easily understood guide available, and is most useful on hot, dry days

Ambient temperature	Relative humidity	Risk of Heat Illness	Possible management for sustained physical activity
15 - 20		Low	Heat illness can occur in distance running. Caution over-motivation.
21 - 25	Exceeds 70%	Low - moderate	Increase vigilance. Caution over-motivation.
26 – 30	Exceeds 60%	Moderate	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 per session.
36 and above	Exceeds 30%	Extreme	Very stressful for most people. Postpone to a cooler condition (or cooler part of the day) or cancellation.

WBGT

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

WBGT	Risk of thermal injury	Possible modifying action for vigorous sustained activity
< 20	Low	Heat illness can occur in distance running. Caution over-motivation.
21 - 25	Moderate to high	Increase vigilance. Caution over-motivation. Moderate early pre-season training intensity and duration. Take more breaks.
26 - 29	High - Very high	Limit intensity. 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).

12. Duration and intensity of an event

- RQ will aim to program races outside of the extreme heat.
- RQ will aim to maximise the time between races so as athletes can have time to re-hydrate.

13. Conduct of competition and training (hydration and interchange opportunities)

- RQ will take all the precautions they can to help athletes if they are suffering from heat related illness, however athletes and coaches need to take all the precautions they can to assist this as well.
- Athletes should not over-commit and do too many races if the weather is predicted to be hot.
- Athletes should work with their coaches on a hydration plan and do everything they can to protect themselves from the sun.

14. Time of Day

- When planning a regatta RQ will aim to program races outside of the extreme heat times wherever possible.
- If after a regatta draw has been published, weather predictions are for extreme heat, RQ may publish a redraw which may prioritise some races, and cut the day shorter, move to another day or cancel the regatta.

15. Local Environment

- Athletes need to be well prepared for hydration and sun protection when attending regattas in Queensland.
- RQ cannot provide large amounts of water for every athlete at its venues.

HOST (PERSONAL) FACTORS

Athletes must do all they can to help protect themselves from heat exposure, including:

- When not racing, avoid the heat and direct sun.
- RQ requires athletes to wear a hat and a long sleeve shirt while on their way to the start of their race.
- Sunglasses & sunscreen.
- Continually hydrate.
- Have a hydration plan with their coaches around their races.
- Not do too many races in a day.

GENERAL PROVISION

The health and wellbeing of an athlete remains the ultimate responsibility of the athlete, their coach and team management with the final decision to participate in a race being the athlete's and or their coach / team management.

In circumstances where an athlete has withdrawn from a race in a regatta program based on heat stress or heat related illness then before participating in any further races on that regatta program the athlete will be required to be cleared to participate by the nominated Regatta Medical Officer (to be read as including medical doctor or advanced para-medics as appointed).

FINAL SUMMARY

At RQ events or regattas RQ is responsible for:

1. In the lead up to the event or regatta, publish the RQ, Rowing Australia and Sports Medicine Australia polices and guidelines to competing athletes, their coaches and supporters. Be clear as to what procedures RQ will be following and how they will be implemented if temperatures reach predicted levels.
2. Plan to have strong communication methods through public announcements and mobile phone messaging, e.g. What's App for team managers and coaches.
3. Book appropriate numbers of sports first aid officers and or paramedics. Before racing begins, ensure all medical staff have been briefed as to the RQ policy and guidelines.
4. During the regatta when extreme heat conditions maybe experienced, causing the temperature to be measured at a point ***150cm above the water level at the 1000m mark of the course*** each 30 minutes as the regatta continues.
5. Report to the competitors, coaches, managers and spectators as the temperature rises at the event what will happen if the regatta referee deems the temperature has reached a point where it become dangerous to athlete's wellbeing if competition continues.
6. Discuss alternate completion of racing for when the temperature goes past the previous listed points with RQ Staff, regatta officials and club head coaches.
7. Have shade, water and when there is the potential for a high heat event ice and showers or ice baths for athletes who have suffered from heat related illness. It's not RQ's responsibility to have enough water, shade and ice for all entered athletes, their coaches and supporters.

At all points, RQ's priority is the safety of its athletes, coaches, officials, volunteers, supporters and staff.

