



# RECOMMENDATIONS FOR HYDRATION TO PREVENT HEAT ILLNESS



## TYPES OF SPORTS DRINKS

### ◆ **Fluid Replacers**

- Examples: Water, Gatorade, 10K, Quickkick, Max
- These drinks are absorbed as quickly as water and typically are used for activities lasting less than 2 hours.

### ◆ **Carbohydrate loaders**

- Examples: Gatorlode, Exceed High, Carboplex
- These drinks replace more muscle glycogen to enhance greater endurance.
- They should be used after ultra-endurance events to increase muscle glycogen resynthesis after exercise.

### ◆ **Nutrition Supplements**

- Examples: Gatorpro, Exceed Sports, Ultra Energy
- These supplements are fortified with vitamins and minerals and they help athletes maintain a balanced diet.
- They can be used as a meal replacement supplement for athletes who wish to skip a high fat meal, or as extra calories for athletes who wish to gain weight.

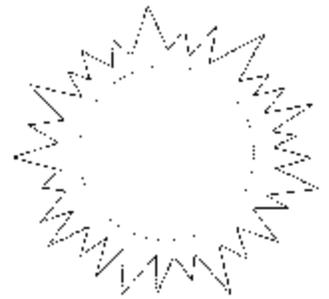


## WHAT NOT TO DRINK

- ◆ Drinks with Carbohydrate (CHO) concentrations of greater than eight percent should be avoided.
- ◆ Fruit juices, CHO gels, sodas, and sports drinks that have a CHO greater than six to eight percent are not recommended during exercise as sole beverages.
- ◆ Beverages containing caffeine, alcohol, and carbonation are not to be used because of the high risk of dehydration associated with excess urine production, or decreased voluntary fluid intake.

# HYDRATION TIPS AND FLUID GUIDELINES

- ◆ Drink according to a schedule based on individual fluid needs.
- ◆ Drink before, during and after practices and games.
- ◆ Drink 17-20 ounces of water or sports drinks with six to eight percent CHO, two to three hours before exercise.
- ◆ Drink another 7-10 ounces of water or sport drink 10 to 20 minutes before exercise.
- ◆ Drink early — By the time you're thirsty, you're already dehydrated.
- ◆ In general, every 10-20 minutes drink at least 7-10 ounces of water or sports drink to maintain hydration, and remember to drink beyond your thirst.
- ◆ Drink fluids based on the amount of sweat and urine loss.
- ◆ Within two hours, drink enough to replace any weight loss from exercise.
- ◆ Drink approximately 20-24 ounces of sports drink per pound of weight loss.
- ◆ Dehydration usually occurs with a weight loss of two percent of body weight or more.



# WHAT TO DRINK DURING EXERCISE

- ◆ If exercise lasts more than 45-50 minutes or is intense, a sports drink should be provided during the session.
- ◆ The carbohydrate concentration in the ideal fluid replacement solution should be in the range of six to eight percent CHO.
- ◆ During events when a high rate of fluid intake is necessary to sustain hydration, sports drinks with less than seven percent CHO should be used to optimize fluid delivery. These sports drinks have a faster gastric emptying rate and thus aid in hydration.
- ◆ Sports drinks with a CHO content of 10 percent have a slow gastric emptying rate and contribute to dehydration and should be avoided during exercise.
- ◆ Fluids with salt (sodium chloride) are beneficial to increasing thirst and voluntary fluid intake as well as offsetting the amount of fluid lost with sweat.
- ◆ Salt should never be added to drinks, and salt tablets should be avoided.
- ◆ Cool beverages at temperatures between 50 to 59 degrees Fahrenheit are recommended for best results with fluid replacement.

# DEHYDRATION, ITS EFFECTS ON PERFORMANCE, AND ITS RELATIONSHIP TO HEAT ILLNESS

- ◆ Dehydration can affect an athlete's performance in less than an hour of exercise — sooner if the athlete begins the session dehydrated.
- ◆ Dehydration of just one to two percent of body weight (only 1.5-3 lb.. for a 150-pound athlete) can negatively influence performance.
- ◆ Dehydration of greater than three percent of body weight increases an athlete's risk of heat illness (heat cramps, heat exhaustion, heat stroke).
- ◆ High-body-fat athletes can have a harder time with exercise and can become dehydrated faster than lower-body-fat athletes working out under the same environmental conditions.
- ◆ Poor acclimatization/fitness levels can greatly contribute to an athlete's dehydration problems.
- ◆ Medications/fevers greatly affect an athlete's dehydration problems.
- ◆ Environmental temperature and humidity both contribute to dehydration and heat illnesses.
- ◆ Clothing, such as dark, bulky, or rubber protective equipment can drastically increase the chance of heat illness and dehydration.
- ◆ Wet bulb temperature measurements should be taken 10-15 minutes before practice, and the results should be used with a heat index to determine if practices or contests should be started, modified or stopped.
- ◆ Even dry climates can have high humidity if sprinkler systems are scheduled to run before early morning practices start. This collection of water does not evaporate until environmental temperatures increase and dew points lower. Dry climate areas should take wet bulb and temperature readings 10 to 15 minutes before practice or contests.
- ◆ A Heat Index chart should be followed to determine if practice/contests should be held.
- ◆ A Heat Index chart should come from a reputable source like the National Oceanic and Atmospheric Association.
- ◆ A relative humidity of 35 percent and a temperature of 95 degrees Fahrenheit are likely to cause heat illness, with heat stroke likely.
- ◆ A relative humidity of 70 percent and a temperature of 95 degrees Fahrenheit are very likely to cause heat illness, with heat stroke very likely.

