

# Clarksville-Montgomery County School System

## HEAT STRESS PROTECTION PROGRAM

### 1.0 **PURPOSE**

The heat stress program outlined below provides employees with guidelines and recommendations to prevent adverse effects of high heat conditions. Each person should be aware of the adverse effects of high heat conditions, how the medications they may be taking exacerbate the effects, and the importance of proper dietary and physical conditioning.

The program, however, cannot take into account all factors contributing to heat stress and should be used only as a guideline.

### 2.0 **APPLICABILITY & PURPOSE**

The policy is intended to protect employees from the adverse effects from high heat conditions. The goal of the heat stress program is to reduce the number of heat-related illnesses in the workplace. The program is intended to protect all workers, even those who are not in the best physical shape. High risk occupations include but are not limited to:

- Maintenance Employees
- Custodians
- Any other employee deemed to be at high risk

### 3.0 **DEFINITIONS**

**Heat stress-** The combination of heat generated by the muscles during work and heat coming from the surrounding environment can build up to damaging levels in the body. Workers who become overheated get weaker and become tired sooner. They may be less alert. Accidents may occur because of impaired judgment. This condition is called heat stress. Heat stress occurs in a hot environment when a worker's body cannot cool quickly enough. The three major forms of heat stress are heat cramps, heat exhaustion and heat stroke. Heat exhaustion and heat stroke are the signs and symptoms of heat stress. Heat exhaustion is a serious problem, and heat stroke can kill you. Heat stress can cause serious medical injury, impair judgment, increase job stress and lead to low morale.

**Heat Cramps-** Symptoms include: painful spasms following hard work in intense heat, caused by loss of salt and water from profuse sweating.

**Heat exhaustion-** Symptoms include: heavy sweating, heavy thirst, panting/ rapid breathing, rapid pulse, headache, blurred vision, exhaustion, weakness, clumsiness, dizziness or fainting, confusion, or cramps.

**Heat stroke-** Symptoms include: no sweating, red or flushed and hot dry skin, any symptom of heat exhaustion but more severe, difficult breathing, pinpoint pupils, bizarre behavior, convulsions, confusion, or collapse.

### 4.0 **RESPONSIBILITY**

Direct questions regarding the CMCSS Heat Stress Program to the Safety and Health Department. The Safety and Health Department is responsible for ensuring that heat

stress management is carried out on a continual basis. Each individual department supervisor is responsible for implementation of the program among their group of employees. The supervisor's duties include:

- Monitoring the weather
- Scheduling rest and water breaks
- Providing clean water for drinking
- Acclimatizing and training new workers in heat stress safety
- Monitoring workers for heat stress problems
- Providing first aid for heat stress when necessary

Employees are responsible for the following:

- Wearing proper clothing and maintain personal hygiene
- Follow instructions and take scheduled rest and water breaks
- Drink plenty of water
- Report any heat stress problems immediately to a supervisor

## **5.0 TRAINING**

Employees and Supervisors should be trained in the following areas:

- Causes of heat-related illness
- Factors that increase the risk of heat illness
- Different types of heat-related illnesses
- Signs, symptoms, and first aid procedures for each type of heat illness
- Ways to prevent or control heat stress

## **6.0 DRINKING WATER INFORMATION**

Dehydration is the primary cause of heat illness. In fact, replacing body fluids lost in sweat is the single most important way to control heat stress and prevent heat illness. Body fluids lost from sweating must be replaced with drinking water during breaks. Workers need to be reminded constantly of their need to drink clean water. Thirst is not a good indicator of how much water you need to drink. Quenching your thirst does not mean that body fluids have been replaced. On a hot day, workers may lose as much as three gallons of perspiration. At the very least, a person doing moderate work in Tennessee in the summer should drink from 6 to 10 quarts (1 to 2 gallons) of water per day. Indications that a worker has not been drinking enough are dark yellow urine or passing less urine than usual. Chronic or extended periods of dehydration can lead to severe medical problems such as constipation, kidney stones and urinary tract infections. Rather than drinking a gallon of water all at one time, workers should drink smaller amounts of water more frequently. To insure that workers drink enough water, set up a drinking water program or have them "drink by the clock." Also, teach workers to drink a pint or more of water before starting work and continue drinking water after work through the end of the evening meal. Strong tea, coffee or colas are not acceptable substitutes for water because they build up caffeine in the system and cause frequent urination. Carbonated beverages also are not recommended because the gas in them makes it difficult to drink large enough quantities. Alcohol is never acceptable in the workplace.

