Heat Illness

Preventing Heat Illness: Keeping Athletes from Falling into Danger Zones

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- **Formula for Disaster:** Heat illness is an ever-present risk when athletes are engaged in high-intensity exercise. In football, the risk of heatstroke is increasingly more likely during high-intensity drills on a hot, humid day, particularly in an overweight, out-of-shape, unacclimatized and dehydrated player wearing a dark-colored uniform and helmet. There are, however, a variety of steps that coaches and athletic trainers can take to increase the safety of play in hot temperatures and diminish the risk of dehydration and associated heat related injuries.
- **Keep Them Cool**: The cooler they stay, the harder they can play. Frequent breaks to allow players to drink and cool down should be part of any successful football program. Fluid should always be available at arm's reach. Provide shaded areas and cooling units during rest breaks. Take advantage of cool breezes or fans to increase cooling. Practice duration and intensity should be reduced while increasing the frequency and duration of rest breaks. Have players sit in cold water tubs right after practice. Also, spreading out two-a-days by holding team meetings and meals between the two practices allows players to be cooler during both practices and provides another opportunity for rest and recovery.
- **Hydration is Key:** An important preventative step is to stay properly hydrated. That means both the right amount and the right kind of fluid needs to be available to players at all times. Give opportunities and encourage players to drink often. Water is simply not enough. Research consistently shows that drinking an optimally formulated sports drink, like Gatorade, before, during and after practice and games, helps athletes stay better hydrated than water alone. Athletes who drink only water have been shown to have poor voluntary intake and increased urine production. Water does not contain everything football players need to replace what they're losing in their sweat. Water has no electrolytes to promote fluid retention and no carbohydrates to fuel the brain and muscles.
- **Gear Up for the Heat:** High temperatures and humidity can quickly overwhelm even well hydrated and acclimated athletes. A few days of moderate physical activity, lasting from 60 to 90 minutes will provide some initial acclimatization to the heat (greater blood volume, better sweat response, improved drinking), a critical step in reducing the risk of heat illness. Ideally, this should be accomplished just prior to the start of summer camp.
- **Focus on High-Risk Athletes:** Larger athletes, especially those who are unfit, overweight and not acclimatized to the heat, are high-risk candidates for heatstroke. Even when they are properly hydrated, physically fit and acclimatized, some athletes can heat up faster than they cool down. An important safety measure is to make sure that athletes' temperatures and body weights are at their normal levels before practice, especially if they experienced symptoms of heat illness the previous day.
- **Limit Use of Full Pads When Heat and Humidity Rise:** Wearing full pads and helmets is

obviously part of most football practices. But, when possible, coaches should move full-pad practices to early mornings or evenings the temperature is the lowest. Working out in full pads during warm, humid weather can literally turn an athlete into a "heat bomb."

- **Keep an Eye on Over-Motivated Athletes:** Pride can play a huge factor in heat-related injuries. Many athletes are determined to succeed no matter the cost and fail to alert coaches and athletic trainers when they develop heatstroke symptoms. While they should definitely be aware of the signs and symptoms, a player can not be relied upon to correctly diagnose heat illness. Symptoms include belligerence, confusion and irrational behavior. These players simply won't recognize the need to stop and will get angry when told to do so.
- **Train Them, Don't Strain Them:** Athletes can not be expected to perform high-intensity exercise until they are sufficiently acclimated to the heat. Most football players begin to show improved heat acclimation within four to five days, with ten to 14 days needed for most physiological adaptations to occur. Until that time, workout intensity and duration should be increased gradually.
- **Monitor Medications:** Some prescription, over-the-counter and recreational drugs can adversely influence heat production (by increasing metabolism) and heat loss (by decreasing sweating and/or skin blood flow). The risk of heat illness is much greater with individuals who consume these drugs. Instruct players to advise an athletic trainer or doctor about all the medications they are taking, both prescription and over-the-counter drugs.
- **Behavioral Risk Factors:** Athletes who have not been sleeping well, have recently been ill (with the common cold or flu, especially when accompanied by vomiting or diarrhea), are big consumers of alcohol and those who are prone to dehydration (chronic under-drinkers on the field) are at increased risk of heat illness.
- **Cooling Cues:** Players who are at high risk of heat illness may respond well to pre-cooling before practice and games in hot weather. Research shows that 15 to 30 minutes in a cold bath will slightly reduce resting core temperature, increasing the safety buffer for heat problems. Another benefit: improved performance in hot weather. Using cold towels or splashing cold water on the face, head and neck are no substitutes for adequate hydration and minimal clothing during exercise in the heat. The psychological relief associated with a splash of cold water has no effect on core temperature. In emergency situations, cool first and transport second. Immersing a heat-stricken player in a tub of ice water is the best way to cool fast. Cellular damage from overheating occurs quickly, so every effort must be made for immediate cooling.