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## **ROWING QUEENSLAND INC ROWING PARTICIPATION IN HOT WEATHER POLICY**

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### **ROWING QUEENSLAND INC REGATTA CANCELLATION POLICY**

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Regardless of the population of rowing participants, rowing regattas may be postponed or cancelled when the Apparent Temperature (according to the Heat Index Chart 2001) exceeds 40 degrees or is predicted to exceed 40 degrees.

The apparent temperature can be determined by measuring both the ambient temperature and also the relative humidity, and then referring to the Gatorade Sports Science Institute – Heat Index Chart 2001.

Climatic conditions must be continually monitored by the regatta medical officer in consultation with the nominated regatta referee. These two officials should decide the suitability of conditions for continuation of regatta participation for each of the respective rowing populations mentioned above.

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### **HOT WEATHER POLICY FOR HEAT ACCLIMATISED ROWERS - aged 18 years and over.**

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Rowing Queensland Inc recognises that highly aerobically trained rowers who train in the warmer tropical climates, will acclimatise to the higher risk heat conditions than what is referred to in the Sports Medicine Australia policy document.

On the advise of the event medical officer and regatta referee, heat acclimatised rowers of senior age (over the age of 18) may be allowed to continue participation under higher risk heat climatic conditions if they choose to do so themselves.

The regatta referee and medical officer for the regatta may decide to cancel or postpone the regatta for all or some participants according to the mentioned policy statements.

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## **Sports Medicine Australia Policy Background**

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- This policy statement refers specifically to the policy released by Sports Medicine Australia on the 19<sup>th</sup> December 2001 entitled 'Preventing Heat Illness in Sport'.
- The Sports Medicine Australia Policy refers specifically to the general and children (under the age of 18years) populations only.
- In discussions with Dr Paul Finn from the Northern Territory Institute of Sport - National Heat Training and Acclimatisation Centre; Rowing Queensland Inc recognises that highly aerobically trained rowers who train in the warmer tropical climates, will be acclimatised to the higher risk heat conditions than what is referred to in the Sports Medicine Australia policy document.
- Rowing Queensland Inc presents additional policy guidelines for the participation of heat acclimatised rowers aged 18 years or older.
- At all official Rowing Queensland Inc regattas, Rowing Qld Inc event organisers must ensure that the mentioned key strategies for reducing the risk of heat illness are implemented.

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## **HOT WEATHER POLICY FOR GENERAL ROWING POPULATION**

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**At WBGT greater than 28 degrees Celsius there is extreme risk of heat injury to all participants.**

**Sporting events or activities requiring moderate to intense exercise that are conducted in conditions that exceed 28 degrees WBGT should be postponed or cancelled.**

Activity may be undertaken by individuals who are not categorised in any of the "at risk" groups if conditions are equivalent to the following WBGT ranges. However, strategies to reduce the risk of heat injury should be implemented particularly when high or moderate risk of heat injury is apparent.

- At WBGT between 23 and 28 degrees Celsius there is a high risk of heat injury.
- At WBGT between 18 and 22 degrees Celsius there is a moderate risk of heat injury
- At WBGT below 18 degrees Celsius there is a minimal risk of heat injury.

## **STRATEGIES FOR REDUCING THE RISK OF HEAT ILLNESS (general population)**

The following strategies are intended for the general population that does not fall into any of the listed 'At Risk' categories. 'At Risk' participants should consult the recommendations for their particular population sector (***When available***)

### ***1. Timing of Games***

Games and sporting activities involving moderate to high intensity exercise should be scheduled to avoid conditions where WBGT exceeds or is likely to exceed 28 degrees Celsius.

In most parts of Australia players are likely to be exposed to their highest risk of heat injury in the months of December, January and February, although in some regions this level of risk extends into March and April. This is in part due to high ambient temperatures that are prevalent during this period, and lack of match fitness of players participating in traditional winter sports such as Australian Rules Football.

Where possible, especially in January and February, games should be scheduled to start before 9 a.m. or after 6 p.m. Early morning or night games minimise the risk of encountering unacceptable conditions at these times of year. This is especially so where these games are to be played in a locations with a history of relatively high WBGT.

## *2. Acclimatisation*

If games or activities are to be conducted after long periods of cooler conditions participants should strive to be fully acclimatised prior to participation.

