



Hydration

OSHA Standard Subpart C General Duty Clause, Section 5(a)(1) of the Occupational Safety and Health Act of 1970, employers are required to provide their employees with a place of employment that “is free from recognized hazards that are causing or likely to cause death or serious harm to employees.” The courts have interpreted OSHA’s general duty clause to mean that an employer has a legal obligation to provide a workplace free of conditions or activities that either the employer or industry recognizes as hazardous and that cause, or are likely to cause, death or serious physical harm to employees when there is a feasible method to abate the hazard. This includes heat-related hazards that are likely to cause death or serious bodily harm. Hydration is a critical component for avoiding heat-related hazards.

OSHA Standard Subpart C 1926.21(b)(2) The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury.

HYDRATION FACTS:

The amount of fluids a person needs to stay hydrated varies depending on many factors, including age, weight, activity level, and medical conditions. Some general guidelines include:

- **Men:** The Institute of Medicine recommends 13 cups (about 3 liters) of fluids per day, while the U.S. National Academies of Sciences, Engineering, and Medicine recommends 15.5 cups (3.7 liters).
- **Women:** The Institute of Medicine recommends 9 cups (a little over 2 liters) of fluids per day, while the U.S. National Academies of Sciences, Engineering, and Medicine recommends 11.5 cups (2.7 liters).
- **Penn Medicine:** Recommends drinking half an ounce to an ounce of water for each pound you weigh, every day.

Every year, dozens of workers die and thousands more become ill while working in hot or humid conditions. OSHA’s Heat Illness Prevention campaign educates employers and workers on heat hazards and provides resources to keep workers safe.



SIGNS, DOS, & DONTs:

1. Common signs when working hard fatigue sets in, your mouth feels dry, your legs are heavy, and maybe you even get a headache. These are all common signs of dehydration.
2. When you are working hard, body fluid is lost through sweat. If the fluid lost through sweat is not replaced, dehydration and early fatigue are unavoidable. Losing even 2% of body fluids (less than 3.5 pounds in a 180-pound person) can impair performance by increasing fatigue and affecting cognitive skills.
3. When to drink: Ensure you drink before you start working. Trying to catch up on lost fluids after a period of time is difficult. Also, drink before you get

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thirsty. By the time you're thirsty, you are already dehydrated, so it's important to drink at regular intervals – especially when it is hot outside. If it is possible not to expose yourself directly to hazards, engineer them out by utilizing machines. The right type and size of equipment is essential.

4. What to drink: Water is truly one of the best things to drink. Research also shows that a lightly flavored beverage with a small amount of sodium encourages people to drink enough to stay hydrated. The combination of flavor and electrolytes in a sports drink like Gatorade provides one of the best choices to help you stay properly hydrated.
5. What not to drink: During activity, avoid drinks with high sugar content such as soda and even fruit juices. These are slow to absorb into the body. Also, alcohol and caffeinated beverages should be avoided – energy drinks are a definite no.
6. How much to drink: That truly depends on your activity level and how much fluid your body is losing. In general, when you are working and sweating, you should drink at least every half-hour. Ensure you are drinking enough to replace your lost fluids.
7. 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.
8. The easiest thing to do is pay attention to the color of your urine. Pale and clear means you're well hydrated. If it's dark, drink more fluids.

"Elements Necessary for a Violation of the General Duty Clause. | Occupational Safety and Health Administration." www.osha.gov, www.osha.gov/laws-regs/standardinterpretations/2003-12-18-1.

"1926.21 - Safety Training and Education. | Occupational Safety and Health Administration." www.osha.gov, www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.21.

WebMD. "How Much Water Should I Drink?" WebMD, WebMD, Feb. 2017, www.webmd.com/diet/how-much-water-to-drink.

Pennteam.org, 2022, www.pennmedicine.org/updates/blogs/health-and-wellness/2015/may/how-much-water-do-you-need-each-day.



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