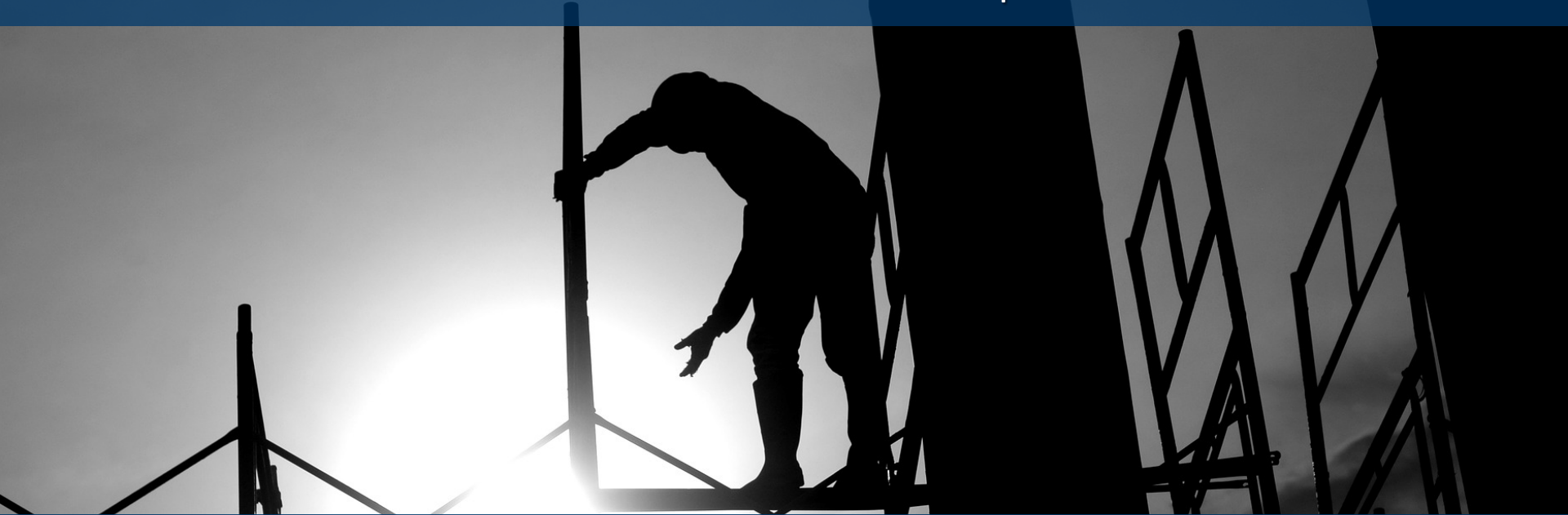


# It's Hot and It's Dangerous!

A Webinar for Community Health Workers to Learn about Heat Related-Illness and How to Help Prevent It



Amy K. Liebman, MPA, MA | June 27, 2019



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MIGRANT CLINICIANS NETWORK



## A Force for Health Justice



**Cutting Edge  
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**Advocacy  
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**Research and  
Knowledge  
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**Clinical Support  
and Capacity  
Building**

PRE





***Heat Related  
Illnesses:  
Heat Fatigue,  
Heat Cramps,  
Exhaustion, and  
Heat Stroke***



# We will learn...

- The signs and symptoms of heat stress
- Steps to take in order to prevent heat stress
- Resources to help promote the prevention of heat stress



# Extreme heat creates dangerous conditions for outdoor workers

JUNE 12, 2019

**FRESNO, CA --** The groundwork for another hot summer in the Valley is being laid this week as temperatures are expected to spike. "It was raining for two weeks and bam you get triple digit degree weather," said Mario's Tree Service worker Daniel Mendoza.

The big concern is for the people who work outdoors this time of year. Workers exposed to extreme heat and dehydration, which can lead to heat exhaustion.