Physiological adaptations to exercising in the heat are rapid and can occur after 3-5 days in a hot environment. Full acclimatisation can take 10-14 days or longer. The initial response is an expansion of the plasma volume, then over several days, this returns to normal and the sweat rate increases with sweating starting earlier and a more dilute sweat being produced.

There is evidence that exercising in sweat clothing to the point where heat strain is induced can give some degree of acclimatisation (Dawson,et.al.). The training must induce heat strain over several days, and care must be taken that adequate hydration occurs during these training sessions.

Doing some form of submaximal exercise in a heat chamber will also give some degree of acclimatisation; but its practicality in a team sport, except possibly in individual cases, is limited.

Some level of acclimatisation will occur in players coming out of summer. This, however, is usually countered by the lack of match fitness in athletes at this time of year.

What can be done easily is to educate athletes to train themselves to play and train with copious fluids already on-board. Further it must be emphasised to the players that they **MUST** consume fluids containing 6-8% carbohydrate - in warm/hot conditions, muscle glycogen utilisation is much higher. (Febbraio, 1992). The consumption of carbohydrate containing fluids such as Gatorade has been proven to improve performance in the heat and, more importantly, delay the onset of Exercise-Induced Heat Exhaustion (Febbraio,1992, Davies etal. 1988) and, hence, probably help prevent Heat Stroke.

## *3. Hydration*

The more an athlete sweats, the more fluid he must consume to avoid dehydration. High levels of dehydration may increase the risk of heat stress. To diminish the risk of heat stress fluid should be consumed before, during and after activity.

It is recommended participants drink at least 7-8ml of fluid per kg of body mass no more than 2 hours before exercising to promote adequate hydration and allow time for excretion of excess water.

During exercise it is recommended that participants should drink fluid at regular intervals to replace water lost through sweating. Participants should aim to drink at least 3ml per kg of body mass (about 250ml for the average athlete of around 70 kilograms every 15 to 20 minutes). However this may vary dependent on the rate of sweating. Fluid taken should be cooler than the ambient temperature.

Water is considered an adequate fluid option for activities lasting up to one hour although there is evidence that sports drinks such as Gatorade do provide a benefit for exercise that is less than one hour in duration. Participants in events or activities exceeding one hour are recommended to use carbohydrate based sports drinks such as Gatorade as a means of replacing fluids, carbohydrates and electrolytes lost during prolonged activity.

In high risk conditions players should be encouraged to drink fluids at scheduled drinks breaks and should be provided convenient access to fluids during activity without unnecessary interruption to the game or event.

Officials and event organisers should also consider including additional drinks breaks for players in conditions of high risk.

In regard to post-event rehydration, it needs to be remembered that this can take 24 hours or more.

#### *4. Player Rest and Rotation*

In conditions of high risk participants should be provided opportunities to rest through the use of player interchange or substitution. The period of rest should be determined by the WBGT at the time of the event or activity. For WBGT temperatures greater than 18 degrees Celsius and less than 23 degrees Celsius all players should be rested for at least 10% of the period they would normally participate. For example, if the activity normally runs for 60 minutes the rest period for the player should comprise at least 6 minutes during the period.

For situations where the WBGT is greater than 23 degrees Celsius and less than 28 degree Celsius, all players should be rested for at least 25% of the period they would normally participate.

This may be achieved by rotation of players through an interchange bench or via the reduction in the regular playing time for all players.

For events played in high risk conditions that do not have a specified playing time, players should be permitted to take rest breaks from activity equivalent to 3 minutes for every 30 minutes of activity.

The positive effects of rest breaks should also be maximised by employing the following strategies:

- Allowing players to rest in naturally shaded areas, or providing portable structures that create shade where and when required
- Providing fans and ice packs
- Providing additional fluids to allow participants to spray or douse themselves to assist cooling

#### *5. Pre-cooling*

Pre-cooling by cool water immersion or the wearing of ice vests has been demonstrated to increase athletic performance in endurance sports. This practice could be of benefit to many athletes. However, it must be noted that the effects of a pre-cooling manoeuvre are reduced rapidly by a warm up. Therefore, any pre-cooling strategy must be undertaken in concert with a vastly reduced warm-up if it is to be effective.

#### *6. Clothing*

Light coloured, loose fitting clothes, 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 further complement the existing practices in Australia that protect the skin against permanent damage from the sun.

