



# TAKE HEAT STRESS SERIOUSLY

## What Is Heat Illness? Safety Talk

A hot work environment or summer weather can bring heat illness - in three stages...

## Seven Heat Stress Statistics

One factor that can bring on heat illness more quickly is high humidity...

## Don't Let Indoor Heat Stress Take a Toll on Your Workers

Heat illness is a hazard in many indoor workplaces, and not just in the summer months.

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# What Is Heat Illness?

Safety Talk



## WHAT'S AT STAKE

A hot work environment or summer weather can bring heat illness - in three stages. Heat cramps in leg and stomach muscles are painful but not life-threatening, heat exhaustion is more serious and heat stroke is a medical emergency.

## WHAT'S THE DANGER

Heat cramps mean the body lost minerals through sweating. Heat exhaustion brings dizziness, sweating, headache, weakness and nausea. With heat stroke, symptoms are

similar to heat exhaustion but skin is hot and dry and breathing is deep and fast. You may collapse. The body is no longer able to sweat, and temperature rises dangerously. If inner-body temperature isn't cooled rapidly, the brain, kidneys and heart can be fatally damaged.

## EXAMPLE

A labourer at a waste processing facility was sorting heavy scrap on a hot day. He wore a hardhat with a towel inside - ineffective for cooling as well as unsafe - and wasn't drinking the needed water and electrolytes. In late

afternoon he started to stagger. A co-worker told him to rest in shade. The heat stroke victim headed toward shade, but suddenly crouched down and collapsed. The co-worker tried to revive him but he didn't respond. He died in hospital.

### HOW TO PROTECT YOURSELF

To ease heat cramps, drink a solution of one teaspoon of salt per pint of water or water with lightly-salted snacks, and try resting.

If you have heat exhaustion symptoms, don't wait for signs of further dehydration - blurred vision, pale wet skin and shallow rapid breathing. Move to a cooler place, loosen clothing and slowly drink fluids such as the salted water. Lay with feet and legs slightly elevated. Helpers can call medical help, and sponge with lukewarm water to cool your body.

When someone suffers heat stroke, co-workers should call for medical help immediately, and cool him quickly with water and fanning.

#### These tips can help prevent heat illness:

- Get accustomed to heat gradually. Avoid over-exertion.
- Drink plenty of water or a drink that replaces fluids and minerals.
- Don't drink coffee, tea or cola to replace water because these contribute to dehydration.
- Take short rest breaks in a cooler area.
- Eat light, cool meals.
- Wear a hat outdoors, and light layered clothing. Cotton is generally cooler than synthetic fabrics. Some work environments require reflective or cooled suits.

### FINAL WORD

Heat illness can be serious - even fatal. Take it easy and drink plenty of water in hot conditions

### SAFETY TALK LEADER TIPS:

The following are some ideas of how to add value to your next safety talk on heat illness:

- While loose-fitting clothing is a hazard around moving equipment, it is recommended in hot weather. Talk to your workers about how to dress safely in hot environments.
- Lead a discussion on cases of heat illness that employees have witnessed or experienced.
- Invite a first aid attendant to talk about the three stages of heat illness.
- Here's a tip to pass on to your workers: when working in the heat it's better to drink cool water than a hot beverage.
- Use this safety meeting as an opportunity to push recreational hot weather safety guidelines that your workers should heed off the job.

# Seven Heat Stress Statistics

## Statistics

Whether it's generated in an indoor setting such as a non-air-conditioned warehouse or foundry or in outdoor worksites such as construction sites or farms, too much heat can be a killer. Here are seven statistics relating to heat illness:

1. Three progressive stages of heat illness are heat cramps, heat exhaustion and heat stroke. Heat cramps, the first sign of heat illness, are muscle cramps. Heat exhaustion is a state of being dizzy, weak and nauseated because of dehydration and loss of body minerals through sweating. Heat exhaustion occurs when the body can no longer cool itself. This condition can quickly turn fatal as body temperature spikes.
2. One factor that can bring on heat illness more quickly is high humidity. Humidity reduces the rate at which sweat evaporates from the body, keeping body heat on the skin and thereby causing the body to feel hotter.
3. It takes the human body between seven and 10 days to adapt to working in hot weather conditions. (MedicineNet.com)
4. Five symptoms of heat stroke are red, hot, dry skin; high body temperature; confusion; fainting; and convulsions.
5. If you are exercising or performing physically demanding work in hot conditions, you should be drinking up to 10 ounces (about 300 ml) of water or sports drink every 10 to 20 minutes. (Presence Health)
6. Six elements of heat stress training you should be imparting to your workers are risk for heat illness; prevention measures; symptoms; the importance of monitoring themselves and co-workers for symptoms of heat illness; treatment; and personal protective equipment.
7. For heat exhaustion; three things you need to do are: move victims to a cool, shady area or air-conditioned space; have them drink plenty of water or sports drink, and have them take a cool shower, bath or sponge bath. For victims of heat stroke, call 911; move them to a cool, shady area; and cool them by soaking their clothes with water, sponging their skin with cold water; showering the bodies with water; or fanning them.