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Attachment 1

(Web download document)

HOT WEATHER GUIDELINES

For sporting clubs and associations and the physically active

Why use guidelines?

Every year in hot weather **Sports Medicine Australia (SMA)** receives requests from sporting clubs and associations, individuals and members of the media asking:

- Should our sporting event be modified or cancelled?
- Should our training be modified or cancelled?
- When is it safe to play sport or be physically active in the heat?

To help organisations, coaches, teachers and other individuals when conducting sport in hot weather, SMA has produced this revised set of guidelines. These new guidelines are based on the latest research as well as the expertise of SMA's medical and scientific members.

Most people understand the importance of physical activity for good health but it is just as important that, when levels of activity rise, the risk of harm is minimised. And it is even more important for those who have not recently or regularly taken part in sport or physical activity.

These guidelines are not binding, but SMA reminds all parties that they must act responsibly. We encourage a common sense approach and consideration of the comfort and well-being of all individuals including participants and officials.

Modification or cancellation of events, training or withdrawal from participation may be appropriate even in circumstances falling outside these recommendations.

There are many factors to be considered when clubs and associations are contemplating modifying, postponing or canceling sporting events or training.

Sporting organisations need to be aware of the difficulty of settling "one size fits all" guidelines in this area. For normally healthy active people, the only dangers from heat illness are likely to arise from high intensity exercise such as endurance running. Most community sport does not reach this level for periods long enough to cause serious harm. Many types of sport, such as cricket and tennis, are usually safe at higher temperatures because of the lower intensity of the play.

One area of higher risk for organisers of community-level sport is in the conduct of marathons and fun runs and bike rides. These events are more likely to see participants push themselves beyond their normal boundaries of activity, and organisers need to take extra precautions.

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However, at any time, high intensity exercise in a hot environment, with the associated elevation of body temperature, can lead to heat illness. Heat illness in sport presents as **heat exhaustion** or the more severe **heat stroke**.

Heat exhaustion

- Characterised by a high heart rate, dizziness, headache, loss of endurance/skill/confusion and nausea.
- The skin may still be cool/sweating, but there will be signs of developing vasoconstriction (eg, pale colour).
- The rectal temperature may be up to 40°C and the athlete may collapse on stopping activity. Rectal temperature should only bne measured by a doctor or nurse.

To avoid heat exhaustion, if people feel unwell during exercise they should immediately cease activity and rest. Further benefit comes if the rest is in a shaded area with some passing breeze (from a fan if necessary) and the person takes extra hydration. Misting or spraying with water can also help.

Heat stroke

- Characteristics are similar to heat exhaustion but with a dry skin, confusion and collapse.
- Heat stroke may arise in an athlete who has not been identified as suffering from heat exhaustion and has persisted in further activity.
- Core temperature measured in the rectum is the only reliable diagnosis of a collapsed athlete to determine heat stroke.

This is a potentially fatal condition and must be treated immediately. It should be assumed that any collapsed athlete is at danger of heat stroke. The best first aid measures are "Strip/Soak/Fan":

- **strip off any excess clothing;**
- **soak with water;**
- **fan;**
- **ice placed in groin and armpits is also helpful.**

The aim is to reduce body temperature as quickly as possible. The athlete should immediately be referred for treatment by a medical professional.

Important: heat exhaustion/stroke can still occur even in the presence of good hydration.

Dehydration

Dehydration is fluid loss which 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.

To avoid dehydration, SMA recommends that:

- athletes drink approximately 500 mls (2 glasses) in the 2 hours prior to exercise;
- during exercise longer than 60 minutes, 2-3 cups (500-700ml) of cool water or sports drink are sufficient for most sports.
- after exercise replenish your fluid deficit to ensure that you are fully re-hydrated, but not over-hydrated.
- refer to SMA's free DRINK UP brochure available as a web download at http://www.smartplay.com.au or from your local National Pharmacies store.

Points to consider:

- Will your players and officials be able to consume enough water during the event?
- Even a small degree of dehydration will cause a decrease in performance.
- Take care not to over-hydrate. Drinking too much fluid can lead to a dangerous condition known as hyponatraemia (low blood sodium). Aim to drink enough to replace lost fluids, but not more than that.

