



## Oregon Youth Soccer Association Weather Related Safety Precautions

Safety during all soccer activities is the primary concern for any individual participating in Oregon Youth Soccer or the activities of our affiliate members. To aid in participant safety, the following guidelines and references are presented.

### **Overview:**

#### **Hot weather:**

Playing sports in hot weather produces the opportunity for players to experience heat exhaustion or heat stroke. This is one of the most preventable sports injuries. Players should always be hydrated before, during and after every match. During hot weather, the hydration process should begin about two days before the match. During the match the game officials should provide extra breaks in the play for players to re-hydrate. Coaches shall 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 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. Shortened games to reduce exposure time may be important.

#### **Lightening:**

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

#### **Fluids and Hydration:**

A hydration guide is provided to help reduce injury from dehydration during sports activity in hot or cold 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 temperature index reaches or exceeds 90. See the attached Heat Index.

Precautions to take include providing shade for players when off the field, hydration and rest breaks.

League and Tournament Directors are instructed to take control of game situations and invoke mandatory breaks in play when a Heat Index (HI) of 90 or greater is present. Breaks shall be implemented by the game officials at least once during each half of play when the HI exceeds 90, and twice per half of play when the HI exceeds 105 and the game is 60 minutes or longer in

length. Where scheduling problems occur due to set game starts, periods of play shall be shortened evenly to accommodate the stoppage of play.

**Prevention:**

- Wear light colored, light weight and loose fitting uniforms
- Hydrate well in advance of game day.
  - Players should drink at least eight (8) glasses of water per day for at least 2 days before games.
- Bring fluids to the game. Diluted sports drinks just before and during the game. Full strength sports drinks after the game to replenish muscles.
- Have wet towels in a cooler for neck wraps
- Use shade or a shade tent whenever not on the pitch
- Wear sunscreen

**Taking action:**

Awareness: Coaches and game officials need to be aware of the symptoms of heat exhaustion or heat stroke caused by physical activity in hot weather. Players showing signs should be substituted out, re-hydrated and allowed to cool off in the shade before returning to the game.

Eat less and drink more. Food creates energy and body energy creates heat.

**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. This may be life threatening and 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
- Cool body temperature quickly if possible
- Keep patient awake

The USSF Resource Center offers a white paper on Hydration and Heat Illness Guidelines which offers some very good information.

## **Cold weather:**

### **Discussion:**

There seems to be much less information available about soccer in cold weather than in the heat. At what temperature to begin wearing added garments depends upon the wind and length of the game. A temperature of 30 degrees with a 50 MPH wind has a wind chill of about -15 degrees. 20 degrees and a 25 MPH wind also have a -15 degree wind chill. Both are capable of causing mild frost bite and hypothermia. Temperatures at 40 degrees and a 30 mile per hour wind has a wind chill of 28 degrees which also offers a mild frostbite exposure but is closer to the “Low Risk” range for injury. See the “Heat and Cold Index chart produced by the Kansas State HS Activities Association. This chart is available by logging onto [www.kshsaa.org/heatindex.html](http://www.kshsaa.org/heatindex.html).

Players will heat up rapidly so dress in layers and warm up properly before the game, taking off excess clothing before play begins. Uniform jersey colors must be the exposed fabric and the pants should be the same color as the shorts.

### **Prevention:**

Wearing of 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 most effective at retaining body heat, but are looked at skeptically by game officials. A fabric cap is more acceptable than a hat with a brim which is considered to be dangerous equipment. An ear warmer style head band or a head protection like a “Full 90” might be a good alternative.

Don't wear cotton as cotton retains moisture which turns cold against the skin and draws heat away from the body and chills to the bone. 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 off the field, put on a wind breaker immediately. Retain the body heat that was generated on the field and warm up again to loosen muscles before returning to play. Cold muscles strain easily.

### **Taking action:**

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 especially the wind reduce 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.

## **Lightening:**

### **Discussion:**

The odds of being struck by lightening are very low, but the odds increase when safety precautions are not taken when a thunderstorm is near. There is immediate risk of a lightening strike when the leading edge of a storm is within 10 miles.

“Flash-Bang” method of determining the distance of lightening. The time between the flash and hearing the thunder can tell the distance the storm is away. Thirty seconds is equal to about 6 miles. At that distance, all activity should be stopped and everyone off the field. That is off the field, and not just under a tree as lightening will be attracted to the tallest object around.

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

### **Prevention:**

Watch for lightening 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 lightening is seen or clap of thunder is heard.

### **Taking Action:**

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 lightening strike is nearby. Minimize contact with the ground.

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

## **Fluid Intake:**

A fluids intake guideline for young athletes prior to exercise to help reduce or delay dehydration.

### **Ages 6-12**

#### **Before Sports**

1-2 hours before – drink 4-8 ounces of cold water

10-15 minutes before – drink 4-8 ounces of cold water

#### **During Sports**

Every 20 minutes – drink 5-9 ounces of sports drink.

#### **After Sports**

Within 2 hours – drink at least 24 ounces of sports drink per pound of weight loss

## **Ages 13-18**

### **Before Sports**

1-2 hours before – drink 8-16 ounces of cold water

10-15 minutes before – drink 8-12 ounces of cold water

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.

### **During Sports**

Every 20 minutes – drink 5-10 ounces of sports drink

### **After Sports**

Within 2 hours – drink at least 24 ounces of sports drink per pound of weight loss

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

## **References:**

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)

Fluid Guidelines for Young Athletes

A quick guide to hydration in a usable format by Suzanne Nelson [www.momsteam.com](http://www.momsteam.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.

Heat Index Chart

Heat and Cold Index

Kansas State HS Activities Association charts for competition. [www.kshsaa.org](http://www.kshsaa.org)

Revised Wind Chill Index

Wind Chill Temperature Chart

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)

Lightening Safety

More good information from Kansas State HS Activities Association - [www.kshsaa.org](http://www.kshsaa.org)