A PATIENT'S GUIDE TO

Gout

GHLF creakyjoints®

GLOBAL HEALTHY LIVING FOUNDATION

SECOND EDITION, 2021

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PART I Introduction

Welcome to the second edition of A Patient's Guide to Gout, raising the voice of patients and caregivers managing gout. This guide offers comprehensive, easy-to-understand information on gout and its treatment: what causes gout, how it can affect your health, how it is treated, and the steps you can take on your own to prevent flares, manage symptoms, and avoid long-term complications.

As anyone who's had a gout attack knows, gout can be very painful and debilitating. Dealing with the unpredictable nature of gout flares can affect your physical and emotional well-being and take a big toll on your quality of life. But gout is very treatable with the right knowledge, care, and support.

Whether you are newly diagnosed, have been living with gout for many years, or are caring for someone with gout, it's easy to feel overwhelmed by the whirlwind of information — and misinformation — available about gout. While having a painful chronic disease like gout can be isolating, you are not alone.

We hope that the information in this guide will help you navigate daily life with gout so you can get what you want, need, and deserve from your treatment plan. You'll find detailed, accessible explanations of gout symptoms and what causes them, treatment options for gout, and lifestyle changes to prevent and manage gout flares. We provide advice on working with your insurance company to get coverage for your treatments. We share tips to help you talk with your family, friends, and coworkers about gout and how it impacts your life.

CreakyJoints is a nonprofit patient advocacy organization that helps people like you become more knowledgeable about your health conditions and advocate for yourself when you encounter issues that are important to your care and quality of life. This guide was developed and vetted by leading gout experts and fellow patients. It will be updated as new research, information, and treatments on gout become available.

*The information in these guidelines should never replace the information and advice from your treating physician. They are meant to inform the discussion that you have with health care professionals, as well as others who play a role in your care and well-being.

A Patient's Guide to Gout was made possible through the support of **Horizon Therapeutics**, a global biotechnology company with corporate headquarters in Dublin, Ireland.

PART II Patient Charter

CreakyJoints® is a digital community for millions of arthritis patients and caregivers worldwide. It is part of the Global Healthy Living Foundation, a 501(c)(3) nonprofit organization whose mission is to improve the quality of life for people with chronic illnesses.

Our Patient Charter reflects our guiding principles — the deeply held beliefs that drive our community's many efforts in education, support, advocacy, and research.

We believe:

1. The patient experience is at the heart of medicine; thus the patient must be at the center of all medical decision-making.
2. The medical process should stay between the patient and their care provider.
3. The patient should have access to all treatments deemed appropriate by their care provider.
4. Access to care should not be limited by external forces, affordability, or other factors.
5. Patients should be empowered and educated with the tools needed to make their voices heard.
6. Elected officials, insurance providers, drug manufacturers, health care professionals, and all others associated with the health care system should make it their goal to ensure the patient is the focus of all decisions.
7. The medical team should strive not only to do no physical harm to the patient, but also to do no emotional, mental, or financial harm.
8. Patients should be treated with dignity, transparency, and respect by everyone involved in the health care process.

RAISE YOUR VOICE:

Get Active, Advocate, and Take Charge of Your Health Care

Speak up at each doctor's appointment. Bring a notebook with you or use your smartphone's Notes app to write down information as well as your questions and concerns.

Ask a friend or family member to come to appointments. It's easy to miss some details or instructions from your doctor. A helper can write everything down while you listen or ask questions.

Write down questions or concerns ahead of time so you don't forget them during appointments.

Speak up about side effects or concerns about your treatments. Don't downplay them or assume that side effects are something you have to endure. Your doctor may be able to make changes to your treatment plan to help ease them.

Talk to your doctor about all of your treatment options. There are a number of medications used to manage gout, treat symptoms, and prevent gout attacks. If you're concerned about either the effectiveness or cost of your prescription, ask your doctor or nurse if you have other options. They may be able to prescribe another effective treatment at lower cost. Not every drug is right for every patient, but never hesitate to talk to your doctor about your concerns. Rising drug costs are a major issue in health care today.

Use the power of technology. Connect with other people living with gout on social media platforms. As you get to know other patients, consider starting one-on-one conversations to support each other and stay informed.

Join other gout patients in local or national advocacy groups like the Global Healthy Living Foundation's **50-State Network**.

Add your name or sign online petitions. You'll make every advocacy effort stronger by joining with others. Lend your voice to gout advocacy or health care issues when the time is right for you.

Share your opinion or experiences. Fill out patient surveys. Talk to gout advocacy groups looking for patient input on important health care issues. Offer your thoughts on social media (but remember that nothing is private online so think about what you want others to know). You don't always have to give your name, but when it is appropriate, let others — including elected officials in your state government and at the national level — know that you're a constituent, you vote, and you care about these issues. You can do so by email, mail, postcards, social media, phone calls, or in-person meetings — whatever works best for you.

Stay informed. Follow CreakyJoints at **creakyjoints.org** and on our main social media channels: Facebook (**facebook.com/creakyjoints**), Twitter (**@CreakyJoints**), Instagram (**@Creaky_Joints**), and YouTube (**youtube.com/creakyjoints**). You'll receive the latest news and articles about managing gout. The American College of Rheumatology (**rheumatology.org**), a professional organization, also provides news and updates on gout.

Ask your doctor about clinical trials for new or existing gout treatments that may be available for you. Ask about current trials, and if you qualify for one, ask about any costs you may have to bear (such as travel to a clinic), or the trial's possible risks and benefits for you.

Treat your emotional and mental health symptoms as seriously as your physical symptoms. Tell your providers if you're anxious, depressed, not sleeping at night, or worried about your long-term health. Seek help from a mental health professional or counselor. Find support and comfort from other patients in local groups or online. Remember that you are not alone.

Take advantage of any program that could help you afford gout treatments. Ask your doctor or nurses about copay assistance programs like coupons or rebates from your treatment's manufacturer. Go online to find your drug's website. Look for patient assistance programs there that may help you lower your out-of-pocket costs if you qualify. Call your insurance company to ask about the details of your drug coverage, talk to your pharmacist or specialty pharmacy to ask about your options or possible discounts. Compare pharmacies' prices if that's an option for your drug coverage.

Ask your employer's HR department if your insurer has a patient advocate or employee assistance program as part of your coverage. These programs are designed to work on your behalf to provide information or assistance related to your health care.

PART III What Is a Treatment Guideline?

Once you're diagnosed with gout, you'll work with a doctor to develop a treatment plan to manage your symptoms. This is often a primary care physician (internist) or a rheumatologist, which is an internist who specializes in musculoskeletal and systemic autoimmune diseases. Choosing a treatment plan should be an individualized process, since not everyone experiences gout in the exact same way.

