

Heat Illnesses



How much should active children drink?

The best way to tell is to weigh them. Record your child's weight before and after exercising. Even a 1 percent drop in body weight (due to dehydration) can cause a decrease in performance. Because children may not drink enough water, consider giving them flavored sports drinks instead.

Protecting your child during hot weather sports

Children are more susceptible to heat illness than adults. They sweat less, making it harder to cool off. Any child who has a low level of fitness, is sick, or has suffered from dehydration or heat illness in the past should be closely watched. But all children who play sports or are physically active in hot weather are at risk...on the field, in the yard or at the beach. Heat illness causes disabling complications, but it can be prevented and successfully treated.

Tips for parents

- Before allowing your child to play any sport, make sure he or she has a physical exam that includes a heat illness history.
- Tell your child's coach of any history of heat illness.
- Make sure your children are well hydrated before participating, and that each has their own water bottle.
- Give your child's coach your emergency contact numbers.
- Be sure your child's team has an emergency action plan.

Tips for coaches

- Vary practice length, intensity and equipment according to temperature and humidity levels.
- Make sure your players drink plenty of fluids during practice. Schedule regular drink breaks (more often in high temperature and humidity).
- Develop an emergency action plan for obtaining emergency medical services.
- Always keep parents' contact information handy.

Use this chart to determine the danger of heat illness (with prolonged exposure and/or physical activity)

		Relative Humidity (%)												
		40	45	50	55	60	65	70	75	80	85	90	95	100
Temperature	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	102	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	

Caution:
Fatigue possible

Extreme Caution:
Sunstroke, muscle cramps, and/or heat exhaustion possible

Danger:
Sunstroke, muscle cramps, and/or heat exhaustion likely

Extreme Danger:
Heat Stroke or Sunstroke likely



Heat illness symptoms and treatments

1. Dehydration

Children become dehydrated if they don't replace body fluids lost by sweating. Even a low level of dehydration can make a child feel and perform poorly. And it can put them at risk for more dangerous heat illnesses.

SYMPTOMS:

- Dry mouth
- Thirst
- Irritability
- Headache
- Boredom or disinterest
- Dizziness
- Cramps
- Excessive fatigue
- Poor physical performance

TREATMENT: Move the child to an air-conditioned or shady area and give him or her plenty of fluids to drink.

RETURN TO PLAY: As soon as the child is free of symptoms. But continue to watch them carefully.

2. Heat Cramps

Heat cramps are intense muscle spasms brought on when an active child sweats away large amounts of fluid and salt. However, it's considered a mild heat illness that is easily treated. Children who sweat a lot are particularly susceptible. Heat cramps can also occur during swimming or cold weather sports like hockey.

SYMPTOMS:

- Intense muscle spasm, usually in the calf or abdomen (not associated with a pull or strain)
- Persistent muscle spasms during and after activity

TREATMENT: Give the child a sports drink to replace lost fluids and sodium. Try light stretching, relaxation, icing and massage.

RETURN TO PLAY: As soon as the cramp is gone. Decrease reoccurrence by making sure the child is adequately conditioned, eats and drinks properly, and acclimates slowly to heat and humidity.

3. Heat Exhaustion

This moderate, common heat illness occurs when a dehydrated child continues to be active and his or her body struggles to keep up.

SYMPTOMS:

- Dehydration
- Dizziness, fainting, loss of coordination
- Profuse sweating or paleness
- Headache, nausea, vomiting or diarrhea
- Stomach or muscle cramps

TREATMENT:

- Move the child to an air-conditioned or shady area.
- Cool as quickly as possible by removing extra clothing and equipment and apply ice bags under the armpits, behind the neck and in the groin area.
- Have the child lie down with legs raised above heart level.
- If nausea permits, let the child drink cold water or a sports drink.
- If you don't see rapid improvement, take the child for emergency medical treatment.

RETURN TO PLAY: Not until all symptoms are gone. Avoid practicing or playing in heat until the next day or longer. Allow 24-48 hours minimum for recovery or until released by a medical professional. If taken for emergency medical treatment, the child should not return without a doctor's approval.

4. Heat Stroke

This severe heat illness occurs when the body creates more heat than it can release, causing a rapid increase in core body temperature. If left untreated, heat stroke can lead to permanent disability or death.

SYMPTOMS:

- Altered consciousness, seizures, confusion, emotional instability, irrational behavior, combativeness 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

TREATMENT:

- Without on-site medical personnel: Cool the child and call 911 for immediate transport to the nearest emergency facility.
- With on-site medical personnel: Begin aggressive whole-body cooling by immersing the child in a tub of cold water. If no tub is available, use cold water, fans, ice or cold towels placed over as much of the body as possible. Call 911 for immediate transport to the nearest emergency facility.

RETURN TO PLAY: No heat stroke victim should return to play without a doctor's approval and specific return-to-play instructions. Return should be slow and supervised by a certified/licensed athletic trainer or other healthcare professional.



Summa Center for Sports Health

Led by Dr. Nilesh Shah of Summa Orthopaedics and Sports Medicine, the Summa team identifies, treats and prevents sporting and fitness-related injuries. Dr. Shah reads and interprets the ImPact Concussion Management Testing. He also provides same day/next day appointments.

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