



Heat Stress Working Safely in the Heat

Leader's Guide and Quiz

Heat Stress

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Leader's Guide

Overview

Working in hot conditions can easily bring on heat related illnesses if we aren't proactive in preventing them. So it is important to understand that Heat stress and heat related illness, can cause more than just discomfort. If it's not treated early enough - they can lead to hospitalization or even death.

This program provides an overview of how the body regulates heat and how to recognize the warning signs when these processes aren't working.

The viewer will learn to recognize and treat symptoms of:

- Heat rash
- Heat cramps
- Heat Syncope
- Heat stress
- Heat Stroke

Most importantly, the program offers advice on preventing symptoms from occurring and understanding how to work safely in the heat.

Body Response to Heat

Inside your body there are many different mechanisms to make sure that your internal temperature stays at or near 37 Celsius or 98.6 degrees Fahrenheit. In extreme temperatures, your body has to work harder to heat or cool itself to stay comfortable.

When trying to stay cool in the heat, the first thing the body will do is send more blood towards the surface of the skin.

By increasing blood flow towards the surface, the body can cool the blood and then send it back inside, where it will help keep you cool internally.

This is why your skin may look flushed when you've been working in high temperatures.

If the increasing blood flow isn't enough to keep you cool, Your second line of defense, are your sweat glands. As the perspiration evaporates from your skin, it cools your body.

Below 91 degrees Fahrenheit or 32 degrees Celsius, most people can work comfortably and safely.

Acclimation

Heat related illnesses can sneak up on you is when you are new to working in hot environments, or have taken a break for longer than four days.

Your body needs time to adjust to higher temperatures, especially when you are doing more strenuous work. This can take several days depending on your circumstances.

By giving yourself time to acclimate to the heat, you will feel better and be able to work more productively.

During the acclimation period, make sure you are you are paying close attention to the signs of heat-related illnesses, drinking plenty of water, and taking small breaks as needed.

Heat Rash – Symptoms and Treatment

Heat rash (or “prickly heat”) occurs when sweat begins to clog your sweat glands.

This also limits your ability to sweat - making it harder for your body to cool itself - leaving you susceptible to more serious heat-related illnesses.

In most cases all you need to do is take a break in a cool place and drink water to clear up a mild heat rash.

Heat Cramps – Symptoms and Treatment

Some heat-related illnesses such as Heat Cramps can be confused with the effects of simply doing physical work for long periods of time.

Heat cramps are a result of extended heat exposure and profuse sweating.

The loss of minerals, salt, and water through sweat can cause painful muscle spasms in your limbs and body.

To treat heat cramps, stop working and rest in a cool area. Drink juice or a sports drink to rehydrate and replenish the minerals and salt that your body needs. Do some gentle stretching and massage of the affected muscle area.

Heat Syncope – Symptoms and Treatment

When sweating is not enough, the body directs blood flow to the skin to help the body cool itself. If your body is in overdrive, this can result in a lack of blood flowing to the brain – otherwise known as **Heat Syncope**. Symptoms include headache , dizziness and fainting.

If ignored, Heat Syncope can lead to heat exhaustion and heat stroke, so it’s important to treat it right away.

If you or someone you're working with experiences symptoms of Heat Syncope, have them lie down in a cool place with their feet slightly elevated. Loosen clothing and fan the victim, or apply a cool compress to their forehead.

When the victim begins to feel better, have them drink small amounts of water, or a sports drink every five minutes or so, until dizziness subsides.

Heat Exhaustion – Symptoms and Treatment

Some heat-related illnesses can be quite serious. Heat Exhaustion can lead to Heat Stroke, which is fatal if not treated.

Symptoms of heat exhaustion include intense sweating, blurred vision, rapid breathing, weak pulse, and moist cool skin.

Profuse sweating leads to a loss of minerals, water, and salt, and causes dehydration. Your body's cooling systems go into overdrive, and eventually burn out.

If you or a coworker experience heat exhaustion symptoms, get the victim to a cool area where they can lie down. Soak the victim with water or dab them with a cool, damp cloth – then fan them until they've cool down.

Encourage the victim to drink small amounts of water, around one glass every 15 minutes. It is also recommended that the victim visits an emergency room or urgent care clinic to get checked out.

