

# HYDRATION IS KEY TO A SUCCESSFUL DAY

## The Science of Hydration

- Hydration is among the most important nutritional concerns for all participants. Approximately 60 percent of the body is water. As the performer trains or competes, fluid is lost through sweat and exhalation. If this fluid is not replaced at regular intervals during practice or performance, it can lead to dehydration.
- A dehydrated performer has a decreased volume of blood circulating through the body, and consequently exhaustion sets in and their physical performance suffers. Participants should be observing their peers for signs of confusion and dizziness. Participants may also complain about extreme thirst. If someone notices these symptoms a director should be alerted.
- Remember hydration should begin before a participant feels thirsty.
- Not all liquid drinks are created equally. While considering your hydration plan, avoid drinks with carbohydrate concentrations of greater than eight percent. Although some fruit juices can be healthy, they should generally be avoided for hydration purposes as well as gels, sodas and highly caffeinated energy drinks.

## Before Rehearsal:

- Drink 10 to 16 ounces of water or sports drinks 15 to 30 minutes prior to starting a rehearsal or performance. If the session is prolonged, consider consuming a sports drink containing 6 to 8 percent carbohydrates.
- Carbohydrates added to drinks provide a boost in energy.
- Drinks with too high of a carbohydrate concentration can lead to dehydration, it is important to find the right balance.

## During Rehearsal

- Participants should drink 4 to 8 ounces of fluid at 15 to 20 minute intervals during rehearsals. They should also consume fluids following a performance.
- By the time thirst sets in, you're already dehydrated.

## What to Avoid:

- Avoid drinks with CHO concentration greater than 8%
- Avoid fruit juices, CHO gels, sodas, and sugar filled sports drinks
- No beverages containing caffeine, alcohol, and carbonation

# BEAT THE HEAT

Summer's high temperatures put student athletes at increased risk of heat illness. There are several types of heat illness. They range in severity, from heat cramps and heat exhaustion, which are common but not severe, to heat stroke, which can be deadly. Although heat illnesses can be fatal, death is preventable if they're quickly recognized and properly treated.

## DEHYDRATION AND HEAT ILLNESSES



As a rule-of-thumb, most athletes should consume 200 to 300 milliliters of fluid every

**15 MINUTES**  
OF EXERCISE.

It takes only **30 MINUTES** for cell damage to occur with a core body temperature of 105 degrees.



Currently, 13 states have heat-acclimatization policies, for secondary school athletics with New Jersey being the first.



Exertional heat stroke is one of the top three killers of athletes and soldiers in training.

- From 2010-15, 20 athletic heat stroke fatalities were reported.
- It takes seven to 14 days for a body to adapt to exercising in the heat.
- Dehydration at levels of 3 to 4 percent body mass loss can reduce muscle strength by an estimated 2 percent.

### SAFETY TIPS

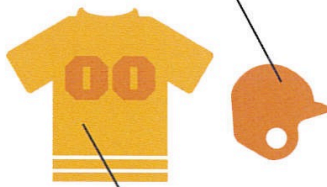


Have sports drinks on hand for workout sessions lasting longer than an hour.

Keep beverages cold – cold beverages are consumed 50 percent more than warm beverages.

Hydrate before, during and after activity.

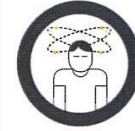
Remove unnecessary equipment, such as helmets and padding, when environmental conditions become extreme.



Clothing worn by athletes should be light colored, lightweight and protect against the sun.

- For the first week or so, hold shorter practices with lighter equipment so players can acclimate to the heat.
- Follow a work-to-rest ratio, such as 10-minute breaks after 40 minutes of exercise.
- Get an accurate measurement of heat stress using a wet-bulb globe temperature, which accounts for ambient temperature, relative humidity and radiation from the sun.
- If someone is suffering from exertional heat stroke, remember to cool first and transport second.
- Have large cold tubs ready before all practices and games in case cold water immersion is needed to treat exertional heat stroke.

## SIGNS OF MINOR HEAT ILLNESS



Dizziness

Cramps, muscular tightening and spasms



Lightheadedness, when not associated with other symptoms

### EARLY WARNING SIGNS OF EXERTIONAL HEAT STROKE

Headache, dizziness, confusion and disorientation

Excessive sweating and/or flushing

Fatigue

Nausea and/or vomiting

Chills and/or goose bumps

## SIGNS OF EXERTIONAL HEAT STROKE



Core body temperature of more than 105 degrees



Signs of nervous system dysfunction, such as confusion, aggression and loss of consciousness



Increased heart rate

Seizures



Rapid breathing



Low blood pressure