



[Home](#) → [Medical Encyclopedia](#) → Carbon monoxide poisoning

URL of this page: //medlineplus.gov/ency/article/002804.htm

Carbon monoxide poisoning

Carbon monoxide is an odorless gas that causes thousands of deaths each year in North America. Breathing in carbon monoxide is very dangerous. It is the leading cause of poisoning death in the United States.

This article is for information only. DO NOT use it to treat or manage an actual poison exposure. If you or someone you are with has an exposure, call the local emergency number (such as 911), or the local poison control center can be reached directly by calling the national toll-free Poison Help hotline (1-800-222-1222) from anywhere in the United States.

Poisonous Ingredient

Carbon monoxide is a chemical produced from the incomplete burning of natural gas or other products containing carbon. This includes motor vehicle exhaust, faulty heaters, fires, and factory emissions.

Where Found

The following items may produce carbon monoxide:

- Anything that burns coal, gasoline, kerosene, oil, propane, or wood
- Automobile engines
- Charcoal grills (charcoal should never be burned indoors)
- Indoor and portable heating systems
- Portable propane heaters
- Stoves (indoor and camp stoves)
- Water heaters that use natural gas

Note: This list may not be all-inclusive.

Symptoms

When you breathe in carbon monoxide, the poison replaces the oxygen in your bloodstream. Your heart, brain, and body then become starved of oxygen.

Symptoms vary from person to person. Those at high risk for more severe bodily damage include young children, older adults, people with lung or heart disease, people who are at high altitudes, and smokers. Carbon monoxide can harm a fetus (unborn baby still in the womb).

Symptoms of carbon monoxide poisoning may include:

- Breathing problems, including no breathing, shortness of breath, or rapid breathing
- Chest pain (may occur suddenly in people with angina)
- Coma
- Confusion
- Convulsions
- Dizziness
- Drowsiness
- Fainting
- Fatigue
- General weakness and achiness
- Headache
- Hyperactivity
- Impaired judgment
- Irritability
- Low blood pressure
- Muscle weakness
- Rapid or abnormal heartbeat
- Shock
- Nausea and vomiting
- Unconsciousness

Animals can also be poisoned by carbon monoxide. People who have pets at home may notice that their animals become weak or unresponsive from carbon monoxide exposure. Often the pets will get sick before humans.

Since many of these symptoms can occur with viral illnesses, carbon monoxide poisoning is often confused with these conditions. This can lead to a delay in getting help.

Home Care

If the person breathed in the poison, immediately move them to fresh air. Seek immediate medical right away.

PREVENTION

Install a carbon monoxide detector on each floor of your home. Place an additional detector near any major gas-burning appliances (such as a furnace or water heater).

Many carbon monoxide poisonings occur in the winter months when furnaces, gas fireplaces, and portable heaters are being used and windows are closed. Have heaters and gas-burning appliances regularly inspected to make sure they are safe to use.

Before Calling Emergency

The following information is helpful for emergency assistance:

- Person's age, weight, and condition (for example, is the person awake or alert?)
- How long they may have been exposed to the carbon monoxide, if known

However, DO NOT delay calling for help if this information is not immediately available.

Poison Control

Your local poison control center can be reached directly by calling the national toll-free Poison Help hotline (1-800-222-1222) from anywhere in the United States. This national hotline will let you talk to experts in poisoning. They will give you further instructions.

This is a free and confidential service. All local poison control centers in the United States use this national number. You should call if you have any questions about poisoning or poison prevention. It does NOT need to be an emergency. You can call for any reason, 24 hours a day, 7 days a week.

What to Expect at the Emergency Room

The health care provider will measure and monitor the person's vital signs, including temperature, pulse, breathing rate, and blood pressure. The person may receive:

- Airway support, including oxygen, breathing tube through the mouth (intubation), and breathing machine (ventilator)
- Blood and urine tests
- Chest x-ray
- ECG (electrocardiogram, or heart tracing)
- Fluids through a vein (intravenous or IV)
- Hyperbaric oxygen therapy (high-pressure oxygen given in a special chamber)
- Medicines to treat symptoms

Outlook (Prognosis)

Carbon monoxide poisoning can cause death. For those who survive, recovery is slow. How well a person does depends on the amount and length of exposure to the carbon monoxide. Permanent brain damage may occur.

If the person still has impaired mental ability after 2 weeks, the chance of a complete recovery is worse. Impaired mental ability can reappear after a person has been symptom-free for 1 to 2 weeks.

References

Bluth MH, Pincus MR, Abraham NZ. Toxicology and therapeutic drug monitoring. In: McPherson RA, Pincus MR, eds. *Henry's Clinical Diagnosis and Management by Laboratory Methods*. 24th ed. Philadelphia, PA: Elsevier; 2022:chap 24.

Christiani DC. Physical and chemical injuries of the lung. In: Goldman L, Schafer AI, eds. *Goldman-Cecil Medicine*. 26th ed. Philadelphia, PA: Elsevier; 2020:chap 88.

Meaden CW, Nelson LS. Inhaled toxins. In: Walls RM, eds. *Rosen's Emergency Medicine: Concepts and Clinical Practice*. 10th ed. Philadelphia, PA: Elsevier; 2023:chap 148.

Review Date 1/2/2023

Updated by: Jesse Borke, MD, CPE, FAAEM, FACEP, Attending Physician at Kaiser Permanente, Orange County, CA. Also reviewed by David C. Dugdale, MD, Medical Director, Brenda Conaway, Editorial Director, and the A.D.A.M. Editorial team.

Learn how to cite this page



CERTIFIED

Health Content
Provider
06/01/2028

A.D.A.M., Inc. is accredited by URAC, for Health Content Provider (www.urac.org). URAC's [accreditation program](#) is an independent audit to verify that A.D.A.M. follows rigorous standards of quality and accountability. A.D.A.M. is among the first to achieve this important distinction for online health information and services. Learn more about A.D.A.M.'s [editorial policy](#), [editorial process](#), and [privacy policy](#).

The information provided herein should not be used during any medical emergency or for the diagnosis or treatment of any medical condition. A licensed medical professional should be consulted for diagnosis and treatment of any and all medical conditions. Links to other sites are provided for information only – they do not constitute endorsements of those other sites. No warranty of any kind, either expressed or implied, is made as to the accuracy, reliability, timeliness, or correctness of any translations made by a third-party service of the information provided herein into any other language. © 1997-2025 A.D.A.M., a business unit of Ebix, Inc. Any duplication or distribution of the information contained herein is strictly prohibited.



National Library of Medicine 8600 Rockville Pike, Bethesda, MD 20894 U.S. Department of Health and Human Services

National Institutes of Health