

# Gout: An overview

## Gout

### What is gout?

Gout is a type of arthritis (inflammation of the joints) that mostly affects men age 40 and older. It is nearly always associated with an abnormally high concentration of uric acid in the blood. People with chronically high blood levels of urate (commonly referred to as uric acid), may develop gout. These high blood levels of uric acid may cause crystals to deposit in the body's tissues, especially in joints. An attack of gout manifests itself by a suddenly painful and inflamed joint. It most commonly affects a single joint at a time and most frequently will involve the large toe on initial presentation.

### What causes gout?

Hyperuricemia (elevated blood uric acid levels) can be genetic and diet-related, or caused by either:

- a) an increased production of uric acid such as seen in leukemia, hemolytic anemia, psoriasis or excessive exercise
- b) decreased excretion of uric acid as seen in chronic renal disease, lead-induced nephropathy (kidney damage) or diabetic ketoacidosis

### What foods can provoke a gout attack?

Foods and beverages that cause an elevation of uric acid levels can provoke a gout attack. They include: excessive amounts of alcohol—especially red wine—coffee, soft drinks, anchovies, asparagus, legumes, mushrooms, meats—especially organ meats—and shellfish.

### Other instigators of gout:

Other causes include surgery, injury, rapid weight loss, stress, use of antibiotics, vitamin B5 deficiency and chemotherapy. Any cause of potassium loss—such as surgery, fasting and diuretic use—may trigger gout as well.

### How to approach gout nutritionally:

There is much one can do to prevent gout attacks nutritionally. First, one should refrain from eating foods rich in "purines." Purines break down into uric acid, which is high in gout.

Purine content is greater in red meats, so one should try to limit one's intake of organ meats and steaks, chops and corned beef. Poultry has a significantly lower intake of purine and for this reason is a better source of protein for gout patients. Shellfish, tofu, beans, peas, and alcohol—especially beer and wine—also are high in purines.

Meats and dairy products also contain a fatty acid known as arachidonic acid, which further contributes to the inflammatory process. It is converted into prostaglandins and leukotrienes, inflammatory proteins that are high in different types of arthritis conditions. Anti-inflammatory medications aim to decrease these markers thereby mitigating symptoms. Based on this theory, a diet low in saturated fats, and therefore low in arachidonic acid, may be beneficial. **Fish oils** may work to decrease these inflammatory markers and thus be very beneficial in treating gout.

**Cherries** can lower plasma uric acid levels. They contain flavonoid compounds that may lower uric acid and reduce inflammation. Flavonoids called anthocyanins, often found in purple and blue colored berries, help to shut down the enzymes that cause tissue inflammation in the first place. Anthocyanins can therefore prevent and treat many kinds of pain. A study done at the University of California at Davis by Jacob et. al entitled "Consumption of Cherries Lowers Plasma Urate in Healthy Women" proved just that and also showed that there was a decrease in plasma urate after cherry consumption. **Bilberry**, hawthorn and blueberries also are high in anthocyanosides.

**Quercetin**, another flavonoid, can be added as a supplement to decrease uric acid levels. Quercetin can be taken with **bromelain** to improve its absorption. Bromelain, by itself, can act as an anti-inflammatory and in turn contributes to the improved absorption of quercetin.

**Pantothenic acid**, a type of B vitamin (B5), is needed to help with the excretion process of uric acid. Stress often depletes the body of this vitamin, which may explain why gout flares during times of stress. Therefore, incorporating **pantothenic acid** into the treatment plan may be crucial.

**It is important to stay well-hydrated** in order to prevent attacks of gout. This will prevent the uric acid from becoming too concentrated and inhibit uric acid crystallization.

Uric acid crystallizes and forms stones in an acidic environment. One way to prevent this is by alkalinizing the urine or making it more basic. **Lemon juice** stimulates the formation of calcium carbonate, which neutralizes acids such as uric acid.

Therefore, drinking freshly squeezed lemon in a glass of water after meals can prevent a gout attack. **Baking soda** also can help alkalinize the urine. **Black cohosh** also has been shown to moderate blood acidity thereby making the urine more basic.

**Cayenne pepper**, which can affect the substance P, expressed in pain syndromes, can be boiled in vinegar and water and applied onto the painful joint. It also can be mixed with wintergreen oil to make a paste and subsequently applied to the affected area. Alternatively, **capsaicin cream** is available from drugstores.

Patients may oftentimes need to resort to **prescription medications** to stave off attacks. Please refer to the technical version (for physicians) of this article for information regarding medications.