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#5 HEAT STRESS: IS YOUR ORGANIZATION PREPARED FOR THE NEW OSHA STANDARD?

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OBJECTIVES

- 1 Recognise the need for improving workplace safety in hot environments
- 2 Become familiar with regulations covering worker heat stress
- 3 Present an overview of the new National Enhancement Program (NEP)
- 4 Define worker heat stress
- 5 Discuss ways to eliminate or reduce heat dangers

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CAUSES OF HEAT STRESS

- **Exposure to a hot environment**
 - Hot, humid weather
 - Prolonged periods of time
- **Strenuous activity:**
 - In a hot environment
 - Outside: direct sunlight
 - Indoors: radiant heat source, heat build-up, little air flow


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HEAT-RELATED ILLNESSES

WHAT TO LOOK FOR	WHAT TO DO
HEAT STROKE	
<ul style="list-style-type: none"> High body temperature (103°F or more) Headache Confusion Loss of consciousness (fainting) 	<ul style="list-style-type: none"> Call 911 and get medical help as soon as possible Move the person to a cooler place Get medical help as soon as possible Get out of the sun or shade Get out of the person's clothing to cool them
HEAT EXHAUSTION	
<ul style="list-style-type: none"> Heavy sweating Weak, pale, clammy skin Headache or dizziness Nausea or vomiting Diarrhea Fainting Loss of consciousness 	<ul style="list-style-type: none"> Call 911 and get medical help as soon as possible Move the person to a cooler place Get medical help as soon as possible Get out of the sun or shade Get out of the person's clothing to cool them Get the person out of the heat as soon as possible
HEAT CRAMPS	
<ul style="list-style-type: none"> Heavy sweating Headache or dizziness Loss of consciousness 	<ul style="list-style-type: none"> Call 911 and get medical help as soon as possible Move the person to a cooler place Get medical help as soon as possible Get out of the sun or shade Get out of the person's clothing to cool them Get the person out of the heat as soon as possible
SUNBURN	
<ul style="list-style-type: none"> Dark red, and some with blisters on the skin 	<ul style="list-style-type: none"> Call 911 and get medical help as soon as possible Move the person to a cooler place Get medical help as soon as possible Get out of the sun or shade Get out of the person's clothing to cool them Get the person out of the heat as soon as possible
HEAT RASH	
<ul style="list-style-type: none"> Red patches of small bumps that are itchy 	<ul style="list-style-type: none"> Call 911 and get medical help as soon as possible Move the person to a cooler place Get medical help as soon as possible Get out of the sun or shade Get out of the person's clothing to cool them Get the person out of the heat as soon as possible

<https://www.cdc.gov/disasters/extremeheat/warning.html>
<https://www.dhs.wisconsin.gov/publications/p0/p00632.pdf>

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The danger of extreme heat increases each year, last 18 of the 19 summers were the hottest on record

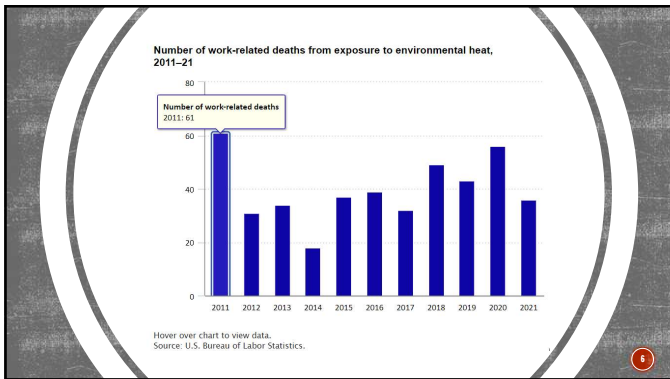
BLS reported there were 36 work-related deaths due to environmental heat exposure in 2021

Heat-related injuries are common, and likely undercounted in recent statistics

The NYT published an article discussing this and noted researchers found "a high number of heat-related injuries that are listed in other categories. The researchers found that extreme heat is likely to have caused about 20,000 extra injuries a year, or 360,000 extra injuries over the 18-year period they studied."

