

Avoiding and preventing heat related injuries when playing soccer

There are some simple guidelines which have been prepared by the American College of Sports Medicine (ACSM) when it comes to running activities in a hot environment. The goal in participating in hot weather is to avoid fluid loss from the body or dehydration. Water not only accounts for some 98% of our body composition, but functions to help deliver oxygen to working muscles, and keeps the body from overheating during strenuous activity. Hard working muscles generate heat which is dissipated through the act of sweating. Evaporation of sweat on the skin allows the body to get rid of this heat and cool it off. In looking at the objectives for advising participants about this subject it seems that the following categories are areas requiring attention:

To this end, after review of the available literature and after consultation of various medical authorities and officials it was felt that the following recommendations are some key guidelines for soccer participation in the heat:

1. Avoid dehydration and make sure you pre-hydrate: Don't wait till you feel thirsty because the body will not be able to tell you in time that you are dehydrated, here are some practical recommendations:
 - 2 hours before exercise, drink at least 16 oz (an average bottle of water)
 - 1 hours before exercise, drink at least 08 oz
 - During the exercise, drink at least 4 to 8 oz every 15 - 20 minutes
 - After the exercise, drink at least 16 oz
2. As a rule of thumb you should drink at least 500 ml for every 20 lbs of body weight, therefore, someone weighing 140 lbs needs to drink at least 3500 ml of fluid.
3. Drinking carbohydrate and electrolyte fluids may be beneficial in avoiding heat trauma.
4. Wearing light breathable clothing is advised.

The other issue to consider is, and you may be asking yourself at this point, what are the risk factors which could predispose a soccer player to heat injury. Listed below are a the major risk factors but this is by no means an exhaustive list:

- Unacclimatized
- Unfit
- Hypohydration
- Use of a variety of medications
- Persons with persistent, disabling mental illness
- Certain medical conditions

How can you tell if one of your soccer players is experiencing heat injury. Below is a list of the early warning signs to look for and again this is not an exhaustive list:

- Flushed face
- Hyperventilation
- Headache
- Dizziness
- Tingling arms
- Goose bumps (hair on arms standing on end)
- Chilliness
- Incoordination
- Confusion, agitation, uncooperativeness

There are 3 main types of heat injury identified in the medical literature:

1. Heat Cramps - these are the mildest form of heat trauma and are commonly related to low body sodium and chloride levels. Signs & Symptoms include - weakness, muscle cramps, collapse with low blood pressure. Treatment is aimed at replacing the salt loss and can be oral or by intravenous if vomiting is a problem. Having athletes put a little extra salt on their food the day before and day of game can be a helpful way to avoid this condition.
2. Heat Exhaustion - this is a more severe medical event as follows:
Signs & Symptoms include - weakness, irritability, collapse, unable to sweat adequately to promote body cooling, my proceed in the more ominous heat stroke and a fine rash is often present.
Treatment - remove athlete to a cooler environment, use ice baths, fans.
3. Heat Stroke - THIS IS A MEDICAL EMERGENCY - it is due to a failure of the heat-controlling mechanism. It may occur merely as a result of exposure to heat. Signs & Symptoms include - mental confusion, headache, lack of co-ordination, delirium, convulsions and death. The

body temperature may be 106 F or 40.5 C or higher, the skin is usually hot and dry as the sweating mechanism has failed.

Treatment - Call 911 and transport to a local Hospital. Rapid cooling is the goal using wet towels, spray mist, sponge baths and removal from the heat. This condition could cause the athlete to go into shock and coma may follow so immediate medical attention is required.

Reference:

American College of Sports Medicine POSITION STAND. HEAT & COLD ILLNESSES DURING RUNNING ACTIVITIES: 1987

Acknowledgements:

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