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City of Salem Parks and Recreation Department
Youth Sports Heat Guidelines

The City of Salem Department of Parks and Recreation has created the following policy that will be in effect as of **July 2011** and beyond for all youth sports leagues.

Objective:

To establish a policy that will provide ALL youth sport coaches and parents associated with the City of Salem Department of Parks and Recreation with guidelines relating to how to recognize signs of heat related illness and injuries in youth participants.

Criteria:

Heat illness and injury can range from a simple muscle cramp to life threatening heat stroke. However, most catastrophic heat injuries are preventable with proper education and guidelines for athletes when participating in outdoor activities. The most important components in preventing heat injury are the prevention of dehydration and limiting activity when temperature and humidity make it near impossible for the body to cool through evaporation of sweat. The body produces heat at rest; this heat production increases 10 to 20 times with exercise. Evaporation is the major method of cooling the body during exercise. Evaporation of sweat dissipates the heat from the core of the body, keeping the internal organs cool. Exercising in a dehydrated state reduces the ability to sweat, therefore compromising the ability to cool. Dehydration also causes a reduction in blood volume, compromising cardiac output. The air temperature and humidity have a direct effect on the efficiency of this cooling process. Based on the effects of dehydration and exercising in the heat and humidity, the following guidelines have been established to provide administrators, coaches, and athletic training staff, with a sound plan to prevent heat injury.

What is Heat Index?

Heat index is described by the National Weather Service as the "Apparent Temperature" meaning it is an accurate measure of how hot it really feels when the relative humidity is added to the actual air temperature.

City of Salem Department of Parks and Recreation Recommended Heat Index Guidelines:

105° and up: Recommend no outside activities.
95° to 104°: Recommend no equipment (helmets, pads, etc) be used during activity.
90° to 94°: Recommend equipment be removed as often as possible (during rest breaks, on sideline, etc). Careful monitoring of all athletes for signs of heat problems.
Below 89°: Recommend adequate water supply at all practices and competitions with breaks every 20 to 30 minutes for rehydration.

Recommendations to aid and assist in avoiding heat related injuries or illness:

- Fluid replacement should be at a rate of 24 oz for every pound of body weight lost after exercise.
- Light colored, loose clothing is suggested during activity in hot weather.
- Athletes are encouraged to wear sunscreen on exposed skin during hot, sunny conditions.
- Adequate fluid supply should be readily available at all times during activity in hot weather.
- Individuals that are poorly acclimatized or conditioned are at increased risk for heat related illness/injury and should be monitored closely or placed on a modified participation schedule.
- Athletes having a pre-existing dehydrated state (recent fever or gastro-intestinal illness) or pre-existing heat injury are at a much higher risk for heat related illness/injury and should be monitored closely or placed on a modified participation schedule.
- Medications including diuretics, antihistamines, beta blockers and anti-cholinergics increase the risk of heat illness/injury.
- Overweight athletes are at increased risk for heat illness/injury and should be monitored closely.

- Energy and dietary supplements such as Creatine may cause an increase in dehydration and heat related illness and/or injury.

Required Course of Action for Heat Related Illnesses:

1. **Dehydration:** Children get dehydrated if they do not replace body fluids lost by sweating. Being even a little dehydrated can make a child feel bad and play less effectively. Dehydration also puts children at risk for more dangerous heat illnesses.

   - **Signs and Symptoms**
     - Dry mouth
     - Thirst
     - Being irritable or cranky
     - Headache
     - Seeming bored or disinterested
     - Dizziness
     - Cramps
     - Excessive fatigue
     - Child not able to run as fast or play as well as usual

   - **Treatment**
     - Move child to a shaded or air-conditioned area.
     - Give him or her fluids to drink.

"When can I play again?"
A child may be active again as soon as he or she is symptom-free. However, it's important to continue to watch the child.

