



Training Solutions, Delivered!

UNDERSTANDING & PREVENTING HEAT-RELATED ILLNESSES *(Concise)*

**Leader's Guide, Fact Sheet
& Quiz**

This easy-to-use Leader's Guide is provided to assist in conducting a successful presentation.

PREPARING FOR THE MEETING

Here are a few suggestions for using this program:

- a) Review the contents of the Fact Sheet that immediately follows this page to familiarize yourself with the program topic and the training points discussed in the program. The Fact Sheet also includes a list of Program Objectives that details the information that participants should learn from watching the program.
- b) If required by your organization, make an attendance record to be signed by each participant to document the training to be conducted.
- c) Prepare the area and equipment to be used for the training. Make sure the watching environment is comfortable and free from outside distractions. Also, ensure that participants can see and hear the TV screen or computer monitor without obstructions.
- d) Make copies of the Review Quiz included at the end of this Leader's Guide to be completed by participants at the conclusion of the presentation. Be aware that the page containing the answers to the quiz comes before the quiz itself, which is on the final page.

CONDUCTING THE PRESENTATION

- a) Begin the meeting by welcoming the participants. Introduce yourself and give each person an opportunity to become acquainted if there are new people joining the training session.
- b) Introduce the program by its title and explain to participants what they are expected to learn as stated in the Program Objectives of the Fact Sheet.
- c) Play the program without interruption. Upon completion, lead discussions about your organization's specific policies regarding the subject matter. Make sure to note any unique hazards associated with the program's topic that participants may encounter while performing their job duties at your facility.
- d) Hand out copies of the review quiz to all of the participants and make sure each one completes it before concluding the training session.

4075 UNDERSTANDING & PREVENTING HEAT-RELATED ILLNESSES (*Concise*) FACT SHEET

LENGTH: 9 MINUTES

PROGRAM SYNOPSIS:

As hot conditions intensify this summer and we continue to perform our regular job duties, the potential for heat-related illnesses rises dramatically. Collectively known as heat stress, these illnesses are serious and can even cause death in some cases. Your employees must be vigilant in their efforts to prevent them. This program discusses how hot conditions affect the human body, the symptoms of heat-related ailments and what to do if we start to experience them, how to treat victims of heat stress and most importantly, the precautions that must be taken to avoid problems when working in hot environments.

PROGRAM OBJECTIVES:

After watching the program, participants should be able to explain the following:

- How the human body responds to hot conditions;
- What the symptoms of various heat-related illnesses are and how they should be treated;
- How the process of becoming acclimated to hot environments works;
- What precautions employees and companies can take to prevent heat stress.

PROGRAM OUTLINE:

BACKGROUND

- It's that time of year again—as spring evolves into summer, the temperatures outside are beginning to soar.
- While some parts of the nation will experience warmer weather sooner than others, ultimately we all will have to deal with the heat.
- As hot conditions intensify and we continue to perform our regular job duties, the potential for heat-related illnesses also rises.

HOW THE HUMAN BODY RESPONDS TO HOT CONDITIONS

- Our bodies naturally attempt to maintain a constant internal temperature.
- When exposed to hot conditions, excess body heat is expelled when the amount of blood circulating to the skin is increased, allowing cooling to occur. As this heat exits your body, it may cause your skin to appear flushed.
- If the increased blood flow alone cannot cool the body, your sweat glands release perspiration onto the skin. As this perspiration evaporates from the skin, heat is removed, cooling the body and preserving its temperature.
- The body can only maintain its internal temperature if this process functions properly. If the process is interrupted or cannot regulate the temperature effectively for any reason, the symptoms of heat stress will begin to appear.

HEAT RASH

- Heat rash, sometimes called prickly heat, can occur when perspiration stays on the skin so long that the sweat glands become clogged.
- The rash is accompanied by a hot, prickly sensation. It also reduces our tolerance to heat by limiting our ability to sweat.
- To avoid contracting heat rash, take periodic breaks in cool areas to allow sweat to evaporate and your body to cool off.
- To treat heat rash, first allow the affected area to air dry. Then gently clean with a mild, non-deodorant soap.
- Rinse and pat dry thoroughly with a cotton towel. Avoid rubbing or irritating the skin.

HEAT CRAMPS

- Heat cramps often occur after extended periods of heat exposure combined with very heavy sweating.
- These cramps are painful muscle spasms of the abdomen, arms and calves that result from extreme losses of water, salt and other minerals.

- Water alone will not replenish the salt and minerals needed to prevent heat cramps. When working in hot environments with prolonged, profuse sweating, drink sports drinks or other fluids specially made to provide salt and minerals.