Factors to consider before cancelling or modifying a sporting event or training

(Remember not only to take players into account but also umpires, officials and volunteers.)

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

Environmental Factors

1. Temperature

Ambient temperature is the most easily understood guide available, and is most useful on hot, dry days

Ambient temperature	Relative humidity	Risk of Heat Illness	Possible management for sustained physical activity
15 - 20		Low	Heat illness can occur in distance running. Caution over-motivation.
21 - 25	Exceeds 70%	Low - moderate	Increase vigilance. Caution over-motivation.
26 – 30	Exceeds 60%	Moderate	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 per session.
36 and above	Exceeds 30%	Extreme	Very stressful for most people. Postpone to a cooler conditions (or cooler part of the day) or cancellation.

OR

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

WBGT	Risk of thermal injury	Possible modifying action for vigorous sustained activity
< 20	Low	Heat illness can occur in distance running. Caution over-motivation.
21 - 25	Moderate to high	Increase vigilance. Caution over-motivation. Moderate early pre-season training intensity and duration. Take more breaks.
26 - 29	High - Very high	Limit intensity. 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).

The Bureau of Meteorology (BOM) produces ambient and WBGT readings for many locations in Australia. You can check these readings and a guide for the relative risk for your location at **www.bom.gov.au/info/thermal_stress/index.shtml**

N.B. It is important to watch for unusual "heatwave" conditions or variations from the average temperature for the time of year. This is one situation where there may be a greater danger of heat illness.

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 tables, stress increases markedly.

2. Duration and intensity of an event

- The combination of extreme environmental conditions and sustained vigorous exercise is particularly hazardous for the athlete. The greater the intensity of the exercise, the greater the risk of heat related symptoms; eg, distance running is more of a problem than stop-start team events.
- Player and official rotation may also be considered
- Reducing playing time and extending rest periods with opportunities to rehydrate during the event would help safeguard the health of participants.
- Provision of extra water for wetting face, clothes and hair is also important.
- A fan to enhance air movement would be beneficial

3. Conduct of competition and training (hydration and interchange opportunities)

- Associations may consider dividing games into shorter playing periods rather than halves to allow for extra breaks.
- Coaches may consider alternative training times and venues during hot weather.
- Remember, even five minutes rest can cause a significant reduction in core temperatures.
- It is important to consider the welfare of officials, as well as players.

4. Time of Day

- Avoid the hottest part of the day (usually 11 am-3 pm). Scheduling events outside this time should be a consideration throughout any summer competition, training or event, regardless of the temperature.

5. Local Environment

- Radiant heat from surfaces such as black asphalt or concrete can exacerbate hot conditions.
- The type of exercise surface and the amount of sunlight vary significantly with different sporting activities and therefore must be analysed for each individual sport.
- An air-conditioned indoor venue will provide less of a problem. A hot indoor venue or an outside venue without shade cannot be considered an acceptable environment.
- Airflow should be considered, including fans in change rooms or appropriately placed.

Remember, air movement decreases heat stress. However, a following wind can increase problems for runners or cyclists by actually reducing air movement.

Host (personal) factors

1. Clothing

- Type of clothing is vital in minimising health risks associated with exercise in heat.
- Fabrics that minimise heat storage and enhance sweat evaporation should be selected.

- Light weight, light coloured, loose fitting clothes, made of natural fibres or composite fabrics with high wicking (absorption) properties, that provide for adequate ventilation are recommended as the most appropriate clothing in the heat. This clothing should complement the existing practices in Australia that protect the skin against permanent damage from the sun.

- This should apply to the clothing worn by players, umpires, other officials and volunteers.

Protective clothing

If clothing is worn for protective reasons, ensure that it is worn only while training and competing in hot weather. Some examples include leathers in motorcycling and mountain biking, protective equipment for hockey goalkeepers and softball and baseball umpires. Remove non-breathable clothing as soon as possible if the participants or officials are feeling unwell in hot conditions. Start cooling the body immediately via ventilation and/or a cool spray such as a soaker hose or a hand-held spray and a fan.