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## **HOT WEATHER POLICY FOR CHILDREN (rowers under the age of 18 years)**

**At ambient temperature greater than or equal to 34 degrees Celsius there is extreme risk of heat injury to all children and adolescents participants. Events and activities involving children and adolescents that are conducted or scheduled for times likely to present conditions where the ambient air temperature is greater than or equal to 34 degrees Celsius, should be postponed or cancelled.**

## **STRATEGIES FOR REDUCING THE RISK OF HEAT ILLNESS IN CHILDREN (rowers under the age of 18 years)**

The following strategies should be considered for sport and physical activities involving children. The strategies should be considered in conjunction with strategies for reducing the risk of heat illness for the general population and the hot weather policy for children.

### *1. Shade and Drinks*

Organisers of activities that are conducted under hot conditions must provide sufficient shade, and regular drinking opportunities. This is particularly critical where the fitness and state of acclimatization of the young participants are uncertain.

It is recommended that water or sports drinks such as Gatorade be provided whenever children are being active. More fluid however, appears to be consumed by young people when the drinks offered are perceived as palatable to them. Therefore, for children and adolescents having trouble drinking adequate tap water, flavoured drinks such as commercially available sports drinks may need to be considered. Conversely, the high energy content of some flavoured drinks may be unnecessary during exercise in athletes who have a genuine rather than an aesthetic need to lower body fat levels.

It is recommended that young athletes begin regular drinking routines using water or sports drinks such as Gatorade during training and competition. Regular and effective drinking practices should become habitual to young athletes before, during, and after activity. Individuals should monitor weight changes before and after workouts and know the amount of fluid that they are likely to require. The electrolyte content of some sports drinks consumed following activity may shorten the time taken to recover, particularly in well-trained young athletes who sweat considerably more than their sedentary peers.

### *2. Acclimatisation and Overweight Children*

In addition to the risks associated with activity in the heat for unfit and unacclimatised young people, coaches/supervisors of overweight children and adolescents should take extra precautions to lessen the potential for heat gain. It is recommended that whenever activity in hot conditions is unavoidable with these children, coaches /supervisors decrease the volume and duration of physical activity, and increase opportunities for drinking, rest, and shade as a matter of priority.

At the onset of hot weather, the young athlete may take longer to acclimatize. It is therefore recommended that training volumes (duration and intensity) decrease during the first few weeks of hot weather. Increased times for rest, using access to shade more frequently, and increasing the number of mandatory drinking breaks are recommended for the young athlete when the weather becomes noticeably hotter.

### *3. Clothing*

In addition to the clothing recommendations made for the general population, it is recommended that summer based sporting organizations select uniforms that minimize heat gain and that coaches, teachers, and parents encourage children and adolescents to wear appropriate clothing in layers that can be easily removed during activity.

### *4. Heat Illness Register*

To improve the understanding of children and adolescents activity in the heat, it is recommended that a register of heat-related illness be established. This may comprise a system within which all aspects of heat related illness incidents are recorded. Items of note may include the individual afflicted and their symptoms, the time of the incident, the environmental conditions, the physical activity undertaken, the immediate treatment and subsequent action taken.

The system is recommended to aid in the identification of individuals that have previously experienced some form of heat illness and therefore may require additional attention to ensure prevention strategies are adopted by these individuals.

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## **KEY STRATEGIES FOR REDUCING THE RISK OF HEAT ILLNESS AT ROWING REGATTAS IN QUEENSLAND**

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### **At regattas conducted in high risk hot weather conditions:**

- Event organisers must ensure that all participants are informed of the strategies for reducing the risk of heat illness as published by Sports Medicine Australia.
- Event organisers where possible should not schedule competition at high risk hot weather times of the day. Events should be scheduled in the early mornings or late evenings to avoid the hotter periods of the days.
- Event organisers must make available suitable quantity and quality of drinking water for the adequate hydration of participating athletes and officials. Where possible event organisers should make available the sale of cold water and sports drinks to participants.
- Event organisers should provide sufficient shade areas for the participants in regattas.
- Event organisers must have available suitable and accurate instruments for the measuring of ambient temperature and also relative humidity at the site of the regatta event.
- Event organisers must have an appropriately trained medical officer on hand to manage any heat related stress and illnesses that may occur.
- Event organisers should register as a medical incident all heat related illnesses or disorders occurring during the rowing regatta.

- Climatic conditions must be continually monitored by the regatta medical officer in consultation with the nominated regatta referee. These two officials should decide the suitability of conditions for continuation of regatta participation for each of the respective rowing populations mentioned above.