The ultimate goal of gout treatment is to help people achieve remission — in which uric acid levels are in a healthy range and there are minimal or no symptoms — and stay there over time. Achieving remission can help you avoid permanent joint damage and other gout complications. And, of course, being in remission can help you enjoy a better quality of life.

How does your doctor determine your gout treatment plan? The main way is to follow **current gout treatment guidelines**. These are also called clinical practice guidelines. They are recommendations for physicians and other health care professionals who treat and manage people living with gout.

Guidelines are meant for medical professionals. They're written in language that reflects that. All guidelines are developed in a lengthy, detailed group consensus process by a panel of leading experts on that medical condition, which should include one or more patients and, sometimes, caregivers (such as a parent of a child with a juvenile disease).

The panel produces the recommendations for treatment and management included in clinical practice guidelines after reviewing data from large numbers of studies published in reputable medical journals. This information is carefully vetted and weighed by the panel to ensure that it is accurate, relevant, unbiased, and from reputable sources. Every medical study is different, so the panelists review how the study was conducted, what factors were used to recruit or eliminate participants, who funded the study, and other factors.

The current gout treatment guideline in the U.S. was published by the **American College of Rheumatology in 2020**. The American College of Rheumatology is the professional association of rheumatologists and rheumatology health professionals in the United States.

The goal of the guideline is "to provide guidance for the management of gout, including indications for and optimal use of urate-lowering therapy (ULT), treatment of gout flares, and lifestyle and other medication recommendations."

It contains recommendations on the medications your doctor may prescribe, and what steps to include in your overall treatment plan to control your gout, prevent acute gout attacks, and reduce your chances of developing long-term or "chronic" gouty arthritis, which could involve joint damage and deformity. That's why they're called biosimilars: They're made of biologic materials (bio-) and are highly similar to an approved, widely tested, and prescribed biologic.

However, the guideline provides recommendations, not rules or firm policies that every doctor will follow to the letter. Each patient is a person with a disease, not just a list of symptoms and test results. You are unique, and your treatment plan should be designed for you.

RAISE YOUR VOICE:

Ask Questions

You can and should be involved in every step of decision making about your gout treatment. Never be afraid ask questions about your treatment plan. Speak up at your first appointment with your internist or rheumatologist, and at every medical appointment. Don't be shy about asking about the costs of each potential treatment, as well as any possible side effects. While your doctor prescribes your drugs, you're a full partner in any decisions about your treatment options.

Your doctor may not follow the guideline exactly when prescribing your treatment.

The goal should be to manage your disease and symptoms, and to improve your quality of life, not to follow a set plan and never veer from it. Your treating physician will assess you as an individual — your gout symptoms, your overall health, your medical history or family history, your lifestyle, your treatment goals — and prescribe treatments based on your needs.

Several factors may influence your treatment plan.

- **Other health conditions.** You may have other health conditions (often called comorbidities) in addition to gout. For example, you may also have type 2 diabetes, obesity, kidney or liver function problems, or hypertension (high blood pressure). These other health conditions are common among people living with gout.
- **Medications.** You may already be taking medications to treat those conditions. Your doctor will take your overall health and any other medications you take into consideration when making any decisions about your prescription medications or lifestyle recommendations.
- **Cost.** Some medications are very costly, and this is increasingly recognized as a barrier to care. We will provide tips and resources you can use to try to lower your out-of-pocket prescription drug costs, but there are still costs that each person must consider. Talk with your physician if you have concerns about the cost of your drugs, and if those concerns cause you to not take your medications as prescribed (such as skipping doses, splitting pills, or not filling prescriptions). There may be more affordable medications that are effective options for you.

Ultimately, you and your doctor should work together to determine your gout treatment plan. This process is called shared decision-making. Your doctor should explain the medications and treatments available to you, the evidence for their use, and their risks and benefits. You should discuss your preferences, treatment goals, and life circumstances. Issues you might raise in this discussion could be about the cost of a particular treatment, how a medication is delivered (pill vs. injection vs. infusion), and medication side effects. Together, you and your doctor will come up with a plan that takes your needs and preferences into account.

Treatment guidelines change, of course. There are new treatments for gout being studied now, and some may be approved and available in the next few years. We will update this guide regularly so you can get the latest information about all the treatments available for gout.

RAISE YOUR VOICE:

Overcome Access Challenges

When you and your health care provider decide on a gout treatment plan, you may encounter challenges along the way in accessing that care. You may become familiar with terms like "step therapy" and "prior authorization," which refer to processes established by health insurance companies to manage care to control costs.

It is important to understand how these processes work so that you are prepared to advocate for yourself when you speak to your insurance company and doctor — especially if you are denied access to a medication you need.

The Global Healthy Living Foundation's advocacy initiative, the 50-State Network, is a coalition of patients that works to bring the patient perspective to state and federal lawmakers considering policies to limit patients' health care access, which can wreak havoc on the lives of patients with chronic disease. **Learn more about signing up as a patient advocate**.

PART IV Gout Overview

Gout is considered a type of arthritis. It usually causes severe, sudden attacks of inflammation in a joint.

Gout symptoms include severe, sharp pain; redness; swelling; and/or tenderness in a joint. Your joint may be visibly swollen and even feel warm when you touch it. Gout episodes may come on very quickly. They often happen at night or when you wake up in the morning. You may go to bed feeling fine and wake up with severe gout symptoms.

The Stages of Gout Progression

Stage 1: High uric acid levels: Uric acid is building up in the blood and starting to form crystals around the joints.

Stage 2: Acute gout: Symptoms start to occur, causing a painful gout flare

Stage 3: Intercritical gout: Period of remission between gout flares

Stage 4: Chronic gout: Gout pain is frequent and tophi can form in and around joints

Gout typically first affects a single joint — about half the time, it strikes in your big toe. Gout can affect more than one joint at the same time in some people. Gout may affect other joints in your lower extremities, such as your foot, ankle, or knee. It may affect joints higher on your body too, such as your elbow, hand or wrist, or even small joints in your fingers. The spine is rarely affected by gout, although this does happen. Gout may also affect soft tissues, like your bursae (fluid-filled sacs that cushion joints like your shoulder, elbow, or hip) or the sheaths around your tendons (fibrous, rope-like tissue that connects bones and helps your joints move).

A gout attack, or flare, can come on very quickly, and last anywhere from a few days to up to 10 days or longer. Gout attacks often subside on their own after a week or two (although sometimes can last for many weeks), but medications can speed up healing. More importantly, medications that lower your uric acid (also called urate) levels, when used regularly over time, are very effective in preventing future gout flares.

