

# Let's Prevent Heat Stroke at Work!

(「熱中症」: Netchusho = Heat Stroke)

**Managers, check the health of employees before and during work!**



In 2018, within the jurisdiction of the Tokyo Labor Bureau, there were 91 cases of occupational injury caused by heat stroke requiring more than four days off work, four of which were fatal. This significant increase over the previous year was due to record heat waves.

The number of casualties with four or more days off at work accounted for about 23% in the construction industry. Other than construction industry, these incidents occur in a wide range of industries, including security and cargo shipping.


A correct understanding of heat stroke and the appropriate prevention and emergency procedures are needed to deal with heat stroke. Be sure to implement systematic heat stroke prevention measures before the worst of the summer heat arrives.

## Incidents of Heat Stroke in 2018 (Tokyo)

Time/ Month	Industry	Details	Temperature (Highest of the Day)	Absence from Work
11 a.m./ July	Maintenance	A park maintenance worker felt sick while trimming wisteria on an overhanging trellis. When using ice to cool his body did not help, he was taken by ambulance to the hospital.	28.8℃ (30.8℃)	12 days
noon/ July	Security	A worker insulating electric lines and monitoring passing trains fell ill during his break. Emergency treatment was given, but the worker died at the hospital.	33.2℃ (33.8℃)	Death
2 p.m./ July	Transportation	While collecting/delivering packages, a truck driver felt his body go numb and lost control of the truck. He was rushed to the hospital.	31.8℃ (31.8℃)	4 days
3 p.m./ August	Construction	A worker handling reinforced steel concrete on a new building site under the blazing sun began sweating heavily and felt his hands and feet go numb. He was rushed to the hospital.	34.1℃ (36.5℃)	4 days

## What is heat stroke?

Heat stroke is a disorder that occurs when body water and salt is lost in a hot and humid environment and the body's regulatory functions break down. It can be classified into the following levels below according to symptoms. If these symptoms appear, the individual may be suffering from heat stroke.

Level I	<b>Dizziness/fainting</b> Lightheadedness; also called "heat fainting" <b>Muscle pain/muscle stiffness.</b> Muscle cramps; also called "heat spasms" <b>Heavy sweating</b>	Level  <b>Light</b>  <b>Heavy</b>
Level II	<b>Headache/discomfort/nausea/vomiting/malaise/despondency</b> Body feels weak and limp. This condition was called "heat exhaustion" in the past.	
Level III	<b>Impaired consciousness/convulsions/impaired movement in limbs</b> Reacts strangely to name being called or other stimulus, shaking convulsions, unable to walk in straight line <b>Hyperthermia</b> Body feels hot to the touch	

# Heat Stroke Prevention

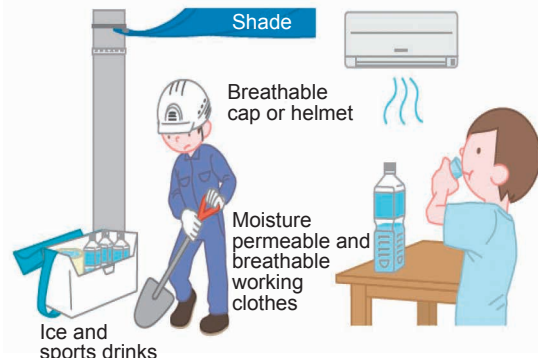
Take the following steps to prevent heat stroke on hot and humid outdoor sites where workers are working in the direct sun or similar conditions.

## 1 Manage the Work Environment

- ☐ Install equipment (such as spot coolers) to offer protection from the sun and ventilation and sprinkle water on the ground as appropriate.  
(Take care when sprinkling water in areas with poor ventilation as this causes an increase in humidity.)
- ☐ Prepare supplies for replenishing water and salt, as well as ice, cold packs, and cold towels to adequately cool the body. Check that workers are drinking and using these supplies.
- ☐ Provide an air conditioned rest area and/or shaded area near the worksite.
- ☐ Measure the WBGT index with a heat index meter that meets the JIS B7922 standard to track changes in the heat environment while working.

WBGT is an integrated value which consists of temperature, humidity, wind speed and radiant heat, indicated as "°C."

When evaluating the risk of the heat environment, utilizing WBGT is considered the most effective measure as it combines all the basic heat-related factors.



## 2 Manage Work

- ☐ Make sure to provide breaks and rest periods and reduce the amount of time spent working continuously in hot and humid work conditions.
- ☐ Allow a specific amount of time for workers to acclimate to heat.
- ☐ Wear work clothes that wick moisture and are breathable, as well as breathable headwear.

## 3 Manage Health

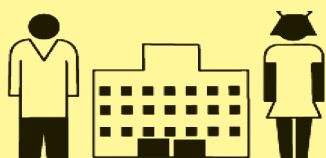
- ☐ Know workers' physical condition before work begins by reviewing health check results. Pay special attention to conditions such as diabetes, high blood pressure, heart disease, and kidney failure, which could affect the onset of heat stroke.
- ☐ Confirm the health of workers before beginning work by checking their physical condition and frequently patrol the worksite during work.
- ☐ Check if workers have eaten breakfast and how much alcohol they drank the day before.

## 4 Teaching Occupational Health

- ☐ When workers will be at a worksite that is hot and humid, give a talk before work begins on occupational health for field managers and workers. Cover the following topics: (1) symptoms of heat stroke; (2) ways of preventing heat stroke; (3) emergency treatments; and (4) sample cases of heat stroke.

### First Aid **Never leave anyone with heat stroke alone before they are taken to the hospital.**

If a worker's condition seems unusual in any way, give the first aid treatment listed below. Take the worker immediately to medical facility if any of the following occur: the worker's consciousness is impaired, such as reacting strangely when their name is called; they cannot drink water on their own; they do not recover from their symptoms; or other symptoms.



- ◆ Take the worker out of the heat to a cool, shaded area or a room with an air conditioner.
- ◆ Replenish body's lost water and salt (with sports drink).
- ◆ Loosen (or remove if necessary) clothing to help the body release heat.
- ◆ Fan the worker off with a hand-held or electric fan and cool down neck, armpits, and base of legs with ice bag or other cooling supplies.