

POLICY

Preventing Heat Illness in Swimming

Effective January 2007



The object of this document is to prevent injury, and possible death, from heat illness in sport and activity by assisting officials, coaches and participants to recognise and manage potentially dangerous heat situations.

This is achieved by:

1. Alerting participants of the risk of heat illness from physical activity in hot weather conditions.
2. Providing a clear cancellation policy for Clubs conducting events in hot weather conditions
3. Educating Clubs and participants on methods of minimising the risk of heat illness and the avoidance of situations that may worsen heat illness.

Where possible, especially in December and March, Swimming Carnivals should be scheduled to start before 9 a.m. or after 3 p.m. Early morning or night events minimise the risk of encountering unacceptable conditions at these times of year. This is especially so where these events are to be played in a locations with a history of relatively high temperatures.

HOT WEATHER POLICY

At ambient temperatures greater than or equal to 38 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 38 degrees Celsius, should be postponed or cancelled.

All clubs involving junior participants are required to measure ambient air temperature on-site to ensure local conditions are accurately measured.

Timing of training or competitions

Schedule training and competitions involving moderate to high intensity exercise to avoid the hottest part of the day between 11am and 3pm. Early morning or night events or training reduce the risk of encountering stressful conditions

To assist with implementation:

Event Organisers, Officials and Members are to watch the evening News (weather forecast segment) the day prior to the event

- If the forecast is less than 34 degrees Celsius a standard meet starting at the published time will be conducted.
- If the forecast temperature is between 35-38 degrees Celsius a modified** version of the meet will be run.
- If the forecast temperature is above 38 degrees Celsius the meet should be cancelled or relocated to the evening.

****Modifications should include:**

- 8.00am Start - 12.00noon completion or a 5:00pm start – (conclusion)
- Reduction of events (Meet Director and Referee to determine)

POLICY

Preventing Heat Illness in Swimming

Effective January 2007



Age and Gender of Participant

The physiological and structural difference between children and adults places children at a greater risk of suffering from heat illness. These differences impact on a child's ability to respond to environmental heat and acclimatise to heat. These differences include:

- A larger surface area/body mass ratio which affects their ability to dissipate heat when environmental temperature is greater than skin temperature. This can be an advantage when heat loss is necessary, but is a disadvantage when radiant or convective heat gain occurs.
- Immature sweating mechanisms which require a greater increase in body temperature before the onset of sweating.
- Fewer and smaller sweat glands which limits the production of sweat.

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.

Female Participants may suffer more during exercise in the heat, due to 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.

Veteran Participants may also cope less well with exercise in the heat

N.B. 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.***

STRATEGIES FOR REDUCING THE RISK OF HEAT ILLNESS

The following strategies should be considered for sport and physical activities involving 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 acclimatisation of the young participants are uncertain. It is recommended that water or sports drinks are made available 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.

POLICY

Preventing Heat Illness in Swimming

Effective January 2007



It is recommended that young athletes begin regular drinking routines using water or sports drinks such as sports drinks 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 un-acclimatised 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 acclimatise. 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

Light coloured, loose fitting clothes, of natural fibers 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. In addition, Swimming SA and Clubs select uniforms that minimise heat gain and that coaches, instructors, and parents encourage children and adolescents to wear appropriate clothing in layers that can be easily removed during activity.

Clothing mentioned in this policy means the use of :

- *hats - wide-brimmed (minimum brim width of 8cm.) with dark (non-reflecting) underside of the brim, or "legionnaire style" hats - those having side pieces protecting the ears and neck*
- *long-sleeved shirts* with high neck collars – made of UPF 50+ material (close-weave material that blocks UVR)*
- *shorts - loose and long-legged*

Referees, Meet Director and hosting Club/s will promote the use of broad-spectrum water-resistant SPF 30+ sunscreen (with zinc cream on specific areas, if necessary), at all times during Swimming SA endorsed outdoor events.

**Note: Shirt sleeves are not to be rolled up.*

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

POLICY

Preventing Heat Illness in Swimming

Effective January 2007



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.

5. Sunscreen

- Use broad spectrum, water resistant SPF 30+ sunscreen
- Apply at least 20 minutes before exposure so that cream can be “absorbed” into the skin, for effective protection.
- Reapply every 2-3 hours, or more often after swimming, or sweating heavily.

Note: With higher SPF sunscreens a small number of people may be sensitive to some types of sunscreens. If skin rashes occur, choose a brand designed for sensitive skin. (It is important for people who spend as much time outdoors as swimmers to maintain the highest SPF).

Adoption of Strategies

In the absence of accurate methods of measuring WBGT on-site without a suitable device, all sporting clubs and associations should develop or add to their existing policies or rules, the listed 'Strategies for Reducing the Risk of Heat Injury'.

Central Measurement

To ensure Clubs and officials have adequate information a link will be made available on the Swimming SA website and regularly updated for association representatives.

How do you tell if someone has heat illness.

Heat illness may occur in strenuous sports, but may also occur in prolonged moderately strenuous physical activity in hot weather. During training and competition exercisers should “listen to their bodies”. If they start to experience any of the following conditions or symptoms and 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

POLICY

Preventing Heat Illness in Swimming

Effective January 2007



Serious 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 heat exhaustion with low 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.

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