2. Acclimatisation of the participant

- Acclimatisation of the participant includes umpires, other officials and volunteers as well as players.

- Preparation for exercise under hot conditions should include a period of acclimatisation to those conditions, especially if the athlete is travelling from a cool/temperate climate to compete in hot/humid conditions.

- It has been reported that children will acclimatise slower than adults.

- Regular exercise in hot conditions will facilitate adaptation to help prevent performance deteriorating, or the athlete suffering from heat illness, during later competitions. Sixty minutes acclimatisation activity each day for 7-10 days provides substantial preparation for safe exercise in the heat.

3. Fitness levels / athletic ability of participant

- A number of physical/physiological characteristics of the athlete will influence the capacity to tolerate exercise in the heat, including body size and endurance fitness.

- In endurance events, accomplished but non-elite runners, striving to exceed their performance, may suffer from heat stress. The potential for heat-related

illnesses would be exacerbated if they have not acclimatised to the conditions and have failed to hydrate correctly.

- Overweight and unconditioned athletes, umpires, officials and volunteers will generally also be susceptible to heat stress.

- Refer to SMA's free DRINK UP brochure available from www.sma.org.au/information or your local National Pharmacies store.

4. Age and gender of participant

- **Female participants** may suffer more during exercise in the heat because of their greater percentage of body fat.

- **Young children** are especially at risk in the heat. Prior to puberty, the sweating mechanism, essential for effective cooling, is poorly developed. The ratio between weight and surface area in the child is also such that the body absorbs heat rapidly in hot conditions.

- In practical terms, child athletes must be protected from over-exertion in hot climates, especially with intense or endurance exercise.

- Although children can acclimatise to exercise in the heat, they take longer to do so than adults.

- Coaches should be aware of this and limit training for non-acclimatised children during exposure to hot environments.

NB: Children tend to have a more "common sense" approach to heat illness than adults. They "listen to their bodies" more and will usually slow down or stop playing if they feel distressed in the heat. ***On no account should children be forced to continue sport or exercise if they appear distressed or complain about feeling unwell.***

- Veteran participants may also cope less well with exercise in the heat. Reduced cardiac function is thought to be responsible for this effect.

5. Predisposed medical conditions

- It is important to know if athletes, umpires, officials or volunteers have a medical condition or are taking medication that may predispose them to heat illness.

- Examples of illnesses that will put the participant or official at a high risk of heat illness include asthma, diabetes, pregnancy, heart conditions and epilepsy. Some medications and conditions may need special allowances.

- Participants and officials who present with an illness such as a virus, flu or gastro or who are feeling unwell are at an extreme risk of heat illness if exercising in moderate to hot weather.

- Participants or officials who may be affected by drugs or alcohol may be at an extreme risk of heat illness if exercising in moderate to hot weather.

- SMA has produced Pre-exercise Health Check Guidelines. These should be used if pre-existing medical conditions are suspected or if the participant has

no recent record of activity. The Guidelines can be downloaded from www.sma.org.au

6. Other factors to consider

- Preventative measures can be undertaken to minimise heat injuries. Examples include the provision of shade, hats, appropriate sunscreen, spray bottles and drinking water.
- It is important to have trained personnel available to manage heat injuries and designated recovery areas for patients.
- In situations where heat problems may be expected, an experienced medical practitioner should be present.

Heat stroke is potentially life threatening. Any indication of this condition should be immediately referred for medical assessment.

Attachment 2

ROWING AUSTRALIA EXTREME HEAT RECOMMENDATIONS

UPDATED 2011

Heat stress is a serious health risk. High intensity exercise in a hot environment, with the associated fluid loss and elevation of body temperature, can lead to dehydration, heat exhaustion and heat stroke (which can be fatal). High humidity significantly increases the likelihood of heat stress. Children are at greater risk than adults are because their thermoregulation mechanisms are not fully developed. Older athletes can also be at high risk because of reduced cardiac function.

Competition organisers have a Duty of Care to monitor environmental conditions and to take action to minimise the risk of heat stress to athletes.

