



Golf Australia Hot Weather Guidelines

Introduction

The Golf Australia Hot Weather Guidelines have been adapted from Sports Medicine Australia policies and guidelines regarding the prevention of heat illness in sport in children and adults. It should be noted that these are purely guidelines. They should be considered not just for competitors, but also for caddies, officials and volunteers involved in the game.

The risks involved with heat illness from vigorous exercise are significant. While the lower activity levels of golf compared to athletics mean that the risks are somewhat reduced, the individual response to heat varies from person to person and therefore no hard and fast guidelines will suit every member of a population.

Those who need to be especially vigilant include children, overweight people, those unacclimatised (having come from cooler climates), those who are unwell or otherwise at risk.

Factors which impair the body's ability to dissipate heat are:

- High ambient temperature
- Solar radiation
- Humidity (which compromises the efficacy of sweating)
- Dehydration

The recommendations set out below are intended to address each of these factors.

Temperature

The table below is taken from Sports Medicine Australia's policies.

Note:

1. These guidelines are for generally more strenuous activities than golf.
2. The table provides an approximate guide to weather conditions and appropriate individual responses. There are not clear demarcations in risk between temperature ranges.

Ambient temperature	Relative humidity	Risk of thermal injury	Possible modifying action for vigorous sustained activity
15 – 20°		Low	Heat illness can occur in distance running. Caution over-motivation
21 - 25°	> 60%	Low – mod	Increase vigilance. Caution over-motivation
26 - 30°	> 50%	Moderate	Moderate early pre-season intensity. Reduce intensity and duration of training/play. Take more breaks.
31 – 35°	> 30%	High – very high	Limit intensity; Limit duration of activity to less than 60 mins per session.
36° & above	> 25%	Extreme	Consider postponement to a cooler part of the day or cancellation.

Strategies for reducing risk

Event scheduling

Where possible, golf events should be scheduled to avoid the hottest part of the day. This can be done by conducting competitions in the morning, during the summer months and by considering playing 18 holes rather than 36 holes on those days, subject to event type, field size and venue availability.

Acclimatisation

For most people acclimatisation will occur naturally as the daily temperature increases from winter to spring to summer. For competitors coming from colder environments (interstate or overseas) it can take 3-5 days before physiological adaptations occur. Full acclimatisation may take 10-14 days or even longer. Strategies

to cope with heat should be made available to competitors coming from colder environments to compete in the heat, preferably in advance of the tournament.

Hydration

The more athletes sweat, the more fluid they must consume to avoid dehydration. Dehydration is fluid loss which occurs during exercise, mainly due to perspiration and respiration. 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 7-8 ml of fluid per kg of body mass (average is about 500 ml) 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 3 ml per kg of body mass (about 250 ml for the average athlete of around 70 kilograms every 15 to 20 minutes or 500-750 ml every hour). 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. Participants in events or activities exceeding one hour are recommended to use carbohydrate-based sports drinks 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 re-hydration, it needs to be remembered that this can take 24 hours or more. Guidelines for post-event re-hydration include replacing fluid 150% of fluid lost through activity. This can be measured by having the participant weigh themselves before and after the activity. A loss of weight of 1 kg equates to 1 litre of fluid. The athlete should therefore aim to replace this with 1.5 litres of water, sports drink or a combination of the two.

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.

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

Shade and Drinks

Organisers of activities that are conducted in hot conditions must provide sufficient shade (when the players are not on the course) and regular drinking opportunities (if there are insufficient taps located around the golf course). This is particularly critical where the fitness and state of acclimatisation of the young participants are uncertain.

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 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 fluids 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.

Where possible all players, caddies and officials should seek the shelter of naturally shaded areas while on the course when not actually playing shots. In addition, players, caddies and officials are also encouraged to use other artificial means of shade such as umbrellas and on-course structures during a round in hot conditions.

Hats and Sunscreen

It is recommended that all players, caddies and officials wear hats to assist in the prevention of heat illness. Ideally, hats should be wide-brimmed and well vented.

Sunscreen with a minimum SPF (Sun Protection Factor) rating of 30+ should be used by all players, caddies and officials. In addition, it is recommended that the sunscreen is reapplied periodically at approximately two-hour intervals.

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

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

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.

These guidelines should be read with other resources available from Sports Medicine Australia which include:

1. Preventing Heat Illness in Sport
2. Hot weather guidelines
3. Beat the Heat brochure

All are available for download from www.sma.org.au