

An Overall Description of Gout

1 Gout is a form of arthritis that is characterized by sudden, severe attacks of pain, redness,
2 and tenderness in joints. Gout has been recognized for more than 2,000 years, making it one of
3 humankind's oldest known diseases. In the past, gout was often known as "the disease of kings"
4 because it was associated with wealthy men who **overindulged** in rich food and drink. Today, it is
5 known that gout is a complex disorder that can affect anyone. In fact, it is a painful problem for
6 more than 2 million Americans. While it is true that men are more likely to develop gout than
7 women, women are increasingly **susceptible** to it after menopause. Understanding more about its
8 causes, risk factors, symptoms, and diagnosis, as well as its methods of treatment, including
9 recommended lifestyle changes, is important for patients as well as medical professionals.

10 The cause of gout is an excessive blood level of uric acid, a waste product formed from
11 the breakdown of purines. These are substances found naturally in the body as well as in certain
12 foods, especially organ meats, such as liver, brains, and kidney as well as fish products such as
13 anchovies, herring and mackerel. Smaller amounts of purines are found in all meats, fish, and
14 poultry. Normally, uric acid dissolves in the blood and passes through the kidneys into the urine.
15 Sometimes, however, a person's body either produces too much or excretes too little of this acid.
16 In that case, uric acid can build up, forming sharp, needle-like crystals in a joint or surrounding
17 tissue that cause pain, inflammation and swelling. Crystal deposits also cause another condition,
18 known as false or pseudogout. However, rather than being composed of uric acid, pseudogout
19 crystals are made of calcium pyrophosphate dihydrate. Moreover, while pseudogout can affect the
20 big toe, **it** is more likely to attack large joints such as the knees, wrists and ankles.

21 Lifestyle factors, medical conditions and medications, genetics, as well as a person's age
22 and gender can increase the chances of a person developing the high levels of uric acid that may
23 lead to gout. If a person's lifestyle includes excess consumption of alcohol, especially beer, s/he
24 has a much higher likelihood of developing gout. Excess alcohol generally means more than two
25 drinks a day for men and more than one for women. Additionally, weighing 30 pounds or more
26 than the ideal weight also increases a person's risk. In addition to lifestyle factors, certain diseases
27 and medications make it more likely that a person will develop gout. These include untreated
28 hypertension and chronic conditions such as diabetes, hyperlipidemia, and arteriosclerosis.
29 Surgery, sudden or severe illness or injury, and paralysis also can increase uric acid levels.
30 The use of thiazide diuretics, which are used to treat hypertension, and low-dose aspirin as well as
31 anti-rejection drugs prescribed for people who have undergone a transplant are other factors that
32 increase the risk of suffering from gout. In addition, chemotherapy treatments for cancer may
33 increase the breakdown of abnormal cells, thereby releasing large amounts of purines into the
34 blood. Genetics is another risk factor that may lead to the onset of gout. One out of four people
35 with gout has a family history of the condition. Finally, a person's age and gender affect the
36 likelihood of suffering from gout. Gout occurs more often in men than it does in women, primarily
37 because women tend to have lower uric acid levels than men do. After menopause, however,
38 women's uric acid levels approach that of men. Men also are more likely to develop gout earlier,
39 usually between the ages of 30 and 50, whereas women generally develop symptoms after age 50.

40 The symptoms of gout are almost always acute, occurring suddenly, often at night, and
41 without warning. They include intense joint pain and inflammation and redness. Gout usually
42 affects the large joint of the big toe but can occur in the feet, ankles, knees, hands and wrists. The
43 pain typically lasts five to ten days and then stops. The discomfort subsides gradually over one to
44 two weeks, leaving the joint apparently normal and pain-free. Additionally, the affected joint or
45 joints become swollen, tender and red. If a person experiences sudden, intense pain in a joint, s/he
46 should contact a doctor since gout that goes untreated can lead to worsening pain and joint
47 damage. Emergency treatment is needed only if fever and joint inflammation occurs along with the
48 intense pain; these symptoms may be a sign of infection.

49 Diagnosis of gout is relatively simple and pain free. To diagnose gout, a doctor may
50 withdraw fluid from the affected joint to check for crystals of uric acid in the person's white blood
51 cells. Other tests may include a urine test and a blood test. In the urine test, the doctor measures
52 the amount of uric acid that is being excreted. In the blood test, the doctor measures the uric acid
53 level in the patient's blood. Once gout is diagnosed, several treatment options are available.

54 Fortunately, gout is treatable. For gout attacks, non-steroidal anti-inflammatory drugs
55 (NSAIDs), such as ibuprofen, may provide relief. These medications, however, can cause side
56 effects, including stomach pain, bleeding and ulcers. Moreover, NSAIDs have a ceiling effect,
57 which is a limit as to how much pain they can control. This means that beyond a certain dosage,
58 they are no longer effective. For severe cases, the doctor may prescribe a corticosteroid drug such
59 as prednisone. Although steroids can provide **dramatic** relief, they can also cause serious side
60 effects, including thinning bones, poor wound healing, and decreased ability to fight infection.
61 Sometimes doctors inject cortisone into the affected joint, but this approach can still cause side
62 effects, and shots are generally limited to no more than three a year. The doctor may also
63 recommend certain drugs to reduce the risk or lessen the severity of future episodes. These drugs
64 include allopurinol, such as Zyloprim, Alopurinol, and probenecid, such as Benemid. Taken daily,
65 they slow the rate at which uric acid is produced and speed its elimination from the body. In
66 general, keeping uric acid levels within a normal range is the long-term key to preventing gout.

