

Workplace Safety

## Factors That Contribute to Heat Stress

Brought To You By Sqwincher | May 21, 2019

When you hear “heat stress,” the first thing that you think of is probably a hot, sunny day in the middle of summer. And while it’s true that working in the hot sun can certainly contribute to heat stress, it’s far from the only factor that we must consider.

This article will go over seven contributors to heat stress other than the heat. Heat stress can sneak up quickly on you, but knowing what causes or exacerbates it will help you stay safe.

### Understanding Heat Stress

Heat stress is a broad category that encompasses several disorders. They range in severity from mildly uncomfortable to life threatening. They include:

- Heat rash
- **Heat exhaustion**
- Heat cramps
- **Heat stroke**

Workers can be exposed to heat stress in a variety of different jobs, and any process or site that could raise the deep core temperature to more than 100.4 degrees increases the risk. These jobs run the gamut from metal smelters and outdoor construction to working in kitchens and non-air conditioned warehouses.

It wouldn’t be an overstatement to say that the vast majority of workers could be at risk of heat stress at some point in their careers.

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### Heat Stress Factors You Might Miss

There are three categories of factors that determine the degree to which an individual is at risk for heat stress:

- Personal risk factors
- Job factors
- Environmental factors

Environmental factors are often the most commonly considered. After all, it’s harder to forget about the possibility of heat stroke when you’re spending the day working in the heat.

But personal risk factors and job factors are often overlooked – and the results can be deadly.

## 1. Medication

Some medications can affect the body's ability to tolerate (and effectively deal with) heat. Workers taking medication for the following conditions should be particularly vigilant:

- Colds, allergies, and congestion
- Blood pressure
- Diarrhea
- Psychosis
- Depression
- Dizziness or vertigo

## 2. Alcohol Use

Workers who have had alcohol in the past 24 hours are more susceptible to heat-related illnesses, as alcohol negatively impacts the body's ability to regulate its temperature. Alcohol use can also contribute to dehydration, which can further spur on the development of heat stress.

## 3. Acclimatization

New employees and those who are returning from time away from the heat should do so slowly to allow the body to get used to the temperature.

Workers already acclimatized may be more prone to heat stress when there is a sudden change in temperature at the worksite, such as heat waves or when there is mining in the area.

## 4. Proximity to Hot Equipment



Workers doing tasks with, or in close proximity to, engines and other heat-generating equipment are at increased risk for heat illnesses. The equipment produces heat that raises the temperature in the work area, and it doesn't take long before workers' own temperatures start rising.

## 5. Clothing and PPE

Some PPE is heavy and lacks the ability to breathe, making it easy for the body to overheat. Workers should pay special attention to the coated and non-woven materials often used in protective garments, which prevent the evaporation of sweat. In general, the heavier the clothing, the longer it takes for evaporation to effectively cool the skin (working with fire risks? Consider these **6 Key Fire Resistant Protective Clothing Options**).

## 6. Fluid Loss

While this factor varies heavily from person to person, workers who lose more than 1.5 percent of their

body weight in a single day from sweating are at greater risk of heat stress. This can be remedied by ensuring adequate fluid intake to balance the fluid loss.

## **7. Work Schedule**

Doing strenuous work during the hottest parts of the day puts workers at severe risk for developing heat-related illness.

When possible, modify work schedules so that strenuous work is done early in the morning and later in the afternoon, instead of mid-day. This will help prevent exposure to extreme heat.

## **Signs and Symptoms to Watch Out For**

If you're in a work environment where heat stress is a possibility, it's critical to know what symptoms to look for. Identifying heat stress early on can (literally) be a lifesaver.

Keep an eye out for these symptoms:

- Headaches
- Nausea
- Dizziness
- Cool, clammy skin
- Pale face
- Cramps
- Weakness
- Excessive sweating

If these symptoms are present, move the individual to a cooler spot and provide water and rest.

Heat stroke is the most serious heat-related illness, and if it's left untreated it can lead to serious and possibly fatal complications. Symptoms include:

- Headache
- Nausea
- Flushed face
- Hot, dry skin
- Lack of sweating
- Body temperature of 101 degrees or higher
- Chills
- Rapid pulse

Workers experiencing heat stroke symptoms should receive immediate treatment from a medical professional. Move the individual to a shady place, wrap in a cool sheet, and call 911.

## **Conclusion**

Heat stress is a serious concern for workers around the country, and knowing the risk factors is the first step to controlling them.

We often associate heat stress with outdoor work but by knowing all of the factors that contribute to it, we won't be caught off-guard in any work environment.

*Learn more about how Sqwincher's products can protect your workers against heat stress at MSCDirect.com.*

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