

Heat Illness: Reducing the Risk, While Enhancing Performance

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One of the biggest challenges facing numerous young athletes is attempting to train or perform safely and effectively in the heat. With many regions of the country still having hot weather during early fall sports, or even if you are not going to be in the heat until next summer, now is a great time to reassess your approach for minimizing

the risk of heat illness and improving your tolerance and performance in hot weather training and competition. Why now? If you had heat-related problems during the past summer, the circumstances leading up to these incidents may be still fresh in your mind. Secondly, having a plan well ahead of time will help you to organize and more effectively implement your strategy when it is hot. These recommendations are directed toward youth athletes and their parents and coaches.

Preparation

Get fit. High aerobic fitness and an appropriate level of body fat can give you a big advantage when it comes to tolerating the heat, reducing heat storage, and effectively regulating your body temperature. Acclimatize to the heat. Progressive training in the heat prompts certain physiological changes that reduce the risk of heat illness and help you to perform better. If you are traveling to a much hotter environment, plan to arrive at least a few days early. Even though full heat acclimatization can take up to two weeks (if you are not used to the heat at all), two to three days can really help. Acclimatize to the intensity and duration. A gradual introduction to practice and competition intensity and duration is critical. Clothing and uniforms — White or other light, loose-fitting, breathable, clothing designed for the heat is preferable. During pre-season training, uniforms and protective equipment should be introduced progressively and reduced appropriately as weather conditions warrant. Taper your training. Reduce the volume of training during the days preceding a hot weather competition. This gives your body a chance to recover, so that you don't start the event fatigued.

Hydration

Drink plenty of fluids (water, juice, milk, sport drinks) throughout the day. Check your urine — it should be fairly light colored. If you are constantly in the bathroom to urinate (e.g., every 45 minutes), you may be drinking too much! Drink regularly during all practice and warm-up sessions and competitions. Typically, older adolescents can comfortably drink and match sweat losses up to 48 ounces (or a little more) per hour. Younger athletes need and should drink much less. Continue drinking after practice or play, to restore any fluid deficit that remains. If you produced a lot of sweat and have to train or play again soon, additional fluid intake should begin immediately. Add some salt to your diet (by eating certain high-salt foods or adding it to meals or drinks) before and after you work out or compete in a hot environment, especially if you are prone to cramping (which is more common with teenagers). This helps your body to retain the fluid that you drink and avoid problems such as heat-related muscle cramps.

Other Factors

Eat plenty of carbohydrates (bread, cereal, potatoes, rice, fruit, etc.). Working out or competing in the heat causes the body to use more carbohydrates for energy. Get plenty of sleep. Insufficient sleep increases your susceptibility to heat illness. This is a common challenge when young athletes are away from home. Stay in a cool environment as much as possible between training sessions and games or matches. Practice in the morning or early evening when the temperature is generally not as high. Medications: Ask your doctor about any medication that you are taking with respect to its potential effect on hydration or tolerance of the heat.

Especially if it involved fever, a respiratory tract infection, or diarrhea, a recent illness (within the past week) can make you more susceptible to problems in the heat. Consult your doctor about participation. Sunburn can increase your susceptibility to heat illness. Use sunscreen (SPF 30 or higher) on all exposed areas of the skin when you practice and play.

And Finally...

Athletes, coaches, and parents should be advised of the early signs of heat illness, including headache, nausea, dizziness, clumsiness, weakness, muscle twinges or cramps, irritability, apathy, and confusion. One or more of these symptoms may be enough to immediately discontinue further activity and seek medical attention.

Part of the responsibility also rests with youth sports administrators and governing bodies that are in control of scheduling and setting guidelines for tournament events in certain sports (junior tennis and soccer are notable examples). Insufficient recovery time between same-day matches increases the risk for poor performance and heat illness during the next competition bout. The same is true for multiple same-day training sessions in the heat. Also, on-site cooling capabilities (e.g. ice packs or ice water immersion) and trained personnel for handling heat illness emergencies should be provided at all hot-weather sports events.



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