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Patient information: Gout (Beyond the Basics)

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GOUT OVERVIEW

Gout is a painful and debilitating condition that develops in some people who have chronically high blood levels of urate (commonly referred to as uric acid). Not everyone with high blood urate levels (called hyperuricemia) develops gout; up to two-thirds of individuals with hyperuricemia never develop symptoms. It is unclear why some people with hyperuricemia develop gout while others do not.

Although the joints are the most commonly affected part of the body, uric acid or urate crystals can be deposited in the kidney or urinary tract, causing kidney stones and occasionally impairing kidney function. Kidney stones caused by uric acid crystals occur in approximately 15 percent of people with gout. This compares with an 8 percent risk of kidney stones in people without gout.

Gout is different than pseudogout, which is discussed in a separate topic review. Pseudogout is a form of arthritis that develops in some people in response to the presence of calcium pyrophosphate dihydrate (CPPD) crystals. (See "[Patient information: Pseudogout \(Beyond the Basics\)](#)".)

GOUT RISK FACTORS

Gout most commonly first develops in men between ages of 30 and 45 and in women between 55 and 70. In both men and women, gout is particularly common in individuals over 65 years of age. It is estimated that gout affects approximately 2 percent of people in the United States.

The following characteristics increase the risk of developing gout and/or precipitating flares in established gout.

Increase the risk of developing gout:

- Obesity
- High blood pressure
- Injury or recent surgery
- Fasting
- Consuming excessive amounts of alcohol (particularly beer, whiskey, gin, vodka, and rum) on a regular basis
- Overeating
- Ingesting diets containing large amounts of meat, seafood, and high fructose corn syrup-containing beverages, such as non-diet sodas
- Taking medications that affect blood levels of urate (especially diuretics)

Precipitate gout flares in established gout:

- Injury or recent surgery
- Fasting
- Consuming excessive amounts of alcohol
- Overeating
- Taking medications that affect blood levels of urate

GOUT SYMPTOMS

Gout attacks cause sudden severe joint pain, often with redness, swelling, and tenderness of the joint. Although an attack typically affects a single joint, some people develop a few inflamed joints at the same time. The pain and inflammation are worst within several hours and generally improve completely over a few days to several weeks, even if untreated. It is not clear how the body “turns off” a gout attack.

The characteristic pain and inflammation of gout develop when white blood cells and cells in the joint linings attempt to surround and digest urate crystal deposits. These cells recognize the crystal deposits as foreign material and release chemical signals that contribute to the pain, swelling, and redness associated with a gout attack.

PHASES OF GOUT

There are three main phases of gout: acute gouty arthritis, intercritical gout, and chronic tophaceous gout.

Acute gouty arthritis — Attacks of gout usually involve a single joint, most often the big toe or knee. This attack is known as acute gouty arthritis. People with osteoarthritis in the fingers may experience their first gout attacks in the fingers rather than the toes or knees.

Intercritical period — The time between gout attacks is known as the intercritical period. A second attack typically occurs within two years, and additional attacks may occur thereafter. If gout is untreated over a period of several years, the time between attacks may shorten, and attacks may become increasingly severe and prolonged. Over time, the attacks can begin to involve multiple joints at once and may be accompanied by fever.

Chronic tophaceous gout — People who have repeated attacks of gout over many years can develop tophaceous gout. This designation describes the accumulation of large numbers of urate crystals in masses called tophi that appear over time in joints, bursae, bones, and cartilage or under the skin. Tophi may cause erosion of the bone and eventually joint damage and deformity.

The presence of tophi near the knuckles or small joints of the fingers can be a distressing cosmetic problem. Tophi are usually not painful or tender. However, they can become inflamed and can cause symptoms like those of an acute gouty attack ([picture 1](#)).

Tophaceous gout was more common in the past, when treatment for hyperuricemia was unavailable. Certain groups are still at risk for tophaceous gout, including:

- People who are treated with cyclosporine after organ transplantation
- Those who cannot tolerate or do not receive adequate doses of medications to treat hyperuricemia (for example, due to kidney failure or drug allergy)
- Women who are postmenopausal, especially those taking a diuretic

