



KAISER PERMANENTE®

Urinalysis

Urinalysis simply means: the analysis of urine. Examination of the urine gives your health care professional specific information, such as the presence of infection, blood, protein, or sugar. This information can help diagnose a bladder or kidney infection, diabetes, certain types of kidney disease, and many other conditions. Additionally, urinalysis is also useful for the continuous monitoring of certain conditions, such as hypertension, diabetes, kidney disease, or pregnancy.

For best results, a fresh sample of urine in a clean, dry container is needed. A clean, midstream sample is preferable. To avoid contamination, both men and women should wipe their genital area with an antiseptic sponge before the specimen is collected. Obtaining urine samples in infants usually requires some type of collection device, such as a specially designed plastic bag. Occasionally, urine is obtained by inserting a catheter into the bladder. The sample should be examined as soon as possible. If a delay in examination is likely, the sample should be refrigerated.

A complete urinalysis involves three steps. Here are the first two.

First, the urine is examined visually for color and clarity. And second, a urine dipstick is used to determine the composition and concentration of the chemicals in the urine. The urine dipstick is simply a plastic strip divided into several test areas, each of which change color if a certain substance is present.

Here's a brief explanation of five of the substances that the dipstick tests:

1.) **Sugar.**

Usually sugar is not present in the urine. If it is, it may suggest the possibility of diabetes.

2.) **Bilirubin and Urobilinogen.**

These are bile pigments produced by the liver. If either of these are present, a liver problem may be indicated.

3.) **Ketones.**

These are metabolic by-products that are produced when a person is fasting or having nutritional problems during an illness. It is a classic finding in diabetic acidosis.

4.) **Blood.**

Significant amounts of blood usually are not present in the urine. It could indicate infection, a

stone, a bleeding abnormality, or a tumor. Additional studies may be needed.

5.) Nitrites.

This chemical is produced by bacteria. The presence of nitrites may indicate infection.

Finally, the third step in a urinalysis involves the urine being examined under a microscope. Here, white blood cells, red blood cells, crystals, and even bacteria can be seen. A large number of white cells or a large number of bacteria may indicate an infection. Red blood cells may indicate an irritation causing bleeding. And crystals may indicate stone disease.



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- Visit your local Kaiser Permanente Health Education Center
- Check your Kaiser Permanente Healthwise Handbook
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The information presented here is not intended to diagnose health problems or to take the place of professional medical care. If you have persistent health problems or if you have additional questions, please consult with your doctor or other health care professional.

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REGIONAL HEALTH EDUCATION