Refer also to: *'Guidelines for Medical Services provisions at Rowing Australia conducted events' Version 1, 2010*

1. Scope of these Recommendations

These recommendations shall apply to all competitions conducted in Australia under the auspices of, and sanctioned, by Rowing Australia (Australian National Championships, Australian Masters Championships, Youth Cup, National Selection Regattas, or other RA events).

2. Structure of the Extreme Heat Recommendations

These recommendations are divided into sections:-

- Activating the Extreme Heat Recommendations
- Heat Index
- Requirements of the Competition Manager/Event Director
- Recommendations to Regatta Committees
- Important Information - and who suspends racing
- Role and Responsibilities of the Competition Manager/Event Director
- Instruments for measuring Heat Index
- Heat Index Table
- Procedures for reducing the risk of heat stress

3. Activating the Extreme Heat Recommendations

The following minimum requirements will determine activation of the Extreme Heat Recommendations. Temperatures are to be deemed at the regatta venue by the side of the course, NOT in direct sunlight.

<u>For competitors 16 years and younger</u>

All racing must be suspended (on completion of the current race) and no further races are to commence if;
The Heat Index is 35 or greater
The Absolute Temperature is 34 or greater

<u>For competitors over 16 years of age (Open)</u>

All racing must be suspended (on completion of the current race) and no further races are to commence if;
The Heat Index is 35 or greater

4. Heat Index

The Heat Index shall be determined from the Heat Index Table enclosed by using the Ambient Temperature and the Relative Humidity measured at the course at the same time. For example, if the Temperature is 35°C and the Relative Humidity is 40%, the Heat Index is a value of 37. If the Temperature is 35°C and the Relative Humidity is 60%, the Heat Index is a value of 45. See sections 9 & 10 below.

5. Requirements of Competition Manager/Event Director

- Competition Manager/Event Directors, must have on site, the appropriate instrument to measure Temperature and Relative Humidity to determine Heat Index levels. In some states, the Bureau of Meteorology may provide local conditions via an airport facility, or weather station near the venue
- Once the air temperature reaches 25°C, the conditions must be evaluated at least once every hour and recorded.
- Once the Extreme Heat Recommendations are invoked, the conditions must be re-evaluated every 30 minutes.
- Where racing is suspended, Competition Manager/Event Directors must ensure that all competitors, coaches ad managers involved in the regatta are made aware of the action - and made aware of procedures involving the next round of scheduled races/session.
- Once the Extreme Heat Recommendations are invoked, the Competition Manager/Event Director must ensure that the minimum rest time between races is one hour.
- Cold drinking water should be made available.
- Cold showers should be made available.
- Ice should be made available for heat stress emergencies.
- Adequate shaded areas should be provided.
- The Competition Manager/Event Director's closest advisor on medical matters is the Medical Director or venue Doctor. If for some reason, the Doctor is unavailable for consultation, then a registered Paramedic of Nurse on duty at the event, should be consulted.
- Information about the nearest medical assistance should be on display in a prominent location.
- Promote awareness of the seriousness of heat stress and the steps that can be taken to reduce the danger by displaying and distributing appropriate information such as the "Drink Up – Beat the Heat" leaflet (available at www.sma.org.au produced by Sports Medicine Australia). The "Beat the Heat" Recommendations as included in the Extreme Heat Recommendations should also be displayed at all venues.

Note: The Referee **will consult with** the RA Technical Delegate, Competition Manager/Event Director and the event's Medical Director and may invoke the Extreme Heat Recommendations if he/she believes there is real danger to the competitors' health.

6. Recommendations to Competition Manager/Event Directors

- Have cold water drinking fountains at each venue.
- Observe the Guidelines addressed in the RA "Guidelines for Medical Services provisions at Rowing Australia conducted events' Version 1, 2010
- Encourage competitors to wear hats that cover the top of the ears and back of the necks.
- Avoid scheduling races in the middle of the day when the risk of heat stress is highest. Consider modifying racing distances.

