

Gout

What is gout?

Gouty arthritis, also known as gout, is a condition caused by the deposition and accumulation of needle-like uric acid (monosodium urate) crystals in the fluid and tissues of one or more **joints**. This causes inflammation, swelling, and severe pain in the joint. The most frequently affected joint is the big toe, but gout can also occur in the hands, wrists, knees, and feet. Attacks of gout may occur several times a year and last for several days. During these attacks, uric acid deposits may build up in **cartilage**, tendons, and soft tissues. They may also form lumps called tophi under the skin and may accumulate in the kidneys, leading to kidney stones and kidney damage. Most gout episodes are **acute** and last a few days, but the severity and frequency of attacks can increase, and some people may develop a **chronic** form of gout.

Uric acid is an end product of the breakdown of purines, compounds found in all body tissues and in many foods, such as liver, dried beans, asparagus, mushrooms, and anchovies. Uric acid is normally carried through the blood and eliminated in the urine. If production of uric acid is increased by the body or a person eats foods high in purine, or if the kidneys' ability to eliminate uric acid decreases, then concentrations in the blood can rise (called hyperuricemia). When the crystals accumulate in the joints, they can cause the pain associated with gout.

Gout develops more frequently in men than women and is more common in adults, usually occurring in men 40 to 50 years of age and women after **menopause**. People with a family history of gout or who have **hypertension**, **type 2 diabetes**, obesity, **hyperlipidemia**, or **kidney disease** have an increased risk of developing gout. Drugs such as cyclosporine, thiazide diuretics used to treat hypertension, and salicylates (aspirin) can interfere with uric acid excretion as can excess consumption of alcohol.

Gout must be distinguished from conditions that can cause similar symptoms, such as pseudogout, a condition caused by calcium pyrophosphate crystals, **septic arthritis** (caused by an infection in a joint), and **rheumatoid arthritis** (an autoimmune arthritis). The Treatment of these conditions are different than those used in the management of gout.

Testing

The goals with testing are to identify gout, to distinguish it from other conditions, such as other types of **arthritis** that may have similar symptoms, and to investigate the cause of increased uric acid concentrations in the blood.

Laboratory Tests

- **Synovial fluid analysis** – used to detect the needle-like crystals derived from uric acid, other crystals that may be present, and to look for signs of joint infection.
- **Uric acid** – to detect elevated levels in the blood; if a diagnosis of gout is made, uric acid testing may be performed regularly to monitor levels.

- **Basic Metabolic Panel (BMP)** – this group of tests or just the components **BUN** and **creatinine** may be used to evaluate and monitor the person's kidney function.
- **Complete blood count (CBC)** – to determine if there is an abnormally large increase in the number of white blood cells (leukocytosis) in the blood, to help differentiate between **septic arthritis** and gout.
- Sometimes other tests, such as an **RF (rheumatoid factor)** or an **ANA (anti-nuclear antibody) test** may be ordered to rule out other causes of arthritis symptoms. A **blood culture** and/or synovial fluid culture may be ordered if septic arthritis is suspected.

Non-Laboratory Tests

- X-rays of the affected joints may show uric acid deposits and damage indicative of gouty arthritis.

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