Source: https://www.osha.gov/sites/default/files/enforcement/directives/CPL_03-00-024.pdf

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REGULATIONS COVERING HEAT STRESS

- Employer responsibilities under (5) (a)(1) of the OSH Act *General Duty clause*
- Heat Standards in Specific States: **CA, CO, MN, OR, WA** (inside/outside)
- NIOSH's Recommended Heat Standard
- **NEW! CPL 03-00-024 – National Emphasis Program – Outdoor and Indoor Heat-Related Hazards**



https://www.osha.gov/sites/default/files/enforcement/directives/CPL_03-00-024.pdf

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00L0094	Final Rule Stage	Process Safety Management and Prevention of Major Chemical Accidents	1218-0458
00L0094	Final Rule Stage	Biological Power Process Update	1218-0458
00L0094	Final Rule Stage	Prevention of Workplace Violence in Health Care and Social Assistance	1218-0458
00L0094	Final Rule Stage	Food and Cosmetic Labeling Harmonization	1218-0458
00L0094	Final Rule Stage	Heat Stress Prevention in Outdoor and Indoor Work Settings	1218-0458
00L0094	Proposed Rule Stage	Violence in Retail	1218-0458
00L0094	Proposed Rule Stage	Assessments for the Control and Detention in Construction Standards	1218-0458
00L0094	Proposed Rule Stage	Communications Tower Safety	1218-0458
00L0094	Proposed Rule Stage	Emergency Response	1218-0458
00L0094	Proposed Rule Stage	Lock Out/Tag Out Update	1218-0458
00L0094	Proposed Rule Stage	Two-Care Element	1218-0458
00L0094	Proposed Rule Stage	Working in Confined Spaces	1218-0458
00L0094	Proposed Rule Stage	Personal Protective Equipment in Construction	1218-0458
00L0094	Proposed Rule Stage	Personal Protective Equipment Standard Update	1218-0458
00L0094	Proposed Rule Stage	Voluntary Working Solutions	1218-0458
00L0094	Proposed Rule Stage	Occupational Exposure to Crystalline Silica: Revision to Medical Surveillance Protocols for Medical Monitoring	1218-0458
00L0094	Proposed Rule Stage	Water Hazardous Representative Designation Process	1218-0458
00L0094	Final Rule Stage	Update to the Hazard Communication Standard	1218-0458
00L0094	Final Rule Stage	Procedures for Handling of Residuals Composites Under the Hazardous Waste Act	1218-0458
00L0094	Final Rule Stage	Occupational Exposure to COVID-19 in Healthcare Settings	1218-0458
00L0094	Final Rule Stage	Procedures for the Handling of Residuals Composites Under the Air-Money Laundering Act	1218-0458
00L0094	Final Rule Stage	Procedures for the Handling of Residuals Composites Under the Chemical Safety and Hazard Investigation Act	1218-0458
00L0094	Final Rule Stage	Improve Tracking of Workplace Injuries and Illnesses	1218-0458
00L0094	Final Rule Stage	Procedures for the Use of Administrative Separation	1218-0458

2023 FALL UNIFIED AGENDA

https://www.osha.gov/sites/default/files/Heat_Regulatory_Framework_8_21_2023.pdf

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WHAT IS A NATIONAL EMPHASIS PROGRAM (NEP)?

- Temporary programs that focus OSHA's resources on particular hazards and high-hazard industries.
- Existing/potential new emphasis programs are evaluated using inspection data, injury and illness data, National Institute for Occupational Safety and Health (NIOSH) reports, peer-reviewed literature, analysis of inspection findings, and other available information sources.
- Since 2008, NEPs have been issued on:
 - Combustible Dust, COVID,
 - Hazardous Machinery, Hexavalent Chromium
 - Lead, Primary Metal Industries
 - Process Safety Management
 - Silica, Trenching and Excavation
 - HEAT!

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NEP FOR HEAT STRESS


Creates for the first time, a nationwide enforcement mechanism for OSHA to proactively inspect workplaces for heat-related hazards in a wide range of industries

Allows OSHA to launch heat-related inspections on high-risk worksites before workers suffer preventable injuries, illnesses, or fatalities

Encourages employers to protect workers from heat hazards by providing employee access to water, rest, shade, adequate training, and implementing acclimatization procedures for new employees

Establishes heat priority days when the heat index is expected to be 80°F or higher

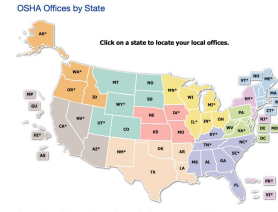
Programmed (Pre-planned) inspections will be conducted when the National Weather Service has announced a heat warning or advisory for local areas



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NEP FOR HEAT: OVERALL GOAL

OSHA Offices by State



Click on a state to locate your local office.

