



COMPANY HEALTH & SAFETY PROGRAM

Issue: A
Rev: 1

Title: Heat Stress Program

Section No. 20

Date: 10/2/18
Authorized: *GDW*

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1.0 PURPOSE

The purpose of this program is to provide information and guidelines that will prevent PPP employees from being affected by heat related illness.

2.0 SCOPE

This program includes symptoms and first aid for heat related illness and administrative controls and work practices for managing heat stress. Project specific input may be added to the program as necessary.

3.0 INDEX

- 1.0 Purpose
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- 3.0 Index
- 4.0 Introduction
- 5.0 Heat Related Illnesses
- 6.0 Controls and Work Practices
- 7.0 Training

Attachments: [OSHA Technical Manual Section III, Chapter 4](#)
[St Paul Travelers Risk Control Insights Bulletin](#)

4.0 INTRODUCTION

Working in hot environments may cause body temperature to rise. The body responds by sweating. As the sweat evaporates it cools the body. If the process does not work, several heat related illnesses may occur. Water is key to this process; by providing adequate blood volume to transfer heat outward and perspiration to cool the body. Supervisors must ensure personal factors that contribute to heat related illness are taken into consideration before assigning a task where there is the possibility of a heat-related illness occurring. The most common personal factors that can contribute to heat related illness are age, weight/fitness, drug/alcohol use, prior heat-related illness, etc.

Factors that may affect the body cooling process include:

- Humidity (which may inhibit evaporation of sweat);
- Inadequate water intake;
- High ambient air temperature;
- Radiant heat sources (e.g., sunshine, steam piping, furnaces, etc.);



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- Protective clothing or equipment that may add to the heat load of the employee;
- Direct physical contact with hot objects; and
- Strenuous physical activity.

Factors that may affect a person's sensitivity to heat include:

- Age;
- Weight;
- Degree of physical fitness;
- Degree of acclimatization;
- Metabolism;
- Drug or alcohol use;
- Medical conditions (such as hypertension); and
- Prior heat related illness.

5.0 HEAT RELATED ILLNESSES

1. Heat Rash

Symptoms: Sweat duct becomes blocked and sweat accumulates in the gland. Heat rash is uncomfortable and can lead to more serious disorders due to lack of sweating.

First Aid: Apply drying lotion and powder.

Prevention: Regular bathing keeps skin dry and clear.

2. Fainting

Symptoms: Common among workers not acclimated to working in hot environments, caused by blood pooling in lower extremities.

First Aid: Remove employee to cooler area and lay down briefly. Recovery is prompt and complete.

Prevention: Proper acclimatization and avoid standing erect for extended periods of time, move around.



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3. Heat Cramps

Symptoms: Painful spasms of the muscles used during or after work, caused by excessive loss of salt from sweating.

First Aid: Consumption of electrolyte replacement beverage, such as Gatorade.

Prevention: Adequate salt intake during meals. A normal diet has ample salt. Begin drinking replenishing fluids 1-2 hours before beginning work in a hot environment.

4. Heat Exhaustion

Symptoms: Fatigue, nausea, headache, rapid heart rate and moist clammy skin; Can progress to heat stroke.

First Aid: Rest in cool area and drink fluids. Severe cases may require intravenous fluids.

Prevention: Acclimatization of worker, and drinking ample water during work.

5. Heat Stroke

Symptoms: Elevated body temperature, unconsciousness or convulsions, lack of sweating and possible vomiting and diarrhea.

First Aid: A medical emergency that requires professional medical treatment. Move patient to cool area, bath in cool water or cover in cool water soaked towels. Remove outer clothing and treat for shock. Give no oral liquid if convulsing or unconscious.

Employees suffering from heat illness or believing a preventative recovery period is needed shall be provided access to an area with shade that is either open to the air or provided with ventilation or cooling. Such access to shade shall be permitted at all times.



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6.0 CONTROLS AND WORK PRACTICES

Heat stress is measured using the *Wet Bulb Globe Thermometer (WBGT)*. WBGT data and the determined work type or workload shall be applied to the attached table of Permissible Heat Exposure Threshold Limit Values to establish an appropriate work/rest regimen.

Where PPP employees are working in hot environments, the PPP project supervisor shall coordinate and enforce the following:

- Provide appropriate rest area;
- Schedule adequate rest periods based on TLV's;
- Provide clean cool water, readily accessible, and encourage workers to drink water;
- Implement job rotation for high exposure jobs;
- Allow for acclimatization of workers;
- Where possible, provide engineering controls such as shields, barriers or fans;
- When appropriate, provide PPE such as air cooled or water cooled garments, ice vests, cooling bandanas and hard hat inserts;
- Make sure appropriate first aid supplies are readily available and a plan to access medical services is in place; and
- Ensure that all affected supervisors and workers are trained on heat related issues.

7.0 TRAINING

All affected PPP employees shall be trained on heat related issues as follows:

- Review of this program utilizing attached references.
- Review of site-specific controls and procedures including emergency procedures.
- Document training utilizing a PPP Safety Training Attendance Record.
- Supervisors must receive training in the prevention of heat related illnesses prior to supervising employees working in heat.
- Supervisors should be trained in the employer's heat illness procedures to prevent heat illness and procedures to follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.



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REVISION HISTORY

Revision number	Description of change	Written by	Checked by	Effective date
	Program reviewed		George Newton	10/20/2014
	Program revised to current standards	MJM	Mike McCaffrey	10/02/2018