



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 re-hydrate. 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 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.

Precautions to take include providing shade for players when off the field, hydration and rest breaks. When the climatic change is severe, whether hot or cold, early arrival of 2-3 days may be necessary for the players acclimate to the local conditions.

League and Tournament Directors 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. Breaks may be delaying games during the heat of the day or implementing water breaks during play. 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.
 - Players should drink at least eight (8) glasses of water per day for at least 2 days before games.
- Bring fluids to the game. Drink fluids just 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. 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 – Call 911
- Cool body temperature quickly if possible
- Keep patient awake

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

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 Association. This chart is available by logging onto 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 or a head protection like a “Full 90” 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:

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:

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 4-8 ounces of water

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

During Sports

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

After Sports

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

Ages 13-18

Before Sports

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

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

During Sports

Every 20 minutes – drink 5-10 ounces of fluids

After Sports

Within 2 hours – drink at least 24 ounces of fluid per pound 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 webpage at 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 at www.momsteam.com

Heat Index

Oregon School Activities Association www.osaa.org

Heat Index and Wind Chill Chart - attached

“Dealing with Severe Weather- a position paper on lightning conditions from USSF.

www.ussoccer.com/laws/papers

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

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

Lightning Safety

Good information from Kansas State HS Activities Association - www.kshsaa.org

Heat Index & Wind Chill Charts

HEAT INDEX °F													
	RELATIVE HUMIDITY (%)												
TEMP (°F)	40	45	50	55	60	65	70	75	80	85	90	95	100
110	136												
108	130	137											
106	124	130	137										
104	119	124	131	137									
102	114	119	124	130	137								
100	109	114	118	124	129	136							
98	105	109	113	117	123	128	134						
96	101	104	108	112	116	121	126	132					
94	97	100	103	106	110	114	119	124	129	135			
92	94	96	99	101	105	108	112	116	121	126	131		
90	91	93	95	97	100	103	106	109	113	117	122	127	132
88	88	89	91	93	95	98	100	103	106	110	113	117	121
86	85	87	88	89	91	93	95	97	100	102	105	108	112
84	83	84	85	86	88	89	90	92	94	96	98	100	103
82	81	82	83	84	84	85	86	88	89	90	91	93	95
80	80	80	81	81	82	82	83	84	84	85	86	86	87

WIND CHILL INDEX °F								
	WIND SPEED (MPH)							
TEMP (°F)	5	10	15	20	25	30	35	40
-25	-40	-47	-51	-55	-58	-60	-62	-64
-20	-34	-41	-45	-48	-51	-53	-55	-57
-15	-28	-35	-39	-42	-44	-46	-48	-50
-10	-22	-28	-32	-35	-37	-39	-41	-43
-5	-16	-22	-26	-29	-31	-33	-34	-36
0	-11	-16	-19	-22	-24	-26	-27	-29
5	-5	-10	-13	-15	-17	-19	-21	-22
10	1	-4	-7	-9	-11	-12	-14	-15
15	7	3	0	-2	-4	-5	-7	-8
20	13	9	6	4	3	1	0	-1
25	19	15	13	11	9	8	7	6
30	25	21	19	17	16	15	14	13
35	31	27	25	24	23	22	21	20