# MEDICAL ENCYCLOPEDIA: URINALYSIS

**Alternative names**
Urine appearance and color; Routine urine test

**Definition**
Urinalysis is the physical, chemical, and microscopic examination of urine. It involves a number of tests to detect and measure various compounds that pass through the urine.

**How the test is performed**
A urine sample is needed. Your health care provider will tell you what type of urine sample is needed. For information on how to collect a urine sample, see:

There are three basic steps to a complete urinalysis:

Physical color and appearance: What does the urine look like to the naked eye? For example, is it clear or cloudy? Pale or dark yellow or another color? The urine specific gravity test reveals concentrated or dilute the urine is.

Microscopic appearance: The urine sample is examined under a microscope. This is done to look at cells, urine crystals, mucous, and other substances, and to identify any bacteria or other microorganisms that might be present.

Chemical appearance: A special stick ("dipstick") tests for various substances in the urine. The stick contains little pads of chemicals that change color when they come in contact with the substances of interest.

**How to prepare for the test**
Certain medicines change the color of urine, but this is not a sign of disease. Your doctor may tell you to stop taking any medicines that can affect test results.

Medicines that can change your urine color include:

- Chloroquine
- Iron supplements
- Levodopa
- Nitrofurantoin
- Phenazopyridine
- Phenothiazines
- Phenytoin
- Riboflavin
- Triamterene

**How the test will feel**
The test involves only normal urination, and there is no discomfort.

**Why the test is performed**
A urinalysis may be done as a part of a routine medical exam to screen for early signs of disease.

This test may be done to check for blood in the urine or to diagnose a urinary tract infection. Your doctor may order this test if you have signs of diabetes or kidney disease, or to monitor you if you are receiving treatment for such conditions.

**Normal Values**
Normal urine may vary in color from almost colorless to dark yellow. Some foods (like beets and blackberries) may turn the urine a red color.

Usually, glucose, ketones, protein, bilirubin, are not detectable in urine. Hemoglobin, red blood cells, white blood cells, and nitrites, are not normally found in the urine.

**What abnormal results mean**

**Bilirubin - urine**: Bilirubin is a yellowish pigment found in bile, a fluid produced by the liver. Large amounts of bilirubin in the body can lead to jaundice.

**Glucose - urine**: The glucose urine test measures the amount of sugar (glucose) in a urine sample. The presence of glucose in the urine is called glucosuria

**Protein - urine**: A protein urine test measures the amount of proteins, such as albumin, found in a urine sample.

**Red blood cells in urine test**: The RBC urine test measures the number of red blood cells in a urine sample.

**Urine ketones**: A ketones urine test measures the presence or absence of ketones in the urine.

**Urine pH**: A urine pH test measures the acidity of urine.

**Urine protein**: A protein urine test measures the amount of proteins, such as albumin, found in a urine sample.

**Urine specific gravity**: Urine specific gravity is a laboratory test that measures the concentration of particles in the urine.

**What the risks are:**
There are no risks.

**Special considerations**
If a home test is used, the person reading the results must be able to distinguish between different colors, since the results are interpreted using a color chart.

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