

## Sodium (Na) in Blood

A sodium test checks how much sodium (an electrolyte and a mineral) is in the blood. Sodium is both an electrolyte and mineral. It helps keep the water (the amount of fluid inside and outside the body's cells) and electrolyte balance of the body. Sodium is also important in how nerves and muscles work.

Most of the sodium in the body (about 85%) is found in blood and lymph fluid. Sodium levels in the body are partly controlled by a hormone called aldosterone, which is made by the adrenal glands. Aldosterone levels tell the kidneys when to hold sodium in the body instead of passing it in the urine. (See an illustration of the adrenal glands or the kidneys.) Small amounts of sodium are also lost through the skin when you sweat.

Most foods have sodium naturally in them or as an ingredient in cooking. Sodium is found in table salt as sodium chloride or in baking soda as sodium bicarbonate. Many medicines and other products also have sodium in them, including laxatives, aspirin, mouthwash, and toothpaste.

Too much sodium in the diet may raise blood pressure in some people. For those who have high blood pressure, eating foods with a lot of sodium makes their chance of heart disease, stroke, and kidney damage higher. Heart failure gets worse when too much sodium is eaten. It increases the amount of water the body holds in and this causes swelling of the legs and hands. Some people have problems when they eat more than 4,000 milligrams (mg) of sodium per day. Low sodium levels are uncommon and most often occur as a side effect of taking medicines that make you urinate more, such as diuretics. Severe diarrhea or vomiting or heavy sweating may also cause low sodium levels.

Other electrolytes, such as potassium, calcium, chloride, magnesium, and phosphate, may be checked in a blood sample at the same time as a blood test for sodium.

Why It Is Done

[www.healthoracle.org](http://www.healthoracle.org)

A blood test to check sodium levels is done to:

- Check the water and electrolyte balance of the body.
- Find the cause of symptoms from low or high levels of sodium.
- Check the progress of diseases of the kidneys or adrenal glands.

### High values

High sodium levels (hyponatremia) can be caused by a high-sodium diet or by not drinking enough water and being dehydrated.

Dehydration may also be caused by severe vomiting or diarrhea, Cushing's syndrome, kidney disease or injury, diabetic ketoacidosis, or a condition called diabetes insipidus that makes it hard to balance the water level in the body.

High sodium levels can also be caused by high levels of the hormone aldosterone (hyperaldosteronism).

### Low values

Low sodium levels (hyponatremia) can be caused by a lot of sweating, burns, severe vomiting or diarrhea, drinking too much water (psychogenic polydipsia), or poor nutrition.

Low sodium levels can also be caused by underactive adrenal glands or thyroid gland, heart failure, kidney disease, cirrhosis, cystic fibrosis, or SIADH (syndrome of inappropriate antidiuretic hormone secretion).

### What Affects the Test

Reasons you may not be able to have the test or why the results may not be helpful include:

Taking medicines, such as birth control pills, corticosteroids, antibiotics, estrogens, tricyclic antidepressants, heparin, nonsteroidal anti-inflammatory drugs (NSAIDs), diuretics, lithium, and many medicines used to treat high blood pressure.

Having high levels of glucose, triglycerides, or protein.

Getting sodium in intravenous (IV) fluids given during a recent surgery or hospitalization.

## What To Think About

When the sodium level changes quickly, you are likely to have more symptoms than when the level changes slowly. Symptoms of an abnormal sodium level include confusion, lack of energy (lethargy), or seizures.

To see whether the body is passing too little or too much sodium in the urine, a value called the fractional excretion of sodium (FENa) can be found by looking at the amounts of sodium and creatinine in blood and urine. In a person with kidney failure, a low FENa may mean less blood flow to the kidneys is causing the kidney failure. A urine test for sodium may be done. For more information, see the medical test Sodium (Na) in Urine.

Other electrolytes, such as calcium, chloride, magnesium, potassium, phosphate, blood urea nitrogen (BUN), and creatinine, may be checked in a blood sample at the same time as a blood test for sodium.