

The Dangers of Dehydration in Athletics

Dehydration can be prevented if you know what to look for

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Special points of interest:

- Drink 7-10 fl.oz. during exercises every 20 mins.
- Drink beyond quenching thirst.
- Avoid high sugar drinks.
- Monitor weight loss between workouts.
- Monitor urine color and odor often.
- Recognize symptoms early.

Dehydration and heat illnesses are among the most preventable types of sports injuries in athletics. Certified Athletic Trainers are often the primary facilitators in preventing these types of injuries.

Sweating during exercise is the body's natural way of cooling itself off. However, this can also result in fluid and electrolyte loss, which leads to dehydration if the fluids and electrolytes are not replaced quick enough. A loss of only 1% body weight in athletes can lead to dehydration and heat illness. If these types of fluids are not replaced in an adequate amount of time, physical performance and the overall well-being of the athlete is at risk of serious injury, even death.



Contributing Factors

There are many factors that can contribute to dehydration in athletes. The most prevalent is not replacing the lost fluids in an adequate amount of time. Other factors could include exercising in hot, humid environments, wearing constrictive clothing/uniforms, not consuming enough fluids in their diets, having a high percentage of body fat, poorly conditioned athletes, or even illness.

Degrees of Severity/ Signs and Symptoms

There are degrees of severity for dehydration or heat illnesses. First, the athlete becomes dehydrated. The athlete will often complain about thirst, fatigue, muscle cramps, become irritable, display a decrease in performance level, have nausea, and be red and flushed in appearance.

Left untreated, the

athlete's symptoms will progressively get worse. The second type of heat illness is heat exhaustion. The athlete will start to experience dizziness, headaches, weakness, difficulty breathing, increased nausea



Watch your athletes for excessive sweating or no sweating.

w/ possible vomiting, have cool, clammy skin and a rapid pulse.

Again, if left untreated or not noticed, the athlete's symptom's become life threatening. Symptom's will progress to a dangerously high core body temperature of 106° or above, mental confusion, disorientation or irrational behavior, shallow respirations, rapid, strong pulse, and have hot, dry skin. The athlete could become unconscious and this may lead to death.

Prevention Techniques

Fortunately, there are numerous options available to help prevent dehydration or heat illness.

First, keep the athletes properly hydrated. Provide athletes w/ water or an electrolyte drink before, during and after exercise. Athletes should consume 15-20 fluid oz. 2-3 hours before exercising. They should consume 7-10 fluid oz. every 15-20 minutes during exercise. Finally, athletes should consume another 15-20 fluid oz. every 2-3 hours after exercise.

The fluids consumed by the



Make fluids readily available for athletes.

athletes should contain the following electrolytes: sodium, chloride, potassium & a low percentage of carbohydrates; about 6% or less.

Second, keep the athletes cool. Allow for frequent breaks during workouts. Alter practice duration and intensity levels. Allow adequate rest intervals between practice sessions.

Third, have the athletes get acclimatized. Practice sessions should begin gradually in intensity and duration and then be increased.

Fourth, monitor athletes who may be more susceptible to heat illnesses. These types of athletes may heat up faster than they can cool down. Body weights and body temperatures should be documented before and after each workout. Loss of 3% to 5% body weight or increased in body temperature as little as 1 degree are serious symptoms and should be addressed immediately.

Fifth, uniforms should be lightweight and made of breathable fabrics to help sweat and heat evaporate from the body.

Sixth, monitor temperatures and humidity. Environments with high temperatures and high humidity are dangerous settings for athletes.

Emergency Care

Unfortunately, there are times when an Athletic Trainer and coach can follow the recommended prevention techniques and athletes still become dehydrated. Early recognition of the fore-mentioned signs and symptoms is key for care.

First, remove the athlete from the hot, humid environment. If possible bring the athlete into a cool building immediately. Remove any wet or constricting clothing or uniform. For mild heat illnesses, cool the athlete down by placing wet, cold compresses on key areas of the body;

head, neck, groin and armpits. Fan the athlete down. Have the athlete lie down w/ legs elevated. If there is no risk of unconsciousness, give the athlete cool electrolyte drinks. Monitor the athlete's vital signs for any changes. Record the athlete's body temperature. Ask the athlete how much fluids they have been ingesting, what is their urine output and how much body weight they may have lost.

If the athlete has heat stroke, 911 should be called immediately. Rapid cooling of the athlete must begin immediately. If available, fill a cold whirlpool with water and ice and sub-

merge the athlete. If there is no whirlpool available, pack ice around the key areas of the body. Do not give the athlete fluids because there may be a risk of unconsciousness occurring. Monitor body temperature and vital signs. This is a life threatening situation and should be treated as such.

“Cool your athlete down ASAP w/ cold ,wet compresses”

With safety precautions set in place and early recognition, dehydration and heat illnesses can be things we only read about.

Additional References

Principles of Athletic Training; Daniel D. Arnheim & William E. Prentice.

Casa, D.J., Armstrong, L.E. (2000). NATA Position Statement: Fluid Replacement for Athletes. *Journal of Athletic Training*. 35(2):212-224.

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Success

The competing views of success often create an interesting tension. Society tends to define success in terms of accomplishments and awards, material possessions, and profit margins. The alternative view is that each one of us has been blessed with unique gifts, abilities and passions. How well we use these qualities to have an impact on the world around us determines how successful we really are.

If we get caught up in chasing what the world defines as success, we can use our time and talent to do some great things. We might even become famous. But in the end, what will it mean? What will people remember us for? Are other people's lives better because we lived? Did we make a difference? Did we use our God-given talents and abilities to the fullest? Did we give our best effort and did we do it for the right reason?

Success can be defined by one word – significance – the significant difference that our lives can make on the lives of others. This significance doesn't show up in won - lost records, long resumes, or trophies gathering dust on the mantels. It's found in the hearts and lives of those we've come across who are in some way better because of the way that we lived.

If you want to lift yourself up, lift someone else up!

Booker T. Washington