# Don't Let Indoor Heat Stress Take a Toll on Your Workers

Safety Article

Think of heat illness and you'll probably form a mental picture of an agricultural worker suddenly collapsing in the hot sun. But heat illness is a hazard in many indoor workplaces, and not just during the summer months.

Bakeries, pizza shops, paper mills, foundries, petrochemical plants and industrial laundries are just a few examples of indoor workplaces that put workers at risk for potentially fatal heat illness.

**Workers who are performing strenuous activities in hot conditions, whether indoors or outside, are at risk for developing three types of heat illness:**

- **Heat cramps:** Painful cramping of the arms, legs or stomach caused by excessive water and salt loss through sweating. Treatment involves moving the worker to a cool, shady spot and giving him/her plenty of water or a sport drink containing salt.
- **Heat exhaustion:** A more serious condition where the victim suffers weakness, dizziness, headache and nausea and has a rapid pulse and rapid breathing. The worker needs to be moved to a cooler area, provided water and be cooled down with wet towels, a water spray or fans. Medical help should be summoned, since

heat exhaustion can quickly worsen into potentially fatal heat stroke.

- **Heat stroke:** A condition whereby dehydration and salt loss prevent the body from sweating, causing body temperature to spike to life-threatening levels. Symptoms of heat stroke include confusion, vomiting, dizziness, headache, seizures and loss of consciousness. The person needs immediate hospital treatment and even with it, he or she may not survive.

**If workers are potentially being exposed to high heat and high humidity indoors, you need to train them on risk factors for heat illness, which include:**

- Not being acclimatized to working in hot indoor conditions,
- Being out of shape,
- Being significantly overweight,
- Being 40 or older,
- Having a medical condition such as heart disease, diabetes or an overactive thyroid gland,
- Taking certain medications such as heart drugs, blood pressure pills or anti-depressants,
- Having experienced previous incidents of heat exhaustion or heat stroke, and

- Having consumed a significant amount of alcohol within the previous 24 hours.

**Here are some tips supervisors can use to help prevent heat illness in indoor settings:**

- During heat waves, when indoor working temperatures can spike, provide additional water and rest breaks for your workers.
- Provide ventilation and a cool rest area, preferably with air conditioning.
- Attempt to reduce humidity with a dehumidifier.
- Rotate workers through physically demanding tasks.
- Try to get the heaviest jobs accomplished in the morning before it gets too hot.
- Provide cool water and encourage workers to drink at least one glass of water every 20 minutes.
- Shut down heat-generating operations before maintenance or repair work is undertaken.
- Encourage workers to wear light-colored, loose fitting clothing that breathes.
- Try to provide the lightest PPE possible. If workers must wear protective clothing in hot conditions, they need to be given periodic rest breaks.
- Encourage workers to watch out for signs of heat illness in one another and talk to you if they suspect a co-worker is developing heat illness symptoms.
- If you see or hear of a worker showing symptoms of heat illness such as nausea, dizziness or weakness, summon emergency medical help, even if the worker protests. Ensure that no worker suspected of suffering heat illness is ever left unattended.



# Don't Let the Heat Get to You

## Safety Talk

**Heat** — whether from the sun or from your work environment — can create a life-threatening emergency. That's why workers in the oil and gas industry should be trained to prevent heat illness and to recognize early symptoms such as:

- excessive fatigue
- light-headedness
- irritability
- lack of coordination
- altered judgment

**Heat stress symptoms** can not only lead to more serious effects, they can result in serious injuries and death on the job. Several personal risk factors determine your susceptibility to heat stress. These include:

- lack of acclimatization (gradually exposing yourself to your work and the heat)
- poor physical fitness
- obesity
- age
- pre-existing medical conditions
- alcohol and drug use

Workers should not work alone in conditions where heat stress is possible, and it's important that workers monitor each other for symptoms.

Heat stress can lead to skin rashes, cramps, heat exhaustion and heat stroke.

**Heat exhaustion** is caused by the depletion of both water and salt through sweating. Early

symptoms are dizziness, headache, weakness, fatigue and nausea. If a worker is suffering from heat exhaustion:

- Move the person to a cooler place.
- Lay him down and elevate the legs.
- Loosen restrictive clothing.
- If the victim is conscious, give him cool, salted water to drink.
- Fan the victim or sponge him down with cool water (but not too cold).