## **7.0 ACCLIMATIZE EMPLOYEES**

It usually takes two weeks for employees to become fully acclimatized. As much as possible, the program will be tailored to:

- The type of work the employee is performing

- The type of clothing the employee will be wearing
- The climate in the area
- The individual health, age, and physical condition of the employee
  - Recognize that people with the following characteristics are often more sensitive to heat than others:
    - very small body size
    - poor nutrition
    - obesity
    - pregnancy
    - increasing age over 40
    - previous heat illness
    - heart disease or high blood pressure
    - diabetes
    - skin disease
    - liver, kidney or lung problems

Basic acclimatization procedures include:

- Start with a lighter workload and gradually increase the level of work
- Begin with longer rest periods and decrease their length gradually
- Whenever possible, rotate heavier work tasks among the workers who are in the best physical condition
- Shift times for doing heavy work and work requiring protective clothing and equipment to early or late in the day
- Postpone any non-essential tasks during heat spells
- Watch employees' responses to heat

## 8.0 FIRST AID FOR HEAT STRESS PROBLEMS

Despite all precautions, workers may still become ill from the heat. Department supervisors should train workers on how to recognize signs of heat illness. Their training should include first aid procedures for treating heat illness and procedures for getting emergency medical help. Designate one person on-site to be responsible for handling all suspected cases of heat illness. If a worker is overcome by the heat, this person will take charge, making decisions, giving directions to others, staying with the sick worker until the problem is resolved, and reporting on the problem to medical personnel. Keep on hand a supply of clean water, towels and cotton sheeting to soak and wrap around victims, and cardboard or something to fan victims with. Workers should never work alone for long periods of time in the heat. Supervisors should watch their workers and workers should watch each other for signs of heat stress. If a worker becomes ill from the heat, supervisors should take this as a warning that others may need to rest and cool down.

If a person is suffering from heat exhaustion, do the following:

- Move the victim to a cool shaded area to rest; **do not leave him or her alone**
- Loosen and remove heavy clothing
- Give cool water to drink, about a cup every 15 minutes
- Fan the person, spray with cool water, or apply a wet cloth to his or her skin
- Call 911 if he or she does not feel better in a few minutes
- Remove from hot environment work that day

If a person is suffering from heat stroke, this is considered a **MEDICAL EMERGENCY!** **do the following:**

- **Get medical help immediately, call 911**
- Move the victim to a cool shaded area; **do not leave him or her alone**
- Lay the person down
- Loosen and remove heavy clothing
- Fan the person, spray with cool water, or wipe with a wet cloth or cover with a wet sheet
- Place icepacks under the armpits and in the groin area

## 9.0 Heat Index Chart

HEAT INDEX CHART																					
TEMPERATURE (Deg F/Deg C)	RELATIVE HUMIDITY (%)																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
120/49	117	111	116	123	130	139	148	NA													
115/46	103	107	111	115	120	127	135	143	151	NA											
110/43	99	102	105	108	112	117	123	130	137	143	150	NA									
105/41	95	97	100	102	105	109	113	118	123	129	135	142	149	NA							
100/38	91	93	95	97	99	101	104	107	110	115	120	126	132	138	144	NA					
95/35	87	88	90	91	93	94	96	98	101	104	107	110	114	119	124	130	136	NA			
90/32	83	84	85	86	87	88	90	91	93	95	96	98	100	102	106	109	113	117	122	NA	
85/29	78	79	80	81	82	83	84	85	86	87	88	89	90	91	93	95	97	99	102	105	108
80/27	73	74	75	76	77	77	78	79	79	80	81	81	82	83	85	86	86	87	88	89	91
75/24	69	69	70	71	72	72	73	73	74	74	75	75	76	76	77	77	78	78	79	79	80

## KEY

VERY WARM - FATIGUE POSSIBLE WITH PROLONGED EXPOSURE	HOT - SUNSTROKE,HEAT CRAMPS AND HEAT EXHAUSTION POSSIBLE WITH PROLONGED EXPOSURE	VERY HOT - SUNSTROKE, HEAT CRAMPS, OR HEAT EXHAUSTION LIKELY, HEATSTROKE POSSIBLE WITH PROLONGED EXPOSURE	EXTREMELY HOT - HEAT STROKE OR SUNSTROKE IMMINENT
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Associated Documents: none