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February 14, 2025

What Is Carbon Monoxide Poisoning?

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JAMA. Published online February 14, 2025. doi:10.1001/jama.2025.1384

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Carbon monoxide is a colorless, odorless, and tasteless gas produced from the burning of substances such as charcoal, gas, gasoline, oil, or wood.

When inhaled, carbon monoxide can cause heart attacks, brain injury, and death.

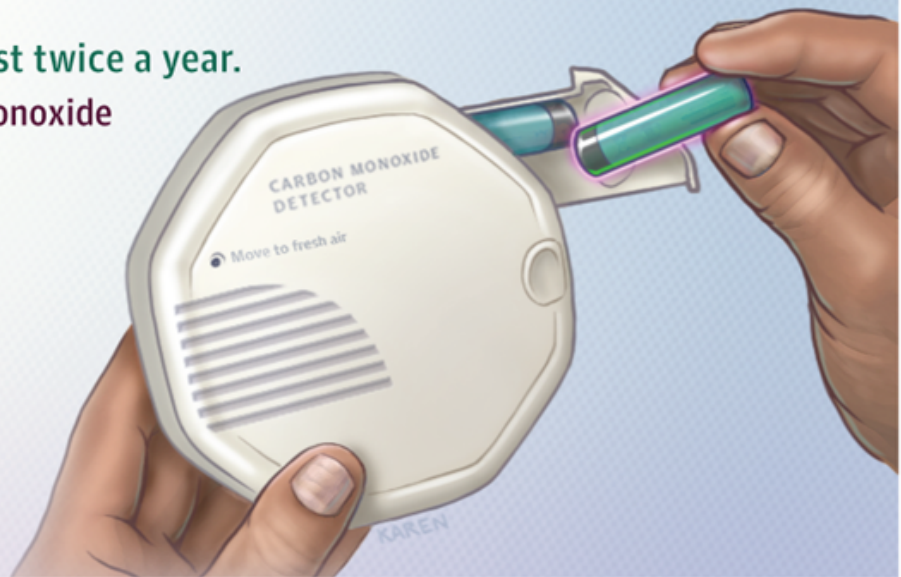
Carbon monoxide poisoning most commonly results from breathing in fumes in enclosed spaces from automobile exhaust, charcoal grills, fireplaces, gas appliances, lawn mowers, and portable generators.

Every home should have a functioning carbon monoxide detector in each sleeping area.

Check batteries at least twice a year.

Symptoms of carbon monoxide poisoning may include

- Chest pain
- Confusion
- Dizziness
- Fatigue
- Headaches
- Impaired coordination
- Nausea
- Stomach pain



If the alarm sounds, all people in the vicinity should evacuate immediately and call 911.

Carbon monoxide is a colorless, odorless, and tasteless gas produced from the burning of substances such as charcoal, gas, gasoline, oil, or wood.

When inhaled, carbon monoxide reduces the body's ability to carry oxygen to vital organs. More than 400 people in the US die each year from unintentional carbon monoxide poisoning not associated with fires. In addition, carbon monoxide poisoning leads to more than 100 000 emergency department visits and more than 14 000 hospitalizations per year in the US.¹

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Common Causes of Carbon Monoxide Poisoning

Carbon monoxide poisoning most commonly results from breathing fumes in enclosed spaces from gas appliances (stoves, ovens, water heaters, drying machines, furnaces), portable generators, fireplaces,

charcoal grills, lawn mowers, and vehicle exhaust.

Symptoms and Complications

Symptoms of carbon monoxide poisoning are not specific, making it difficult to identify. It is most commonly described as like having “the flu.” Frequently, multiple people in the same household or area have similar symptoms, such as headaches, nausea, fatigue, dizziness, chest pain, stomach pain, impaired coordination, and confusion. At high levels of exposure, carbon monoxide can cause heart attacks, brain injury, and death.

Although anyone can get sick from carbon monoxide exposure, those at highest risk of complications after exposure are infants, young children, pregnant people, those with preexisting medical problems, and older adults.

How Is Carbon Monoxide Poisoning Diagnosed and Treated?

Carbon monoxide poisoning is diagnosed by measuring carboxyhemoglobin, the percentage of red blood cells bound to carbon monoxide, using a device called a co-oximeter. Carboxyhemoglobin of more than 5% in nonsmokers and more than 10% in smokers strongly supports a diagnosis of carbon monoxide poisoning.

Treatment usually involves administration of 100% oxygen with a face mask until symptoms resolve, typically about 4 to 5 hours. Some patients with high carboxyhemoglobin levels or severe symptoms, children, and elderly and pregnant people may receive hyperbaric oxygen therapy, which involves breathing 100% oxygen in a pressurized chamber. A medical toxicologist or Poison Center (1-800-222-1222) can help determine which patients with carbon monoxide poisoning may benefit from hyperbaric oxygen therapy.

How to Decrease the Risk of Carbon Monoxide Poisoning

- Every home should have functioning carbon monoxide detectors in every sleeping area. These detectors should have a seal from a national testing agency. Batteries should be checked at least twice a year. If the alarm sounds, all people in the vicinity should evacuate immediately and call 911. Anyone experiencing symptoms should seek medical attention immediately.
- Make sure that heating systems, water heaters, and other gas appliances are installed and working per manufacturers' instructions and serviced yearly.
- Ensure proper ventilation around gas appliances, wood-burning stoves, and heating systems. Never burn charcoal or use portable generators indoors.

- Do not use appliances outside of their intended use, such as using ovens or gas stoves to heat the home.
- Chimneys and fireplaces should be checked and cleaned every year.
- Do not operate gasoline-powered engines, such as automobiles, in confined areas. Open garage doors before starting any automobile and never leave it running in the garage.

For More Information

Centers for Disease Control and Prevention

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Published Online: February 14, 2025. doi:10.1001/jama.2025.1384

Conflict of Interest Disclosures: None reported.

Reference

1. Centers for Disease Control and Prevention. <https://www.cdc.gov/carbon-monoxide/about/index.html>

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