



HEAT SMART AT WORK

DEHYDRATION & HEAT ILLNESS



DEHYDRATION

Reduced physical performance | impaired cognition



HEAT RASH (PRICKLY HEAT)

Red cluster of pimples or small blisters, usually on neck, upper chest, groin, under breasts and in elbow creases



HEAT SYNCOPE (FAINTING)

Fainting, dizziness, or light-headedness, after prolonged standing or suddenly rising from a sitting or lying position



HEAT CRAMPS

Muscle cramps, pain, or spasms in the abdomen, arms or legs



HEAT EXHAUSTION

Headache | nausea | dizziness | weakness | irritability | thirst | heavy sweating | elevated body temperature | decreased urine output



HEAT STROKE

Altered conscious state, confusion, altered mental status, slurred speech | hot, dry skin or profuse sweating | seizures | very high body temperature | fatal if treatment is delayed



Severe dehydration can be FATAL if not treated promptly and appropriately!

RISK FACTORS OF HEAT STRESS

PRIOR HEAT ILLNESS

+ increases the risk of heat illness

ENVIRONMENT

+ high temperature
+ high humidity
+ direct sun exposure
+ lack of wind
+ proximity to hot equipment

MEDICATION

+ heat tolerance can be affected by medications taken for other conditions

HEALTH CONDITIONS

+ chronic conditions (e.g. diabetes & heart disease)
+ being overweight or obese
+ poor physical fitness
+ short-term illness (e.g. diarrhea, vomiting or respiratory infections)



DEHYDRATION

+ One of the **MOST IMPORTANT** risk factors

ACTIVITIES

+ high exertion
+ insufficient rest breaks
+ repeated thermal exposure
+ high motivation to push through discomfort from heat strain

OTHER FACTORS

+ age over 60
+ non-breathable clothing or PPE
+ alcohol use in the past 24 hours

ACCLIMATISATION

+ new employees
+ experienced employees returning from time away
+ sudden change in worksite temperature such as heat wave

HOW TO AVOID HEAT STRESS

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ACCLIMATISE

WHAT ARE THE BENEFITS?

- + less strain to the heart & other vital organs
- + sweating improves
- + increased ability to comfortably perform physical tasks in the heat

HOW TO ACCLIMATISE?

- + gradually increase work time in hot conditions over a period of time.
- + regular breaks, cooling off and rehydrating between shifts.
- + **STAY HYDRATED** and eat regular meals.

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MEASURE HYDRATION

**NO MORE INVASIVE URINE TESTING!
NOW SIMPLER & CONVENIENT WITH MX3 SALIVA TESTING!**

hydrated ≤ 65 mOsm

*You are hydrated.
Continue drinking as recommended.*

mildly dehydrated 66 - 100 mOsm

*You are mildly dehydrated.
Start drinking more fluids.*

moderately dehydrated 101 - 150 mOsm

*You are dehydrated.
Drink more fluids to prevent heat illness.*

severely dehydrated ≥ 151 mOsm

*You are dehydrated.
Drink more to prevent heat illness or heat stroke,
monitor for symptoms & seek medical attention.*



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HYDRATE

WHEN TO DRINK?

+ Hydrate before feeling thirsty. By the time you feel thirsty, you are already behind in fluid replacement.

+ **BEFORE** work
if you are dehydrated when you start work, you may not be able to drink enough to catch up with your body's need for water.

+ **DURING** work
- When working in heat, drink 1 cup of water every 15-20 mins.
- Drink at shorter intervals is more effective than drinking large amounts infrequently.

+ **AFTER** work
- Continue drinking for several hours to replace fluid loss through sweat.
- Continue hydrating after work to avoid chronic dehydration.

WHAT TO DRINK?

+ **WATER** will almost always maintain hydration during work in the heat, as long as you eat regular meals to replace salt lost in sweat.

WHAT TO AVOID?

+ **ENERGY DRINKS:** Some energy drinks contain caffeine, which can affect your heart; and sugar, which adds extra calories to your diet.

+ **ALCOHOL:** Alcohol can cause dehydration, and increase the risk of heat illness.

DO NOT drink more than 1.5L per hour! Drinking too much fluids can cause a medical emergency because the concentration of salt in the blood becomes too low.

The information on this poster is based on CDC & NIOSH heat stress awareness guidelines.