



## A CUP OF HEALTH WITH CDC

### *Be Cool*

*Evaluation of Occupational Exposure Limits for Heat Stress in Outdoor Workers  
— United States, 2011-2016*

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*[Announcer] This program is presented by the Centers for Disease Control and Prevention.*

[Dr. Kathleen Dooling] Welcome to *A Cup of Health with CDC*, a weekly feature of the *MMWR*, the Morbidity and Mortality Weekly Report. I'm your host, Dr. Kathleen Dooling.

Working outdoors can be physically challenging, particularly in the summer when heat and humidity can get dangerously high.

Dr. Brenda Jacklitsch is with CDC's National Institute for Occupational Safety and Health. She's joining us today by telephone to discuss the dangers of becoming overheated while working. Welcome to the show, Brenda.

[Dr. Jacklitsch] Thank you.

[Dr. Dooling] Brenda, what factors put us at risk for heat-related illness?

[Dr. Jacklitsch] There are actually a few different environmental and individual factors that can put us at risk. Environmental factors can include temperature and humidity and direct sunlight, and, in fact, the heat index is a value that can be used to estimate how hot it feels when both temperature and humidity are considered. So, as the heat index rises, a person may be at higher risk for a heat-related illness. A recent study has indicated that a heat index value above 85 degrees might be useful when trying to determine the risk for a heat-related illness to occur. However, other personal and individual risk factors, like somebody's health or the type of personal protective equipment or clothing they are wearing, can also put the person at additional risk for a heat-related illness at an even lower heat index value.

[Dr. Dooling] What signs or symptoms indicate overheating?

[Dr. Jacklitsch] The heat-related illnesses can range in both outcomes and symptoms. Something like heat rash can create discomfort, while heat stroke may be deadly. In general, anytime someone begins to feel a little off or unwell while working in the heat, that could be a signal that a heat-related illness is about to start. Other symptoms like excessive sweating, weakness, and dizziness may be symptoms of heat exhaustion, which can quickly turn into heat stroke. And heat stroke is often identifiable because the brain overheats and the person begins to experience confusion, slurred speech, and may even lose consciousness. All of these can indicate a medical emergency.

[Dr. Dooling] What occupations put people at greatest risk for exposure to high temperatures?

[Dr. Jacklitsch] Anyone working outdoors in a hot environment is at higher risk. This can include construction workers, those in agriculture, like farmers and landscapers. Anyone spending time working outdoors, whether they are out in the heat just part of the day or the entire day, may be at additional risk.

[Dr. Dooling] What are some ways to prevent heat-related illness?

[Dr. Jacklitsch] We recommend that employers take steps to reduce heat stress at their work site. They need to provide a shaded or a cool area for workers to take breaks and rehydrate. They need to provide water in the area where the workers will be. We also suggest that workers be encouraged to drink about one cup of water every 15 to 20 minutes. Employers should also implement an acclimatization plan for both new and returning workers. Acclimatization actually occurs over a 7 to 14 day period, and during that time, these workers need to be gradually introduced to the work being done in that hot environment. Employers should also be aware of the temperature and humidity and any heat waves that might be occurring and try to schedule the most intense tasks for the coolest parts of the day. And also, during these time periods, allow for longer and more frequent breaks, as needed.

[Dr. Dooling] Where can listeners get more information about occupational heat stress?

[Dr. Jacklitsch] Listeners can go to [CDC.gov/NIOSH](https://www.cdc.gov/NIOSH) and search for heat stress.

[Dr. Dooling] Thanks, Brenda. I've been talking today with Dr. Brenda Jacklitsch about the dangers of getting overheated while working.

Monitoring the heat index, which is the combination of temperature and humidity, is an important way to determine dangerous conditions. Stay hydrated, take regular breaks, and take time to get used to the heat. Finally, be aware of the symptoms of heat overexposure—early recognition can prevent heat-related illness.

Until next time, be well. This is Dr. Kathleen Dooling for *A Cup of Health with CDC*.

[Announcer] For the most accurate health information, visit [cdc.gov](https://www.cdc.gov) or call 1-800-CDC-INFO.