Gout flares are frequently followed by long periods of no symptoms. The amount of time between gout flares can vary widely from person to person. Some people may only get one or two attacks a year (or less often), while others can get them much more frequently. Gout may affect the same joint over and over, or gout can strike in different joints over time.

Without treatment, gout flares could become more frequent, spread to other joints, and become more severe. For most people, gout does get more severe over time. These attacks could damage the affected joint over time. Gout can cause the development of tophi, or large swellings near the affected joint or in other locations. Tophi are made up of uric acid crystals (urate crystals) that clump together. Tophi look and feel like hard lumps under your skin, although they can also form deeper around a joint or even in the spine and only be visible with x-rays or other imaging. They can periodically get inflamed and become painful, and even when not overtly inflamed, they can release inflammatory chemicals that may damage your joint if you don't get treatment. For people

with tophi, it is especially important to get treatment to avoid joint damage.

✦ Gout Symptoms

During a flare, gout typically causes severe pain that is hard to ignore. Many people living with gout say the pain is so severe that it hurts if a bedsheet touches their toe. A gout flare may be so painful that it's hard to walk or wear shoes. But not every case of gout is so textbook. Here are other common symptoms of gout.

- **Pain, warmth, and redness** in the big toe
- **Pain, warmth, and redness** in other joints, such as the ankle, knee, foot, elbow, hand, or wrist
- **Intense pain that strikes in the middle of the night.** Gout flares are more likely to occur at night than during the day.
- **Pain that occurs in flares** that come on rapidly and then subside over a few days to weeks. (If you've been waking up every day for months with stiff knees or feet, it's probably not gout.)
- **Feeling fine between gout flares.** During periods between gout flares, people often have no symptoms and feel totally fine. This pattern is highly suggestive of gout compared to other types of arthritis.
- **Fatigue/lack of energy** during gout flares
- **Lumps and bumps around joints.** Called tophi, these lumps are mounds of uric acid crystals. They are a sign of gout becoming more serious, but they don't have to be permanent. Treatment for gout can help dissolve these crystals so the lumps ultimately disappear.
- **Kidney stones.** Ten percent of people living with gout have a genetic problem where the body makes too much uric acid. Those people also have too much uric acid in the urine, which can lead to crystallization in the urinary tract causing painful kidney stones. Fortunately, the usual treatments to lower uric acid in gout can also help prevent kidney stones.

What a Gout Flare Feels Like, According to Patients

"It was an intense, kind of throbbing pain in my left toe that got progressively worse to the point where I could barely walk." — *Ross W.*

"The flare would come in the middle of the night while I was sleeping and I would wake up and realize, 'oh crap, here it is' and I'd have to prepare for a day of a lot of pain." — *Oso W.*

"The pain was excruciating in my big toe — sometimes the right, sometimes the left. It would also hit my ankle, which would be very, very painful. And one time it did something to my connective tissue, where the Achilles tendon attaches to bone down in my foot. It became so inflamed that it became malformed and stayed crooked and thick." — *Ken L.*

"A flare starts with a tight feeling in that particular joint. It feels kind of hot. I'll notice that it is red and warm to the touch. I think it depends which joint is affected during the flare. In my ankle and knee, loss of motion is the first big thing I recognize when a flare starts. In my toe, I'll notice pain first." — *Ashley N.*

"I don't really have pain that you can describe. I do have painful joints. But it's not the kind of pain that comes with regular gout — joints so painful that you can't touch them. For me, it's more than I feel malaise all the time. Not so much pain, but just feeling horrible." — *Sharon N.*

Acute gout episodes can cause severe pain that keeps you from your normal activities during that time. Other people who don't know much about gout may not really understand what a gout attack feels like or what you're going through.

During an acute episode of gout you may...

- Be in so much pain that you must miss work
- Have trouble putting on your shoes due to the severe pain and swelling in the joint
- Struggle to get up and down the stairs of your house, or do household chores like laundry or cooking meals
- Have difficulty accompanying your kids to the school bus stop or walk your dog

If you have gout that isn't controlled by treatment and persists for years, you could develop chronic gouty arthritis. This can result in permanent joint damage, joint deformity, and persistent pain. Pain and disability could become a chronic problem that disrupts your work and home life.

That's why treatment and management are so important. Available treatments for gout can prevent this in most people.

Bottom line: Don't ignore gout, or dismiss gout as just "something you have to live with" for the rest of your life. Your doctor can help you prevent these attacks and effectively manage gout. Getting control of gout early is ideal, but treatments can help gout at any point.

✦ What Causes Gout?

Gout occurs when an excessive amount of urate (also called uric acid) builds up in your blood, crystalizes, and accumulates in the joints. Uric acid is a natural substance or chemical. It is produced by your own body as it metabolizes (breaks down) a substance called purines.

The Role of Purines
Purines are made naturally by your body. Certain foods and drinks are also high in purines, including:

- Beer
- Oily fish like mackerel or anchovies
- Organ meats like liver or kidneys
- Red meats
- Shellfish like mussels or scallops

Excessive consumption of purine-rich foods can trigger a gout attack since purines are broken down in your body to make uric acid.

High-fructose corn syrup, such as in a sweetened soft drink, effects the liver and causes more

purines to form, which break down to form urate. This can have the same effect as if you ate foods that break down to cause high purine levels.

But **it's a myth that diet choices alone can cause gout** in the first place. In fact, genetics are a key part of who gets gout. Ninety percent of people living with gout don't eliminate urate well through the kidneys because of genetic factors (and 10 percent are genetically programmed to make too much uric acid). Also, people with decreased kidney function for any reason (such as high blood pressure or diabetes) can be at greater risk for gout since their kidneys have trouble filtering and removing uric acid from the blood.

People who either make too much or excrete too little uric acid can be especially sensitive to foods, drinks, or medications that increase uric acid levels. This is what happens when you drink alcoholic beverages. They stimulate the kidney to pull more uric acid back into your bloodstream. The same thing happens when you take certain medications, such as some diuretics.

Beer increases uric acid levels in two ways. It contains proteins that are broken down to form purines that then break down to form urate in your body. And as with all alcoholic drinks, it also makes your kidney reabsorb more uric acid. That's why beer is often talked about as a potent trigger for gout flares.

People living with gout may notice that when their friends eat or drink the same things they do, they don't get gout. Why does this happen? The reason is that people who develop gout have a genetic tendency to have high uric acid levels and are much more sensitive to additional uric acid increases from particular foods or drinks. Once a gout patient is treated with uric acid lowering medication for a long period of time (often a year or more), they often can tolerate foods they couldn't have tolerated before.

