

# Heat Stress

## What is it?

Heat stress can be identified as placing pressure on the human body's cooling system, due to a rise in body temperature. Heat stress in the workplace can arise through high air temperatures, or long periods of strenuous activity. In body terms, heat stress will result in sweating and dehydration, while in some cases it will be extreme enough to force the body to shut down their cooling system completely.

## The six kinds of heat stress are:

- *1. Prickly heat (miliaria).*
- *2. Heat fatigue (dehydration).*
- *3. Heat fainting (syncope).*
- *4. Heat cramps.*
- *5. Heat oedema.*
- *6. Heat stroke.*



### *1. Miliaria*

This is a skin disorder associated with heat stress. Sweat glands are blocked and this blockage results in an itchy feeling and shows up as a red rash. Miliaria may take several weeks to heal completely.

### *2. Heat Fatigue*

Commonly called DEHYDRATION, this occurs after prolonged heavy sweating and insufficient water intake due to physical activity. Any activity that requires a high level of effort and produces sweating may cause dehydration.

### *3. Heat Fainting*

People experience heat fainting because the blood flow to their brain is disrupted. When people become dehydrated, more blood is diverted to the skin to help cool the body down and when this occurs, fainting due to lack of blood flow to the brain is possible. Mostly, people recover quickly once they are laying down, however there is a risk of injury when people faint – hitting their head on the ground, objects etc.

### *4. Heat Cramps*

Cramps often occur in people who have been performing an activity for a long period of time and have lost large amounts of sweat. The cramps will exist because the salts lost in sweat aren't being replaced and the muscles involved need this salt to function. Recovery from cramps will occur if the activity is stopped and water containing salts is taken in. Sports drinks will definitely help in recovery.

### *5. Heat Oedema*

Data Source:

1. Heat Stress Fact Sheet WA – Dept of Health
2. National Health and Medical Research Council – Occupational Health Policies and Procedures
3. US Dept of Labor: Occupational Safety & Health Administration – Protecting Workers in Hot Environments
4. International Labour Organisation Encyclopaedia – Heat Disorders

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Oedema is a medical term used for swelling. Heat oedema shows up as large swelling of the hands and feet, which women are more likely to develop. Acclimatisation will reduce the risk of swelling, however symptoms should disappear after several hours of rest in a cool environment.

## 6. Heat Stroke

Heat Stroke is a serious medical emergency which may result in death. Hyperthermia (elevated body temperature) occurs and the cooling system in the body completely shuts down, resulting in no sweat being produced. Heat stroke is caused either of two ways – classical [heatwave signs] and effort-induced [work/sport]. Both have exactly the same effect on the body, with dangerous consequences.

When a person suffers from heat stroke, they experience a number of different symptoms. They include headache, nausea, dizziness, weakness, drowsiness, confusion, anxiety, disorientation, apathy, aggressiveness and irrational behaviour, tremor, twitching and convulsion. Once heat stroke occurs, disturbances of the central nervous system are present in all cases. The level of consciousness is often depressed, deep coma being most common, with vomiting, diarrhoea, nosebleeds and skin discolouration often occurring as well.

Recovery from heat stroke is a long process, usually a person suffering heat stroke will require months to recover from such an episode of illness.

## Symptoms

- Cool, clammy, pale skin
- Sweating
- Dry mouth
- Fatigue, weakness
- Dizziness
- Headache
- Nausea, sometimes vomiting
- Muscle cramps
- Weak and rapid pulse
- Discomfort
- Irritability
- Dehydration
- Reduced concentration or attention

If you see someone who shows any of these symptoms, report it straightaway. Generally, people who are experiencing



## Prevention

Heat illnesses are quite easily prevented, however the responsibility is entirely up to you to make sure that you do the best you can to prevent heat illnesses.

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Here are a number of tips to keep you hydrated and avoiding heat illnesses:

- Drink at least 200mL of water every 30 minutes. (3.6L over 12 hour shift)
- Take regular breaks in a cool environment
- If working in direct sunlight, wear a hat and loose fitting clothing
- To replace salts, add one teaspoon of salt per litre of water that is drunk.
- Avoid coffee, tea and alcohol because they speed up water loss in the body.

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