67 Though lifestyle changes cannot cure gout, some measures may help relieve the
68 symptoms. Sufferers are encouraged to maintain a healthy weight but avoid fasting or rapid weight
69 loss because doing so may temporarily raise uric acid levels. Additionally, patients should avoid
70 excessive amounts of animal protein. Although medications have decreased the need for severe
71 dietary restrictions in people with gout, some dietary changes can help lessen the severity of gout
72 attacks. **They** may also serve as an alternative treatment for those who have problems with gout
73 medications. Most experts advise eating no more than 6 ounces of lean meat, poultry or fish a day
74 for nearly everyone, especially people who have gout, because high-protein foods increase the
75 blood level of uric acid. Organ meats liver, brains, and kidney, as well as anchovies, herring and
76 mackerel are particularly high in purines and should therefore be consumed in limited amounts.
77 Similarly, alcohol intake should be limited or avoided. Consuming too much alcohol can inhibit
78 the excretion of uric acid, which in turn can lead to gout. Drinking plenty of water is helpful as
79 fluids help dilute uric acid in a person's blood and urine.

80 In conclusion, gout, one of mankind's oldest diseases, can be better understood by
81 examining its causes and symptoms, as well as its diagnostic and treatment methods. It is caused
82 by a dysfunction involving the breakdown of purines. As a result of this dysfunction, the body
83 develops excessive levels of uric acid, or in some cases, pyrophosphate dihydrate, which lead to
84 the development of gout as well as a related condition known as pseudogout, respectively. The
85 joint pain and inflammation, the main symptoms of the disease, are readily diagnosed by
86 laboratory tests. Treatment, which relieves symptoms and may help prevent or alleviate the
87 severity of future attacks, involves taking medication and making lifestyle changes.

Comprehension Questions

- 1) Who is most likely to suffer from gout?
 - a) people weighing 20 pounds more than their ideal weight
 - b) men with infectious diseases such as malaria
 - c) women over 50 years old
 - d) men in their twenties

- 2) What is a cause of gout?
 - a) insufficient excretion of uric acid
 - b) insufficient levels of uric acid
 - c) small amounts of purines
 - d) crystals in the bloodstream

- 3) When uric acid is broken down, purines accumulate, which in turn causes gout.
 - a) true
 - b) false

- 4) Which is characteristic of false gout?
 - a) the knees are affected by arthritis
 - b) uric acid forms calcium pyrophosphate instead of crystals
 - c) calcium pyrophosphate, instead of uric acid, forms crystals
 - d) both a and b

- 5) Which of the following is not a risk factor related to the onset of gout?
 - a) low blood pressure
 - b) obesity
 - c) alcoholism
 - d) high cholesterol levels

- 6) Which of the following increases a person's chance of suffering from gout?
 - a) ethnicity, i.e. race
 - b) immobility
 - c) age and gender
 - d) both b and c

- 7) Which of the following is true about the symptoms of gout?
 - a) they are not permanent
 - b) they last for more than 2 weeks
 - c) they are always felt at night
 - d) inflammation hardly occurs

- 8) Although most patients experience pain, it is generally mild and disappears after awhile.
 - a) true
 - b) false

- 9) Which of the following does diagnosis involve?
 - a) measurement of uric acid in the blood
 - b) analysis of urine components
 - c) investigating joints for uric acid crystal formation
 - d) all of the above

- 10) What is the purpose of using non-steroidal anti-inflammatory drugs?
 - a) to lessen pain and prevent attacks
 - b) to relieve pain above a certain threshold
 - c) to alleviate discomfort in the joints
 - d) all of the above

- 11) Which of the following is not mentioned as a potential side effect of medications taken to treat gout?
- a) nausea
 - b) ulcers
 - c) osteoporosis
 - d) stomach ache
- 12) Even when administered in small doses, cortisone can cause negative side effects.
- a) true
 - b) false
- 13) Which of the following is not true about treatment?
- a) Corticosteroids and NSAIDs have side effects.
 - b) Corticosteroids decrease the ability to heal wounds.
 - c) Cortisone is used to neutralize side effects.
 - d) NSAIDs are not always effective.
- 14) What is the function of drugs like allopurinol and probenecid?
- a) to slow the rate of uric acid production
 - b) to increase the rate of uric acid excretion
 - c) to reduce the severity of potential gout attacks
 - d) all of the above
- 15) Which of the following is true about self-care?
- a) Rapid weight loss does not help reduce uric acid levels.
 - b) Eating high protein foods help maintain uric acid levels.
 - c) Alcohol consumption must completely be stopped.
 - d) Severe dietary restrictions must be followed to decrease chances of developing gout.
- 16) Which of the following words can best replace “overindulged” in the 1st paragraph?
- a) overdid
 - b) overate
 - c) overused
 - d) exceeded
- 17) Which of the following words can best replace “dramatic” in the 6th paragraph?
- a) strong
 - b) controlling
 - c) powerful
 - d) great
- 18) “They” on line 72 refers to
- a) patients
 - b) dietary changes
 - c) attacks
 - d) medications