- **OSHA heat-related inspections have accounted for 0.5 percent of all Federal inspections during the last five years and included both unprogrammed (75 percent) and programmed (25 percent) inspections (e.g., including regional emphasis programmed inspections).**
- **The goal of this NEP is to reduce or eliminate worker exposures to heat-related hazards that result in illnesses, injuries, and deaths, by targeting industries and worksites, including worksites with radiant heat sources, where employees are exposed to heat related hazards and have not been provided adequate protection that includes cool water, rest, cool areas, training, and acclimatization.**
- **Each Region is expected to have a fiscal year goal of increasing their heat inspections by 100% above the baseline of the average of fiscal years 2017 through 2021.**
- **To ensure abatement and to monitor the effectiveness of OSHA's enforcement and guidance efforts, certain follow-up inspections from worksites previously inspected for heat-related hazards will be included as part of the program procedures, as outlined in Section XII.C.2.**



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NEP: SITE SELECTION

“Targeting establishments for a programmed inspection must use neutral and objective selection criteria.”

Lists of target industries who have had high incidences of heat-related incidents or are involved with high heat operations are contained within the program. (Appendix A)

Follow-up inspections:

- “...should be conducted for establishments that were previously inspected as a result of a heat-related fatality and were issued citations”
- For establishments that received recordkeeping violations for heat-related illnesses or injury
- For previously inspected employers who continue to expose employees to heat-related hazards, or has not implemented required controls, has violations where abatement verification has not been provided



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NEP: INSPECTIONS

- During heat-related inspections, inspectors shall:
 - Review OSHA 300 Logs and 301 Incident Reports for any entries indicating heat-related illness(es)
 - Review any records of heat-related emergency room visits and/or ambulance transport, even if hospitalizations did not occur
 - Interview workers for symptoms of headache, dizziness, fainting, dehydration, or other conditions that may indicate heat-related illnesses, including both new employees and any employees who have recently returned to work
 - Determine if the employer has a heat illness and injury program addressing heat exposure, and consider the following: (continued)

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NEP: INSPECTION QUESTIONS

How did (does) the employer monitor ambient temperature(s) and levels of work exertion at the worksite?

Was there unlimited cool water that was easily accessible to the employees?

Did the employer require additional breaks for hydration?

Were there scheduled rest breaks?

Was there access to a shaded area?

Did the employer provide time for acclimatization of new and returning workers?

Was a "buddy" system in place on hot days?


Were administrative controls used (earlier start times, and employee/job rotation) to limit heat exposures?

Did the employer provide training on heat illness signs, how to report signs, and symptoms, first aid, how to contact emergency personnel, prevention, and the importance of hydration?

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NWS Heat Index Temperature (°F)

80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	51	53	55	56	57	58	59	60	61	62	63	64	65	66	67
45	56	58	60	61	62	63	64	65	66	67	68	69	70	71	72
50	61	63	65	66	67	68	69	70	71	72	73	74	75	76	77
55	66	68	70	71	72	73	74	75	76	77	78	79	80	81	82
60	71	73	75	76	77	78	79	80	81	82	83	84	85	86	87
65	76	78	80	81	82	83	84	85	86	87	88	89	90	91	92
70	81	83	85	86	87	88	89	90	91	92	93	94	95	96	97
75	86	88	90	91	92	93	94	95	96	97	98	99	100	101	102
80	91	93	95	96	97	98	99	100	101	102	103	104	105	106	107
85	96	98	100	101	102	103	104	105	106	107	108	109	110	111	112
90	101	103	105	106	107	108	109	110	111	112	113	114	115	116	117
95	106	108	110	111	112	113	114	115	116	117	118	119	120	121	122
100	111	113	115	116	117	118	119	120	121	122	123	124	125	126	127



Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

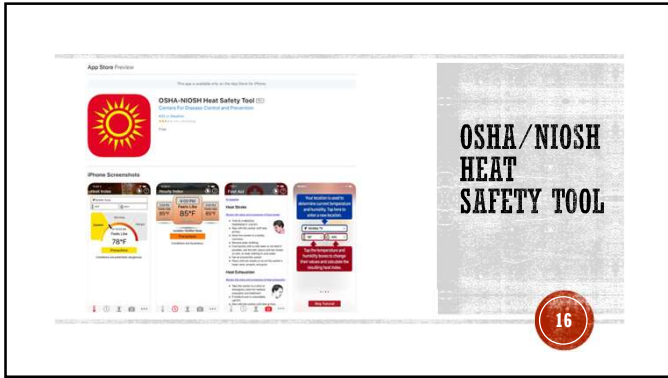
Caution
 Extreme Caution
 Danger
 Extreme Danger

RESOURCES & TOOLS

- Readily accessible reference tools exist that allow workers and employers to anticipate and react to high heat events.
- Remember that weather conditions can vary greatly over your geographic area. The "airport" temperature, wind, and humidity may not at all reflect what it is like a few miles away at the jobsite.
- OSHA's HEAT app for mobile devices.