"Farmworkers working in the CALTRANS heat has to take Cunha. Cunha is with says outdoor a quart of water reach danger

By FOX 31 Staff | Tuesday, June 26th 2018



A 24-year-old man that had been in the United States for less than a week has died and OSHA is now investigating. / Photo: MGN Online

# Death of 3 farm workers in Kern County may have been caused by the extreme heat

JULY 30, 2016

**ARVIN, CA KERN COUNTY**  
(KFSN) -- The

# OSHA investigating after man dies picking tomatoes in Colquitt County

# Teen Farmworker's Heat Death Sparks Outcry

JUNE 6, 2008

**STOCKTON, CA --** Maria Isabel Vasquez Jimenez was tying grape vines at a farm east of Stockton on May 14, when the temperature soared well above 95 degrees. The nearest water cooler was a 10-minute walk away, and workers say the strict foreman didn't allow them a long enough break to stop and get a drink. Vasquez collapsed from heat exhaustion. Her fiancé, Florentino Bautista, cradled her in his arms. "When she fell, she looked bad," Bautista says. "She didn't regain consciousness. She just fell down and didn't react. I told her to be strong so we could see each other again."

Bautista, 19, had saved up money to buy a gold ring for Maria Isabel, his childhood sweetheart from their indigenous village in Oaxaca, Mexico.

Bautista says that after Jimenez collapsed, the farm labor contractor delayed bringing Jimenez to a hospital. Another employee took her to a drugstore to try and revive her with rubbing alcohol, Bautista says.

In a written statement to NPR, Merced Farm Labor says Bautista was the one who decided to stop at the drugstore, and that he had refused the company's offer to call a doctor. Furthermore, the company says Jimenez wasn't engaged in strenuous work that day and had been working without apparent distress up to the time she collapsed.

What is clear is that by the time she arrived at a hospital, Jimenez was in a coma, and her body temperature topped 108 degrees. She died two days later. It was only at the hospital Bautista found out she was two months pregnant.



**What comes  
to your mind when  
we talk about heat  
stress?**



A photograph of a person standing next to a blue car with its hood open. A large plume of white steam or smoke is rising from the engine compartment, partially obscuring the person. The background shows green foliage.

**Heat stress is when your body becomes hot to the point where it is unable to cool itself down.**



Extreme heat kills more people than hurricanes, floods, tornadoes, and lightning combined. As climate change becomes more severe it is predicted that heat-related deaths will increase substantially.

# Who are the most vulnerable?

- Work outside
- Lower socio-economic status
- Children
- Pregnant woman
- Chronic illness
- Migrant



