

Confined Spaces

Keep Safe in a Tight Space

A confined space is any enclosed or partially enclosed space large enough to enter and perform work, has restricted means of entry or exit, and is not designed or intended for continuous human occupancy. Many confined spaces have limited ventilation and lighting and conditions that can be harmful such as toxic atmospheres. Some examples of confined spaces at Northwestern include manholes, tunnels, tanks, boilers, transformers, excavations, elevator pits, vaults, attics, crawl spaces, ventilation ducts, and pipes.

In the U.S., employees will enter confined spaces on average 4.8 million times a year and there will be 11,000 injuries and 92 fatalities, according to the U.S. Department of Labor. This means about 2 workers per week will not go home to their families because of confined space related accidents.

Northwestern has developed a confined space program that exceeds the Occupational Safety and Health Administration (OSHA) requirements to protect you from the hazards associated with working in confined spaces.

There are many health hazards in confined spaces and some may not always be obvious. Common dangers such as lack of oxygen, flammable and toxic gases, and internal configurations that could cause entrapment can put you at serious risk. In addition, mechanical and physical hazards, such as extreme temperatures and moving parts, can turn a simple job into a dangerous situation.



Utility Vault, Evanston

In some instances, a permit is required to enter a confined space that contains or has the potential to contain the aforementioned hazards. The purpose of this permit is to protect you by making you aware of the hazards and controlling them. For example, a hazardous atmosphere may be ventilated with a forced air blower, or physical hazards may be eliminated by lockout/tagout of equipment. A permit will also ensure that an attendant is on standby at the entry point, rescue procedures are in place, and that your supervisor authorizes the work.

How Can We Stay Safe When Working in Confined Spaces?

- **Never** enter a confined space if you don't know what is in it and what precautions to take
- **Get trained:** Anyone involved in confined space entries must be trained and authorized
- **Evaluate:** All confined spaces at Northwestern have been initially assessed; these assessments are available to you and contractors by contacting Risk Management Services. Review the assessment prior to conducting any work in a confined space and evaluate the space to identify and control hazards. Remember that the work being performed, such as hot work, may introduce new hazards that need to be controlled.
- **Always** verify the atmosphere is safe with a calibrated air testing device prior to entry
- **Communicate:** The entrant and attendant should maintain effective communication in the event of an emergency. This can be achieved in a variety of ways, such as verbally, visually, or by portable radio.
- **Don't be a dead hero:** According to the National Institute for Occupational Safety and Health (NIOSH), 60% of all confined space fatalities occur among would-be rescuers who end up becoming victims themselves. In some disasters, more rescuers die than original victims. **Northwestern employees are not permitted to enter a confined space to perform a rescue under any circumstances!** Rescue may be performed using non-entry equipment, such as a tripod, winch, and body harness, or by trained rescue professionals.
- **When in doubt, get out:** If you suspect danger, exit the confined space immediately!
- **Do your part:** Complete *Confined Spaces* training at learn.northwestern.edu. If your work involves confined spaces, talk to your supervisor or contact Risk Management Services to sign up for the comprehensive *Confined Spaces* courses offered on campus.

Tips for Success When Talking to Your Team

- **Preparation is Key:** Keep the topic relevant to your work. With your team, review the different types of confined spaces in your workplace and discuss the potential hazards and control methods to stay safe when entry is necessary to perform work.
- **Stay Positive:** Keep the focus on what can be done to create a safe workplace, instead of focusing on what has gone wrong in the past
- **Share a Story, Ask for a Story:** Storytelling is a powerful method to convey information. Stories from your employees make the topic even more relatable.

Safety at Home

Did you know? An attic or crawl space in your home could be considered a confined space. Accumulation of dangerous gases, extreme temperatures, trapping internal configurations, and other hazards could potentially be present. Here are some tips to stay safe at home:

- Always ventilate a confined space prior to entry by opening it up and airing it out; a portable fan is an effective way to ensure adequate ventilation
- Avoid storing chemicals or substances that could produce a hazardous atmosphere in attics or crawl spaces
- Always let someone know you are entering an attic or crawl space; if possible, have someone standby at the entry point in case of an emergency
- Always latch or lock access points to attics and crawl spaces to prohibit others, especially children, from entering
- Never smoke in an attic or crawl space; flammable gases or vapors may be present

For Additional Information

Please contact [Gwen Butler](#), Director of Environmental Health and Safety, at 847.491.4936.