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Work/Rest and Water Consumption Table
 Applies to average sized, heat acclimated outdoor working 80% hot weather (26-30 °C) for further guidance.

Work/Rest	Work/Rest	Work/Rest	Work/Rest	Work/Rest
1	2	3	4	5
...

globe thermometer, wet-bulb thermometer, dry-bulb thermometer

Example of WBGT Equipment

EQUIPMENT

- www.slatesafety.com
- <https://tai.com/products/heat-stress-monitors/questemp%C2%BA-32-34-36-area-heat-stress-monitors/>
- <https://ksl.uconn.edu/wet-bulb-globe-temperature-monitoring/>

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NEP: INSPECTION QUESTIONS

How did (does) the employer monitor ambient temperature(s) and levels of work exertion at the worksite?

Was there unlimited cool water that was easily accessible to the employees?

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Were there scheduled rest breaks?

Was there access to a shaded area?

Did the employer provide time for acclimatization of new and returning workers?

Was a "buddy" system in place on hot days?

Were administrative controls used (earlier start times, and employee/job rotation) to limit heat exposure?

Did the employer provide training on heat illness signs, how to report signs and symptoms, first aid, how to contact emergency personnel, prevention, and the importance of hydration?

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STAY HYDRATED

- **Drink Plenty of Fluids:** Drink more fluids, regardless of how active you are. Don't wait until you're thirsty to drink.
 - **Warning:** If your doctor limits the amount you drink or has you on water pills, ask how much you should drink while the weather is hot.
- **Stay away from very sugary or alcoholic drinks**—these actually cause you to lose more body fluid. Also avoid very cold drinks, because they can cause stomach cramps.
- **Replace Salt and Minerals:** Heavy sweating removes salt and minerals from the body that need to be replaced. A sports drink can replace the salt and minerals you lose in sweat.
 - If you are on a low-salt diet, have diabetes, high blood pressure, or other chronic conditions, talk with your doctor before drinking a sports beverage or taking salt tablets.



Drink **BEFORE, DURING** and **AFTER** exposure(s).



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NEP: INSPECTION QUESTIONS

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Were there scheduled rest breaks?

Was there access to a shaded area?

Did the employer provide time for acclimatization of new and returning workers?

Was a "buddy" system in place on hot days?

Were administrative controls used (earlier start times, job rotation) to limit heat exposure?

Did the employer provide training on heat illness signs, how to report signs and symptoms, first aid, how to contact emergency personnel, prevention, and the importance of hydration?



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ENVIRONMENT

- To prevent heat-related illness is to make the work environment cooler and to reduce manual workload with mechanization. A variety of controls can reduce workers' exposure to heat:
 - Air conditioning (such as air-conditioned crane or construction equipment cabs, air conditioning in break rooms)
 - Increased general ventilation
 - Cooling fans
 - Local exhaust ventilation at points of high heat production or moisture (such as exhaust hoods in laundry rooms)
 - Reflective shields to redirect radiant heat
 - Insulation of hot surfaces (such as furnace walls)
 - Elimination of steam leaks
 - Cooled seats or benches for rest breaks
 - Use of mechanical equipment to reduce manual work (such as conveyors and forklifts)
 - Misting fans that produce a spray of fine water droplets