Packers



Restaurant Workers

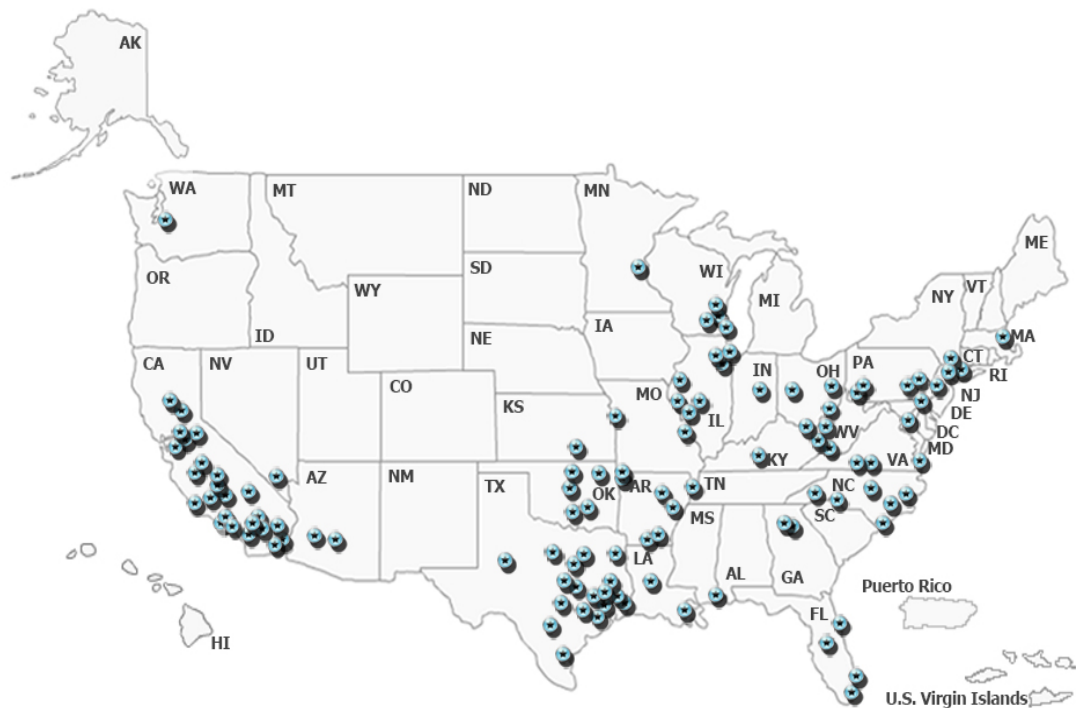


Construction Workers



Farmworkers

# 33 workers die from heat each year



Worker Heat Related Fatalities 1992-2016



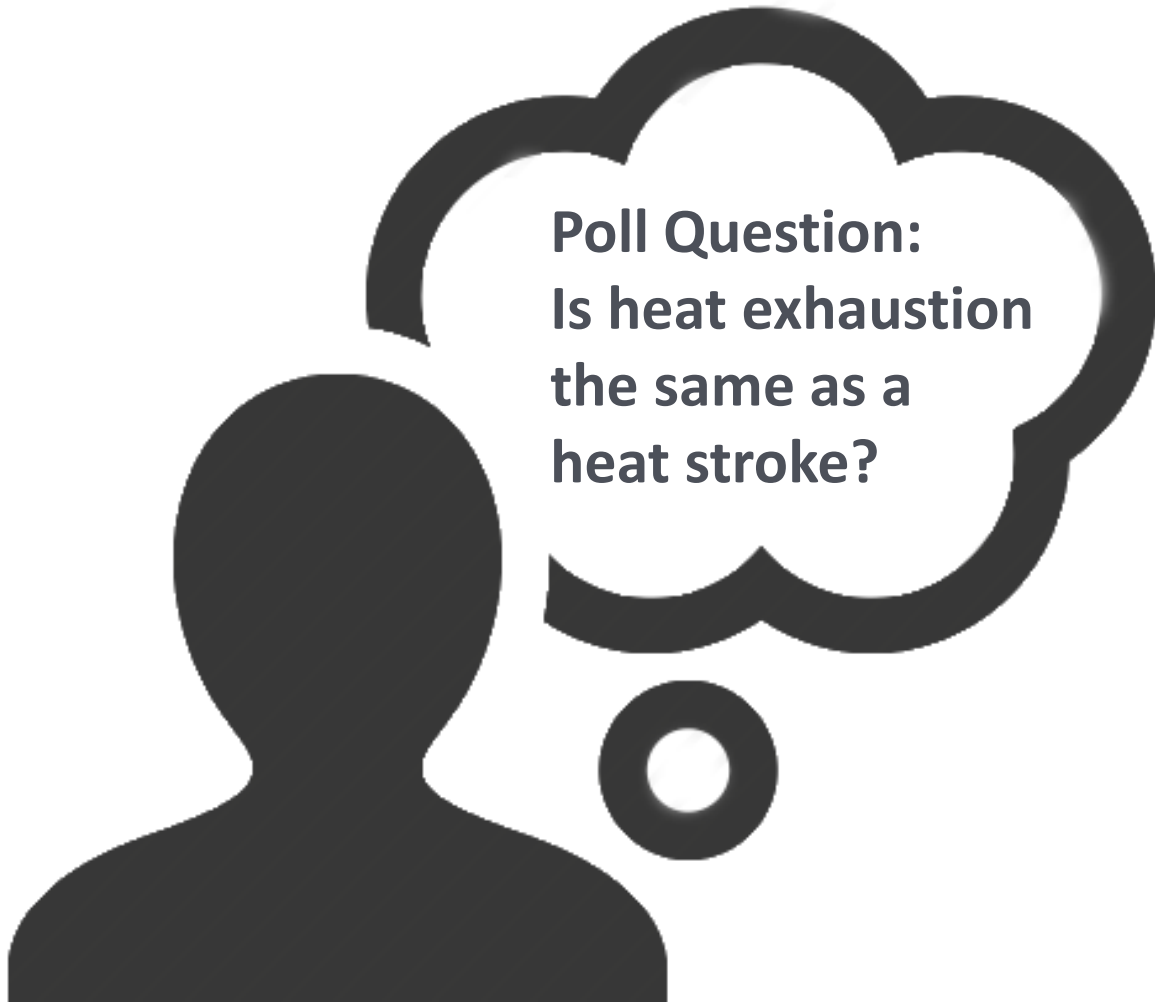
OSHA reports almost 800 workers have died due to exposure to extreme heat, between 1992-2016.

