

Ethanol (Blood)



Does this test have other names?

Blood alcohol test, blood alcohol concentration (BAC), blood alcohol level (BAL)

What is this test?

This test measures the amount of alcohol, or ethanol, in your blood.

When you drink alcohol, more than 90% of it is processed by your liver. The rest leaves your body in your urine, sweat, and breath. Ethanol moves quickly through your digestive tract—mostly your stomach—and is absorbed into your bloodstream. Your blood alcohol level continues to rise for 30 to 90 minutes after you have your last alcoholic beverage.

This test is used by law enforcement agencies and hospitals to find out the concentration of alcohol in a person's blood. In an adult or teen, it can be used if a driver may be driving illegally under the influence. In children, it can be used to check for alcohol poisoning.

Alcohol poisoning can be fatal, but most such deaths are accidental. Besides wine, spirits, and beer, ethanol is found in a surprising number of common household items. Young children sometimes get alcohol from:

- Mouthwash
- Perfume, cologne, and body sprays
- Over-the-counter cough, cold, and allergy medicines
- Glass cleaners

Most cases of alcohol poisoning in young children are caused by drinking cologne or mouthwash.

If you suspect that a young child has swallowed alcohol from any household source, seek medical help right away. Call the poison control center right away at **800-222-1222**. Or call your local emergency number at 911.

Why do I need this test?

You may need this test if a police officer thinks you are driving under the influence. A breath test, or analysis, gives faster results, but a blood test is more accurate.

You or your child may also have this test if your healthcare provider suspects alcohol poisoning. Teens and youth are at particular risk for binge drinking. This can cause alcohol poisoning. If an adult or child comes to the ER unconscious, or appears drunk or disoriented, this test is used to find the ethanol concentration in the blood.

What other tests might I have along with this test?

If you are in the ER, your healthcare provider may also order other tests to screen for chronic alcohol toxicity. The tests may include:

- Serum glucose to check your blood sugar level
- Serum electrolytes to check for dehydration
- Complete blood count to look at the major parts of your blood (white cells, red cells, hemoglobin, and platelets)

- Blood urea nitrogen and creatinine to check how your kidneys are working
- Liver function tests
- Head CT scan to check for head trauma or stroke
- Blood tests, urine tests, or both to look for drugs

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.

Blood alcohol concentrations are given in different ways. Law enforcement agencies use grams per deciliter (g/dL) or percent. Healthcare professionals use milligrams per deciliter (mg/dL) or, in some instances, millimoles per liter (mmol/L). For example, the legal limit for ethanol concentration can be stated as 0.08 g/dL (0.08%), 80 mg/dL, or 17 mmol/L.

Blood alcohol concentrations will be different for each person. They are based on things such as body weight, metabolism, and the amount of alcohol consumed.

Here are some blood alcohol concentration levels and what they do to your body:

- 0.00 g/dL: sober
- 0.03 g/dL: may feel a slight buzz, but without having trouble talking, seeing, or keeping your balance
- 0.05 g/dL: feeling buzzed or relaxed, impaired judgment, exaggerated behavior
- 0.08 g/dL: legally drunk in the U.S. You may have trouble balancing, talking, and seeing straight. If you drink often, you may not have any symptoms at this point, but damage to your brain and liver are still happening.
- 0.10 g/dL: impaired judgment, decreased attention, trouble walking, and mood changes
- 0.15 g/dL: blackouts and lack of physical control
- 0.20 g/dL: "sloppy drunk," vomiting, confusion, staggering around
- 0.30 g/dL: unconsciousness, stupor
- 0.40 g/dL: coma or possible death

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 carries 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?

Timing is important. Having this test too soon or too long after drinking alcohol can affect your results. The test is only accurate within a 6- to 12-hour window after the last drink.

How do I get ready for this test?

You don't need to prepare for this test. Be sure your healthcare provider knows 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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