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WORK PRACTICES

- Modify work schedules and activities for workers who are new to warm environments.
 - Schedule shorter shifts for newly hired workers and unacclimatized existing workers. Gradually increase shift length over the first 1-2 weeks.
 - Consider scheduling work at a cooler time of day, such as early morning or late afternoon.
- Reduce physical demands as much as possible by planning the work to minimize manual effort (such as delivering material to the point of use so that manual handling is minimized).
 - Rotate job functions among workers to help minimize exertion and heat exposure
- Require mandatory rest breaks in a cooler environment (shady location, air-conditioned building, etc.)
 - Duration of the rest breaks should increase as heat stress rises
- Ensure that workers drink an adequate amount of water or electrolyte-containing fluids
- Employers should have an emergency plan that specifies what to do if a worker has signs of heat-related illness, ensures that medical services are available if needed.
- Workers should watch out for each other for symptoms of heat-related illness prepared to administer appropriate first aid to anyone who is developing a heat-related illness.
- Administer appropriate first aid to any worker who is developing a heat-related illness
- In some situations, employers may need to conduct physiological monitoring of workers
- Implement a buddy system for new workers and in heat stress environments
- Avoid drinking hot beverages during lunch and afternoon breaks

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NEP: INSPECTION QUESTIONS

- How did (does) the employer monitor ambient temperature(s) and levels of work exertion at the worksite?
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- Did the employer require additional breaks for hydration?
- Were there scheduled rest breaks?
- Was there access to a shaded area?
- Did the employer provide time for acclimatization of new and returning workers?
- Was a "buddy" system in place on hot days?
- Were administrative controls used (earlier start times, and employee/job rotation) to limit heat exposures?
- Did the employer provide training on heat illness signs, how to report signs and symptoms, first aid, how to contact emergency personnel, prevention, and the importance of hydration?

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ACCLIMATIZATION

DAY 1	20% HEAT EXPOSURE (MAX) New workers: 20% max exposure on 1st day of work. Returning workers: 50% max exposure on day 1.
DAY 2	40% HEAT EXPOSURE (MAX) New workers: 40% max exposure on 2nd consecutive day. Returning workers: 60% max exposure on day 2.
DAY 3	60% HEAT EXPOSURE (MAX) New workers: 60% max exposure on 3rd consecutive day. Returning workers: 80% max exposure on day 3.
DAY 4	80% HEAT EXPOSURE (MAX) New workers: 80% max exposure on 4th consecutive day. Returning workers: 100% max exposure on day 4.
DAY 5	100% HEAT EXPOSURE (MAX) New workers: 100% max exposure on 5th consecutive day.

- New and returning workers need to build tolerance to heat and take frequent breaks
- According to OSHA "most outdoor fatalities, 50% to 70%, occur in the first few days of working in warm or hot environments"
- **20% Rule:**
 - On the first day, work no more than 20% of the shifts duration at full intensity in the heat.
 - Increase the duration of time at full intensity by no more than 20% a day until workers are used to working in the heat
- Closely supervise new employees for the first 14 days or until they are fully acclimatized
- Workers who are not physically fit need more time to fully acclimatize
- Acclimatization can be maintained for a few days of non-heat exposure
- Taking breaks in air conditioning will not affect acclimatization

<https://www.cdc.gov/niosh/mining/Userfiles/works/pdfs/2017-124.pdf>

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NEP: INSPECTION QUESTIONS

How did (does) the employer monitor ambient temperature(s) and levels of work-exertion at the worksite?

Was there unlimited cool water that was easily accessible to the employees?

Did the employer require additional breaks for hydration?

Were there scheduled rest breaks?


Was there access to a shaded area?

Did the employer provide time for acclimatization of new and returning workers?


Was a "buddy" system in place on hot days?

Were administrative controls used (earlier start times and employee/job rotation) to limit heat exposure?


Did the employer provide training to all workers and supervisors about the following:
• Recognition of the signs and symptoms of heat-related illnesses
• Causes of heat-related illnesses and steps to reduce the risk. These include drinking enough water and monitoring the color and amount of urine output.
• Proper care and use of heat-protective clothing and equipment
• Added heat load caused by exertion, clothing, and personal protective equipment
• Effects of other factors (drugs, alcohol, obesity, etc.) on tolerance to occupational heat stress
• The importance of acclimatization
• Importance of immediately reporting any symptoms or signs of heat-related illness in themselves or in coworkers to the supervisor
• Procedures for responding to symptoms of possible heat-related illness and for contacting emergency medical services.



