

OSHA Training Toolbox Talk: Cold Stress – Recognizing the Early Signs and Symptoms

[Reference: (5)(a)(1) of OSH Act]

Have you ever been so cold that your fingers or toes felt numb? Or, your teeth started chattering and your body was shivering uncontrollably? Or, perhaps you were so cold that you could not think clearly about your work because you were miserable? If so, those are some of the ways your body reacts to try and get warm in a cold environment. Unfortunately, it is also telling you it is struggling with the early stages of cold stress, which may eventually lead to injuries or illnesses.

Cold stress refers to the physical stress experienced by the body when it's exposed to cold environments, especially for prolonged periods of time. Cold stress happens when your body loses heat faster than it can produce it. Over time, this causes your core body temperature to drop, leading to problems that can affect your health and safety. Recognizing the early signs of cold stress is the first step to staying safe in cold weather.

Shivering is one your body's first responses to try and defend itself against the cold. When temperatures drop to the point that you get cold, sometimes you notice that parts of your body begin shivering. That is because your brain is subconsciously sending repeated signals to your muscles to contract and then relax very rapidly, making you shiver. Those muscle contractions require energy, which your body provides by burning calories, a process that literally generates body heat. However, shivering also uses up your energy very fast, which can leave you feeling fatigued, and eventually make it harder for the body to continue to warm itself. So, it is important when working in cold weather to keep refueling your body by consuming high-energy foods like nuts, granola bars, or even hot soup or broth, to help keep your up metabolism.

Tingling or numbness in your fingers and toes is another early sign of cold stress. The tingling or numbness occurs because, as your body's core temperature begins to drop and hypothermia begins to set in, your brain subconsciously sends out signals to cause specific major blood vessels in your arms and legs to constrict, or tighten. This, in turn, redirects blood away from your extremities and towards your core, thereby protecting your vital organs by helping keep the most important parts of your body warm. However, there is an unfortunate trade-off, as this process leaves your fingers, toes, ears, nose, and other extremities not only feeling tingly and numb, but also at risk of freezing.

So, if you recognize any of these signs or symptoms of cold stress, it is important to get to a warm place, and then we can assess what can be done to help keep you warmer as you work.

Does anyone have a question about these bodily reactions to cold stress? Please sign the training certification form to ensure you get credit for attending today's OSHA training toolbox talk.