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
This material was produced under grant SH-31222-SH7 from the Occupational Safety and Health Administration, U.S. Department of Labor. It does not necessarily reflect the views of policies of the U.S. Department of Labor, nor does it mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

Revisions were made to this material under grant number SH-05060-SH8 from the Occupational Safety and Health Administration, U.S. Department of Labor.
A Force for Health Justice

Cutting Edge Programming
Resources and Dissemination
Advocacy and Policy
Research and Knowledge Mobilization
Clinical Support and Capacity Building
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
Death of 3 farm workers in Kern County may have been caused by the extreme heat

JULY 30, 2016

ARVIN, CA KERN COUNTY
(KFSN) – Three farm workers, including a 19-year-old, were found dead in the desert on Monday. OSHA is 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?
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

Recommended limit = 100.4°F

Normal = 98.6°F

Heat stroke = <105 F and altered mental state.

Exhaustion

Cramps/Fatigue
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

½ of the workers were dehydrated before work. ¾ 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
Long-sleeved, cotton shirts, long pants, and a wide-brimmed hat will protect you the best!
Another case...
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 aide

Inform your supervisor!
**In summary...**

<table>
<thead>
<tr>
<th>Heat fatigue, heat exhaustion and heat stroke are different.</th>
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</thead>
<tbody>
<tr>
<td>Heat fatigue and exhaustion be reversed.</td>
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<tr>
<td>Heat stroke can lead to death, but it is preventable.</td>
</tr>
<tr>
<td>Stay hydrated! Drink no more than 12 quarts in 24hrs.</td>
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<tr>
<td>Take breaks in the shade.</td>
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<tr>
<td>Acclimate by gradually increasing the work load and taking more breaks during the first week of work.</td>
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<tr>
<td>Eat foods that contain salt and electrolytes and avoid drinks that can dehydrate.</td>
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<tr>
<td>Use the buddy system. Encourage each other to drink water, stay in the shade, and take breaks.</td>
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<td>Wear appropriate clothing.</td>
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<td>Stay up-to-date on the temperature each day.</td>
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<tr>
<td>Know the signs and symptoms of heat-related illness. Teach workers about the dangers of heat and how to avoid serious injury.</td>
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</tbody>
</table>
Safety and Ocupacional 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.

<table>
<thead>
<tr>
<th>Heat Index</th>
<th>Risk Level</th>
<th>Protective Measures</th>
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</thead>
<tbody>
<tr>
<td>Less than 91°F</td>
<td><strong>Lower (Caution)</strong></td>
<td>Basic heat safety and planning</td>
</tr>
<tr>
<td>91°F to 103°F</td>
<td><strong>Moderate</strong></td>
<td>Implement precautions and heighten awareness</td>
</tr>
<tr>
<td>103°F to 115°F</td>
<td><strong>High</strong></td>
<td>Additional precautions to protect workers</td>
</tr>
<tr>
<td>Greater than 115°F</td>
<td><strong>Very High to Extreme</strong></td>
<td>Triggers even more aggressive protective measures</td>
</tr>
</tbody>
</table>
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
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
What do workers need to protect themselves?

- Training
- Personal protective equipment
- Know their rights
- Community resources
<table>
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<tr>
<th>Migrant Clinicians Network</th>
<th>Resources</th>
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</thead>
<tbody>
<tr>
<td><strong>Heat Stress Resources</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>Occupational Safety and Health Act, Law and Regulations <a href="https://www.osha.gov/education/training.html">https://www.osha.gov/education/training.html</a></td>
<td>This page has links to all OSHA standards and information about the regulatory process.</td>
</tr>
<tr>
<td>California Heat Illness Prevention <a href="https://www.dir.ca.gov/dosh/health/heatillness/heatillness.html">https://www.dir.ca.gov/dosh/health/heatillness/heatillness.html</a></td>
<td>This page provides the CA Heat Illness standard and other resources in multiple languages.</td>
</tr>
<tr>
<td>OSHA’s Susan Harwood Program <a href="https://www.osha.gov/OSHA19134">https://www.osha.gov/OSHA19134</a></td>
<td>This site offers resources, health and safety training, and educational materials developed by OSHA Susan Harwood grantee.</td>
</tr>
<tr>
<td>Workers’ Compensation <a href="https://www.wcagateway.org">https://www.wcagateway.org</a></td>
<td>This site has requirements and related organizations for each state.</td>
</tr>
<tr>
<td>Farmworker Clinician’s Manual <a href="www.farmworkerinfo.com/farmworkermanual.cfm">www.farmworkerinfo.com/farmworkermanual.cfm</a></td>
<td>This manual has information for providers serving farmworkers and many resources in Spanish.</td>
</tr>
<tr>
<td>Workplace Safety and Health for Agricultural Workers <a href="https://www.farmworkerinfo.org/">https://www.farmworkerinfo.org/</a></td>
<td>This training curriculum for agricultural workers focuses on work practices and concepts needed to prevent exposure, field sanitation, heat illness, and worker rights.</td>
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**OSHA®**

Muchos trabajadores mueren cada año y miles...
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!
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