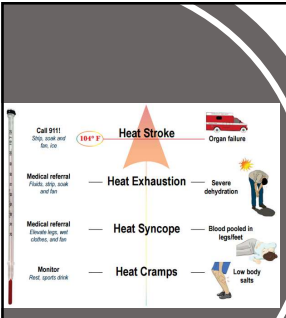
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- Train workers before hot outdoor work begins
- Tailor the training to worksite conditions
- Provide a heat stress training program for all workers and supervisors about the following:
 - Recognition of the signs and symptoms of heat-related illnesses
 - Causes of heat-related illnesses and steps to reduce the risk. These include drinking enough water and monitoring the color and amount of urine output.
 - Proper care and use of heat-protective clothing and equipment
 - Added heat load caused by exertion, clothing, and personal protective equipment
 - Effects of other factors (drugs, alcohol, obesity, etc.) on tolerance to occupational heat stress
 - The importance of acclimatization
 - Importance of immediately reporting any symptoms or signs of heat-related illness in themselves or in coworkers to the supervisor
 - Procedures for responding to symptoms of possible heat-related illness and for contacting emergency medical services.




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HEAT RELATED ILLNESS

- When any of these symptoms present, promptly provide first aid:
 - Do not try and diagnose which illness is occurring
 - Time is of the essence
 - Conditions can worsen quickly and result in fatalities
 - Take affected worker to a cooler area (shade, air conditioning, etc.)
 - Immerse worker in cold water/ice bath
 - Place ice/cold wet towels on: head, neck, trunk, arm pits, groin
 - Remove outer layers of PPE, clothing
 - Place fans to circulate air around the worker
 - Don't leave worker alone
 - The illness can rapidly become worse

When in doubt, cool the worker and call 911




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Heat Exhaustion	Heat Stroke
<p>Symptoms</p> <ul style="list-style-type: none"> Faint or dizzy Headache Profuse sweating Irritability Weak, rapid pulse Shallow breathing Pale, cool, clammy skin Nausea or vomiting Muscle cramps <p>First Aid/Treatment</p> <ul style="list-style-type: none"> Have worker lie down in a cool shaded or air conditioned area Remove outer layers of clothing Use ice or cold towels on the head, neck, trunk, armpits, and groin area Drink water if fully conscious 	<p>Symptoms</p> <ul style="list-style-type: none"> Absence of sweating Pulsating headache Hot, red, dry skin High Body Temp: Above 102°F Relaxed or vomiting Strong, rapid pulse Confusion May lose consciousness <p>First Aid/Treatment</p> <ul style="list-style-type: none"> Call 911, immediately Have worker remain in a cool shaded or air conditioned area Immerse worker in cold water Use of ice bags to cool body temp


KNOW THE SIGNS & SYMPTOMS

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Dehydrated? Urine trouble.




Well hydrated
No trouble here!
Maintain hydration.



Hydrated
Drink a little more water
to stay out of trouble!




Dehydrated
Trouble! Drink water until
you are well hydrated.




Severely dehydrated
Big trouble!
Drink water immediately!

Don't wait to hydrate! Prevent heat illness.



[osha.gov/heat](https://www.osha.gov/heat)



<https://www.osha.gov/heat/more-resources>

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RISK FACTORS

<p>Environment</p> <ul style="list-style-type: none"> High temperatures, especially with high humidity, which makes sweating less effective Direct sun exposure Lack of wind or breeze to cool the body; however, when ambient conditions are higher than body temperature, warm airflow can actually increase heat gain Proximity to engines or other hot equipment 	<p>Activities</p> <ul style="list-style-type: none"> High exertion Not enough rest breaks Repeated strenuous days in the heat High motivation to push through discomfort from heat strain
<p>No Acclimatization</p> <ul style="list-style-type: none"> New employees Experienced employees returning from time away from the heat Acclimatized workers who experience a sudden change in workplace temperature, such as heat waves or mining in a new area 	<p>Medications</p> <p>Heat illness can be affected by medications taken for:</p> <ul style="list-style-type: none"> cold, allergies, and congestion muscle spasms blood pressure urine production (diuretics) high blood pressure diarrhea dizziness/vertigo psychosis depression
<p>Dehydration</p> <ul style="list-style-type: none"> One of the most important risk factors 	<p>Health Conditions</p> <ul style="list-style-type: none"> Short-term illnesses, such as diarrhea, vomiting, or respiratory infections Chronic conditions, such as diabetes and heart disease Being overweight or obese Poor physical fitness
<p>Prior Heat Illness</p> <ul style="list-style-type: none"> Increases the risk of heat illness in the future 	<p>Other Factors</p> <ul style="list-style-type: none"> High overalls Non-breathable clothing or personal protective equipment Alcohol use in the past 24 hours

