

Heat illness in the workplace...where you may not expect it

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OSHA Heat Illness Fatality

- OSHA Buffalo Area Office receives report of occupational fatality
- Worker at bridge construction project collapsed at the end of their shift
 - 35-year-old male performing light duty work (sorting bolts)
 - 2nd day on the job wearing t-shirt, jeans and high visibility vest
 - Working in direct sunlight all day with minimal water intake

The Worksite

- Bridge construction project in Western New York State
- Sub contractor workers represented by Labors Union
- Shift - 6:30 AM to 3:00 PM





The Conditions at the worksite

- National Weather Service (NWS) issued Local Heat Advisory
- Employee was not acclimated to the hot environment, having started his employment the previous day.
- NWS issued a heat advisory for the week
- 95 degrees °F, sunny, relative humidity 31%, wind 8 mph
- Effective Wet Bulb Globe Temperature ($WBGT_{eff}$) calculated to be 32°C with a metabolic rate at 188.2
 - Exceeded the recommended action level and threshold limit value (30.5 °C) set by the American Conference of Governmental Industrial Hygienists (ACGIH)

Employee's workstation





Employee was sorting railing bolts for the roadway barriers



Victim would walk to each connecting station (where the railings are connected to the support posts) to deliver sorted bolts.



Additional Background

- No training on heat hazards
 - No established lunch or rest breaks
 - Lack of shade and sufficient water consumption
 - No acclimatization consideration
 - Failure to monitor new employee on the part of the Foreman AND his co-workers



<https://vimeo.com/698457950/7cbe14a920>



OSHA Violation

- OSHA proposed a General Duty Clause 5(a)(1) violation
 - Employee exposed to hazard
 - NWS had issued Heat Advisory for the week
 - Insufficient water, rest and shade
 - Hazard Recognition
 - Anticipating hot working conditions, a cooler of water provided
 - NYS DOT Engineer told employer “going to be hot next few days”
 - Likelihood of Death or Serious Physical Harm
 - Exposure to heat can cause serious illness or death
 - Abatement methods were available
 - OSHA website topic page on protecting workers from Heat Illness
 - NIOSH document “Occupational Exposure to Heat”

Feasible Abatement

- Establishing a heat stress management program which incorporates guidelines from the National Institute for Occupational Safety and Health (NIOSH) and OSHA Safety and Health Topics Page on Occupational Heat Exposure "Protecting Workers from Heat Illness."
 - Develop, implement and maintain a **heat acclimatization program** for employees beginning work in hot environments or those returning from absences of three or more days.
 - Implement a **work/rest regimen**.
 - **Provide cool water** and encouraging employees to drink about 1 cup every 15 to 20 minutes rather than relying on thirst.
 - **Provide a training program** for all employees, including temporary employees, contractors, and part-time employees, regarding the health effects associated with heat stress, symptoms of heat-induced illness, and methods of preventing such illnesses.
 - **Develop procedures** to be followed for heat-related emergency situations.



End Results

- Review & Conclusion
 - Employer Contested Citation
 - Resolution achieved
 - Implementation of Abatement Actions
- Involvement of the Parents of Victim
 - Regular communications with Area Director
 - OSHA's NY Regional Office raised this to OSHA's National Office
 - Production of OSHA Public Service Announcement on Preventing Heat Illness fatalities
 - Parents testified about incident



OSHA Heat Illness Prevention – Enforcement

- Advanced Notice of Proposed Rulemaking - October 27, 2021
 - Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings
 - Formation of National Advisory Committee on Occupational Safety and Health
- OSHA National Emphasis Program – April 8, 2022
 - Heat priority days > 80 F
 - Prioritize Heat-related inspections at high-risk worksites
 - Conduct intervention at locations of strenuous work activities
 - OSHA heat poster, wallet cards, discussion of heat hazard programs
 - Open or expand inspections when heat hazards observed



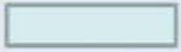

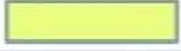





Compliance Assistance Resources

OSHA Heat Illness Prevention

- www.OSHA.gov/heat
 - Heat Illness Prevention Campaign
- www.OSHA.gov/publications
- Outreach to Stakeholders
 - High hazard industries
 - Unions & COSH groups
 - Employer associations
 - Professional organizations
 - Temporary hiring agencies
 - Other Government agencies
 - Media

Improvements to OSHA-NIOSH Heat App

- NIOSH and OSHA are changing the [App](#)'s risk levels

Existing labels			New labels		
Risk Label	Heat Index (°F)	Color	Risk Label	Heat Index (°F)	Color
Minimal	≤ 79		Caution	≤ 79	
Low	80 to 90		Warning	80 to 94	
Moderate	91 to 103		Danger	≥ 95	
High	104 to 115				
Extreme	≥ 116				





Find Resources on Preventing Heat Illness

- <https://www.osha.gov/heat>
- https://www.osha.gov/dts/osta/otm/otm_iii/otm_iii_4.html03101996
- <https://nihhis.cpo.noaa.gov/>
- <https://www.osha.gov/heat-exposure>
- <https://www.osha.gov/heat-exposure/illness-first-aid>
- https://www.osha.gov/sites/default/files/publications/heat_stress.pdf
- <https://www.osha.gov/heat-exposure/prevention>

Thank You

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**WATER.
REST.
SHADE.**

The work can't get done without them.

The OSHA logo and seal are displayed on a red background. The seal is on the left, and the OSHA logo is on the right. Below the logo is the text "Occupational Safety and Health Administration" and the website "www.osha.gov". At the bottom, the phone numbers "1-800-321-OSHA (6742) TTY 1-877-889-5627" are listed.

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