7. Important Information and who suspends racing

- Under the RA Rules of racing, the Referee has the power to suspend racing or postpone any race on account of the weather conditions. At RA Events, the Referee **will consult with** the RA Technical Delegate, Competition Manager/Event Director and the event's Medical Director and may invoke the Extreme Heat Recommendations if he/she believes there is real danger to the competitors' health.
- The measurement values used in the Extreme Heat Recommendations determine the level of risk are for an average person involved in continuous strenuous activity in high temperatures. Individual persons will be affected differently by the environmental conditions depending on their:
  - Fitness level
  - Athletic ability
  - Age
  - Gender
  - Any predisposed medical conditions
  - Level of acclimatisation

8. Role and Responsibility of the Referee

Under the RA Rules of racing, the Referee has the power to suspend racing or postpone any race on account of the weather conditions. The Referee **will consult with** the RA Technical Delegate, Competition Manager/Event Director and the event's Medical Director and may invoke the Extreme Heat Recommendations if he/she believes there is real danger to the competitors' health.

Upgrading the risk level and even suspending racing may be appropriate in environmental circumstances falling outside the cut-offs listed in the Extreme Heat Recommendations, particularly if Heat Index values are being used – for example, extreme heat combined with high winds.

9. Instruments for measuring Heat Index

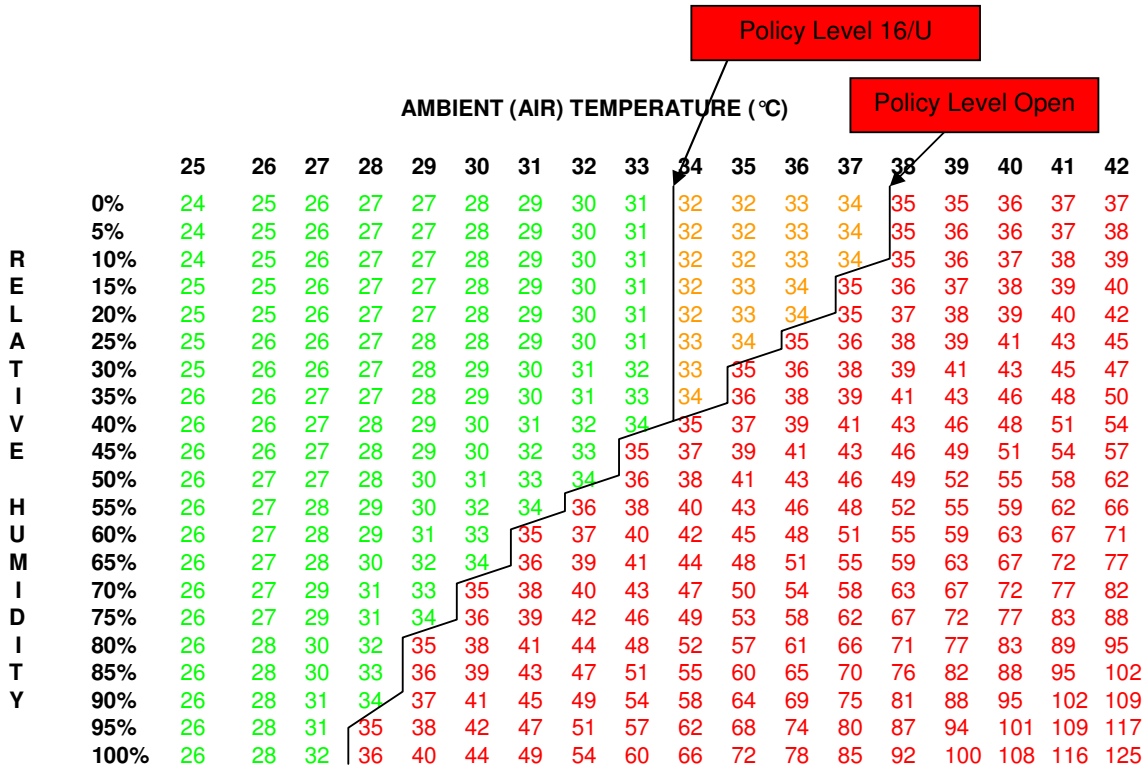
In using the Heat Index Table provided, Ambient Temperature and Relative Humidity should be measured directly at each competition venue. Relative Humidity can be determined by using a digital thermometer/ hygrometer that can be purchased at electronic stores at a reasonably low cost.

