



Heat Stress and Hydration Tool Box Talk

Items needed for this activity:

- A bottle of water, an electrolyte supplement drink (such as Pedialyte), a hydration drink (such as Gatorade or Powerade), and an energy drink (such as Monster Energy Drink). Check the ingredients in each of the bottles to be able to discuss the electrolytes, sugar, and caffeine content in each.
- Ice Packs and Cooling Towels

Begin by talking about the importance of hydration as temperatures rise:

According to the Centers for Disease Control and Prevention, when working in the heat, employees should:


- Drink 1 cup (8 ounces) of water every 15–20 minutes.
- This translates to $\frac{3}{4}$ –1 quart (24–32 ounces) per hour.
- Drinking at shorter intervals is more effective than drinking large amounts infrequently.
- Do not drink more than 48 oz (1½ quarts) per hour!
- Drinking too much water or other fluids (sports drinks, energy drinks, etc.) can cause a medical emergency because the salt concentration in the blood becomes too low.


Next, ask for a volunteer to come up and sort the four beverages in order of which would be the best to worst choice at the beginning of a shift.

The ideal order would be Water, Electrolyte Supplement, Hydration Drink, and energy drink.

- Discuss how water is an essential beverage to start the day hydrated.
- Add that employees should consider if they properly rehydrated from the previous workday and evening. If they still feel dehydrated from the prior day's work, they should consider an electrolyte drink and let their supervisor know.
- Discuss how consuming lots of sugar in the morning with a hydration drink can add unnecessary calories and lead to "crashing" mid-morning during the shift.
- Finally, go over the dangers of energy drinks, especially when there is a risk of heat stress. Energy drinks contain large amounts of caffeine, sugar, and other ingredients that can lead to dehydration, heart complications, anxiety, and insomnia.

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Some of the dangers of energy drinks include:

- Dehydration (not enough water in your body).
- Heart complications (such as irregular heartbeat and heart failure).
- Anxiety (feeling nervous and jittery).
- Insomnia (unable to sleep).



To request a free safety or health consultation, contact the Georgia Tech Occupational Safety and Health Consultation Program.



Dehydrated? Urine trouble.



Don't wait to hydrate! Prevent heat illness.



Review the warning signs of heat stress using the OSHA Heat Stress Toolbox Talk (link at the bottom of the page). Highlight the following:

- Warning signs of heat stress include headache, dizziness, fainting, weakness, profuse sweating, irritability or confusion, extreme thirst, nausea, and vomiting.
- If an employee stops sweating (with hot, dry skin) or an employee begins acting confused, disoriented, faints, or collapses, call 911 immediately.
 - While waiting for emergency response: immerse the employee in cold water if possible, use the evaporation cooling technique by misting cool water onto the body and using a fan, pack the employee by using ice and cooling towels/blankets on the groin, neck, pack, and armpits to lower the body temperature.
 - Using a second person- demonstrate these lifesaving techniques using icepacks and cooling towels.

Finally, ask another volunteer to sort the four beverages in order of the best to worst choice at the end of the shift.

The ideal order would be Water, Electrolyte Supplement, Hydration Drink, and energy drink.

- Discuss how water is an essential beverage to consume at the end of the shift.
- According to the CDC:
 - Most people need several hours to drink enough fluids to replace what they have lost through sweat.
 - The sooner you start hydrating, the less strain you place on your body from dehydration.
 - Hydrating after work is even more critical if you work in the heat regularly. Chronic dehydration increases the risk for several medical conditions, such as kidney stones.
- Finally, emphasize the dangers of energy drinks, especially when there is a risk of heat stress. Share the following information about sugar and caffeine in energy drinks from Safefood.

Sugar & Caffeine in Energy Drinks



^f 1 teaspoon = 4g sugar ^f 1 cup of espresso = 80mg caffeine Data collected April 2019