Bicarbonate

Does this test have other names?

Carbon dioxide test, CO2 test

What is this test?

This test measures the amount of bicarbonate, a form of carbon dioxide, in your blood.

Bicarbonate is also known as HCO3. It's a byproduct of your body's metabolism. Your blood brings bicarbonate to your lungs, and then it is exhaled as carbon dioxide. Your kidneys also help regulate bicarbonate. Bicarbonate is excreted and reabsorbed by your kidneys. This regulates your body's pH, or acid balance. Bicarbonate also works with sodium, potassium, and chloride. These substances are called electrolytes. These are often measured at the same time as bicarbonate.

This test is often part of a comprehensive series of blood tests to check for certain health conditions.

Why do I need this test?

You may need this test to watch issues that affect pH levels in your blood. You may also have this test if you have kidney disease, liver failure, lung problems, or other conditions related to metabolism.

What other tests might I have along with this test?

You may also need several other tests. These may include:

- Arterial blood gas analysis
- Electrolyte (sodium, potassium, and chloride) testing as part of a basic or comprehensive metabolic panel
- Urine pH testing
- Anion gap blood testing

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 in milliequivalents per liter (mEq/L) or millimoles per L (mmol/L). Normal bicarbonate levels are:

- 22 to 32 mmol/L in adults

A high level of bicarbonate in your blood can be from metabolic alkalosis, a condition that causes a pH increase in tissue. Metabolic alkalosis can happen from a loss of acid from your body, such as through vomiting and dehydration. It may also be related to conditions including anorexia and chronic obstructive pulmonary disease.

A low level of bicarbonate in your blood may cause a condition called metabolic acidosis, or too much acid in the body. A wide range of conditions, including diarrhea, kidney disease, and liver failure, can cause metabolic acidosis.

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?

Eating acidic fruits could affect your results. Medicines that may raise your levels include:

- Fludrocortisone
- Barbiturates
- Bicarbonates
- Hydrocortisone
- Diuretics
- Steroids

Medicines that may lower your levels include:

- Methicillin
- Nitrofurantoin
- Tetracycline
- Thiazide diuretics
- Triamterene

How do I get ready for this test?

You don't need to get ready 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.