

Name of the test

Potassium

Alternative name(s) of the test

K

What is this test used for?

This test is used to measure the amount of potassium in the blood. Potassium is an electrolyte, which is vital for human body – it is essential for cell metabolism and maintaining acid-base balance, also for normal functioning of nerves and muscles (including heart muscle). Potassium has a critical role in signal transmission in nerves and muscles, muscle contraction and many other important body functions.

Usually, people get enough potassium from different foods. The extra amount of potassium that is not required by the body is eliminated by kidneys.

Both high levels of potassium (hyperkalemia) and low levels of potassium (hypokalemia) are dangerous and can lead to life-threatening conditions.

Changes in potassium level especially affects the heart – low potassium levels can cause cardiac arrhythmia and high levels of potassium can affect heart muscle's contracting ability. Abnormal potassium levels also affect other muscles and nerves and may cause muscle cramps, muscle weakness, nausea.

Potassium levels are mainly controlled by a hormone called aldosterone, which is produced by the adrenal glands.

When is the test ordered?

Potassium test may be ordered:

- when the patient has a kidney disease
- when the patient is treated with diuretics
- to detect hyperkalemia or hypokalemia, when a person has symptoms suggesting low or high levels of potassium (for ex.: cardiac arrhythmia)
- to assess effectiveness of treatment for hyperkalemia or hypokalemia;
- in patients with hypertension or diabetic ketoacidosis;
- to monitor patients receiving intravenous fluids;

Potassium test is usually performed along with other electrolyte tests, such as sodium, calcium, magnesium, phosphate, etc.

How is this test performed?

A blood sample is taken from a vein.

How to prepare for the test

No special preparation is needed.

Interpretation of results

Hyperkalemia may be due to:

- kidney failure

- injury to tissues
- metabolic or respiratory acidosis
- destruction of red blood cells
- certain drugs
- consuming too much potassium

Hypokalemia may be due to:

- diarrhea
- vomiting
- hyperaldosteronism
- certain diuretics