Actual number likely much higher because many deaths go unreported.



Farmworkers are  
**20 times** more  
likely to die from  
heat related illness  
than other workers.





**Poll Question:  
Is heat exhaustion  
the same as a  
heat stroke?**





# Symptoms of Heat Stress

Cramps

Exhaustion

Stroke



Heat stress can quickly become very serious. If it is not treated in a timely manner, it can cause very serious health problems and can even result in death.

What are the symptoms  
of heat fatigue?

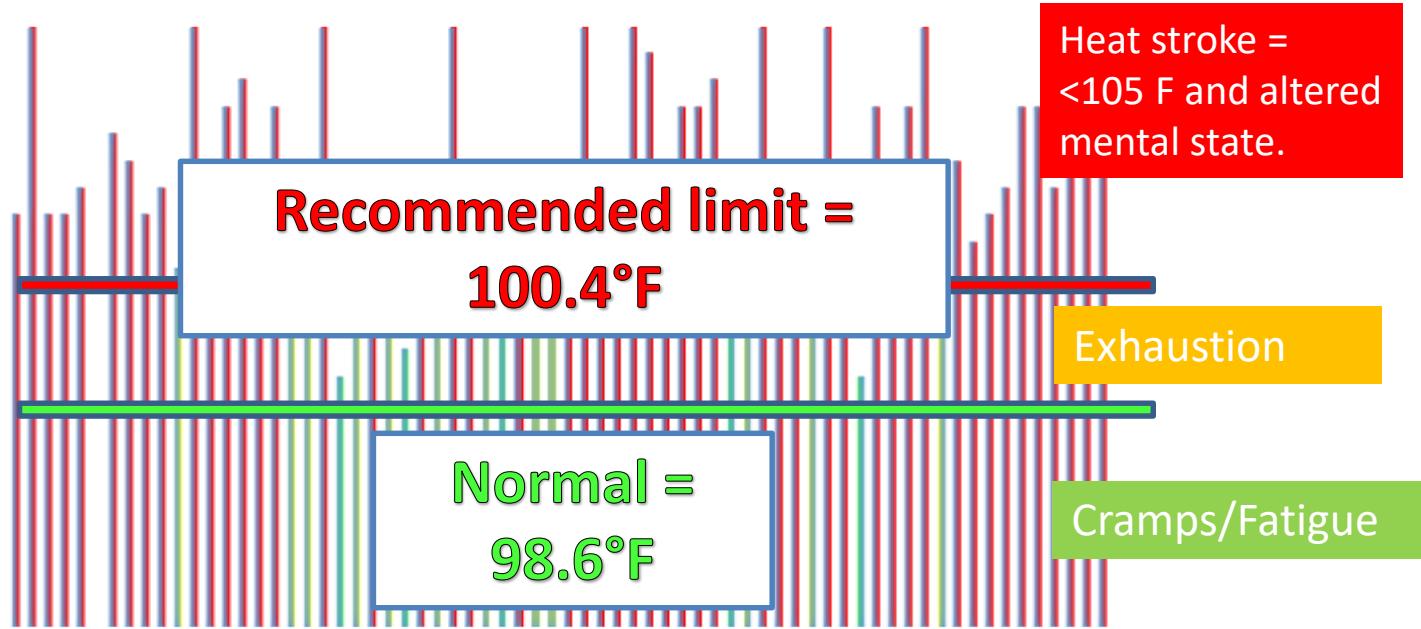
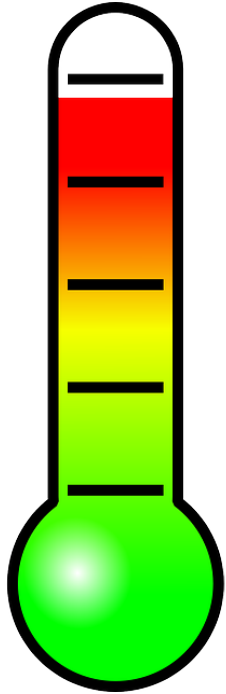
Heat cramps?