Where possible, Heat Index observations should be obtained (and used) from the nearest BOM weather station, or airport.

Go to: www.bom.gov.au then; follow the link to: *weather and warnings*, then to: *your state*, then to: *observations*, then: *thermal comfort.*

10. Heat Index Table

The Heat Index was devised for shady, light wind conditions and does not take into account radiant heat. Direct sunshine and strong, hot, dry winds can significantly increase the "apparent temperature" and thus the risk of heat stress.



RELATIVE HUMIDITY	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
0%	24	25	26	27	27	28	29	30	31	32	32	33	34	35	35	36	37	37
5%	24	25	26	27	27	28	29	30	31	32	32	33	34	35	36	36	37	38
10%	24	25	26	27	27	28	29	30	31	32	32	33	34	35	36	37	38	39
15%	25	25	26	27	27	28	29	30	31	32	33	34	35	36	37	38	39	40
20%	25	25	26	27	27	28	29	30	31	32	33	34	35	37	38	39	40	42
25%	25	26	26	27	28	28	29	30	31	33	34	35	36	38	39	41	43	45
30%	25	26	26	27	28	29	30	31	32	33	35	36	38	39	41	43	45	47
35%	26	26	27	27	28	29	30	31	33	34	36	38	39	41	43	46	48	50
40%	26	26	27	28	29	30	31	32	34	35	37	39	41	43	46	48	51	54
45%	26	26	27	28	29	30	32	33	35	37	39	41	43	46	49	51	54	57
50%	26	27	27	28	30	31	33	34	36	38	41	43	46	49	52	55	58	62
55%	26	27	28	29	30	32	34	36	38	40	43	46	48	52	55	59	62	66
60%	26	27	28	29	31	33	35	37	40	42	45	48	51	55	59	63	67	71
65%	26	27	28	30	32	34	36	39	41	44	48	51	55	59	63	67	72	77
70%	26	27	29	31	33	35	38	40	43	47	50	54	58	63	67	72	77	82
75%	26	27	29	31	34	36	39	42	46	49	53	58	62	67	72	77	83	88
80%	26	28	30	32	35	38	41	44	48	52	57	61	66	71	77	83	89	95
85%	26	28	30	33	36	39	43	47	51	55	60	65	70	76	82	88	95	102
90%	26	28	31	34	37	41	45	49	54	58	64	69	75	81	88	95	102	109
95%	26	28	31	35	38	42	47	51	57	62	68	74	80	87	94	101	109	117
100%	26	28	32	36	40	44	49	54	60	66	72	78	85	92	100	108	116	125

11. Procedures for Reducing the Risk of Heat Stress

BEAT THE HEAT

High intensity exercise in a hot environment, with the associated fluid loss and elevation of body temperature, can lead to Dehydration, Heat Exhaustion and Heat Stroke.

AVOID HEAT STRESS BY ADEQUATE FLUID REPLACEMENT.

- Racing in hot weather will result in extra fluid loss (dehydration). Even small degrees of dehydration will cause a decrease in performance and this can occur at any stage of a competition, particularly in hot conditions.
- Dehydration contributes to fatigue and may make you more susceptible to cramps, heat stress and heat stroke.
- Children are at a greater risk of heat stress than mature adults.

'BEAT THE HEAT' USING THE FOLLOWING MEASURES

WHAT TO WEAR

- Wear a hat, cap or visor – a broad brimmed hat is preferred.
- Wear a 30+ sunscreen to prevent skin damage and skin cancer.
- Wear sunglasses to protect your eyes.
- Replace sweat-saturated garments with dry clothing.

DRINK PLENTY OF WATER

- **Do Not Wait To Feel Thirsty Before You Drink!**
- Sweat is mainly water and a very little salt.
- Drink cool water as it is absorbed more rapidly than warm water.
- If competing for more than one hour, use a sports drink - a carbohydrate drink of 5-10% concentration with a small amount of sodium chloride (salt tablets should be avoided because of their very high sodium chloride content, which can make dehydration worse).
- Thirst is a poor indicator – it is a late signal of severe fluid loss.