**Heat stroke** is a life-threatening emergency that occurs when the body has lost its ability to sweat. The victim's inner temperature rises dangerously, and he may complain of blurred vision, dizziness, headache and nausea. These symptoms are similar to heat exhaustion but the skin will be hot and dry, and the victim's respiratory rate may increase. He may suffer a seizure or collapse without warning.

**Treat a heat stroke victim by:**

- Calling for medical help immediately
- Moving him to a cooler place
- Maintaining his airway and breathing
- Laying him down and removing his outer clothing
- Applying cool water via spray or wet blanket

You can prevent heat stress by drinking plenty of water, wearing loose, light-colored clothing, taking frequent rest breaks in cool areas and properly acclimatizing yourself to the work environment.

# Heat Stress Emergency Procedure

## Model Procedure

**THE PROBLEM:** Work in extreme heat can lead to a variety of heat-related illnesses, including deadly heat stroke. Failure to protect your own workers from these ailments can result not only in fatalities and serious injuries but OHS violations under the so called *General Duty Clause*, which requires employers to safeguard employees from “recognized hazards” not specifically addressed in any standard.

### ABC COMPANY EMERGENCY RESPONSE PROCEDURE

Authorized Personnel: The following designated person[s] (Program Administrator Safety Coordinator/Supervisor/Foreman/Field Supervisor/Crew Leader) have authority and responsibility for implementing the provisions of this procedure at this worksite.

1. Name/Title/Phone Number
2. Name/Title/Phone Number
3. Name/Title/Phone Number

**A.** Before assigning a crew to a particular worksite, workers and the foreman will be provided a map of the site, along with clear and precise directions including streets or road names, distinguishing features and distances to major roads to avoid a delay of emergency medical services.

**B.** Before assigning a crew to a particular worksite, efforts will be made to ensure that

a qualified and appropriately trained and equipped person is available at the site to render first aid if necessary.

**C.** Before the start of the shift, a determination will be made of whether a language barrier is present at the site and, if it is, steps will be taken to ensure it doesn't compromise the effectiveness of emergency response, e.g., assigning the responsibility to call emergency medical services to the foreman or an English speaking worker to ensure that emergency medical services can be immediately called in the event of an emergency.

**D.** All foremen and supervisors will carry cell phones or other means of communication, to ensure that emergency medical services can be called. Checks will be made to ensure that these electronic devices are functional before each shift.

**E.** When a worker shows symptoms of possible heat illness, steps will be taken immediately to keep him/her cool and comfortable until emergency service responders have been called to prevent progression to more serious illness before responders arrive.

**F.** At remote locations such as rural farms, lots or undeveloped areas, the supervisor will designate one or more workers to physically go to the nearest road or highway where emergency responders can see them.

If daylight is diminished, the designated worker(s) shall be given reflective vest or flashlights to direct emergency personnel to the location of the worksite which may not be visible from the road or highway.

**G.** During a heat wave or hot temperatures, workers will be reminded and encouraged to immediately report to their supervisor any signs or symptoms of heat-related illnesses that they are or may be experiencing.

**H.** Workers' and supervisors' training will include every detail of these ABC Company written emergency response procedures.

**I.** When a worker displays possible signs or symptoms of heat illness, a trained first aid worker or supervisor will check him/her and determine whether resting in the shade and drinking cool water will suffice or if emergency service providers need to be called. A sick worker will not be left alone in the shade!

**J.** When a worker displays possible signs or symptoms of heat illness and no trained first

aid worker or supervisor is available at the site, emergency service providers will be called.

**K.** Emergency service providers will be called immediately if a worker displays signs or symptoms of heat illness (loss of consciousness, incoherent speech, convulsions, red and hot face), doesn't look OK or doesn't get better after drinking cool water and resting in the shade. While the ambulance is in route, first aid will be initiated (cool the worker: place the worker in the shade, remove excess layers of clothing, place ice pack in the armpits and join area and fan the victim). Do not let a sick worker leave the site—he/she may be disoriented and get lost or die before reaching a hospital!

**L.** If a worker doesn't look OK and displays signs or symptoms of severe heat illness (loss of consciousness, incoherent speech, convulsions, red and hot face), and the worksite is located more than 20 minutes away from a hospital, call emergency service providers, communicate the signs and symptoms of the victim and request Air Ambulance.



# SafetySmart™

PO Box 428 | Orville | WA | 98844

1.800.667.9300 | [Info@safesupervisor.com](mailto:Info@safesupervisor.com) | [www.safesupervisor.com](http://www.safesupervisor.com)