2. **Heat Cramps:** Heat cramps are a mild heat illness that can be easily treated. These intense muscle spasms usually develop after a child has been exercising for a while and has lost large amounts of fluid and salt from sweating. While heat cramps are more common in children who perform in the heat, they can also occur when it's not hot (for example, during ice hockey or swimming). Children who sweat a lot or have a high concentration of salt in their sweat may be more likely to get heat cramps. Heat cramps can largely be avoided by being adequately conditioned, getting used to the heat and humidity slowly, and being sure a child eats and drinks properly.

   - **Signs and Symptoms**
     - Intense pain (not associated with pulling or straining a muscle)
     - Persistent muscle contractions that continue during and after exercise

   - **Treatment**
     - The child should be given a sports drink to help replace fluid and sodium losses.
     - Light stretching, relaxation and massage of the cramped muscles may help.

"When can I play again?"
A child may be active again when the cramp has gone away and he or she feels and acts ready to participate. You can help decrease the risk of recurring heat cramps by checking whether the child needs to change eating and drinking habits, become more fit, or get better adjusted to the heat.

3. **Heat Exhaustion**
   Heat exhaustion is a moderate heat illness that occurs when a child continues to be physically active even after he or she starts suffering from ill effects of the heat, like dehydration. The child's body struggles to keep up with the demands, leading to heat exhaustion.

   - **Signs and Symptoms**
     - Child finds it hard or impossible to keep playing

- Loss of coordination, dizziness or fainting
- Dehydration
- Profuse sweating or pale skin
- Headache, nausea, vomiting or diarrhea
- Stomach/intestinal cramps or persistent muscle cramps

➢ **Treatment**
- Move child to a shaded or air-conditioned area.
- Remove any extra clothing and equipment.
- Cool the child with cold water, fans or cold towels (replace towels frequently).
- Have child lie comfortably with legs raised above heart level.
- If the child is not nauseated or vomiting, have him or her drink chilled water or sports drink.
- The child's condition should improve rapidly, but if there is little or no improvement, take the child for emergency medical treatment.

"When can I play again?"
A child should not be allowed to return to play until all symptoms of heat exhaustion and dehydration are gone. Avoid intense practice in heat until at least the next day, and if heat exhaustion was severe, wait longer. If the child received emergency medical treatment, he or she should not be allowed to return until his or her doctor approves and gives specific return-to-play instructions. Parents and coaches should rule out any other conditions or illnesses that may predispose the child for continued problems with heat exhaustion. Correct these problems before the child returns to full participation in the heat, especially for sports with equipment.

4. **Exertional Heat Stroke**
Heat stroke is a severe heat illness that occurs when a child's body creates more heat than it can release, due to the strain of exercising in the heat. This results in a rapid increase in core body temperature, which can lead to permanent disability or even death if left untreated.

➢ **Signs and Symptoms**
- Increase in core body temperature, usually above 104°F/40°C (rectal temperature) when the child falls ill
- Central nervous system dysfunction, such as altered consciousness, seizures, confusion, emotional instability, irrational behavior or decreased mental acuity
- Nausea, vomiting or diarrhea
- Headache, dizziness or weakness
- Hot and wet or dry skin
- Increased heart rate, decreased blood pressure or fast breathing
- Dehydration
- Combativeness

➢ **Treatment:** If there are no on-site medical personnel:
- Call emergency medical services for immediate transport to the nearest emergency medical facility. Begin cooling the child while waiting for and during transport to the emergency facility.
- Locate medical personnel immediately. Remove extra clothing or equipment. Begin aggressive whole-body cooling by immersing the child in a tub of cold water. If a tub is not available, use alternative cooling methods such as cold water, fans, ice or cold towels (replaced frequently), placed over as much of the body as possible.
- Call emergency medical services for transport to the nearest emergency medical facility.

"When can I play again?"
No child who has suffered heat stroke should be allowed to return until his or her doctor approves and gives specific return-to-play instructions. Parents should work with the child's doctor to rule out or treat any other conditions or illnesses that may cause continued problems with heat stroke. The child should return to physical activity slowly, under the supervision of qualified health care professional.

This document was adapted from: *Inter-Association task force on exertional heat illnesses consensus statement.* June 2003. National Athletic Trainers' Association and VHSL Heat Guidelines.