



## GOUT

Gout is sometimes referred to as the “disease of kings” because it has long been associated erroneously 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 swelling in the feet (and especially the big toe) may indicate gout.
- Treatment options exist, but therapy should be individualized for each person.
- Avoiding alcohol and certain fish and meats helps 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 now 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 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 can generally be continued), diuretics such as hydrochlorothiazide (*Esidrix*, *Hydro-D*), and immunosuppressants used in organ transplantation such as [cyclosporine](#) (*Neoral*, *Sandimmune*) and tacrolimus (*Prograf*). With 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 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.



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.

## How is gout diagnosed?

Several other kinds of arthritis can mimic gout, so proper diagnosis is essential. Gout is suspected when a patient experiences joint swelling and intense pain followed, at least at first, by pain-free periods between attacks. Initial gout attacks often occur at night.

A correct diagnosis may depend 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 under the skin (called tophi) that occur in advanced gout. Uric acid levels in the blood can be misleading, as these may be temporarily normal or even low during attacks. Uric acid levels also are often elevated in people who do not have gout.

## How is gout treated?

Traditionally treatment for acute gout has consisted of colchicine (available only as a generic drug), which can be effective if given early in the attack. However, colchicine can cause nausea, vomiting, diarrhea and other side effects. Low doses may be

better tolerated; doses must be lowered in patients with renal disease. Non-steroidal anti-inflammatory drugs (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 irritation, ulcers, or diarrhea but, if used for the short term, are generally well tolerated.

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 directly into the joint or intramuscularly, they can be very effective in treating gout attacks. Resting the affected joint and applying cold compresses to the area also may help alleviate pain.

Efforts to normalize blood uric acid levels should be considered for patients who have repeated gout attacks, unusually high levels of serum uric acid, or tophi or kidney stones. Probenecid (*Benemid*) helps the kidneys eliminate uric acid. Allopurinol (*Lopurin*, *Zyloprim*) blocks production of uric acid and is most often the agent selected to normalize blood levels. Additional new agents to normalize uric acid levels 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 any agents to lower uric acid levels, therapy should be increased gradually until levels are less than 6 mg/dl at which point crystals can be dissolved.

Drinking alcohol should be reduced or stopped. Diets that restrict foods rich in purines (substances found in meat and certain types of seafood or high fructose beverages) may help in difficult cases. In almost all cases, it is possible to successfully treat gout so that the patient experiences a gradual ending of attacks, and decreases in the number and size of tophi.

## Broader health impacts of gout

Gout is often associated with heart and kidney disease, or the use of medications that increase uric acid levels. Therefore, medical tests should include checking for and treatment directed to these related conditions.

## Living with gout

Lifestyle changes may make it easier to manage this lifetime disease. Suggestions include gradual weight loss, avoidance of alcohol and, in some cases, reduced consumption of foods high in purines and carbohydrates.

## 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

- Gout can be diagnosed accurately by identifying the characteristic crystals in the fluid in joints.
- There are two types of treatment for gout: medications to control the attacks of joint pain such as NSAIDs, colchicine and corticosteroids, and medications 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.
- Life style changes such as weight control, limiting alcohol consumption, and limiting meals with meats and fish rich in purines can also be helpful in controlling gout.



Life style changes such as weight control, limiting alcohol consumption, and limiting meals with meats and fish rich in purines, are helpful in controlling gout

## To find a rheumatologist

For a listing of rheumatologists in your area, [click here](#).

## 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](http://www.arthritis.org)

National Institute of Arthritis and Musculoskeletal and Skin Diseases Information Clearinghouse  
[www.niams.nih.gov](http://www.niams.nih.gov)

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