How Gout Can Take a Toll, According to Patients

"One of the things that was really difficult was commuting to work, because I'd have to walk to the train or walk to the ferry, then walk to my office in New York City. It was very difficult to hobble through that when I was having a flare." — *Ross W.*

"There were days that I had to cut [work] short because I was in pain. I was a surveyor and that involves a lot of walking in the woods and climbing. There were days where I would have every good intention of going into work and I wasn't able to make it through a day." — *Ken L.*

"Gout flares interrupt my life, every time that they happen. Luckily, my kids are relatively self-sufficient now and my husband can help with extra things around the house. Normally I travel a fair amount for work. Having a gout flare has interrupted my travel plans for work or for personal reasons. I've had to delay plans or cross my fingers and hope that I can take the medication and that it'll work prior to the travel date." — *Ashley N.*

"When my gout was not being treated properly, I had just had it. I was ready to quit my job and go on disability. I couldn't walk through the grocery store. I couldn't walk up and down my own stairs to get to my bedroom and I was ready to live the rest of my life on my couch. It was bad." — *Sharon N.*

"The flare would come in the middle of the night while I was sleeping and I would wake up and realize, 'oh crap, here it is' and I'd have to prepare for a day of a lot of pain." — *Oso W.*

Uric Acid in the Joints

Once you have high uric acid in your blood, urate crystals can deposit in your joints (and other locations). When the urate crystals in your joints are recognized by your immune system, they are

identified as "foreign bodies" and are attacked the way bacteria or other germs would be.

This involves all the signs of inflammation: redness, heat, and swelling, with white blood cells rapidly entering the joint. Urate crystals also can build up and form hard deposits called tophi (or the singular, tophus). That's why gout is considered a "crystal" arthritis or crystal disease. Urate crystals can also form kidney stones, which can be extremely painful to "pass" through your urine.

High urate in your blood is also called hyperuricemia. One of the goals of your gout treatment plan, including medications and diet/lifestyle changes, will be to keep your uric acid level below 6 milliliters per deciliter, or mg/dL. People living with gout with tophi may have a lower urate goal, below 5 mg/dL.

Your doctor can test your uric acid levels periodically, so you know your current number. You should always ask about your urate level and know that your goal is below 6.0. When you are starting uric acid lowering medication, you generally need the uric acid checked quite frequently as your dosage is adjusted until you reach your uric acid to goal. Once you have the right dose of medication, the uric acid should still be re-checked, at least once a year.

What Happens During a Gout Flare

When you have a gout flare, your body sees the uric acid crystals as "foreign" and attempts to destroy them. White blood cells attack and ingest the crystals, and inflammatory chemicals are released that bring in even more white blood cells. The result is inflammation.

Your big toe (one of gout's favorite spots) may swell up suddenly, turning red and hot, so you think it may be infected or even fractured. It's not an infection or a fracture, however — it's inflammation.

Whether a person with gout makes too much uric acid or their kidneys excrete too little, the end result is high uric acid in the blood, and lowering it is the key treatment goal. Adjusting your diet and keeping well hydrated are important, but for most people living with gout, one or multiple medications will be needed to get uric acid to goal and to prevent gout flares.

✦ Who Gets Gout?

Gout is the most common form of inflammatory arthritis. It affects about 9.2 million U.S. adults (3.9 percent of the population), according to the latest national data. Of that total, 5.9 million cases of gout are in men and 3.3 million are in women. Gout is extremely rare in children.

The number of adults with gout is rising. This may be due to some lifestyle-related risk factors for gout, like obesity, high fructose consumption, and heavy alcohol drinking. As

obesity rates have spiked in the U.S., so have gout rates. In a study of U.S. adults tracking gout rates from 1988-1994, only 2.7 percent had been diagnosed with the disease.

Gout was once called the "rich man's disease" or the "disease of kings." This is probably because famous men like King Henry VIII of England and American founding father Benjamin Franklin had gout. People assumed — incorrectly — that only wealthy men who could afford to eat diets full of "rich" delicacies and drinks developed gout. Today, people of all socioeconomic levels have gout. Gout has more to do with how your body metabolizes uric acid than what decadent foods you eat or how much money is in your bank account.

Gout Risk Factors

High levels of uric acid in your blood can cause the uric acid crystals to form, leading to gout, but not every person with high uric acid levels actually develop the disease. What factors make a person more likely to get gout?

One risk factor for gout is being male. Men get gout at higher rates than women, especially in younger age groups. Before menopause, women are less likely to get gout because female sex hormones have a protective effect on uric acid levels. But after menopause, women's risk of gout increases (although women never catch up to men).

Other risk factors for gout include:

- Genetics (your body is unable to remove uric acid or makes too much uric acid)
- Obesity (a body mass index greater than 30)
- Heavy, habitual drinking
- Some medications, including diuretics, which treat high blood pressure, and cyclosporine, an immunosuppressant
- High consumption of foods rich in purines
- High consumption of high fructose corn syrup, as in sweetened soft drinks
- Certain chronic health conditions, like high blood pressure, diabetes, insulin resistance, congestive heart failure, metabolic syndrome, and kidney disease
- Family history of gout

Certain racial and ethnic groups may have higher prevalence of gout, which may be due to genetic factors. There are particular genes associated with greater susceptibility to develop gout. Higher gout prevalence is associated with the Maori ethnic group from New Zealand and the Hmong ethnic group from China.

Because several gout risk factors are related to lifestyle and diet, you can take steps to change them. If you already have gout, medications can lower your uric acid levels and help prevent further attacks. But changing some dietary and lifestyle habits add further protection. Cutting back on alcohol consumption, getting more exercise, and losing weight with a healthy diet that emphasizes

fresh fruits and vegetables over red meats and processed foods are excellent habits for your overall health. These steps may help you prevent future gout attacks too, because they can help lower uric acid levels. Uric acid levels in your blood are not static. You can fight back against gout.

Diet (including how much alcohol you drink) and exercise are gout risk factors you can control, but you may need help to make those changes stick. Your doctor is your partner in managing your gout and preventing long-term problems, but other members of your health care team, such as nurses, physical therapists, nutritionists, and others, can play a major role as well. We'll talk more about lifestyle changes this later in this guide.

✦ How Is Gout Diagnosed?

The symptoms of an initial, acute gout attack — sudden, severe, pain and swelling in a joint like your toe — are telltale. But not everyone with gout has red-flag symptoms that present in this exact way. Some people may first experience gout pain in the ankle or the knee. Others may not notice acute pain in a single joint, but rather feel general malaise, fatigue, and discomfort.

