

THE IMPORTANCE OF URINE ANALYSIS IN DIAGNOSING DISEASES

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Annotation

"...Depending on the quality of urine, methods for drawing conclusions about diseases can only be trusted, subject to certain conditions. Symptoms from urine are divided into seven categories: color category, dark-liquid category, series of clarity and turbidity, series of deposition, series of quantity by quantity and quantity, series of smell and series of foam. Some people include in these categories the category of Perception, Seeing it again, but we leave these categories to fall... " The unique thoughts of our grandfather Ibn Sina ,who wrote the work of modern medical laboratories thousands of years ago in a simple, clear, understandable, convenient way to understand today, have found their proof today. The world recognizes that the norm that our grandfather left to our medical world is important to us.

Keywords: urinary system, kidneys, pyelonephritis, urine colors, alkaptonuria, laboratory, diagnosis.

Urine is one of the main products of human life. Urine, which is usually sterile fluid in the body, is excreted by the kidneys through a process called urination and excreted through the urethra. Urine is often used as a diagnostic feature for many disease conditions. They can provide insight into processes in the body based on physical or chemical components. Its main component is water, which makes up 92-99% of the total volume of urine. Along with excess water, decomposing products, toxins and poisons, hormones and some other substances are excreted from the body. Therefore, urine analysis provides a lot of information.

General urine analysis is one of the main diagnostic studies, it is prescribed in case of suspicion of various diseases and pathologies, primarily in diseases of the kidney and urinary system, as well as during preventive examinations and to control the effectiveness of treatment. General urine analysis involves determining the physical properties and studying the chemical properties of this fluid. With the help of this study, it is possible to identify various diseases of the kidneys, liver, bladder, identify problems with the prostate gland, tumors, pyelonephritis, as well as a number of pathological conditions in the early stages, in which clinical manifestations appear. There are many factors that affect the composition of urine - our diet and the intake of alcohol, stress, physical activity, drugs and vitamins are significant.

In order for the results of the examination not to be distorted due to random factors, it is necessary to properly prepare for a general analysis of urine.

- The day before collecting biomaterial, you should not eat products that can change the color of urine (for example, brightly colored fruits, vegetables and dishes made from them, smoked meats, sweets and pickles).
- You should also not drink alcohol, vitamins, medicines, diuretics (including coffee).
- Try to exclude serious physical activity, baths and saunas.
- In the presence of an infectious disease, which is accompanied by menstruation, an increase in temperature or a significant increase in blood pressure, the test should be delayed, the results may be disrupted.
- It is not recommended to carry out a urine analysis within 5-7 days after Samples should not be contaminated with foreign substances. Therefore, you need to follow all the rules for collecting material.
- For a general urine test, morning urine is used, which accumulates in the bladder at night.
- Before removing the material, it is necessary to take a shower — failure to comply with this rule can lead to an increase in the number of erythrocytes and leukocytes in the urine.
- The container for collecting samples should be sterile and clean, and there should be no traces of disinfectants. Currently, disposable containers are mainly used for these purposes.

- In order to prevent bacteria from the external genitals from entering the sample, it is necessary to first extract a small amount of urine into the toilet, and then collect a jar and 100-150 ml without stopping urination. The container should not touch the skin.

- Urine collected for general analysis can be stored between 1.5-2 hours and in a cool place (5-18 c). Urine stored at room temperature is not suitable for analysis.

- To collect urine from newborns, sterile, urine-taking packages are used, which can be purchased at the pharmacy. The rules for children are similar to those of adults. Before collecting baby material, it must be thoroughly washed and wiped with a clean dry towel. If there is no place where urine is taken, you can use a new plastic bag — they can be cut from the side and put on like a truffle, and then the collected urine is poured into a sterile container cystoscopy.

