

Gout is a condition in which crystals of uric acid, that are normal within the body, rise above normal levels and deposit in the joints, giving rise to inflammation of those joints. Crystals may also form in other areas such as under the skin or in other soft tissues. They may also occur in the kidney or urinary tract. Gout has been recognized since antiquity. It was described by Hippocrates, among others, and was known as the "king of diseases" and the "disease of kings," as it occurred among the royal family. It can be caused by dietary factors, as well as some drugs and toxins.

## PREVALENCE

Gout is most common in countries with a high standard of living. It was previously uncommon in the Chinese, Polynesians and Filipinos, but when these ethnic groups live in other countries, the incidence of gout is higher. This suggests that environmental factors – diet in particular – play a major role. Its prevalence in males is 5-28/1,000 and in females 1-6/1,000. It is found world-wide, but shows some regional differences which may reflect environmental factors as well as racial predisposition.

## GENDER OR AGE BIAS

It is predominantly a disease of adult men, with a male to female ratio of 2-7:1. It is the most common cause of inflammatory arthritis in men over age 40. Gout rarely occurs in men before adolescence or in women before menopause. It is uncommon in men under 30 years old. Its peak age of onset is between 40-and-50 years in men and more than 60 years old in women.

## DIAGNOSIS

The acute nature of the attack and the joints involved may often be the key to diagnosis. Blood tests will usually reveal an abnormally high level of uric acid. It should be noted, however, that having an elevated level of uric acid in the blood does not mean you have gout. Fewer than one-in-five people with elevated levels of uric acid will develop gout.

Confirmation of diagnosis is made by inserting a needle into the joint and taking a sample of fluid which, when examined under a polarizing light

microscope, reveals the classic appearance of crystals of uric acid.

## SIGNS AND SYMPTOMS

The individual goes to bed and sleeps in good health. During the night, he is awakened by acute pain in the big toe, more rarely in the heel, ankle or instep.

The pain and sensation are so acute that the individual cannot tolerate even the weight of blankets or the sheet on the toe. Even the jarring of someone walking in the room is aggravating. The individual tosses and turns during the night but to no avail. The pain is persistent and intense.

The joint that is classically involved is the joint at the base of the big toe. In over half of the initial attacks, this is the first joint affected and, in time, this joint is involved in 75 per cent of people with gout. Almost any joint can be affected, but it commonly affects the joints of the lower limb more than the upper limb. While mainly affecting the joints, gout can also affect bursa and tendons giving rise to large soft tissue swelling such as at the back of the heel or under the elbow joint. The soft tissues overlying the joint can become acutely red, hot and swollen which does not occur in most other forms of arthritis. The swelling, in addition to being in the joint itself, can become more diffuse involving the whole foot and ankle for example. Wearing of a regular shoe becomes impossible over the inflamed toe and health professionals are not unfamiliar with seeing the approach of a patient with a shoe on one foot and a slipper with a hole cut in the toe on the other.



**A**long with the physical symptoms of arthritis, many people experience feelings of helplessness and depression. Learning daily living strategies to manage your arthritis gives you a greater feeling of control and a more positive outlook. To get the best results, people affected by arthritis need to form close ties with their doctors and therapists, and become full partners in their treatment. From our perspective, it's all part of living well with arthritis.

There are several resources you can use in finding out how best to manage your own arthritis. Here are a few:

The **Arthritis Self-Management Program (ASMP)** is a unique self-help program offered by The Arthritis Society to help you better control and manage your arthritis.

The Open Forum on **The Arthritis Society's Web site** – [www.arthritis.ca](http://www.arthritis.ca) – provides an opportunity to discuss and share information with other people who may be able to offer some useful insights.

Your support makes it possible for The Arthritis Society to provide this type of information. **To make a donation, or for more information, call us toll-free during business hours at:**



**1-800-321-1433**



## ACUTE GOUT

Acute gout may be triggered by events such as surgery, heart attacks, trauma, alcohol use or some drugs such as diuretics (water pills). This type of gout usually involves a single joint or just a few joints. Attacks frequently begin at night. Affected joints are usually red, swollen and exquisitely tender. Early attacks usually subside after three to 10 days with some skin sloughing off over the affected joint. An individual who is untreated may have an attack that lasts longer. Over 50 per cent of individuals who have had an acute gouty attack will have a recurrence within the year. Over time the attacks may become more frequent, longer lasting and often involve more joints.