Heat exhaustion?

Heat stroke?

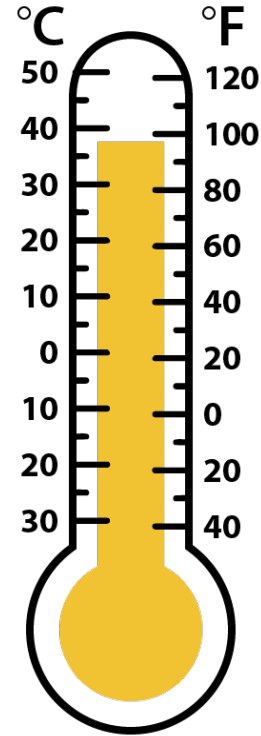


# Internal Temperature



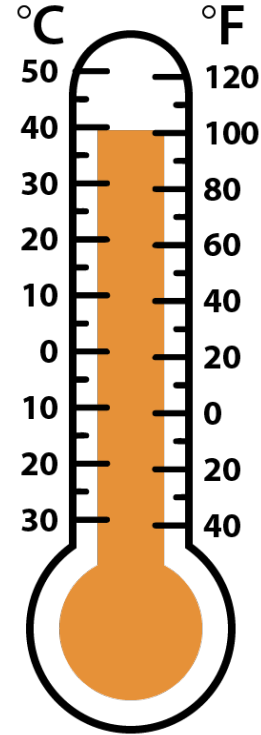
# Heat Rash/Cramps/Fatigue

- Clusters of red bumps on skin
  - Often on neck, upper chest, folds of skin
- Cramps
- Pain
  - Usually in the stomach, legs and arms



# Heat Exhaustion

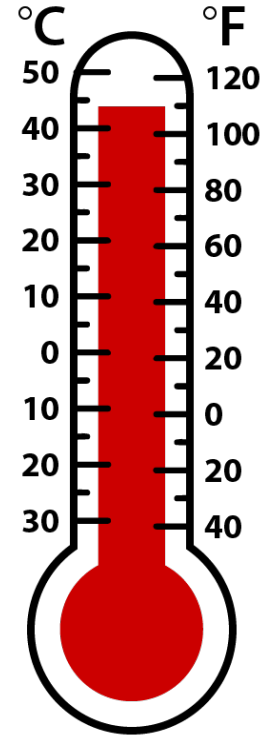
- Cool, moist skin
- Heavy sweating
- Headache
- Nausea or vomiting
- Dizziness
- Light headedness
- Weakness
- Thirst
- Irritability
- Fast heart beat



# Heat Stroke

- Fever (Hyperthermia) > 104°F
- Confusion/Altered mental status
- Delerium
- Red or dry skin
- Lack of sweating despite heat
- Seizures
- Unconsciousness
- Death

**The person's internal temperature and mental state are what differentiate heat exhaustion from heat stroke.**





**What  
factors can affect  
heat stress?**



# Environment



Temperature



Humidity



Shade



Wind

# Dehydration



**Before working  
(AM)**

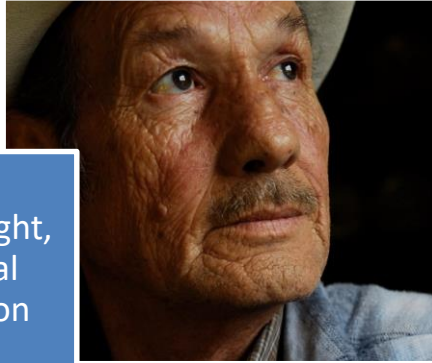


**After working  
(PM)**

$\frac{1}{2}$  of the workers were dehydrated before work.  
 $\frac{3}{4}$  were dehydrated upon leaving work.

# Personal Factors

Age, weight,  
physical  
condition



Pregnancy



Medical  
Conditions

- High Blood Pressure
- Diabetes



Medication



# Prevention!





Water



Rest



Shade

# WATER

Before, during and after work



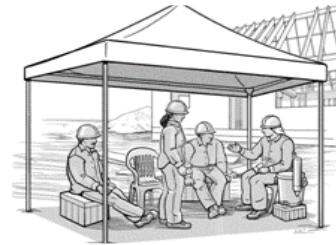
# REST

Take breaks throughout the day



# SHADE

Start work earlier and take breaks in the shade






# Avoid Certain Drinks





# Acclimatization




A woman is working in a strawberry field. She is wearing a white long-sleeved shirt, purple long sleeves, purple pants, white gloves, and a wide-brimmed hat with a patterned scarf. She is holding a strawberry in her hands. In the background, other workers are visible, some wearing hoodies and long pants. The field is filled with rows of strawberry plants on white plastic mulch. A wooden crate is visible in the foreground.

