



## AL-MUSTAQBAL UNIVERSITY COLLEGE

Department of Medical laboratory Techniques Department

### *Clinical Biochemistry*

### **(Estimation of Uric Acid)**



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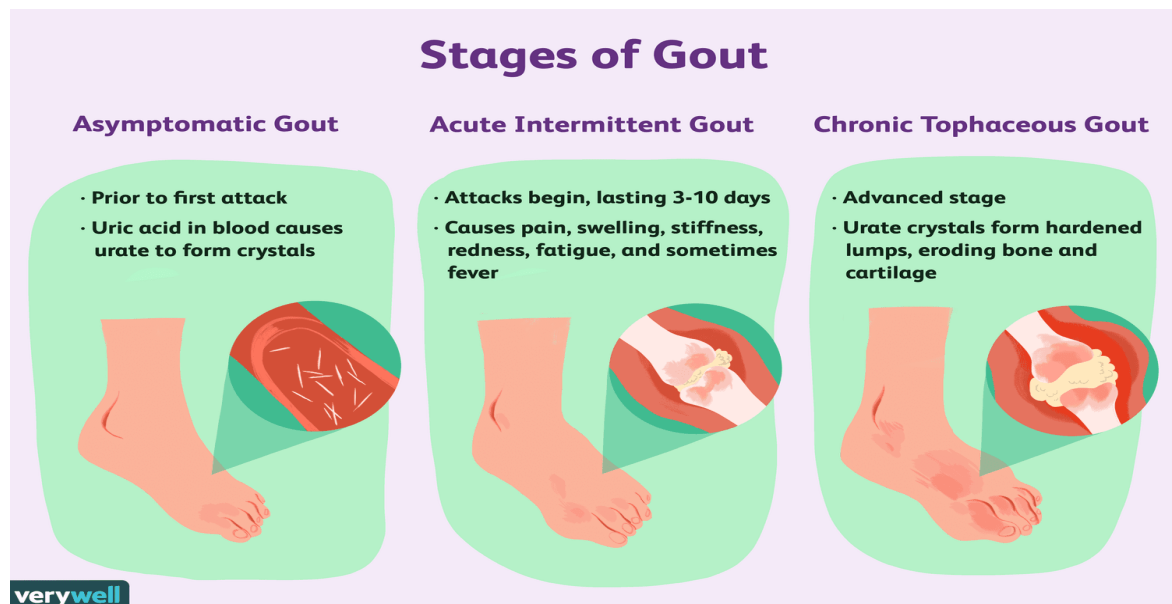
## What is a uric acid test?

This test measures the amount of uric acid in a sample of your blood or urine . Uric acid is a normal waste product that your body makes when it breaks down chemicals called purines. Purines come from your cells when they die. Purines are also found in many foods .

Most uric acid dissolves in your blood. Your kidneys filter the uric acid out of your blood, and it leaves your body in your urine. If uric acid builds up in your blood, it can form needle-shaped crystals in and around your joints. This condition is called gout.

## Your doctor can use this test to help find out if you have:

**Gout:** This is a form of arthritis where crystals from uric acid form in your joints and cause intense pain. You often feel it in your big toe, but can get it in your ankles, feet, hands, knees, and wrists, as well. It can also cause swelling, redness, and discomfort in those joints, and may limit your range of motion.



**Kidney stones:** These are little, hard masses -- like small stones -- that form in your kidneys when you have too much uric acid. They may cause severe pain in your lower back that comes and goes, blood in your urine, throwing up, upset stomach.

**High uric acid level during chemo or radiation:** These treatments kill a lot of cells in your body, which can raise the level of uric acid. The test is used to check that your level doesn't get too high.

## What Abnormal Results Mean

**Hyperuricemia** is the name of the disorder that occurs when you have too much uric acid in your body. High levels of uric acid are associated with a condition called gout. It's also possible to have too little uric acid in your blood, which is a symptom of liver or kidney disease.

### **Greater-than-normal levels of uric acid may be due to:**

- Acidosis
- Alcoholism
- Chemotherapy-related side effects
- Dehydration, often due to diuretic medicines
- Diabetes
- Excessive exercise
- Lead poisoning
- Leukemia
- Purine-rich diet
- Renal failure
- Toxemia of pregnancy

**Hypouricemia** may be caused by decreased uric acid production, uric acid oxidation due to treatment with uricase. too little uric acid may be a symptom of Fanconi syndrome, a disorder of the kidney tubules that prevents the absorption of substances such as glucose and uric acid. These substances are then passed in the urine instead.

### **Lower-than-normal levels of uric acid may be due to:**

- Fanconi syndrome
- Hereditary diseases of metabolism

- HIV infection
- Liver disease
- Low purine diet

Uric Acid Levels	Males	Females
Low	below 3.4 mg/dL	below 2.4 mg/dL
Normal	3.4–7.0 mg/dL	2.4–6.0 mg/dL
High	above 7.0 mg/dL	above 6.0 mg/dL