## CHRONIC GOUT

In some individuals the attacks do not abate but linger on, and the course of the disease becomes chronic with persisting inflammation in the involved joints. The crystals of uric acid deposit inside the joint and in the soft tissues around the joint leading to destructive changes in the joint. In addition to the joint inflammation tophi may develop.

## NON-JOINT INVOLVEMENT

Uric acid crystals can be deposited in soft tissues forming what are known as tophi. They cause local irritation of the soft tissues leading to redness. They may appear as whitish or yellowish deposits under the skin. Sometimes the chalky material can ulcerate through the skin. Tophi may occur at any site but commonly occur in the digits of the hands and feet, or at the back of the elbow, or behind the heel. Another site at which they occur is around the outer edge of the ear where they may appear as small chalky lumps under the skin.

## RISK FACTORS

Elevated levels of uric acid can be from either overproduction of uric acid or from under-excretion of uric acid through the kidneys. Overproduction can be associated with nutritional factors. The following beverages and foods should be avoided: tea, coffee, cocoa and chocolate. Certain animal

proteins must be avoided, including: seafood, liver, kidney, heart, gizzard, sweetbreads, meat extracts and gravy. Some vegetables may also present a problem. They are: peas, beans, spinach and lentils. Alcohol in any form is a known risk factor for triggering a gouty attack. There are a number of medications that alter the excretion of uric acid through the kidneys. Commonly implicated drugs include the thiazide drugs given to aid fluid excretion. Aspirin (ASA) may also be a problem. Sudden dramatic changes in diet and weight gain or loss can be associated with gout attacks.

## TREATMENT

The goal of treatment is to safely provide relief of acute attacks, prevent further attacks, prevent damage to the joints, and prevent the formation of tophi or kidney stones. Remember that the acute attack of gout is self-limiting. If left untreated, the acute attack will usually resolve in seven-to-10 days. Treatments such as rest, ice and analgesics are acceptable but the main therapy is medication. Treatment for the acute attack is non-steroidal anti-inflammatory drugs (NSAIDs), cortisone, or colchicine. NSAIDs usually form the first line of treatment in the acute attack. One of the most commonly used of the NSAID medications is Indocid (indomethacin sodium trihydrate). Other medications often used in this group include Naprosyn (naproxen), Orudis (ketoprofen), Voltaren (diclofenac sodium) and Tolectin (tolmetin sodium). After the acute attack has settled down the decision whether to treat the underlying problem has to be made. Individuals with recurrent attacks of gout, or who develop the soft tissue lumps (tophi), or those who have kidney disease, will usually require ongoing treatment. Preventive strategies will always include increased vigilance over weight, blood pressure and diet. Based upon tests, your physician will determine which medication is appropriate for you. Some individuals will be overproducing uric acid, while others will be failing to adequately eliminate uric acid. Different types of medications are used in each instance. Medications commonly used for inadequate elimination of uric acid include probenecid (Benemid, Benuryl) or sulfinpyrazone (Anturan, Apo-Sulfinpyrazone, Novo-Pyrazone, Nu-Sulfinpyrazone). For those who overproduce uric acid, treatment

is allopurinol (Apo-Allopurinol, Purinol, Zyloprim Oral). Blood and urine tests are required periodically to measure the levels of uric acid in the blood and the kidneys. The goal is to lower the uric acid level to a normal range. The duration of continuing the uric acid lowering therapy is not entirely clear. It is possible that after years of treatment, the total body urate stores are low and it, therefore, may be possible to discontinue therapy.

## OUTCOMES

New medications such as those listed above have made the management of gout very effective. People who have occasional attacks can manage them well with the treatment, outlined above, minimizing the severity and duration of the attack. Those with chronic gout can also control the level of uric acid through the ongoing use of medication. Early diagnosis and intervention can now control gout well, enabling the individual to function and lessening the likelihood of destructive joint disease. Along with the physical symptoms of arthritis, many people experience feelings of helplessness and depression. Learning daily living strategies to manage your arthritis gives you a greater feeling of control and a more positive outlook. To get the best results, people affected by arthritis need to form close ties with their doctors and therapists, and become full partners in their treatment. From our perspective, it's all part of living well with arthritis.

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**Arthritis News** and its French counterpart **ArthroExpress**, published quarterly by The Arthritis Society, provide a current perspective on the many issues of living with arthritis.

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