Heat Stroke – Symptoms and Treatment

If more serious symptoms appear - like nausea and vomiting or loss of consciousness - call 911 immediately! These symptoms indicate that the person may be experiencing heat stroke.

Heat stroke occurs when body temperatures rise to near-fatal levels. If you are beginning to experience heat stroke, you need to get immediate medical attention.

When your body cannot regulate its internal temperature, your organs will begin to shut down, which will lead to death if not treated.

Symptoms of heat stroke include a body temperature higher than 104 F, headache, rapid heart rate and breathing, flushed skin, nausea and vomiting, lack of sweat, and disorientation, dizziness and agitation

While you wait for help to arrive, it is important to try to lower the victim's body temperature.

Start by removing any unnecessary PPE and clothing. Then, lay the person on their side away from the heat. Douse the victim with cool water, and fan them to lower their body temperature.

Use ice pack to help lower the body temperature by placing them behind the neck and under armpits. Stay with the victim until medical help arrives. And do not give them aspirin or other anti-fever medications.

Prevention

Hydration is the most important part of preventing heat-related illnesses. Make sure to Pre-hydrate before work, by drinking about two glasses of water, about 16oz. or a half liter, before you begin working in a hot environment.

Some **medications** can have an adverse effect on your body. If you take any medications regularly, it is important to pay attention to the side effects. If you are on any medications, talk to your doctor to see if you can safely work in the heat.

Be **Aware** of your self and your coworkers throughout the day, to look for signs or symptoms of heat-related illness.

Because heat-related illness can cause confusion and disorientation, someone experiencing a problem might not realize it – or might not think they need help. It's important to always look out for your coworkers in extreme conditions. It's better to be safe, than sorry.

If you are going to be working in a hot environment, make sure you are paying attention to the signs of heat-related illness. If you notice any symptoms in yourself, stop working and tell your supervisor or a coworker right away.

Don't push past the breaking point, because it could cause permanent damage to your body – including death.

By using these preventative measures, and staying alert to the warning signs Heat Stress, you can continue to stay safe and productive when working in the heat.

Heat Stress Working Safely in the Heat - Quiz Answer Key

1. Heat related illness make you uncomfortable but cannot affect your health severely.
b. F
2. The body cools the skin with:
c. all of the above
3. Heat stress can only occur if you are working outside in the sun.
b. F
4. Heat Rash or Prickly Heat should be dealt with immediately because it:
b. Clogs your sweat glands and pores and can lead to more severe illnesses
5. Heat Rash can usually be controlled by taking a break, cooling off and drinking water.
a. T
6. Heat Cramps can usually be controlled by:
d. All of the above
7. Heat Syncope is a result of:
a. Lack of blood flow to the brain
8. Heat Syncope symptoms include
d. all of the above
9. Call 911 if symptoms appear such as nausea vomiting loss of consciousness.
a. T
10. The best way to hydrate before starting work is to drink:
b. 16 ounces of water

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1. Heat related illness make you uncomfortable but cannot affect your health severely.
 - a. T
 - b. F

2. The body cools the skin with:
 - a. Blood flow
 - b. Sweat
 - c. all of the above

3. Heat stress can only occur if you are working outside in the sun.
 - a. T
 - b. F

4. Heat Rash or Prickly Heat should be dealt with immediately because it:
 - a. Can cause body odor
 - b. Clogs your sweat glands and pores and can lead to more severe illnesses
 - c. Is unsightly

5. Heat Rash can usually be controlled by taking a break, cooling off and drinking water.
 - a. T
 - b. F

6. Heat Cramps can usually be controlled by:
 - a. Taking a break and resting in a cool area.
 - b. Drinking juice or a sports drink to rehydrate and replenish minerals and salt
 - c. Do some gentle stretching and massage of the affected muscle area.
 - d. All of the above

7. Heat Syncope is a result of:
 - a. Lack of blood flow to the brain
 - b. Not eating a balanced lunch
 - c. Lack of exercise

8. Heat Syncope symptoms include
 - a. headache
 - b. dizziness
 - c. fainting
 - d. all of the above

9. Call 911 if symptoms appear such as nausea vomiting loss of consciousness.
 - a. T
 - b. F

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10. The best way to hydrate before starting work is to drink:
- a. coffee
 - b. 16 ounces of water
 - c. energy drinks