Gout

Gout is sometimes referred to as the “disease of kings” because it long has been associated incorrectly with the kind of overindulgence in food and wine only the rich and powerful could afford. In fact, anyone can be affected, and the risk factors are varied. Fortunately, it is possible to treat gout and reduce its agonizing attacks by avoiding food triggers and taking advantage of medication options.

Fast facts

- Intense painful joint swelling, most often in the feet (and especially the big toe), may indicate gout.
- Treatment options exist, but therapy should be tailored for each individual.
- Avoiding alcohol and certain fish and meats may help prevent further gout attacks.

What is gout?

Gout is a painful and potentially disabling form of arthritis that has been recognized since ancient times. Initial symptoms usually consist of intense episodes of painful swelling in single joints, most often in the feet (especially the big toe). Treatments are available to control most cases of gout, but diagnosing this disorder can be difficult, and treatment plans often have to be tailored for each person.

What causes gout?

Gout occurs when excess uric acid (a normal waste product) accumulates in the body, and needle-like crystals deposit in the joints. This may happen because either uric acid production increases or, more often, the kidneys are unable to remove uric acid from the body adequately. Certain foods, such as shellfish and alcohol, may increase uric acid levels and lead to gout attacks. Some medications also can increase uric acid levels. Examples of such medications include moderate-dose aspirin (81 mg used for prevention of heart attack and stroke has minimal effect and generally can be continued), diuretics such as hydrochlorothiazide (*Esidrix, Hydro-D*), and immunosuppressants used in organ transplantation such as cyclosporine *(Neoral, Sandimmune)* and tacrolimus (*Prograf)*.

Over time, increased uric acid levels in the blood may lead to deposits of monosodium urate crystals in and around the joints. These crystals can attract white blood cells, leading to severe, painful gout attacks. Uric acid also can deposit in the urinary tract, causing kidney stones.

Who gets gout?

Gout afflicts up to 3 million Americans. This condition and its complications occur more often in men, women after menopause, and people with kidney disease. Gout is strongly associated with obesity, hypertension, hyperlipidemia and diabetes. Because of genetic factors, gout tends to run in some families. Gout rarely affects children.

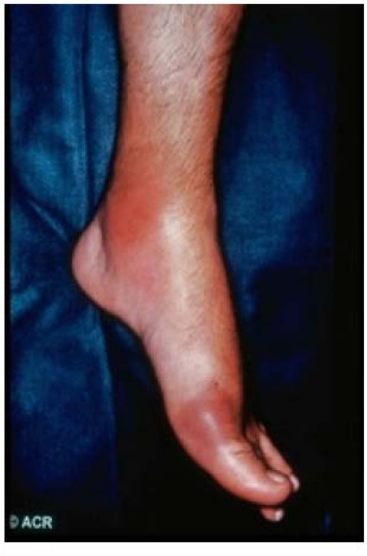
How is gout diagnosed?

Several other kinds of arthritis can mimic gout, so proper diagnosis is essential. Health care providers suspect gout when a patient experiences joint swelling and intense pain initially in one or two joints followed--at least at first—by pain-free periods between attacks. Initial gout attacks often begin at night.

A definite diagnosis depends on finding the characteristic crystals. The physician will use a needle to extract fluid from an affected joint and examine that fluid under a microscope to determine whether monosodium urate crystals are present. Crystals also can be found in deposits (called tophi) that can appear under the skin and occur in advanced gout. Uric acid levels in the blood are important to measure but can be misleading, as these may be temporarily normal or even low during attacks. Even people who do not have gout can have elevated uric acid levels. X-rays may show damage in gout of long duration. Ultrasound and dual energy computed tomography (commonly called CT) can show earlier features of gout joint involvement and also can help suggest the diagnosis.

How is gout treated?

One treatment for acute gout is colchicine, which can be effective if given early in the attack. However, colchicine can cause nausea, vomiting, diarrhea and other side effects. Side effects may be less frequent with low doses. Patients with kidney or liver disease, or who are taking drugs that affect colchicine metabolism, must take lower doses. Non-steroidal anti-inflammatory drugs—commonly called NSAIDs—are aspirin-like medications that can decrease inflammation as well as pain in joints and other tissues. NSAIDs—such as indomethacin (*Indocin*) and naproxen (*Naprosyn*)—have become the treatment choice for most acute attacks of gout. There is no evidence that any one NSAID is better than others. High doses of short-acting NSAIDs provide fastest relief of symptoms. These medications may cause stomach upset, ulcers, or diarrhea but, if used for the short term, generally are well tolerated.