Long-sleeved,  
cotton shirts,  
long pants,  
and a wide-  
brimmed hat  
will protect  
you the best!



Another case...

A black silhouette of a person's head and shoulders is positioned on the left side of the image. A large, stylized thought bubble with a thick black outline extends from the top of the head towards the center. Inside the thought bubble, the text "What should you do if a coworker is experiencing a heat stroke?" is written in a simple, black, sans-serif font. Below the main thought bubble is a smaller, solid black circle, which is part of the thought bubble's structure.

What should you do  
if a coworker is  
experiencing a heat  
stroke?

What should you do if someone is showing signs of heat stress?



# Treatment

Move to a shaded area

Loosen or remove clothing

Drink water

Splash cool water on the body- especially on the chest

**SEEK  
MEDICAL  
ATTENTION**

# Emergencies: Dial 911



- Know your work address
- Explain the condition of the worker
- Offer the worker first aid



Inform your supervisor!



# In summary...

---

Heat fatigue, heat exhaustion and heat stroke are different.

---

Heat fatigue and exhaustion be reversed.

---

Heat stroke can lead to death, but it is preventable.

---

Stay hydrated! Drink no more than 12 quarts in 24hrs.

---

Take breaks in the shade.

---

Acclimate by gradually increasing the work load and taking more breaks during the first week of work.

---

Eat foods that contain salt and electrolytes and avoid drinks that can dehydrate.

---

Use the buddy system. Encourage each other to drink water, stay in the shade, and take breaks.

---

Wear appropriate clothing.

---

Stay up-to-date on the temperature each day.

---

Know the signs and symptoms of heat-related illness. Teach workers about the dangers of heat and how to avoid serious injury.

---

A construction worker wearing a red hard hat, a white t-shirt, and camouflage pants is crouching on a construction site. She is using a hammer to work on a wooden beam. The background shows a white wall and a wooden frame structure under construction. The scene is outdoors with trees and a blue sky visible.

**Safety and  
Occupational Act  
(OSHA 1910)**

**Workers' Rights**



# Does OSHA protect Immigrant laborers?

All workers no matter race, place of origin, language, gender or salary, have the right to a healthy and safe work environment. Immigrant workers and the undocumented are also protected.

What are the basic  
rights and  
responsibilities of  
workers?



# Heat Stress and OSHA

**By law:** ✓ Employers must provide training to workers on the risks of heat stress



✓ Workers must be paid for their time during training

See information about OSHA requirements in your state



OSHA does not have a heat stress standard. Employers must provide workplaces free of excessive heat.

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



## Risk level: Lower

- Provide drinking water
- Plan ahead and provide worker heat safety training
- Encourage workers to wear sunscreen and protective clothing



## Risk level: Moderate

- Review heat stress - how to prevent it, how to recognize it and what to do if someone is sick
- Schedule frequent breaks in a cool, shaded area
- Make sure workers adjust to climate
- Establish buddy system





## Risk level: High

- Alert workers of high-risk conditions
- Limit physical exertion, adjust work activities to be less strenuous
- Establish and enforce work/rest schedules




## Risk level: Extreme

- Conduct physiological monitoring - pulse, temperature
- Stop work if essential control methods are inadequate or unavailable





A black silhouette of a person's head and shoulders is positioned on the left side of the image. A large, stylized thought bubble with a thick black outline extends from the top of the head. Inside the thought bubble, the text "Workers compensation does not cover heat-related illnesses in the workplace?" is written in a black, sans-serif font. Below the main thought bubble is a smaller, solid black circle, which is part of the thought bubble's structure.

Workers compensation  
does not cover heat-  
related illnesses in the  
workplace?

