

# **Oregon Youth Soccer Association**

## **Extreme Weather Safety Guideline**

The health and safety of our members is a primary concern of Oregon Youth Soccer. When weather conditions are extreme enough to affect the well being of the athletes, action should be taken to minimize the risk of injury. Oregon Youth Soccer offers the following guidelines and references.

### **Overview**

#### **Hot weather**

Playing sports during extremely hot weather increases the risk for players to experience heat cramps, exhaustion or heat stroke. These are the most preventable type of sports injuries. Players should always be hydrated before, during and after every match. During a match where the Heat Index, see attachment, exceeds 90, the game officials should provide extra breaks in the play for players to rehydrate. Coaches should be aware of the symptoms of heat stress among the players and provide shade for the players when they are not on the pitch.

#### **Cold weather**

Players are more susceptible to injuries during cold weather, particularly from pulled or torn muscles. Players should be encouraged to wear appropriate clothing to aid body heat retention yet afford adequate movement without creating a safety hazard. Warming up before entering the game is critical. Shortening games to reduce exposure time may be a consideration.

#### **Using the OSAA Heat Index**

The Oregon School Activities Association has a Heat Index Calculator located on their home page. Log onto <http://www.osaa.org/> Click on the Heat Index Calculator icon, enter the zip code of your area and click the button to "Get weather data", which will provide the current temperature and humidity. Type those numbers into the spaces marked below and click the button to "Calculate Heat Index". The Heat Index will show in bold numbers.

#### **Lightning**

Games should be called whenever lightning is in the vicinity. This is typically within a distance of 10 miles. Distance may be determined by the delay between the lightning flash and hearing the thunder. Any time the flash to bang is under 30 seconds, immediate termination of the practice or match should take place and the pitch evacuated.

#### **Fluids and Hydration**

A hydration guide is provided to help reduce injury from dehydration during sports activity in hot or cold weather situations.

## **Hot weather**

### **Discussion**

The risk of heat related illness from vigorous sports activity increases with the temperature. The body generates heat which cannot be dissipated readily when the ambient temperature exceeds 85 degrees F, depending upon the humidity. Hot weather is considered at any point where the Heat Index reaches or exceeds 90. See the attached Heat Index.

Leagues are encouraged to take control of game situations and invoke mandatory breaks in play when a Heat Index (HI) of 90 or greater is present. When the Heat Index exceeds 90, breaks should be provided at least once during each half of play. When the Heat Index exceeds 105, breaks should be provided twice per half of play when the game is 60 minutes or longer in length or play should be stopped until the temperature cools. Where scheduling problems occur due to set game starts, periods of play may be shortened accordingly to accommodate the stoppage of play.

### **Prevention**

Wear light colored, light weight and loose fitting uniforms. Hydrate well in advance of game day. Drink at least 8 glasses of water per day for at least 2 days before games. Bring fluids to the game. Drink fluids before, during and after the game. Have wet towels in a cooler for neck wraps. Use shade or a shade tent whenever not on the pitch. Wear sunscreen. A Sports Sunscreen has better retention and is less likely to lose effectiveness.

### **Taking action**

**Awareness:** Coaches and game officials should familiarize themselves with the symptoms of heat exhaustion and heat stroke caused by physical activity in hot weather. Players showing signs of heat exhaustion should be substituted out, re-hydrated and allowed to cool off in the shade before returning to the game. Players showing signs of heat stroke should receive immediate medical attention and not return to the game as other physical problems cause heat stroke.

**Heat Exhaustion** is a form of shock.

#### **The symptoms are:**

- Pale, cool, moist skin
- Heavy sweating
- Feeling faint, dizzy, fatigued
- Headache, weakness, nausea
- Muscle cramps and spasms

#### **Actions to take:**

- Move to shade - because the body core temperature has risen
- Give rest - allowing the body to cool
- Give fluids - cools the body temp plus replaces lost fluids which caused illness
- Gently stretch and massage cramped muscles
- Get emergency help if unconscious or vomiting

**Heat Stroke** is a heat related illness brought on by another medical condition. It can be life threatening.

#### **The symptoms are:**

- Body core temperature has risen
- Flushed color, hot and dry skin
- Feeling chilly
- Abnormal mental status - Dizzy, confused, delirious
- Hyperventilating

#### **Actions to take:**

- Get medical help - Call 911
- Cool body temperature quickly as possible
- Keep patient awake

## Cold weather

### Discussion

As previously noted, muscles are more susceptible to injury when the weather and the muscles are cold. Warming up properly and thoroughly is important to reducing injury. Keeping warm is equally important. At what temperature to begin wearing added garments depends upon the temperature, wind and length of the game. A temperature of 30 degrees with a 50 MPH wind has a wind chill of about -15 degrees F. Twenty degrees and a 25 MPH wind also has a -15 degree F wind chill. Both are capable of causing mild frost bite and hypothermia. Temperatures at 40 degrees F and a 30 mile per hour wind has a wind chill of 28 degrees which also offers a mild frostbite exposure but this temperature is closer to the "Low Risk" range for injury. See the "Heat and Cold Index chart attached. It was produced by the Kansas State HS Activities Assoc. The chart is available by logging onto [www.kshsaa.org/heatindex.html](http://www.kshsaa.org/heatindex.html). Players will heat up rapidly so they should dress in layers and warm up properly before the game, taking off excess clothing before play begins. Please remember that uniform jersey must be the exposed fabric color and pants should be the same color as the uniform shorts.

