

# PERFORMANCE PLAYBOOK



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## Heat Illness Prevention Tips

GATORADE SPORTS SCIENCE INSTITUTE

The topic of heat illness has received a great deal of attention following the tragic experiences of athletes in hot climates. Heat illness can happen to anyone in a hot environment and is an issue that athletes especially need to be aware of – and know how to prevent.

Athletes increase their risk of heat illness as they become dehydrated. According to the National Athletic Trainers' Association, it is not uncommon to reach dehydration levels significant enough to place athletes at risk of developing exertional heat illness in an hour of exercise. Athletes can reach this level even more rapidly if they begin the workout, practice, or competition dehydrated. This is a common occurrence. Many of the risk factors for heat illness can be eliminated to help prevent heat injury to the athlete.

### 10 Tips to Beat the Heat

**Recognize the early warning signs of dehydration.** These can include noticeable thirst, muscle cramps, weakness, decreased performance, difficulty paying attention, headache, nausea, fatigue, or dizziness. If left untreated, more extreme symptoms can occur.

**Allow for acclimation.** Acclimation is the body's adaptation to a hot environment. Slowly increase practice intensity and duration over the first two weeks of training. Most cases of heat illness occur in the first 2 to 3 days of training.

**Drink up.** Once acclimated, fluid intake needs to be greater because sweat losses will be higher.

**Have fluids within arm's reach.** Fluids should be easily accessible during workouts, practices, and games.

**Don't rely on thirst.** Weigh in and out of practices and games, and note any weight loss. Drink during exercise to minimize losses in body weight, but don't overdrink.

**Favor sports drinks over water.** Research demonstrates that the carbohydrate in

sports drinks fuels muscle<sup>2,3,4,5</sup>, and sodium encourages voluntary drinking and promotes hydration<sup>1,6,7</sup>.

**Drink it. Don't pour it.** Pouring fluid over your head may feel great but won't help restore body fluids or lower body temperature.

**Exercise in the morning or evening.** This is when the weather is coolest. Also, avoid the

direct sun to minimize radiant heat from the sun and hot playing surfaces.

**Dress for the weather.** Keeping cool in hot weather means wearing less clothes and frequently removing gear, like helmets, during breaks.

**Break it up.** Increase the frequency and duration of rest breaks to help you stay hydrated and cool.

IF YOU FEEL LIKE THIS ...	DO THIS ...
<b>Dehydration</b>	
Loss of Energy and Performance	Drinking sports drinks with small amounts of carbohydrate speeds absorption, prevents fatigue, and provides energy. Avoid beverages containing caffeine or carbonation.
Muscle Cramps	Stop activity, gently stretch, and massage cramped muscle. Consuming a sports drink that contains sodium (at least 110mg/8oz) may reduce the risk of muscle cramps.
<b>Heat Exhaustion</b>	
Dizziness, Light-Headedness, Chills, or Loss of Coordination	Replace fluids. Rehydration is critical. Rest in a cool, shaded area until all symptoms pass. If dizziness continues, lie with the legs elevated to promote circulation to the head, then seek medical attention.
Nausea/Headaches	Rest in a cool place until nausea passes. Lying down is often helpful in relieving headaches. Do not resume practice if any symptoms continue.
<b>Heat Stroke</b>	
High Body Temperature	Immediately cool the athlete by immersion in a tub of ice water, and seek immediate medical treatment
Confusion or Unconsciousness	Confusion or unconsciousness can be indicators of heat stroke. Heat stroke is a medical emergency that calls for immediate medical assistance.
The above symptoms of dehydration, heat exhaustion, and heat stroke are not additive, which means that an athlete could experience heat stroke in the absence of other indicators. These are a few symptoms; some athletes may experience others. Seek immediate medical assistance at the first signs of serious or unusual symptoms.	

<sup>1</sup>Casa, D.J. et al. *J. Athl Train* 35 :212-224, 2000.

<sup>2</sup>Below PR et al. *Med. Sci. Sports Exerc.* 27: 200-210, 1995.

<sup>3</sup>Murray R et al. *Med. Sci. Sports Exerc.* 27 : 1057-1062, 1995.

<sup>4</sup>Fritzsche, R.G. et al *J. Appl. Physiol.* 88 : 730-737, 2000.

<sup>5</sup>Davis, J.M. et al ; *Int. J. Sports Nutr. Exerc : Metab.* 10 :476-485, 2000.

<sup>6</sup>Passe, d.H. et al. *Appetite* 35 : 219-229, 2000.

<sup>7</sup>Wilck, B. and O. Bar-Or. *J. Appl. Physiol.*; 80: 112-117, 1996.