The normal urine content is 100-300 ml, which is the same for adults of both sexes. If urine levels are below normal, this can be a sign of dehydration or kidney failure. Too much urine can be caused by pyelonephritis or diabetes mellitus. The normal color of urine will be in the form of straw-yellow-color change is an important indicator. Dark — red color indicates bilirubinemia, which is characteristic of diseases such as hepatitis, cirrhosis and cholestasis. Red is a sign of pyelonephritis, stone shift, tuberculosis, or even kidney cancer. In pyelonephritis, urine becomes almost colorless, light yellow. Black is a sign of alkaptonuria and indicates the presence of purulent inflammatory reactions in the gray-white body. Urine can be light yellow when taking certain medications and vitamins. Despite the fact that in many diseases urine changes its color, the normal color of urine does not mean that a person is completely healthy. A change in the smell of urine means the presence of some diseases — for example, in inflammatory processes in the venereal system, a characteristic ammonia smell appears. Diabetes has a mild smell of acetone in the urine. Usually, there is almost no foam in the urine. Large amounts and persistent, yellow foam will be due to high protein content. Foam can also be caused by severe stress, concussion, impaired cerebral circulation, advanced diabetes, heart failure, and some metabolic disorders. In a healthy person, urine should be transparent. Urine dullness can be caused by Salts, mucus, red blood cells, bacteria, pus. Fibers and threads may indicate pyelonephritis or urinary tract infection. Usually, this figure is 1000-1025

units. High density indicates dehydration, low density indicates kidney problems. The acid-base balance should usually be between 5 and 7.5 on the pH scale. Usually there is no protein in the urine, or it is in very small quantities — up to 0.033 g/l. The presence of protein in the urine is a sign of kidney disease. Healthy human urine also does not contain sugar. If its composition exceeds 0.9 mmol/l, this may indicate the development of diabetes mellitus. The urine of a healthy person does not contain bilirubin, the presence of which indicates liver disease. Ketone bodies in urine indicate diabetes mellitus. In a general analysis of urine in a healthy person, in a microscope examination, erythrocytes should not be more than 2, and leukocytes should not be more than 3 in men and 5 in women. The proliferation of red blood cells is characteristic of many diseases: pyelonephritis, urolithiasis, glomerulonephritis, urinary tract infections, systemic tuberculosis or poisoning (especially poisonous fungi, snake venom, benzene and aniline derivatives). An increase in leukocytes indicates possible pathologies of the kidneys or urinary tract: glomerulonephritis, pyelonephritis, urethritis, cystitis, prostatitis. When analyzing urine in healthy adults, there should be no hyaline compounds in the sediment. Their presence is a sign of renal pathology, heart failure, hyperthermic conditions. Sometimes hyaline cylinders appear against the background of heavy physical exertion, high blood pressure and intake of diuretics. The presence of rye cylinders can indicate glomerulonephritis, pyelonephritis, diabetic nephropathy, as well as indicate the presence of viral infections in the body, fever or lead poisoning. Wax cylinders should not be in urine analysis; their presence may indicate the presence of amyloidosis, chronic kidney failure, or nephrotic syndrome. Healthy urine is sterile, the presence of bacteria is a clear sign of urinary tract infection, such as urethritis, cystitis, prostatitis, etc. Usually, there are no fungi in the urine. If they are present, it means a fungal infection of the urinary tract or genital organs. Most often, the fungus is detected in immunodeficiency conditions and in those who have been taking antibiotics for a long time. Healthy urine practically does not contain salts. Their presence speaks of dehydration, drastic changes in nutrition, increased physical activity, as well as gout, acute and chronic nephritis, acute kidney failure. The diagnosis is never made only on the basis of a general urine analysis. The indicators may correspond to various diseases, so do not try to independently analyze the general urine test yourself. If necessary, the doctor will prescribe additional studies that will help

establish the only correct diagnosis. The unique thoughts of our grandfather Ibn Sina ,who wrote down the work of modern medical laboratories thousands of years ago in a simple, clear, understandable, easy-to-understand way, have found their proof today. The rare norm that our grandfather left to the world of Medicine serves as the basis of the program of recognition of the world that is important to us.

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