

Carbon Monoxide (Blood)



Does this test have other names?

CO blood test, CO blood gas

What is this test?

This test measures the level of carbon monoxide (CO) in your blood.

Carbon monoxide is a colorless, tasteless, and odorless gas made by combustion. Breathing in CO can be fatal because it doesn't allow oxygen to get to your heart and other organs.

This test looks for carboxyhemoglobin. This substance is made in your blood when hemoglobin combines with carbon monoxide instead of oxygen.

Most deaths from CO result from smoke inhalation. Other sources include heaters that don't work as they should, kitchen stoves and tools that are not vented correctly, camping stoves, charcoal grills, water heaters, and cars with their engines running in an enclosed space like a garage. All of these can cause CO to spread throughout a building.

Why do I need this test?

You may need this test if your healthcare provider thinks you have CO poisoning. Symptoms of carbon monoxide poisoning include:

- Headache
- Chest pain
- Altered mental status and confusion
- Nausea and vomiting
- Dizziness
- Weakness

Severe poisoning can cause nervous system symptoms, such as:

- Seizures
- Coma

Carbon monoxide poisoning can be hard to recognize in very young children. For example, a child may merely appear fussy and not want to eat.

You may also have this test if you have been in contact with CO. This is likely if you inhaled smoke during a fire. You may also have this test if you've been near a car that had its engine running in an enclosed space for a long time.

What other tests might I have along with this test?

You may also have these tests:

- Toxicology screen

- Chest X-ray
- Pregnancy test if you are a woman. This is because CO exposure puts the baby at high risk for problems.

You may also have an MRI or computed tomography scan if you have symptoms of nervous system problems.

What do my test results mean?

Test results may vary depending on your age, gender, health history, and other things. Your test results may be different depending on the lab used. They may not mean you have a problem. Ask your healthcare provider what your test results mean for you.

Results are given as a percentage or as a decimal. These are the normal ranges for CO levels in the blood:

- Adults (nonsmokers): less than 2%, or 0.02
- Adult smokers: 4% to 5%, or 0.04 to 0.05
- Adult heavy smokers (more than 2 packs a day): 6% to 8%, or 0.06 to 0.08
- Newborn: 10% to 12%, or 0.10 to 0.12

If your levels are higher, you may have CO intoxication or poisoning.

How is this test done?

The test is done with a blood sample. A needle is used to draw blood from a vein in your arm or hand.

Does this test pose any risks?

Having a blood test with a needle has some risks. These include bleeding, infection, bruising, and feeling lightheaded. When the needle pricks your arm or hand, you may feel a slight sting or pain. Afterward, the site may be sore.

What might affect my test results?

Other factors aren't likely to affect your results.

How do I get ready for this test?

You don't need to prepare for this test. Tell your healthcare provider about all medicines, herbs, vitamins, and supplements you are taking. This includes medicines that don't need a prescription and any illegal drugs you may use.

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