HEAT SYNCOPE

- Heat syncope occurs when blood is directed to the skin to cool the body down and results in the lack of blood flow to the brain. This reduces or halts its function, causing fainting or severe dizziness.
- Heat syncope often occurs when a person must stand for long periods of time or rises suddenly from a sitting or lying position during hot conditions.
- In addition to fainting and dizziness, symptoms of heat syncope can include headache, increased pulse rate, nausea, fatigue, dry mouth and vomiting.
- If you or a co-worker experiences these symptoms, it is imperative that you take action as soon as possible. Heat syncope can lead to the much more serious condition of heat stroke if ignored.
- Loosen the victim's clothing and have him lie down in a cool place and slightly elevate his feet for about 15 minutes. If possible, fan the victim or apply a cool compress to his forehead.
- After the victim regains his composure, have him slowly drink small quantities of water, clear juice or a sports beverage approximately every five minutes.

HEAT EXHAUSTION

- Heat exhaustion is usually brought on by intense physical exertion in hot conditions. In such environments, profuse sweating causes dehydration and loss of salt and other materials.
- Besides intense sweating, victims of heat exhaustion often experience blurred vision and rapid breathing. Their skin may be moist and cool to the touch and they usually have a weak pulse.
- The judgment of a victim of heat exhaustion can also become clouded, causing them to insist they are okay.
- If you discover a co-worker in this condition, medical attention must be sought immediately.
- Get the victim to a cool area. Try to cool the victim by soaking with water or sponging with a cool, damp cloth.
- It is also helpful to create airflow over the victim by fanning until help arrives.
- Keep in mind that heat exhaustion can kill. Unless the victim's internal temperature is brought under control, he or she will die, so you must take immediate action when you or a co-worker exhibit its symptoms.

HEAT STROKE

- The victims of heat stroke have hot, dry skin that may be spotted or red. Heat stroke victims may not appear to be sweating. This is because their internal cooling processes have completely shut down.
- Heat stroke victims have an internal body temperature at near fatal levels and with no working mechanism for cooling, their lives are in immediate danger.
- A heat stroke victim may be delirious or go into convulsions when their body temperatures elevate to levels the body cannot tolerate.
- First aid must be administered immediately to prevent brain damage or death. Have someone call for emergency help, then remove any of the victim's unnecessary clothing and lay him on his side so the skin will be exposed to as much air as possible.
- Then, cool the person's entire body by sponging or spraying with cool water.
- If possible, apply ice packs to the groin, neck and armpits, where large blood vessels lie close to the skin surface. This helps cool the blood, which in turn helps cool the body.
- Create air flow over the victim by fanning the person, which will also help lower their body temperature.

ACCLIMATION

- If your job requires you to work in hot conditions on a regular basis, the first step in preventing heat stress is acclimation. Acclimation is simply having your body adjust to the heat by gradually increasing exposure.
- It generally takes about five to seven days of exposure to become acclimated, but the time may be shorter or longer depending on the individual.
- If you experience any heat stress symptoms or other health problems during the acclimation process, be sure to notify your supervisor.

PRECAUTIONS FOR PREVENTING HEAT-RELATED ILLNESSES

- Before work activity begins, “pre-hydrate” your body by drinking about 16 ounces of fluid.
- Be aware that you can sweat out as much as a quart of water per hour. You should try to drink in as much liquid as you lose in hot conditions.
- In extreme temperatures, your company will provide drinking stations close to work areas. Cool down areas will also be designated along with a schedule of rest breaks dictated by the conditions.
- No matter how hot it is, always wear the appropriate personal protective equipment for your job. If you don’t wear it, it can’t protect you.
- Your organization may have its own specific precautions and procedures for preventing heat-related ailments and may include scheduling hot jobs for the cooler parts of the day or reducing the duration of exposure for employees working in hot conditions.
- Many organizations establish a work schedule with mandatory rest periods and water breaks when certain temperature and humidity conditions exist.

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ANSWERS TO THE REVIEW QUIZ

1. b

2. a

3. c

4. b

5. a

6. b

7. a

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REVIEW QUIZ

The following questions are provided to determine how well you understand the information presented in this program.

Name _____ Date _____

1. Heat rash is also known as _____.
 - a. Stinging heat
 - b. Prickly heat
 - c. Heat hives

2. Water alone will not replenish the salt and minerals needed to prevent heat cramps.
 - a. True
 - b. False

3. Heat syncope occurs as a result of a lack of blood flow to the _____.
 - a. Lungs
 - b. Kidneys
 - c. Brain

4. If you work in hot conditions on a regular basis, the first step in preventing heat stress is _____.
 - a. Drinking 16 ounces of water before work each day
 - b. Becoming acclimated to the heat
 - c. Removing any excess clothing

5. When working in hot environments, you should drink about eight ounces of water every 20 minutes even if you aren't thirsty.
 - a. True
 - b. False

6. When working in hot conditions, you can sweat out as much as a _____ of water per hour.
 - a. Pint
 - b. Quart
 - c. Gallon

7. It generally takes about five to seven days of exposure to become acclimated to hot environments.
 - a. True
 - b. False