

Find it in OSHA



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## WATER. REST. SHADE.

OSHA's Campaign to Keep Workers Safe in the Heat

OSHA-NIOSH Heat Safety Tool  
Smartphone App - iPhone

OSHA-NIOSH Heat Safety Tool  
Smartphone App - Android

Learn about heat illness  
symptoms and prevention from  
our Heat Safety Page

Educational and Training  
Materials

Videos and Graphics

Heat safety resources from  
multiple federal agencies

### Our Campaign

Our Heat Illness Prevention campaign, launched in 2011, educates employers and workers on the dangers of working in the heat. Through training sessions, outreach events, informational sessions, publications, social media messaging and media appearances, millions of workers and employers have learned how to protect workers from heat. Our safety message comes down to three key words: **Water. Rest. Shade.**

### Dangers of Working in the Heat

Every year, dozens of workers die and thousands more become ill while working in extreme heat or humid conditions. More than 40 percent of heat-related worker deaths occur in the construction industry, but workers in every field are susceptible. There are a range of heat illnesses and they can affect anyone, regardless of age or physical condition.

### Employer Responsibility to Protect Workers

Under OSHA law, employers are responsible for providing workplaces free of known safety hazards. This includes protecting workers from extreme heat. An employer with workers exposed to high temperatures should establish a complete heat illness prevention program.

- Provide workers with water, rest and shade.
- Allow new or returning workers to gradually increase workloads and take more frequent breaks as they acclimatize, or build a tolerance for working in the heat.
- Plan for emergencies and train workers on prevention.
- Monitor workers for signs of illness.

### Resources

OSHA's Occupational Exposure to Heat page explains what employers can do to keep workers safe and what workers need to know - including factors for heat illness, adapting to working in indoor and outdoor heat, protecting workers, recognizing symptoms, and first aid training. The page also includes resources for specific industries and OSHA workplace standards. Also look for heat illness educational and training materials on our Publications page.



Learn what employers are doing around the country to protect workers from heat illness.

Submit your ideas

## #WaterRestShade Tweets

CA Contractors Board  
Retweeted



#Heat season is almost here. Join @CA\_DIR for the Heat Illness Prevention Network conference call on Tuesday, April 24. #CalOSHA will review the best practices for preventing #HeatIllness. #WaterRestShade



Heat Illness Prevention Network Regional Conference Call  
Tuesday, April 24P

WASH. Avoid Injuries: Department of Industrial Operations Acting Director  
Leland Ryan, Cal/OSHA Chief  
Nathan Balthus, Cal/OSHA Inspector, Labor Division  
David Herring, Cal/OSHA Heat Illness Coordinator  
8 signs: Cal/OSHA, Cal/OSHA, Cal/OSHA, Cal/OSHA, Cal/OSHA, Cal/OSHA, Cal/OSHA, Cal/OSHA

WASH. Heat Illness Prevention Network, conference call with OSHA to review best practices for preventing heat illness at various venues  
Tuesday, April 24, 2014 @ 11 p.m. PST

RT @CA\_DIR  
• Please call 800-368-6988  
• This is an advisory service and is not intended to "heat illness prevention"  
• If you attend, you will receive questions before the call about what  
happened at the

The Heat Illness Prevention Network (HIN) is a public-private partnership established by various state, federal, and employer associations of the United States and the Department of Labor's Occupational Safety and Health (OSHA) to address the growing problem of heat illness in the workplace. HIN members work together to help prevent heat illness in workplaces throughout California in partnership with the Director of Occupational Safety and Health, Cal/OSHA, by providing training, information to employers and employees.

Headquartered in the Heat Illness Prevention Network, and together with other state, federal, and employer associations, Cal/OSHA is now also involved in the health of California's employees to help prevent heat illness.

# WATER. REST. SHADE.

*The work can't get done without them.*

## Using the Heat Index: A Guide for Employers

### Introduction

Outdoor workers who are exposed to hot and humid conditions are at risk of heat-related illness. The risk of heat-related illness becomes greater as the weather gets hotter and more humid. This situation is particularly serious when hot weather arrives suddenly early in the season, before workers have had a chance to adapt to warm weather.

For people working outdoors in hot weather, both air temperature and humidity affect how hot they feel. The "heat index" is a single value that takes both temperature and humidity into account. The higher the heat index, the hotter the weather feels, since sweat does not readily evaporate and cool the skin. The heat index is a better measure than air temperature alone for estimating the risk to workers from environmental heat sources.

### Heat-related illness can be prevented.

OSHA does not have a specific standard that covers working in hot environments. Nonetheless, under the OSH Act, employers have a duty to protect workers from recognized serious hazards in the workplace, including heat-related hazards. This guide helps employers and worksite supervisors prepare and implement hot weather plans. It explains how to use the heat index to determine when extra precautions are needed at a worksite to protect workers from environmental contributions to heat-related illness. Workers performing strenuous activity, workers using heavy or non-breathable protective clothing, and workers who are new to an outdoor job need additional precautions beyond those warranted by heat index alone.

Workers new to outdoor jobs are generally most at risk for heat-related illnesses. For example, Cal/OSHA investigated 25 incidents of heat-related illness in 2005. In almost half of the cases, the worker involved was on their first day of work and in 80% of the cases the worker involved had only been on the job for four or fewer days. That's why it's important to gradually increase the workload or allow more frequent breaks to help new workers and those returning to a job after time away build up a tolerance for hot conditions. Make sure that workers understand the risks and are "acclimatized".

**Outdoor workers** include any workers who spend a substantial portion of the shift outdoors. Examples include construction workers, agricultural workers, baggage handlers, electrical power transmission and control workers, and landscaping and yard maintenance workers. These workers are at risk of heat-related illness when the heat index is high. Additional risk factors are listed below. *These must be taken into consideration even when the heat index is lower.*

- Work in direct sunlight - adds up to 15 degrees to the heat index.
- Perform prolonged or strenuous work
- Wear heavy protective clothing or impermeable suits



**Two primary sources of heat for workers:** Workers become overheated from two primary sources: (1) the environmental conditions in which they work and (2) the internal heat generated by physical labor. Heat-related illnesses occur when the body is not able to lose enough heat to balance the heat generated by physical work and external heat sources. Weather conditions are the primary external heat sources for outdoor workers.

### Contents

1. Introduction (PDF)
2. About the Heat Index (PDF)
3. Using the Heat Index to Protect Workers (PDF)
4. Protective Measures to Take at Each Risk Level (PDF)

### Additional Guidance/Resources

- Planning Checklists (PDF)
- Training Workers (PDF)
- Preparing For and Responding to Heat-Related Emergencies (PDF)
- About Work/Rest Schedules (PDF)
- Estimating Work Rates or Loads (PDF)
- Acclimatizing Workers (PDF)
- Monitoring Workers at Risk of Heat-Related Illness (PDF)

All-in-One (PDF)

Heat Index	Risk Level	Protective Measures
Less than 91°F	Lower (Caution)	Basic heat safety and planning
91°F to 103°F	Moderate	Implement precautions and heighten awareness
103°F to 115°F	High	Additional precautions to protect workers
Greater than 115°F	Very High to Extreme	Triggers even more aggressive protective measures