FLUID REPLACEMENT ROUTINE

- Avoid starting exercise dehydrated (drink plenty of fluids for several hours prior to participating).
- Drink at least 500 ml (2-3 glasses) ½ to 1 hr before a race.
- Drink at least 500 ml to 1 litre (5-6 glasses) after a race and continue to drink until fluid losses are replaced.

SYMPTOMS OF HEAT INJURY OR HEAT STROKE

- Symptoms of heat injury or heat stroke include:
  Fatigue
  Nausea
  Headache
  Confusion
  Light-headedness
- If you have these symptoms, you should stop competing, drink more fluids and cool down (seek medical treatment if symptoms do not improve rapidly).

*** These recommendations have been updated in 2011 to reflect changed lines of reporting and other administrative functions – plus with added information available from the Australian Bureau of Meteorology.*

Attachment 3

Beat the Heat

playing and exercising safely in hot weather *fact sheet*

» 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.

SPORTS MEDICINE AUSTRALIA

Some Golden Rules for Training and Competition

- Achieve a high level of physical fitness before exercising strenuously in competition, or in warm weather.
- Exercise at moderate intensity in hot or humid conditions.
- Do not undertake hard exercise, or exercise in hot or humid weather if you feel unwell or are recovering from recent illness.
- Drink water before and during exercise.
- Stop exercise if you feel unwell when exercising hard, or if exercising in hot or humid weather.
- Stop other sports participants if they appear unwell, confused or show loss of skill and coordination.

» Factors that increase the risk of heat illness include:

- High exercise intensity e.g. exercising close to personal capacity.
- Lack of fitness (due to insufficient training that includes some at competition intensity and duration).
- Previous history of heat illness or heat intolerance.
- Aged over 65.
- High air temperature and high humidity (see tables).
- Low air movement/no wind, following wind in road running.
- Prolonged exposure to hot conditions.
- Heavy clothing and protective equipment e.g. padding.
- Lack of acclimatisation (due to lack of recent training in warm and humid conditions).
- Dehydration (inadequate water intake before exercise and during activity longer than 60 minutes).
- Illness and medical conditions (current or recent infectious illness, chronic health disorders).

» What steps can be taken to minimise the risk of heat illness?

1. Acquiring adequate fitness and acclimatisation

Excellent physical fitness arising from regular endurance training, and acclimatisation to heat from regular training in warm conditions, markedly increase heat tolerance. Acclimatisation for sports activities requires at least 5 days of training in hot or humid conditions, progressing from moderate intensity and duration as acclimatisation develops. In summer, acclimatisation develops naturally as the weather becomes warmer and more humid.

2. Adjusting training and competition intensity to conditions

Exercise intensity in training should be appropriate to current fitness and weather; for example, moderate intensity and duration for pre and early season training of unconditioned players in warm weather. In conditions of increased risk participants should be provided with opportunities to rest through the use of player interchange or substitution. In moderate risk conditions players should be rested for at least 10 minutes per hour. In high risk conditions players should be rested for at least 15 minutes in an hour.

This strategy could include shortening the whole game or activity by the appropriate period of time.

The benefits of rest breaks should be maximised by:

- Reducing clothing and resting in shade provided by trees, buildings or portable structures.
- Assisting evaporative cooling with fans; wetting the skin, applying ice packs to groin and armpits also helps.
- Drinking cool water or sports drinks.
- Withdrawing players who feel unusually fatigued or who appear distressed from the activity.

3. Timing of games or activity

Training and competition involving moderate to high intensity exercise should be scheduled to avoid the hottest part of the day. Early morning or night games or exercise training reduce the risk of encountering stressful conditions.

4. Clothing

Clothing for strenuous exercise, and sport in warm conditions, should allow easy **evaporation of sweat from the skin.** It should be light coloured, light weight and loose fitting, and provide protection against the sun.

5. Modifying warm-up

In hot conditions, the duration and intensity of a warm-up should be reduced to minimise the increase in body heat and temperature before competition.

Children and Heat Stress

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.

In warm weather wet sponging will make children feel more comfortable.

Drinks should be provided for children playing sport.

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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