If you notice any gout symptoms, see your doctor right away. A primary care physician can diagnose gout in most cases. You may also be referred to a rheumatologist, a specialist in the diagnosis, treatment, and long-term management of arthritis and related rheumatic diseases, which includes gout.

Tests for Gout
There is no single, simple test to confirm diagnosis of gout.

Physical Exam
First, your doctor will give you a physical examination to assess your overall health and get the history of your joint pain and other symptoms that suggest gout. They may check for pain or swelling in other joints too. If you have signs of possible gout in several joints, that's called "polyarticular" disease. However, early on, many people have gout symptoms in just one or possibly two joints.

Family and Medical History
Your doctor may ask about your family history, your diet and drinking habits, and other medical conditions you have. Be honest. Questions about how much or how often you drink alcohol, or how much or what you eat are not meant to judge your lifestyle, but to gain a complete picture of potential gout risk factors. For example, some people experience gout attacks for the first time after eating a lot of high-purine foods (such as shrimp), so this could be a valuable clue in making the diagnosis.

Don't downplay your pain. Some people don't like to admit they are in pain, but it's best to be honest about the intensity and impact of your pain. Typical gout attacks can be extremely painful, so being descriptive about the nature of the pain and when it occurred (struck in the middle of night, was so bad you couldn't wear your usual shoes, etc.) can be very revealing.

Blood Test
Your doctor will give you a blood test to measure your uric acid levels to see if they are elevated.

It's important to know that any uric acid level above 6 mg/dL is too high for a person with gout, even if their result is within the lab's "normal range" for urate.

However, many people with elevated uric acid do not get gout or experience gout flares. Almost all gout patients will have a urate level above 6.0 mg/dL, but many people with high urate levels don't get gout symptoms.

Be aware that your uric acid level can go down during a gout flare, so if the level is below 6.0 during a flare it will generally be repeated two weeks after the flare is over to see your true urate "baseline" level.

Joint Fluid Aspiration
Your doctor may look for uric acid crystals in the synovial fluid of your swollen joint. They will insert a needle to draw out some fluid and examine it under a polarizing microscope to look for needle-like crystals that suggest gout. If you don't have visible uric acid crystals in your joint after one flare, that doesn't necessarily mean you don't have gout. At times joint fluid may need to be re-evaluated during a future flare to finally see the crystals.

Seeing uric acid crystals gives an absolute diagnosis of gout. However, it is quite possible to diagnose gout without removing joint fluid in people with "classic" gout symptoms, physical exam, and elevated urate levels. Removing and analyzing joint fluid for uric acid crystals is especially important when the doctor needs to separate gout from other conditions, such as infections or other types of crystal-related arthritis.

Additional Health Concerns for People with Gout

It is very common for someone diagnosed with gout to also have one or more additional diseases or conditions that are simultaneously present — this is what is known as a comorbidity. Some comorbidities are found in people with gout more frequently than in the general population.

Gout is commonly associated with the following comorbidities:

- Cardiovascular disease (heart attack, heart failure, atrial fibrillation, irregular heartbeat)
- Chronic kidney disease
- Depression
- Diabetes
- Kidney stones
- Sleep apnea
- Stroke

The types of treatments you will be able to use for gout may vary and change depending on the comorbid conditions you have. For example, if you have an abnormal kidney function, the dosage of some gout medications may need to be adjusted. One or multiple medications may be prescribed to treat both gout and a specific comorbid condition.

As with treating gout, lifestyle changes, a healthy sleep routine and diet, and following treatment plans as instructed will help in managing your co-existing conditions.

Imaging
Your doctor may take some images of your affected joint. These include ultrasound or dual energy computed tomography scans (CT), which help show signs of deposits of uric acid. If you've had gout for a while, X-rays can show long-term joint damage. Imaging tests are helpful for confirming the diagnosis along with the joint fluid test, blood test, and physical exam.

In order to make a gout diagnosis without the opportunity to look at crystals in the joint, doctors

can look for the following 10 features:

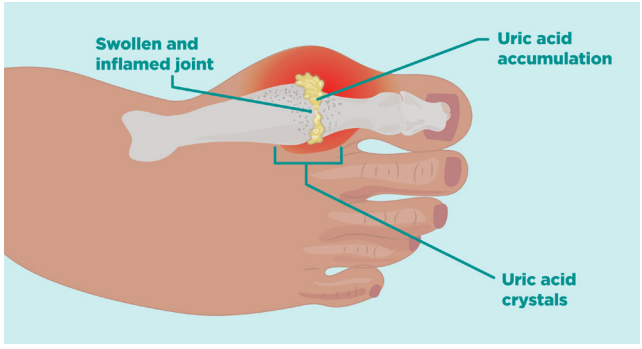
1. Has the inflammation ever involved the base of the big toe (bunion joint)?
2. Has the inflammation involved the ankle?
3. Has there been redness over the joint?
4. Has the joint been so inflamed that it couldn't bear to be touched?
5. Did the inflammation cause difficulty walking?
6. Have there been 2 or more episodes?
7. Is there any sign of a tophus (clump of urate crystals that can be felt on exam)?
8. How high is the uric acid (urate)?—the higher the greater the chance of gout
9. Is there evidence on x-ray of gouty erosions?
10. Is there evidence of gout on an ultrasound study or dual-energy CT scan?

Don't Diagnose Yourself

It's very important that you do not try to self-diagnose yourself with gout based simply on how your joint looks and feels, and then try to treat it on your own with supplements, herbal treatments, or special diets. See your doctor to get an accurate diagnosis and start treatment. As an example, for most gout patients, dietary changes (although important) are not enough to prevent future gout flares.

✦ Evaluating Complications of Gout

After you're diagnosed with gout, your doctor should immediately consider the following high-risk issues, which could affect your treatment plan.



Does the person have tophi? These are lumps and bumps of uric acid under the skin that can occur all over the body. They are a sign of more serious gout that may require more aggressive gout treatment.

Does the person have a history of kidney stones? High uric acid can accumulate in the kidneys and cause kidney stones. This, too, may necessitate more aggressive gout treatment to lower uric acid and prevent kidney stone formation.

Does the person have cardiovascular risk factors? Gout is linked with a greater risk of heart disease. People with gout should be evaluated for additional cardiovascular risk factors (blood pressure, cholesterol) so that these factors can be managed separately, with medication and lifestyle changes if necessary.