The base of the big toe and ankle are red, swollen, and extremely painful due to an acute attack of gout. As the attack subsides, the superficial skin may peel.

Some people are unable to take NSAIDs because of medical conditions such as ulcer disease, impaired kidney function or the use of blood thinners. Corticosteroids are important options in patients who cannot take NSAIDs or colchicine. Given orally or by injection into the muscle, they can be very effective in treating gout attacks. If only 1-2 joints are involved, corticosteroids also can be injected directly into the joint. Resting the affected joint and applying cold compresses to the area also may help alleviate pain. Health care providers may prescribe anakinra (*Kineret*), an interleukin 1 beta-antagonist, for very severe attacks.

Patients who have repeated gout attacks, unusually high levels of serum uric acid, or tophi or kidney stones strongly should consider efforts to normalize blood uric acid levels. These medications do not help the painful flares of acute gout and generally should be started after acute attacks have subsided. Probenecid (*Benemid*) helps the kidneys eliminate uric acid. Only patients with good general kidney function who are not overproducers of uric acid should take probenecid. Allopurinol (*Lopurin, Zyloprim*) blocks production of uric acid and is most often the drug used to normalize blood levels. Febuxostat (*Uloric*) also acts by blocking production of uric acid and is a recent alternative. Flares of gout often can occur during initiation and use of urate-lowering agents, so efforts at prevention of flares by use of low-dose colchicine or NSAIDs are advised. Pegloticase (*Krystexxa*) is given by injection and breaks down uric acid. It can be used in patients who have failed or do not tolerate the other treatments. Additional new agents to normalize uric acid levels and to treat gouty inflammation are under development.

What works well for one person may not work as well for another, so decisions about when to start treatment and what drugs to use have to be tailored for each patient, and depend on kidney function and other factors. Once commitment is made to use agents to lower uric acid levels, therapy should be increased gradually with monitoring of serum urate until levels are less than 6 mg/dl, at which point crystals can be dissolved and new crystal deposits prevented.

Drinking alcohol should be reduced or stopped. Diets that restrict foods rich in the purines found in meat and certain types of seafood, fatty meals, or high-fructose beverages may help. Purines in vegetables appear to be safe, and low-fat dairy products may actually help lower uric acid levels. In almost all cases, it is possible to successfully treat gout so that the patient experiences a gradual end to attacks, and decreases in the number and size of tophi.

Broader health impacts of gout

Gout often is associated with hypertension and heart and kidney disease, or the use of medications that increase uric acid levels. Therefore, health care providers should test for these related conditions. Researchers are investigating whether lowering serum urate levels can help these diseases.

Living with gout

Gout affects quality of life both by the episodic attacks and potential for chronic arthritis. Compliance with medical regimens is critical. Lifestyle changes may make it easier to manage this lifetime disease. Suggestions include gradual weight loss, avoidance of alcohol and, reduced consumption of fructose-containing beverages and foods and foods high in purines.

Lifestyle changes such as controlling weight, limiting alcohol consumption, and limiting meals with meats and fish rich in purines, can be helpful in controlling gout.

The rheumatologist's role in the treatment of gout

The treatment of gout can be complicated by co-existing medical conditions and other medications. As experts in the treatment of arthritis, rheumatologists evaluate patients to determine whether gout is the cause of their arthritis, educate them about the role and proper use of medications as well as other treatment measures, and act as a resource to primary care physicians.

Points to remember

- Episodic arthritis is a typical indicator of gout; identifying the characteristic crystals in the fluid in joints allows health care providers to make an accurate diagnosis.
- There are two types of treatment for gout: medications to control the attacks of joint pain, such as NSAIDs, colchicine and corticosteroids; and medications used after attacks have resolved that can lower the level of uric acid in the body over time so the attacks occur less frequently or not at all.
- People with chronic gout often require lifetime treatment with drugs to lower uric acid levels.
- Lifestyle changes such as controlling weight, limiting alcohol consumption, and limiting meals with meats and fish rich in purines also can be helpful in controlling gout.

To find a rheumatologist

For a listing of rheumatologists in your area, click here.

Learn more about rheumatologists and rheumatology health professionals.

For more information

The American College of Rheumatology has compiled this list to give you a starting point for your own additional research. The ACR does not endorse or maintain these Web sites, and is not responsible for any information or claims provided on them. It is always best to talk with your rheumatologist for more information and before making any decisions about your care.

The Arthritis Foundation
www.arthritis.org

National Institute of Arthritis and Musculoskeletal and Skin Diseases Information Clearinghouse
www.niams.nih.gov

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