



Summer Survival: The Dangers of Heat Illness and Wildfire Smoke

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Presenters

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Agenda

- Heat Illness Prevention
 - Best Practices
 - California Code of Regulations 3395 Heat Illness Prevention Standard
 - New CA Proposed Regulation - Indoor Heat Illness Prevention Standard
- Protection from Wildfire Smoke
 - Best Practices
 - California Code of Regulations 5141.1 Protection from Wildfire Smoke Standard
- Questions/Answers & Open Discussion

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OSHA Regulations - Heat Illness Prevention

- Fed OSHA
 - General Duty Clause
- California OSHA
 - Standard 3395


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Heat Illness Prevention

- Exposure to heat can cause illness and death
- Heat Illnesses include:
 - Heat rash
 - Heat cramps
 - Heat syncope (fainting)
 - Heat exhaustion
 - Heat stroke
- Risk Factors
 - High temperature and humidity
 - Heavy physical labor
 - Not being acclimated
 - Low water intake



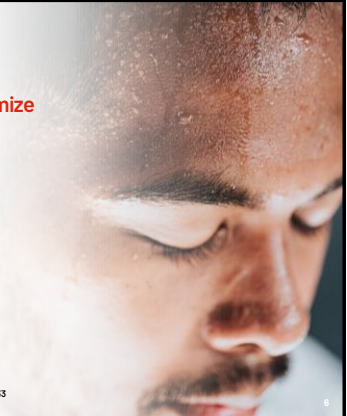
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Best Practices to Minimize Heat Illness Potential

- Water
- Shade
- Communication
- Emergency Procedures
- Training
- Administrative Controls



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Best Practices – Weather Monitoring

- ▶ Example of OSHA Heat Safety Index - <https://www.osha.gov/heat/heat-app>

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California Code of Regulations Standard 3395 Heat Illness Prevention Standard

- ▶ Applies to all California employers with any outdoor places of employment
- ▶ 2nd most frequently cited Title 8 Standard in 2022
- ▶ California employers are required to take these four steps to prevent heat illness
 1. Training
 2. Water
 3. Shade
 4. Planning



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New California Proposed Regulation – Indoor Heat Illness Proposal

- ▶ New Section 3396
- ▶ Status – Public hearing held on May 18, 2023
- ▶ Applies to indoor work areas – temperature equals or exceeds 82 degrees Fahrenheit
 - Preventative steps to require workers have access to drinking water and cool-down areas
 - Closely observed during acclimatization
 - Trained
 - Receive timely emergency aid
 - During higher heat exposure – protected through mandatory assessment and control measures

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OSHA and Protection from Wildfire Smoke


- ▶ California has a Cal OSHA regulatory standard to protect employees from wildfire smoke (8 CCR 5141.1)
- ▶ Fed OSHA uses the “General Duty” Clause to protect employees from wildfire smoke
- ▶ Employers must mitigate employee exposure to wildfire smoke when working outdoors

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Health Effects of Wildfire Smoke

- ▶ Particulate matter can irritate the lungs and cause serious or even fatal health effects, such as:
 - ▶ Reduced lung function
 - ▶ Bronchitis
 - ▶ Worsening of asthma
 - ▶ Heart failure
- ▶ People over 65 and people who already have heart and lung problems are the most likely to suffer from serious health effects.
- ▶ The smallest and most harmful Particulate Matter (PM) is called PM2.5 because each particle has a diameter of 2.5 micrometers or smaller.
- ▶ The very small size allows the particles to become trapped deep in the lungs and can even enter the bloodstream.



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Best Practices – Air Quality Index Monitoring

- ▶ When the Air Quality Index (AQI) PM2.5 is 151 or greater reasonable expectation that employees may experience outdoor wildfire smoke
- ▶ When the exposure for a period of 1 hour or less per shift, implement the following practices:
 - ▶ Prior to each workday and shift, check the AQI forecast via the [United States Environmental Protection Agency AirNow](https://www.airnow.gov/) (U.S. EPA AirNow)
 - ▶ Communicate AQI and its associated Levels of Health Concern to employees in a pre-shift huddle

Daily AQI Color	Levels of Concern	Values of Index	Description of Air Quality
Green	Good	0 to 50	Air quality is satisfactory, and air pollution levels are low.
Yellow	Moderate	51 to 100	Air quality is acceptable. However, there may be a risk for some people, particularly those who are unusually sensitive to air pollution.
Orange	Unhealthy for Sensitive Groups	101 to 150	Members of sensitive groups may experience health effects. The general public is less likely to be affected.
Red	Unhealthy	151 to 200	Some members of the general public may experience health effects; members of sensitive groups may experience more serious health effects.
Purple	Very Unhealthy	201 to 300	Health alert: The risk of health effects is increased for everyone.
Maroon	Hazardous	301 and higher	Health warning of emergency conditions: everyone is more likely to be affected.

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Best Practices - Administrative Controls

Transferring employees between locations when the AQI is not as hazardous

Limiting the length of employee shifts

Rotating employees between working outdoors and inside

Offering less strenuous work activities

Increase the number of rest breaks offered

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Best Practices - Property Protection

- ▶ Hot Embers can travel 5-10 miles
 - ▶ Clear leaves, dry vegetation from roofs, gutters and porches
 - ▶ Eliminate "ladder" fuels
 - Grass and vegetation
 - Tree limbs
 - Overhanging branches
 - ▶ Defensible space of 30-50 feet around facilities
 - ▶ Clear or trim vegetation around playground equipment, storage sheds, etc.
 - ▶ Check facilities for open vents, other openings
 - Protect vents with 1/8" mesh screens
 - ▶ Wildfire hazards should be part of Safe School Plan, EAP if in wildfire area

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Cal OSHA Standard - Protection from Wildfire Smoke

- ▶ Critical Elements of Title 8 CCR 5141.1
 - ▶ Applies to employees who work outdoors when
 - The Air Quality Index (AQI) for PM2.5 is 151 or greater, regardless of the AQI for other pollutants
 - The employer should reasonably anticipate that employees may be exposed to wildfire smoke
 - ▶ Address how employers will identify harmful levels of wildfire smoke
 - ▶ Training on wildfire smoke hazards
 - ▶ Communication with employees current AQI for PM2.5
 - ▶ Training and Instruction on how to wear respirators

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OSHA General Duty Clause

- ▶ Each employer shall furnish to each of his employees, employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees.
- ▶ Wildfire Smoke is a recognized hazard for employees who work outdoors

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Questions?

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