



## **Education**

### **Gout**

#### **What is gout?**

Gout is a disease usually caused by having too much uric acid in your body. Too much uric acid may not cause symptoms for years, but after a time it usually causes painful joint inflammation (arthritis). The most common site of inflammation is the joint between the foot and the big toe. Later attacks often affect other joints of the foot and leg. Less often, the arms and hands are affected.

In addition to the arthritis, gout causes the formation of tophi. Tophi are lumpy deposits of uric acid crystals just under the skin. Common places for tophi to develop are in the outer edge of the ear, on or near the elbow, over the fingers and toes, and around the Achilles tendon in the ankle.

Gout can also cause kidney stones made of uric acid.

Most people who have gout are middle-aged men, but it can occur at any age. Only 5 to 10% of cases of gout occur in women, most often after menopause.

#### **How does it occur?**

Gout usually occurs because too much uric acid is in your joints. Uric acid comes from the breakdown of substances called purines. Purines are found in all of your body's tissues. They are also in many foods. Normally, uric acid dissolves in the blood and passes through the kidneys and out of the body in urine. If the levels of uric acid build up in the blood, sharp uric acid crystals may form in the joints. The crystals cause pain and swelling. You may have too much uric acid in your joints when your kidney does not get rid of enough uric acid or when your body makes too much uric acid.

Most cases of gout are caused by poor elimination of uric acid by the kidneys, but it can be hard to know why this is happening. The specific problem with the kidney is usually never found.

Some people inherit a tendency to make too much uric acid. Others may make too much uric acid because they have a disease such as cancer or certain types of red blood cell disorders. A diet high in alcoholic drinks and purine-rich foods (such as meat, especially red meat, organ meats, and seafood) can also cause your body to make too much uric acid.

Uric acid levels in men start to go up after puberty. Women's uric acid levels usually do not go up until after menopause. For this reason women are protected from gout until several years after menopause. The uric acid levels have to be high for many years before gout develops. Men with gout usually have their first attack when they are middle-aged.

Certain conditions, such as dehydration, can cause excess levels of uric acid. Diuretic medicine (also called water pills) can increase levels of uric acid. Other medicines can also affect the level of uric acid in the blood. It is important to make sure your health care provider knows all the medicines you are using, both prescription and nonprescription.

People who have recently had a serious illness or surgery have an increased chance of having an attack of gout. Some people have gouty arthritis even though they have normal uric acid levels.

#### **What are the symptoms?**

Some people have high uric acid blood levels for years and never have any symptoms. Only 10 to 20% of people with high levels develop the symptoms of:

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- sudden, severe pain, especially of just one joint at a time
- redness
- swelling.

The sudden attacks are sometimes related to physical illness, trauma, or excessive alcohol use. The symptoms may last for days to weeks. The arthritis usually occurs before tophi or kidney stones develop.

The tophi do not cause any symptoms unless they open and drain. They are often not painful. Depending on their location, they may limit the movement of joints.

The symptoms of uric acid stones are like those of other kidney stones. They can cause severe abdominal pain and sometimes nausea, vomiting, fever, or blood in the urine.

### **How is it diagnosed?**

Your health care provider will suspect that you have gout if:

- Your first toe joint is inflamed.
- You have a blood test that shows a high level of uric acid in your blood.
- You are developing tophi.
- You start taking the drug colchicine and your symptoms of arthritis improve. (Colchicine, an anti-inflammatory drug, is effective only in gouty-type arthritis.)

To confirm the diagnosis, your provider may take a sample of fluid from the affected joint or joints and send it to the lab for tests. If you have uric acid crystals in the fluid, you have gout.

### **How is it treated?**

Usually, if you have high uric acid levels but no symptoms, you will not need treatment. In special cases (for example, if you have a strong family history of gouty arthritis or kidney stones), you may be treated for gout even though you do not have any symptoms.

If you have symptoms of gout, the goals of treatment are:

- Stop the pain of gouty arthritis or kidney stones.
- Try to prevent the recurrence of these problems by controlling the uric acid levels.
- Prevent serious complications such as kidney damage.

Treatment of the arthritis first involves the use of anti-inflammatory medicines, such as:

- indomethacin
- ibuprofen or naproxen
- corticosteroid drugs, such as prednisone
- colchicine.

Aspirin is not usually recommended because it may keep the urine from taking the uric acid out of the body.

Anti-inflammatory medicines are sometimes taken daily to prevent recurrent attacks of gouty arthritis. If the gouty arthritis becomes a frequent problem, allopurinol and probenecid may also be prescribed to prevent damaging deposits of uric acid in the joints.

### **How long will the effects last?**

The sooner treatment is started, the sooner the symptoms stop, which may be within 24 to 48 hours. If gout is not treated, it could last a few days to several weeks. A second attack may occur, but usually not for 6 months to 2 years. In other cases another attack may not occur until many years later, or never.

### **How can I help prevent gout?**

There is no sure way to prevent gout. However, you can take these steps to lessen the chance that you will have high uric acid levels:

- Eat a diet low in purines and do not overindulge in alcohol. Purine-containing foods include organ meats (such as sweetbreads, liver, and kidney), shrimp, anchovies, sardines, and dried legumes (beans). Your consumption of alcoholic beverages should not exceed 2 ounces a day.
- Drink lots of fluids.

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