

# Heat & Humidity: DANGER

## High heat with humidity form dangerous combination for players, even at practice

Most coaches understand they need to take breaks between innings of games when the temperatures soar, giving their players a chance to rehydrate and dissipate their extra body heat. But be careful with practices, too.

High school to professional athletes have died of heat illness in the last several years during practices in hot, humid weather. Cory Stringer of the Minnesota Vikings NFL team is the most famous case,

but the combination of high heat and humidity can create an atmosphere where the athletes' bodies cannot properly dissipate the heat they generate in even normal activities.

Take breaks every 20 minutes for water and rest in the shade or with cool, wet clothes to drape over necks and promote evaporation to help the skin cool the body's interior.

Take a cooler with ice and water for players to use throughout practice and games. In severely hot areas like southern California, Arizona and New Mexico, some leagues have set up misters in the dugouts to spray a light water mist over the players to help cool them each inning.

Children's heat regulating processes are not fully developed, and their skin surface is proportionately greater than that of an adult's. So don't expose players to prolonged workouts or games in high heat, or moderate heat with high humidity; it's a risk you shouldn't take.

Because their body surface to weight ratio is high, a child's skin actually works against them, taking in more heat than they can absorb internally; so where an adult's temperature might slowly climb as they become overheated, on a hot, humid day a child's will skyrocket, leaving little time to react.

To protect players from heat illnesses — heat stress, heat exhaustion and heat stroke — make sure all your players are properly hydrated before games and practices.

Relative Humidity (%)

°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	102	106	110	114	119	124	129	136			
92	94	96	99	101	105	108	112	116	121	125	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

**Heat Index  
(Apparent Temperature)**

Make sure your coaches know to schedule drink breaks every 15 to 30 minutes during practices on hot days, and to encourage players to drink between every inning.

## When to Play

With All-Star games nearly upon us, make sure coaches aren't over-scheduling practices. Practices should occur in the morning before noon or in the evening, as temps start to drop.

On hot days, many leagues have a mandatory break every three innings for all participants — especially needed for umpires, catchers and pitchers — to cool off and rehydrate. On especially hot days, take a break more often.

## What, When to Drink

- Drink 10 to 16 ounces of cold fluid about 15 to 30 minutes before workouts.
- Drink 4 to 8 ounces of cold fluid during exercise at 10 to 15 minute intervals.
- Drink a beverage that contains a small amount of sodium and electrolytes like potassium and chloride.
- Start drinking early in your workout

### With Prolonged Exposure and/or Physical Activity

#### Extreme Danger

Heat Stroke or Sunstroke highly likely

#### Danger

Sunstroke, muscle cramps, and/or heat exhaustion likely

#### Extreme Caution

Sunstroke, muscle cramps, and/or heat exhaustion possible

#### Caution

Fatigue Possible

because you will not feel thirsty until you have already lost two percent of your body weight; by that time you will already be significantly dehydrated.

- Avoid carbonated drinks, which can cause gastrointestinal distress and may decrease the fluid volume.
- Avoid beverages with caffeine due to its diuretic effect.
- Research has found that sports drinks containing between 6% and 8% carbohydrate (sugars) are absorbed into the body as rapidly as water and can provide energy to working muscles that water cannot.

# Detect & Prevent Heat Injuries

Know how to recognize and treat heat injuries to keep your players safe

## Heat Stress:

What is heat stress? Basically take a hot job, add a hot day, and high humidity and it can add up to heat stress!

This condition occurs when the body is unable to regulate its temperature. This is the body's way of saying, "I can't take the heat anymore." There are three kinds of heat-related problems you may experience: heat stroke, heat exhaustion, and heat cramps. They can occur separately or in combination.

## Heat Stroke:

Heat stroke is a medical emergency! Heatstroke occurs when the body's heat regulating system breaks down under stress and sweating stops. Unless the victim receives quick treatment, death can occur.

### Symptoms:

- No sweating (or victim may be sweating profusely)
- High body temperature (105° or more)
- Hot, dry, flushed skin
- Confused, delirious behavior
- Loss of consciousness or coma

### First Aid:

- Immediately call for medical help, and then start first aid
- Move the victim to a cool place
- Cool the victim quickly by giving a cool bath (sponging with cool water) and by fanning
- Treat for shock
- Offer a conscious person half a glass of water every 15 minutes

## Heat Exhaustion:

This is a more serious disorder that develops when the body loses more fluid through sweating than it is taking in.

### Symptoms:

- Sweating profusely
- Weakness
- Clammy skin
- Dizziness
- Pale or flushed face
- Nausea
- Near normal body temperature

### First Aid:

- Move the person to shade or a cool place.
- Have patient lie on their back with feet elevated.
- If conscious, give half a glass of water every 15 minutes.
- Get medical help.

### Mild Disorders

(Warning Signs):

### Heat Cramps:

Tend to attack the muscles that do the hardest work, especially when it is hot. A good rule is to drink half a glass of water every 15 minutes for an hour if you experience heat cramps.

Fainting: Lets you know your body is having difficulty coping with the heat. As you know when you faint, you fall and when you are on the field and fall you can get hurt or hurt others.

Prickly Heat: A rash caused when sweat can't evaporate. Sweat ducts become clogged and sweat glands become inflamed.

## Hot Weather Tips

### Safety Concerns:

There are other problems with heat that you may not realize until it is too late. Heat stress can alter your coordination, lessen your concentration, reduce strength and alertness, and make you irritable.

## Ways to Avoid Heat Stress:

Acclimatize: This means allow your body to adjust to the heat naturally. The best way to do this is to gradually increase the time you spend in the heat until you reach the total amount of time desired.

Drink Water! One of the most important things to do is drink plenty of water during hot weather. The body can lose as much as three gallons of fluid a day while working in hot, humid weather. Drink some cool water every 15-20 minutes.

Use Salt: Add salt to your food but don't over-do it, such as taking salt tablets. If you have high blood pressure, heart problems or circulatory ailments, consult your doctor.

Eat Lightly: Light, nutritious meals, preferably cold are better for you due to the fact that they are easier to digest. Fatty foods are hard to digest, and hot weather makes them that much harder to digest.

"With the heat approaching in some areas and already there in other areas, here is something to be alert for. Not only should you keep an eye on the players, during a game, but also the umpires. Hopefully we will not have any problems as long as we follow the advice below."

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*Lee Joyce is the Virginia District 7 safety officer. This article is one of the e-mail newsletters Joyce prepared as District Safety Officer.*

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