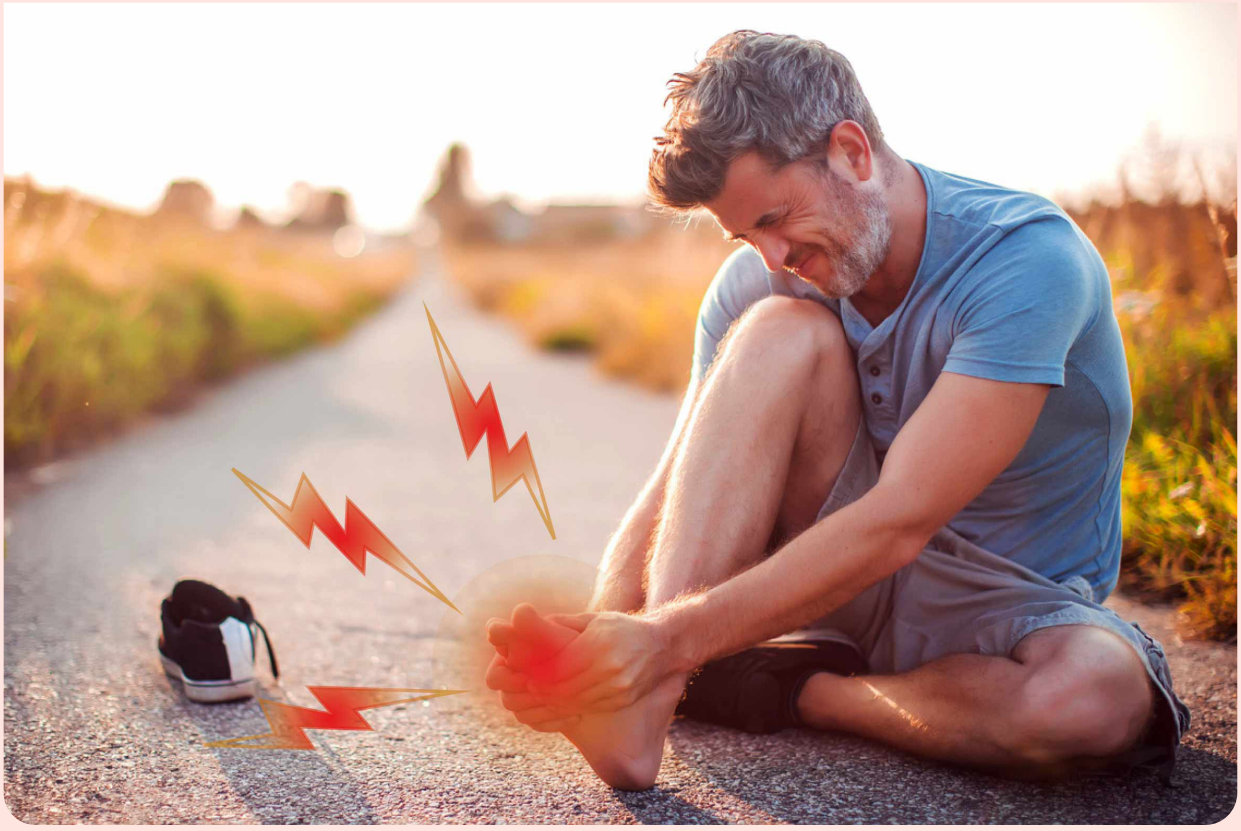
What I Wish I Knew About Gout Sooner, According to Patients

"There are plenty of younger people who get gout. Back then when I first got it, I thought I was in my own category. I've now just realized that it happens to people at all different ages." — *Ross W.*

"Don't power through. The uric acid will damage your bones if you ignore your gout. Figure out your diet and make adjustments in your life because this is something you're going to have for life." — *Oso W.*

"Seek information about your condition so that you can understand it. But don't put the pressure on yourself to understand it all the first time you read it. It's okay to read it once and come back to it in a couple of days. And every time you do that, you start to remember new things about your condition, what it is, what it means to live with it and how to manage it moving forward." — *Ashley N.*

"My gout is so different, and that's one of the things that I try to get across to people, is gout comes in many, many forms. And you can't always be sure that it's not gout unless you get your uric acid levels tested." — *Sharon N.*



PART V Gout Treatments

Gout can be effectively treated and managed. Medication for gout falls into two general categories:

- Treat an acute gout flare to relieve symptoms
- Prevent future gout attacks by lowering uric acid levels

Your gout treatment plan may include medications and recommendations for both immediate symptom relief and long-term gout management.

Prompt diagnosis and initiation of treatment can, in most cases, alleviate acute gout symptoms: pain, swelling, and inflammation in the affected joint. You may start to feel better quickly, even within a day or two. You may be able to quickly return to work and other daily activities. Controlling those acute symptoms is the first, immediate goal for gout treatment.

What about after that? Once you get the acute, painful attack under control, don't consider gout to be out of sight, out of mind. Your doctor can prescribe treatments for you with these long-term goals in mind:

- Prevent future gout attacks of pain and inflammation
- Prevent tophi, which could damage your joints
- Lower uric acid levels over the long term to prevent not just gout, but also kidney problems such as kidney stones and possibly help reduce the risk of other comorbidities, such as heart disease. (Studies are still in progress to confirm data that suggests that lowering uric acid is good from a heart point of view).

Your treatment plan will likely include more than just medications. Your doctor may also make recommendations about lifestyle changes to help prevent gout attacks and manage uric acid levels. These may include:

- Diet changes, like cutting back on or avoiding foods high in purines, along with a handy list of these foods
- Keeping a food diary

- Recommendations to lose weight, like a daily eating plan or a referral to a formal weight-loss program or registered dietitian if you need help
- Limiting alcohol intake
- Quitting smoking
- Exercise or physical activity
- Physical therapy

What It Means to Have Gout Under Better Control, According to Patients

"Now that I am finally on medication that is controlling my gout, at age 60, I feel like I should have felt at 40. I can run. I can wash my car. I can go up and down stairs. I work full-time, happily." — *Sharon N.*

"Every time I would go on vacation, every time I would leave my home, I was always very nervous that I'd get a gout attack and be in a place that wouldn't be as comfortable as possible. I have less of that fear now. I still always travel with different prescription drugs in case I do get [an attack] when I travel, but I'm less fearful about that now." — *Ross W.*

"I believe that the changes I've made with my diet and medication are helping me with my goals...to not have any more flare-ups, or to at least significantly decrease how often I have flare-ups. And I really [would] like to not have gout or my other conditions interfere with my day-to-day life anymore, so I can play with my kids or participate in different types of exercise. I don't want gout to get in the way." — *Ashley N.*

We'll go over lifestyle changes for gout management later in this guide. If you need professional help to lose weight, manage overeating or emotional eating, control drinking, quit smoking or get more physical activity, your doctor can refer you to health care professionals who specialize in these areas of treatment.

