

Big toe

Gout is an **inherited disorder of purine metabolism** occurring predominantly in men. It is caused by a defect in metabolism that results in an overproduction of uric acid, or a reduced ability of the kidney to eliminate uric acid (*almost 25% of all people who have gout develop kidney stones*). The exact cause of the metabolic defect is unknown. The condition may also develop in people with diabetes, obesity, sickle cell anemia, and kidney disease, or it may follow drug therapy that interferes with uric acid excretion.

Gout is characterized by the deposition of **monosodium urate crystals** in joints and other tissues as a result of **hyperuricemia**. The disorder occurs most frequently in the **metatarsophalangeal joint of the big toe**. Acute gouty arthritis **in** this characteristic location is known as **podagra**. The instep, ankle, knee, wrist and elbow are common sites, sometimes even the spine. Attacks may vary from days apart to several attacks a year; the first attacks may be in only one joint, lasting for days. Later attacks may affect more joints; there may be joint deformation if unattended. Limitation of joint movement is precipitated by stress or wrong diet. Symptoms include a sharp, needle-like pain on movement of joints; skin is tense, hot, shiny and dusky red or purplish; systemic reactions may include fever, heart rate increase, chills, and malaise.

Note: Gout is marked by transient attacks of **acute arthritis** initiated by crystallization of urates within and about joints, leading eventually to **chronic gouty arthritis** and the appearance of **tophi**. Tophi represent large aggregates of urate crystals and the surrounding inflammatory reaction. Most, but not all, individuals with chronic gout also develop urate nephropathy.

- **Primary gout:** most common form, hyperuricemia **without** evident cause
 - most common in middle-aged men
 - a marked familial predisposition
- **Secondary gout:** much less common. Characterized by hyperuricemia with evident cause, such as:
 - **Leukemia, multiple myeloma, and myeloproliferative syndromes**
 - **Lesch-Nyhan syndrome:** hyperuricemia with severe neurologic manifestations
 - **Pseudogout (chondrocalcinosis)** - caused by calcium pyrophosphate dihydrate crystal deposition, which elicits an inflammatory reaction in cartilage. Pseudogout clinically resembles gout.