# Workers Compensation



- Medical treatment for injured patient
  - Immediate
  - Long term
  - Access to Specialty Care
- Wages
- Return to Work
- Prevention - Hazard Control
- Public Health
  - Surveillance

# Workers' Compensation?



- Requirements differ from state to state.
- Best to look into it and ask your employer.
- To learn about the regulation and any state visit:  
[workerscomphub.org/navigating-system](http://workerscomphub.org/navigating-system)



POST



# Resources

Migrant Clinicians Network		
		
Heat Stress Resources		Description
	Occupational Safety and Health Act Law and Regulations <a href="https://www.osha.gov/laws-regs.html">https://www.osha.gov/laws-regs.html</a>	This page has links to all of OSHA standards and information about the regulatory process.
	California Heat Illness Prevention <a href="https://www.dir.ca.gov/dosh/heat/illnessinfo.html">https://www.dir.ca.gov/dosh/heat/illnessinfo.html</a>	This page overviews the CA Heat Illness standard and resources in multiple languages.
	OSHA's Workers' Rights <a href="https://www.osha.gov/Publications/OSHA3021.pdf">https://www.osha.gov/Publications/OSHA3021.pdf</a>	Explains the rights of workers.
	OSHA Heat Safety Tool App <a href="https://www.osha.gov/SLTC/heat/illness/heat_index/heat_app.html">https://www.osha.gov/SLTC/heat/illness/heat_index/heat_app.html</a>	Calculates the heat index for their worksite, and, based on the heat index, displays a risk level to outdoor workers.
	OSHA App: <a href="https://itunes.apple.com/us/app/osha-safety/id690989492?mt=8">https://itunes.apple.com/us/app/osha-safety/id690989492?mt=8</a>	OSHA Safety App has the complete text of OSHA regulations for general industry.
	OSHA Susan Harwood Program <a href="https://www.osha-slc.gov/">https://www.osha-slc.gov/</a>	This site offers worker health and safety training and educational materials developed by OSHA Susan Harwood grantees.
	Workers Compensation Regulations by State: <a href="http://workerscompHub.org/navigation-system">http://workerscompHub.org/navigation-system</a>	This site has requirements and related organizations for each state.
	Farmworker Clinicians Manual <a href="http://www.farmworkercliniciansmanual.com">www.farmworkercliniciansmanual.com</a>	This manual has information for providers caring for farmworkers and many resources in Spanish.
	Water, Rest, Shade <a href="https://www.youtube.com/watch?v=cR6FA5v8A1o&amp;list=PL">https://www.youtube.com/watch?v=cR6FA5v8A1o&amp;list=PL</a>	This 9-minute video features workers from agriculture, construction and landscaping and heat illness prevention and treatment.
	Workplace Safety and Health for Farmworkers: Pesticides, Field Sanitation, and Heat Illness <a href="https://www.farmworkerjustice.org/sites/default/files/FJ%20Training%20Guide%20WorkplaceSafety%20v%20December%202014.pdf">https://www.farmworkerjustice.org/sites/default/files/FJ%20Training%20Guide%20WorkplaceSafety%20v%20December%202014.pdf</a>	This training curriculum from Farmworker Justice reviews basic concepts related to pesticide exposure, field sanitation, heat illness, and worker rights.



0:17 / 1:47

## CONTROLLING HEAT ILLNESS

Farmworkers can become exhausted while working hard under high temperatures and humidity. In order to prevent this condition:

- Drink a lot of cold water (at least one cup per twenty minutes)
- Take short breaks and go into the shade
- Use loose cotton clothing
- Do the heaviest tasks during the coolest hours of the day
- Avoid alcohol or caffeinated beverages



The first symptoms of exhaustion include:

- Headaches
- Dizziness
- Much thirst
- Nausea
- Much sweating
- Weakness
- Pale and sticky skin

If you have these symptoms, rest, move to the shade, drink a lot of water, and refresh yourself.

If you don't treat exhaustion immediately, heat stroke can occur, which is much more serious. The symptoms of heat stroke are:

- Dry pale skin, without sweat
- Red and hot skin
- Confusion
- Convulsions
- Loss of consciousness

In the case of heat stroke, the worker must seek medical care immediately. Move the victim to a fresh place, shady place and try to cool the body – loosen and remove heavy clothing, make sure that the person drinks cold water, and put a cold towel over his/her body.







Thank you for your participation!



**Thank you for your participation**



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