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TRAINING: SUPERVISION

- Implementing appropriate acclimatization
- What procedures to follow when a worker has symptoms of heat-related illness, including emergency response procedures
- Monitoring weather reports
- Responding to hot weather advisories
- Monitoring and encouraging adequate fluid intake and rest breaks

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NEP: SUMMARY

- Directs OSHA to focus on heat-related issues in order to improve worker safety
- Enables coordination between agencies for monitoring, data sharing, and reporting
- Requires inspectors to perform more frequent inspections to look for heat issues
- Focuses attention on target industries
- Directs attention to the issue and encourages compliance

Outdoors	Indoors
Agriculture	Bakeries, kitchens, and laundries (sources with indoor heat-generating appliances)
Construction - especially, road, roofing, and other outdoor work	Electrical utilities (particularly boiler rooms)
Construction - roofing work	Fire Service
Landscaping	Iron and steel mills and foundries
Mail and package delivery	Manufacturing with hot local heat sources, like furnaces (e.g., paper products or concrete)
Oil and gas well operations	Warehousing

This presentation is a summary and discussion of what NEP is about and not a complete explanation or representation of it in its entirety. Please see the links at the end of this presentation and read and understand the actual regulations for a more complete picture.

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RECOMMENDATIONS FOR COMPLIANCE

- **Create Heat Illness Prevention Plan** - Create a written plan to prevent heat-related illness.
- **Important elements to consider** when creating the heat plan are:
 - Who will provide oversight on a daily basis?
 - How will new workers gradually develop heat tolerance?
 - Temporary (and new) workers may be more susceptible to heat and require closer supervision.
 - Workers returning from extended leave (typically defined as more than two weeks) may also be at increased risk.
 - How will the employer ensure that first aid is adequate and the protocol for summoning medical assistance in situations beyond first aid is effective?
 - What engineering controls and work practices will be used to reduce heat stress?
 - How will heat stress be measured?
 - How to respond when the National Weather Service issues a heat advisory or heat warning?
 - How will we determine if the total heat stress is hazardous?
 - What training will be provided to workers and supervisors?

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PPE

- Reflective clothing that is loose fitting, to allow air flow
- Auxiliary body cooling like "ice vests"
 - Can add weight to the worker, BUT
 - Will accommodate ice packets to help cool the body
 - Usually will last up to 2 to 4 hours
- Water-cooled clothing:
 - Allows for items such as bandanas or towels to be soaked in cool water
 - Won't last as long, BUT
 - Helps keep body temperature down
- Hard hat with sunshades & visors

SUN PROTECTION
UPF 50+ PROTECTION BLOCKS HARMFUL UV RAYS

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RECHARGEABLE
ELECTRIC COOLING VEST

PROTECTS AGAINST SUN, WIND & RAIN
PROTECTS AGAINST SUN, WIND & RAIN

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RESOURCES/LINKS

- National Emphasis Program- https://www.osha.gov/sites/default/files/enforcement/directives/CPL_03-00-024.pdf
- CDC/NIOSH Heat Stress Risk Factors- <https://www.cdc.gov/niosh/mining/UserFiles/works/pdfs/2017-125.pdf>
- OSHA Prevent Heat Illness at Work- <https://www.osha.gov/sites/default/files/publications/OSHA3975.pdf>
- OSHA Prevent Heat Illness Poster- https://www.osha.gov/sites/default/files/publications/3431_wsiposter_en.pdf
- OSHA Heat Training Guide Lesson Plan- https://www.osha.gov/sites/default/files/publications/osha_heattraining_guide_0411.pdf
- OSHA NIOSH Infosheet- <https://www.osha.gov/sites/default/files/publications/osha-niosh-heat-illness-infosheet.pdf>
- General OSHA Overview- <https://www.osha.gov/heat-exposure/standards>
- Protecting New Workers- <https://www.osha.gov/heat-exposure/protecting-new-workers>
- OSHA Employer Responsibility- <https://www.osha.gov/heat/employer-responsibility>
- OSHA Heat Exposure Moderators- <https://www.osha.gov/heat-exposure/controls>
- OSHA WBGT Calculator- <https://www.osha.gov/heat-exposure/wbgt-calculator>
- OSHA Heat Rest Shade- <https://www.osha.gov/heat-exposure/water-rest-shade>
- NYT Heat Injury Article- <https://www.nytimes.com/2024/07/15/climate/heat-injuries.html>



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QUESTIONS?

- Thanks for joining me today!
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