You don't have to go it alone. Change is not easy. In fact, it's very hard for most people. While a gout attack may feel like a warning sign that you need to cut back on your alcohol intake or lose weight, actually achieving those goals and maintaining them is challenging. Ask for the help, assistance, and support you need.

✦ Treatment for Acute Gout Flares

The first warning sign that you have gout is likely a sudden, acute flare of gouty arthritis. It's the inflammation of tissue in your joint caused when your body's immune system attacks the uric acid crystals that have settled in your joint.

The first, immediate step in your treatment plan is to treat that inflammation. This should quickly

ease your symptoms. Because gout flares tend to strike suddenly and cause a lot of pain and inflammation right away, they should be addressed as soon as soon as possible. Don't delay contacting your doctor when you have signs of a gout attack. Toughing it out is generally a very bad strategy for managing gout.

It is also a good idea to keep a supply of anti-inflammatory medications at home for immediate treatment.

There are a number of medications your doctor can prescribe for gout flares. There are three first-line medications recommended in the latest gout treatment guideline. First-line means these should be used over other available options. Note: Determining which of these treatments is likely to be the safest for you, and in what doses, can also depend on other medical conditions you may have.

- Colchicine
- Nonsteroidal anti-inflammatory drugs (NSAIDs)
- Corticosteroids (also called glucocorticoids or "steroids" for short), by mouth, by intramuscular injection, or injection directly into a joint

If your gout attack is limited to one or two joints, and your pain is mild to moderate, you may only need one of these medications to control the inflammation. However, if your pain is severe, and if one or more of your larger joints (not just a toe) are involved, you may need a combination of treatments to get it under control.

If one drug doesn't work well enough to treat your gout attack symptoms, your doctor may either switch you to a different medication or try a combination of medications. There are several options for treating gout attacks, so your doctor will decide which one is best for you.

An inadequate response to your first medication is:

- Less than 20 percent improvement in pain (measured and scored on a standard questionnaire) within 24 hours
- Less than 50 percent improvement in pain after 24 hours or later

✦ Colchicine

Colchicine (Colcrys or Mitigare and generics) is a prescription, oral anti-inflammatory medication prescribed to treat gout and other types of crystal-related arthritis. Colchicine is not an anti-inflammatory medication that works for things like headaches or joint injuries. Colchicine may be the first choice to treat your acute gout flare and ease your symptoms if it's within 36 hours of the onset of your symptoms.

It's the only medication approved by the FDA to both treat and prevent gout flares.

However, colchicine does not lower the levels of uric acid in the body, so it really isn't a long-term solution to gouty arthritis.

How Colchicine Works

Colchicine interferes with the interactions between monosodium urate crystals and the surfaces of cells they encounter in your joint. It "interrupts" the inflammatory reaction to these crystals. It also appears to stop inflammatory white blood cells from activating and moving to attack the crystals, where they cause your sudden, severe gout symptoms.

Colchicine may be prescribed at lower doses as a preventive medicine to reduce your likelihood of a future flare, by lowering the ability of urate crystals to cause inflammation. This strategy is often used during the first six months of treatment with a different medication that lowers uric acid levels. Taking a medication that lowers uric acid levels can cause "mobilization flares" — or a temporary uptick in gout flares due to uric acid getting pulled out of the joints. Taking colchicine along with a medication that lowers uric acid levels can help alleviate flare symptoms.

However, colchicine doesn't lower uric acid levels in your blood. And it does not treat joint or tissue damage from chronic gout.

How to Take Colchicine

Colchicine is taken as either a short-term medication to relieve an acute gout flare or as an ongoing, preventive treatment during the early stages of taking another medication to lower uric acid (such as allopurinol). Your doctor can prescribe colchicine to keep on hand in case of a gout flare.

Colchicine is a tablet typically taken twice a day for an acute gout attack. It is a 0.6 mg tablet. Higher doses of colchicine used to be recommended but this caused diarrhea in many people. The latest treatment guideline recommends using lower doses because they are as effective and have fewer side effects. A typical dose for a gout flare is taking two tablets (1.2 mg) as soon as possible after you notice gout symptoms, followed by one pill (0.6 mg) an hour later, with no further doses for at least 12 hours. This may be followed with doses once or twice daily (every 12 hours).

If you don't get relief within a few days, let your doctor know. You may need to switch to or add another medication.

Don't take colchicine to relieve other types of arthritis pain or back pain not related to gout. It's effective in treating treat gout pain, but most types of arthritis don't respond to colchicine.

Follow your prescription directions closely when you take colchicine. Don't take more of this medication than your doctor prescribes for a gout flare.

If your doctor prescribes colchicine for you to take regularly to prevent gout flares, and you have an acute gout flare while on this treatment, contact your doctor immediately. Your doctor may direct you to take a temporarily higher dose of colchicine to treat the flare, or add another medication to treat it. Follow your doctor's directions exactly so you don't take too much medication.

Possible Interactions and Precautions

Let your doctor know if you are allergic to any of these medications that could interact with colchicine:

- Antibiotics like azithromycin (Zithromax), clarithromycin (Biaxin), erythromycin (E-Mycin), and

telithromycin (Ketek). Be aware that the drug interaction with clarithromycin is much more significant than other types of antibiotics. Make sure to tell your doctor if you are prescribed colchicine and clarithromycin at the same time.

- Antifungal medications like fluconazole (Diflucan), itroconazole (Sporanox), and ketoconazole (Nizoral)
- Aprepitant (Emend)
- Statins: Be aware that the interaction of statins with colchicine is different depending on the statin you take. For example, rosuvastatin (Crestor) has a mild interaction with colchicine, and atorvastatin (Lipitor) has a relatively minor interaction that may be addressed with a lower colchicine dose. Tell your doctor about all of your prescription medications, including anything new you're prescribed while talking colchicine.
- Cyclosporine (Neoral, Sandimmune)
- Digoxin (Digitek)
- Diltiazem (Cardizem, Dilocor)
- Fibrates
- Medications to treat HIV or AIDS
- Nefazodone
- Ranolazine (Ranexa)
- Verapamil (Calan, Covera, Isoptin, Veralan)

You can take colchicine with or without food, but some people find it easier on the stomach to take with food.

Don't drink grapefruit juice or eat fresh grapefruit while taking colchicine. Grapefruit juice can cause a mild increase in colchicine dose. Occasional small amounts of grapefruit or grapefruit juice are unlikely to cause a major problem.

