

Urinalysis Made Easy

Characteristic	Normal	Variations/Abnormal results
<i>Color</i>	Pale to dark yellow	Many foods and medications can affect the color of the urine. Colorless urine may be caused by full hydration or conditions such as long-term kidney disease or uncontrolled diabetes. Dark yellow urine can be caused by conditions such as dehydration. Reddish urine can be caused by blood in the urine.
<i>Clarity</i>	Clear	Cloudy urine can be caused by blood cells, sperm, bacteria, yeast, mucus, or a parasite infection. Red blood cells in the urine may be caused by kidney or bladder injury, kidney stones, urinary tract infection, inflammation of the kidneys (nephritis), or a kidney or bladder tumor. White blood cells (pus) in the urine indicate a urinary tract infection, bladder tumor, or nephritis.
<i>pH</i>	4.5 – 8.0	Low pH (acidic urine) can be a sign of severe lung disease (emphysema), uncontrolled diabetes, aspirin overdose, prolonged diarrhea, dehydration, starvation, drinking an excessive amount of alcohol, or drinking antifreeze (ethylene glycol). High pH (basic or alkaline urine) can be caused by prolonged vomiting, a kidney disease, some urinary tract infections, or asthma.
<i>Glucose</i>	Negative	Excess glucose in the urine is often caused by uncontrolled diabetes. Other conditions that may cause glucose in urine include an adrenal gland problem, liver damage, brain injury, certain types of poisoning, and certain kidney diseases that decrease their ability to reabsorb glucose from the urine. Some medications can cause glucose in the urine.
<i>Protein</i>	Negative	Protein (albumin) in the urine can indicate kidney damage or disease that can be caused by conditions such as an infection, cancer, high blood pressure, or diabetes. Protein in the urine can also be caused by heart failure, leukemia, poison (lead or mercury poisoning), or a condition during pregnancy called pre-eclampsia resulting in high blood pressure.
<i>Ketones</i>	Negative	Ketones, like triglycerides, are another building block of fats. Ketones in the urine can be caused by: diabetes, glycogen storage disease, starvation, fasting, anorexia, high protein or low carbohydrate diets, prolonged vomiting, fever, acute or severe illness, burns, or pregnancy.

Sources:

<http://www.nlm.nih.gov/medlineplus/ency/article/003579.htm>

<http://www.bendigo.latrobe.edu.au/biolsc/phys/nursing/nsg21gpp/tute/urinalysis.htm>

