

Outdoor Heat Stress Training Guide

After each question, give the crew time to suggest possible answers. Use the information following each question to add points that no one mentions.

1. What signs and symptoms might you notice if your body is too hot?

- First, you may notice that you are tired and less mentally alert. This increases the danger of accidents.
- You may **sweat**. The body produces sweat so the evaporation will cool you off. Sweating isn't as effective if the air is very humid, because not as much sweat evaporates.
- **Heat rash** is possible. You get it when your sweat glands swell and get plugged up.
- You can get **sunburn** if you're in direct sunlight too long without using a sunscreen product on your skin. Sunburn can be painful and may even lead to skin cancer.

2. If you don't pay attention to these early symptoms and get out of the heat, you can get *heat stress*. What does heat stress do to your body?

- The first symptom is usually **heat cramps**. If you don't replace the fluids and salts (called **electrolytes**) that you lose by sweating, you may get muscle pain or muscle spasms. These are most common in the arms,
- **Heat exhaustion** can follow. Your whole body (especially your circulatory system) is extremely stressed. Some possible symptoms are:
 - Pale, flushed face and neck
 - Clammy skin
 - Heavy sweating
 - Fatigue
 - Shortness of breath
 - Headache, dizziness, or fainting
 - Nausea and vomiting
 - Rapid heartbeat and breathing
- **Heat stroke** is the most serious stage of heat stress. Your body temperature shoots up. 50% of people with heat stroke die. Symptoms are:
 - Dizziness and confusion
 - Red, hot, dry skin
 - Nausea and vomiting
 - Very little sweating
 - Rapid pulse
 - High body temperature (around 105° F)
 - Convulsions
 - Fainting
- Anyone with heat stroke must be taken to a **doctor or hospital** immediately.

3. What's the best treatment for the different stages of heat stress?

- **Heat cramps** — Stop work, drink fluids, and rest in a cool area. Drinking electrolyte solutions may also help.
- **Heat exhaustion** — Give first aid by moving the person to a cool place to rest. Remove as much clothing as possible. Give the person water. Drinking electrolyte solutions may also help. Don't allow the person to get chilled, and treat for shock if necessary. Get medical help.
- **Heat stroke** — Call 911 to get an ambulance immediately. Immerse the person in cool water or ice.

4. Some people are more likely to get heat stress than others. Why?

- You have a higher risk of heat stress if:
 - You are **not physically fit**.
 - You are **overweight**.
 - You have a **chronic illness** like heart disease or diabetes.
 - You **drink alcohol** or **take drugs** (either illegal drugs or prescription drugs).
 - You are **dehydrated**—from diarrhea, a fever, or not drinking enough water.
 - You wear **heavy or tight clothing**.
 - You wear some kinds of **personal protective equipment (PPE)** on the job. Some PPE (like a full body suit) is hot. Other PPE (like a respirator) increases the stress on your body in other ways, making it harder for the body to fight the heat.

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- You are **not used to working in heat**. The more you work in heat, the more your body gets used to it. This is called becoming **acclimatized** to heat.

5. How long does it take to become acclimatized?

- It usually takes **4 to 7 days** of regular exposure to heat. But everyone is different.
- You shouldn't do strenuous work all day on a hot job until you've become acclimatized.
- When you are acclimatized, your body temperature and heart rate will be lower. You will sweat more, but your sweat will be less salty so you won't lose as much salt.
- You **lose acclimatization in a few weeks** if you stop working in the heat.

6. What precautions do we need to take on the site to prevent heat stress?

- In addition to providing this training, the **company** will: *(Mention all that apply)*
 - **Assign strenuous work** during **cooler** parts of the day.
 - Give **new hires** who are not acclimatized **lighter work** during their first week.
 - **Rotate workers** in strenuous, hot jobs so no one is exposed too long.
 - **Shield** or **enclose** sources of heat (like furnaces) to minimize radiant heat.
 - Provide **water-cooled garments** or ice-packet vests where necessary.
 - Keep **first aid** supplies and equipment available.
- **Workers** should:
 - **Drink a lot of cool water** (or an electrolyte solution). You may need a quart an hour or more, depending on conditions. Drink even if you don't feel thirsty.
 - **Take frequent breaks** in an air-conditioned or shaded area.
 - Wear appropriate clothing when you're in the sun. The best clothing is a loose, lightweight cotton shirt and pants in a light color. Wear a wide-brimmed hat in the sun. Wear a lightweight **long-sleeve** shirt and **long pants** if it's over 95° F.
 - Use a sunscreen product to protect your skin from ultraviolet rays in sunlight. It should have a **sun protection factor (SPF)** of at least 15. (Check the label.)
 - Take frequent cool **showers** if possible.
 - Stay **physically fit**.
 - **Limit** your use of **alcohol**. Ask your doctor about prescription drugs you're taking.

7. How can we be sure no one on the site is getting affected by the heat too much?

- **Use the buddy system**. Watch your coworker for signs of heat stress.
- **Know what to do** if you or your coworker shows any symptoms.
- **Notify your supervisor** and **stop work** if you notice any major symptoms.