



The Heat is On

Summer means more tennis but often in extreme temperatures. Players, coaches and parents should be aware of the health risks associated with heat.

By Sarah Morante

Summer is the peak time for tennis participation in Australia, with numerous events conducted for players of all ages and standards, ranging from local junior competitions to the Australian Open. This is also the time when children are on school holidays and adults take leave from work, and choose to play tennis recreationally.

Playing tennis in the hot, humid weather of summer can present potential health risks. However, this should not deter people from training, competing or playing socially during this time. Common sense, awareness of the signs and symptoms of heat illness, and understanding prevention and treatment strategies enable players to safely enjoy the game year-round.

Body Temperature During Tennis

During physical activity, around 80% of the energy used by the body is released, as heat. For competitive tennis, this has been measured to be approximately 850 watts (equal to the heat produced by about 10 light bulbs). This heat must be dissipated from the body to maintain body temperature within safe levels and avoid the effects of heat illness. Generally this is easily achieved through the evaporation of sweat and an increase in blood flow to the skin.

When a player experiences any of the symptoms of heat syncope or heat exhaustion, they should stop immediately and move to a cool, shaded place.

However, when air temperature is higher than the temperature of the skin (> 36°C), the transfer of heat is reversed, with heat being shifted from the environment to the body. Therefore, this external heat adds to the large amount being generated within the body by physical activity. Furthermore, high humidity and low air movement present another barrier to heat loss during exercise.

Under these conditions, the evaporation of sweat from the skin's surface becomes less effective. This is a major concern, since the evaporation of sweat is the primary means of cooling during exercise. When the environment does not allow sweat to be evaporated at the same rate as it is being produced or gained, body temperature begins to rise. Heat illness is the result of a high body temperature - a serious condition that can lead to rare but life-threatening heat stroke.



MARK JACOBELLI, GREGG MARSH

Symptoms and Treatment Of Heat Illness

It is essential that players, coaches, officials and parents are aware of the symptoms and treatments of heat illness. It is also very important that high motivation does not allow the symptoms of heat illness to be ignored.

There are three categories of heat illness, defined by increasing severity of symptoms.

Heat Syncope		
<ul style="list-style-type: none"> • Fatigue • Tunnel vision • Pale, sweaty skin • Slow pulse • Dizziness • Light headedness • Fainting 	<ul style="list-style-type: none"> • Symptoms of heat syncope <p>PLUS</p> <ul style="list-style-type: none"> • Normal or high body temperature • Nausea • Loss of appetite • Cool, clammy skin • Chills 	<ul style="list-style-type: none"> • Similar symptoms to heat exhaustion <p>PLUS</p> <ul style="list-style-type: none"> • High body temperature (>40°C) • Altered mental function (confusion, irrational behavior, disorientation etc.) • Rapid pulse • Vomiting • Seizures • Loss of consciousness

Tennis players have most likely experienced some or all of the symptoms of heat syncope without major harm. It is when these symptoms are not recognized or are ignored that the situation worsens into heat exhaustion, then possibly the more serious heat stroke occurs.

When a player experiences any of the symptoms of heat syncope or heat exhaustion, they should stop immediately and move to a cool, shaded place. The player should lie down with their legs raised. Cooling can be achieved by wetting the skin, fanning and applying wet towels/ice packs to the neck, armpits and groin. Encourage the person to drink water if conscious. The person should recover quite quickly, with medical assistance being sought if this does not occur.

Prevention of Heat Illness

Awareness of the symptoms of heat illness is vital for identification and treatment. Ideally, heat illness should be avoided by following various prevention strategies, including:

1. Avoid tennis during the hottest part of the day (10am to 5pm) where air temperature and solar radiation are greatest. Check the Bureau of Meteorology website (www.bom.gov.au) for weather forecasts and current observations - postpone play if air temperature exceeds 36°C. Modify the workload by reducing intensity or duration, or by increasing rest periods - play at a moderate intensity in hot and/or humid conditions. Ensure adequate hydration before, during and after tennis to maintain sweat rate for the duration of play. Wear light colored, light weight and loose fitting clothing that allows maximum evaporation of sweat from the skin.
6. Achieve adequate fitness and acclimatisation to improve heat tolerance and tennis performance in the heat.



Nicolas Pietrangeli knows that heat can be tougher to overcome than any of his Australian Open opponents.

Use passive cooling methods such as fanning, wetting the skin, moving to shade between points and games, wearing a wet scarf around the neck, etc.

Avoid play in more extreme weather if suffering a fever or infection, pregnant, or taking medications for various conditions such as asthma, epilepsy or diabetes.

Caring for the Kids

Additional consideration must be given to children who are at greater risk of heat illness due to their less developed sweating response in the heat. If children appear flushed or feel too hot, they must be allowed to reduce the intensity or stop playing. Children should also be encouraged to drink regularly during tennis.

Easy Does It

The beautiful warm weather and long summer days provide the perfect time to play tennis. Caution arid common sense should decide the most appropriate time to play during the summer months, with players ensuring they follow the recommended guidelines to prevent the development of heat illness. Listen to your body and enjoy your tennis over the coming holidays. *

Sarah Morante, BAppSc(Ex&SpSci), MAAESS is a TCA Advanced Coach.

TCA National Update

For the latest news update from the TCA National Office and Board, see the separate insert with this issue.

To contact TCA National, e-mail tca@tenniscoachesaustralia.com.au

Phone 02 9763 2575 or fax 02 9763 2595