While safety officers are responsible for protecting workers from danger, they can be challenged by threats that they can't see or hear. That's what makes heat stress and cold stress so insidious. Make no mistake: a cold snap or heat wave can be just as harmful as other occupational hazards. According to a study by the Barcelona Institute for Global Health, extreme heat and cold accounts for nearly three percent of workplace injuries, with extreme heat increasing the risk of injury by seven percent and extreme cold increasing the risk by four percent.

But even before extreme hot or cold conditions cause injury, they can have much more widespread effects of lower productivity and morale. These very real consequences mean that employees and supervisors need appropriate training to recognize the symptoms of extreme temperature stress and how to respond to them.

Extreme temperatures hurt and kill people by pushing the body beyond its limits. These conditions can be found both indoors and outdoors, and they have the potential to be life-threatening. Training and prevention for extreme temperature stress needs to be as high of a priority as it is for more visible risks in the workplace.¹

THE RISKS OF HEAT STRESS

High temperatures can result in heat-related illnesses, such as heat rash or heat stroke, with symptoms ranging in severity from headaches to a loss of consciousness. Heat can also increase the risk of injury in workers due to sweaty palms or dizziness, leading to an accident. Sometimes, heat-related illnesses are as simple to treat as giving the victim cool water and placing them in the shade, while a severe case of heat stroke can require a trip to the hospital.

According to OSHA, more than 40 percent of heat-related worker deaths occur in the construction industry, but workers in every field are susceptible.² While those at risk for heat stress are primarily outdoor laborers, people who work in hot indoor environments, such as bakeries, refineries, or factories, are also at risk. Even though heat-related deaths and illnesses are completely preventable, the CDC reports that more than 600 people in the U.S. die each year from extreme heat stress.³

THE RISKS OF COLD STRESS

Similarly, employees working in frigid conditions can experience cold injuries ranging from frostnip to hypothermia. While these injuries are dangerous to the workers themselves, numbness in the hands can also lead to workplace accidents for others, if workers lose their grip on a tool or control of machinery. Symptoms can sometimes be alleviated by getting the victim to a warm location or by removing wet clothing, but severe exposure can require emergency medical attention. Workers most at risk are people working outside in the cold, particularly in the snow, although cold or wet indoor

2 “OSHA’s Campaign to Keep Workers Safe in the Heat.” OSHA.
3 “Natural Disasters and Severe Weather: About Extreme Heat.” CDC.
environments can also lead to cold stress. According to the CDC, about 1,200 people die per year due to extreme cold stress.4

1,200 people die every year in the U.S. from cold stress

OCCUPATIONS AT RISK

Depending on the time of year, geography, and the industry, employees may be at risk for one extreme or the other. Workers in construction, road work, agriculture, landscaping and other outdoor occupations should be aware of the specific risks for both extreme temperature types, while employees working in hot foundries or cold commercial food preparation facilities may only need to be aware of the symptoms and treatments for their relevant exposure.

In addition, there are many job types that place employees at risk for extreme temperature stress that might not be top of mind for safety managers. For example, jobs like truck drivers, EMTs, and police officers often have workers spending time in the protection of their vehicles or buildings. However, they can also find themselves unexpectedly exposed to the elements for long periods. In addition, extreme weather can overload the temperature systems in buildings, placing indoor workers at risk during a heat wave or a winter storm.

MITIGATING EXTREME TEMPERATURE STRESS

When working to prevent extreme temperature stress, employers should first attempt to eliminate the hazard. For example, an employer should seek to add shade, fans, water, and cooling stations on a hot day, while accommodating workers with frequent opportunities to cool down.

Following that, employers should provide training to educate workers and supervisors alike about the risk factors, symptoms, first-aid treatment, and prevention options for cold and heat stress. By recognizing the hazards, employees and employers can then work together to identify ways to protect workers.

TRAINING IS THE FIRST DEFENSE AGAINST HEAT AND COLD STRESS

Employers should offer two levels of training: general and site-specific.

• General Training: Comprehensive heat and/or cold stress training gives employees and supervisors the knowledge they need to recognize the hazards, as well as the symptoms, of temperature stress, and to know what to do when they identify symptoms in themselves or others. eLearning solutions, such as on-demand videos, can deliver a consistent level of training at a time that’s convenient for the user and easy to scale across a global workforce.

• Site-Specific Training: This training outlines the administrative controls put in place for an individual workplace. Site-specific training can include acclimation schedules, work duration between temperature breaks, hydration requirements, and instruction on where to find water, warming or cooling areas, and other support. This training can take place as an onsite safety briefing or as posted printed materials.

U.S. Federal regulations do not provide for specific health and safety regulation that employers can use when designing their temperature training. But under the OSHA General Duty Clause, employers are required to provide a workplace that protects employees from hazards that can cause harm, which means employers have an obligation to provide the appropriate amount of training and other mitigation tactics to minimize the risk of extreme temperatures. Also, check for state-specific guidelines on the prevention of heat and cold illnesses, since some states have more stringent regulations than the Federal OSHA guidelines.

The key is to help ensure employees work under safe conditions. Training does as much to raise awareness of temperature risk for supervisors as it does employees. By understanding the risks, supervisors can then adapt the workplace to the weather, watch out for possible symptoms of heat stress and cold stress, and adjust expectations to reflect weather reports and working conditions.

ABOUT SKILLSOFT COMPLIANCE

Skillsoft Compliance provides risk mitigation and workplace safety training tailored to meet an organization’s unique needs, delivering eLearning content in over 500 risk topics and 32 languages.