### Prevention

Wearing long underwear or protective clothing is allowed so long as it is tight fitting and does not create a dangerous condition for other players in the opinion of the game officials. Hats are the most effective at retaining body heat. A skull cap or knit watch cap is generally acceptable. Hats with a stiff brim are not acceptable. An ear warmer style head band might be a good alternative to retain body temperature.

Wearing cotton is not recommended as cotton retains moisture which turns cold against the skin and draws heat away from the body. A better alternative is to wear poly, Lycra, or other hi-tech and tight fitting fabric which will wick moisture away from the body. Gloves of hi-tech fabric are light weight, tight fitting and very helpful. These fabrics are not dangerous attire, but as always the decision of the referee determines acceptability.

When leaving the field, it is important to retain the body heat generated while on the field. Put on a wind breaker and other warm layers immediately. Retain the body heat that was generated on the field. Warm up again to loosen muscles before returning to play. Cold muscles strain more easily.

### Taking action

**Awareness:** Dress warmly when off the field. Take extra time to warm up and keep muscles flexible during play. Take breaks as needed to warm up by wearing extra clothing when the cold and the wind reduces the body temperature. Drink fluids as always because players sweat from the exercise, even in the cold. Staying hydrated helps maintain the quantity of blood needed to warm exposed body parts and extremities.

# Lightning

## Discussion

The odds of being struck by lightning are very low, but the odds increase when safety precautions are not taken when a thunderstorm is near. There is immediate risk of a lightning strike when the leading edge of a storm is within 10 miles, however it is difficult to hear thunder at that distance.

There is a "Flash-Bang" method of determining the distance of lightning. You can estimate how far away the storm is by the time between seeing the lightning flash and hearing the thunder. Thirty seconds is equal to about 6 miles, or 1 mile for every 5 seconds. At that distance, all activity should be stopped and everyone immediately directed off the field. That is off the field, and not just under a tree as lightning will be attracted to the tallest object around.

Soccer clubs should have a Lightning Safety Policy which establishes procedures to take when lightning is near.

## Prevention

Watch for lightning activity. Assign someone to time the "flash - bang" and issue a warning.

Move to a safe structure or into autos and leave the area.

Stay off the field for at least 30 minutes after the last flash of lightning is seen or clap of thunder is heard.

## Taking action

**Awareness:** Get off the field and into a vehicle or structure. Move out of the area if possible.

If in a building, stay away from windows and plumbing fixtures. Especially, do not hold onto faucets or electrical appliances.

If in a vehicle, stay inside, with the windows rolled up. Do not touch the metal parts, especially the skin of the vehicle.

If trapped on the field or without means to escape, find a low, dry spot and crouch down on the balls of your feet. Do not lie flat as that provides more body contact with the ground and increases injury potential if a lightning strike is nearby. Minimize contact with the ground.

If in the trees, stay close to the smallest trees.

## **Fluid Intake**

These fluids intake guidelines are for young athletes to consume prior to exercise to help reduce or delay dehydration, according to nationally recognized sources.

### **Ages 6-12**

#### **Before Sports**

1-2 hours before  
drink 4-8oz of water

#### **10-15 minutes before sports**

drink 4-8oz of water

#### **During Sports**

Every 20 minutes  
drink 5-9oz of water

#### **After Sports**

Within 2 hours  
drink at least 24oz  
of water per lb of weight loss

### **Ages 13-18**

#### **Before Sports**

1-2 hours before  
drink 8-16oz of water

#### **10-15 minutes before sports**

drink 8-12oz of water

#### **During Sports**

Every 20 minutes  
drink 5-10oz of water

#### **After Sports**

Within 2 hours  
drink at least 24oz  
of water per lb of weight loss

Fluid intake depends upon the child's body weight. The low end is for children of about 90 pounds and the high end is for players of about 130 pounds. Calculate the necessary fluid intake accordingly. Too much can cause stomach cramps and too little produces dehydration.

The Fluid intake data is provided by a youth sports parenting group known as Moms Team. They offer a full sports injury prevention, nutrition and safety web page at [www.momsteam.com](http://www.momsteam.com).

## **References**

### **Moms Team**

Fluid Guidelines for Young Athletes A quick guide to hydration in a usable format by Suzanne Nelson plus many other very useful children related health and diet sports related issues  
[www.momsteam.com](http://www.momsteam.com)

### **Heat Index**

Oregon School Activities Association  
[www.osaa.org](http://www.osaa.org)

### **Sports Science Exchange 86 - Volume 15 (2002) Number 3**

Heat Stroke in Sports: Causes, Prevention and Treatment. Prepared by the Gatorade Sports Science Institute  
[www.gssiweb.com](http://www.gssiweb.com)

### **Outdoor Action Guide to Heat Related Illness & Fluid Balance**

Article by Rick Curtis  
Hydration and Heat Illness Guidelines Heat prevention and hydration guideline by Douglas Casa, at University of Connecticut

### **National Weather Service Heat Index Program**

Offers safety tips, symptoms and first aid guides for heat exhaustion and heat stroke.

### **Exercising in the Cold**

Fitness 101 Controlling Heat Loss

### **Wind, Cold and Sun Exposure**

Managing and preventing skin damage-Sports Dermatology Series by Dr. Wm. Dexter

Dealing with Heat and Cold Weather Nice info on clothing.

[www.bicycleuniversity.com](http://www.bicycleuniversity.com)

Lightning Safety Good information from Kansas State HS Activities Association  
[www.kshsaa.org](http://www.kshsaa.org)