If you miss your dose of colchicine, take your dose as soon as you remember. Don't take your next dose for 12 hours.

If you're very close to the time when you would take your next dose (if taking regularly for gout attack prevention), just wait until the time for your next dose and stay on your regular dosing schedule. Don't "double-dose" colchicine to make up for the dose you missed.

Colchicine is considered safe when taken at the correct dose, but overdosing may be fatal. Take your medication only as prescribed. Do not share colchicine with other people you know who have gout or seem to have gout attack symptoms.

Let your doctor know if you have ever had kidney disease or liver disease, or for women, if you're pregnant, plan to become pregnant, or are breastfeeding. If you become pregnant while taking colchicine for gout, let your doctor know.

What Are the Possible Side Effects of Colchicine?
Colchicine may cause some side effects, such as:

- Diarrhea
- Nausea
- Stomach pain or cramping
- Vomiting

If these persist for hours or are severe, let your doctor know. Also, if you experience any of these side effects, alert your doctor immediately:

- Fatigue or weakness
- Muscle weakness or pain
- Numbness or tingling in fingers or toes
- Severe diarrhea or vomiting
- Signs of an infection: sore throat, fever, chills, body aches
- Unusual bleeding or bruising
- Unusually pale lips or tongue

✦ Treatment for Acute Gout Flares

Nonsteroidal anti-inflammatory drugs, or NSAIDs, are commonly used to relieve inflammation and pain in conditions like gout or other arthritis. NSAIDs are generally safe to use for acute flares of pain and inflammation, but they do have side effects that you need to be aware of.

Some NSAIDs are available over the counter (OTC), generally at lower doses for mild pain. These include aspirin, ibuprofen, and naproxen sodium. You can also buy generic or "store brand" versions of these medicines. For an acute gout attack, you'll likely need a prescription NSAID. Don't try to self-treat your gout with OTC medicine. You may be able to use OTC NSAIDs for a gout flare, but talk to your doctor about the right dosing, which may be different than on the label.

Small doses of NSAIDs may still cause side effects yet be inadequate to handle a gout flare. Don't take an OTC NSAID on your own if you're already taking a prescription NSAID. You could easily take too much.

It's not ideal to take NSAIDs regularly for pain that persists, as they can cause side effects,

including ulcers, diarrhea, or stomach pain.

Some people need to be extra careful about taking NSAIDs for gout flares, even for short periods. This includes people with ulcers, high blood pressure, heart disease, fluid retention, and liver, and kidney problems.

How NSAIDs Work
NSAIDs block proteins called enzymes that help your body produce lipids called prostaglandins. These lipids, such as COX-1 and COX-2, play a role in the processes of inflammation and pain. NSAIDs help control pain, swelling, redness, and fever.

Most traditional NSAIDs block both COX-1 and COX-2. COX-1 also helps keep your stomach acid under control, which is why NSAIDs can cause gastrointestinal symptoms. There is one NSAID available in the U.S., celecoxib (Celebrex), that blocks only COX-2. It may be gentler on your stomach than other NSAIDs, but still has the other possible side effects of NSAIDs. Your doctor will decide which NSAID is right for you.

How to Take NSAIDs
NSAIDs are used for short-term relief of inflammation and pain. A high-dose NSAID may take care of your gout attack symptoms quickly. You should not have to take NSAIDs long term. Using an NSAID long term increases the risk of side effects.

Common NSAIDs your doctor may prescribe for gout attacks and symptom relief:

- Celecoxib (Celebrex)
- Diclofenac sodium (Voltaren)
- Ibuprofen (Advil, Motrin)
- Indomethacin (Indocin)
- Ketoprofen (Actron, Orudis)
- Meloxicam (Mobic)
- Naproxen sodium (Aleve)
- Naproxen (Naprosyn)
- Piroxicam (Feldene)
- Sulindac (Clinoril)

Each NSAID has its own dose and timing for how often to take the drug. Over-the-counter medicine

doses are often less than the prescription versions of the same drug.

Some ways to ease NSAID side effects include:

- Take your medicine with food, such as with your normal meals or a snack like crackers.
- Try coated pills instead of uncoated.
- Take the lowest possible dose you need to manage your pain.
- Don't keep taking NSAIDs, even OTC brands, for a long time if your pain does not subside. Talk to your doctor about other options.

What Are the Possible Side Effects of NSAIDs?
NSAIDs are generally safe and easy to tolerate. The most common side effect of taking NSAIDs is stomach pain or heartburn. Others include:

- Allergic reactions
- Bleeding
- Headaches
- Increased risk of heart attack or stroke
- Lightheadedness or dizziness
- Liver and kidney problems (rarely)
- Raised blood pressure
- Ringing in your ears
- Ulcers

If you notice any of these symptoms, get medical care right away:

- Black or bloody stool
- Swollen ankles, hands, or feet from fluid retention
- Unusual weight gain
- Vomiting

Your risk of side effects goes up if you take higher doses of NSAIDs or take these drugs over long periods of time. People who are older or have a history of ulcers may be at higher risk for stomach problems with NSAID use.

Let your doctor know if you have side effects like heartburn or stomach pain. Don't "grin and bear it." Your doctor may prescribe another medicine for your pain or may be able to add another medicine

to lower your stomach acid. These include omeprazole (Prilosec) or esomeprazole (Nexium), and misoprostol (Cytotec). You can buy these over the counter or get a prescription.

✦ Corticosteroids

Corticosteroids are also called glucocorticoids or "steroids" for short. They may be a good choice to treat a gout flare, especially if you can't take NSAIDs. Corticosteroids for gout may be oral (pills you swallow) or injected (into a muscle or the affected joint). Prednisone, methylprednisolone, and triamcinolone acetonide are corticosteroids used to treat gout.

How Corticosteroids Work
Corticosteroids are strong, fast-acting anti-inflammatory medications. These drugs can provide quick, powerful relief of gout symptoms, such as pain, swelling, redness, and warmth.

They are synthetic versions of a natural hormone made in your body's adrenal glands called cortisol. When you take a higher dose of this hormone than your body is used to, it can reduce inflammation. They also suppress your immune system and can cause many side effects throughout the body.

Corticosteroids are prescribed for many different diseases. They are one choice for monotherapy, or a single treatment, of acute gout symptoms. They may also be used in combination with other treatments if pain is more severe or there are multiple joints involved.

High-dose corticosteroids are not meant for long-term use in gout. On occasion, low doses of prednisone are used to prevent gout flares when people start medications such as allopurinol, but colchicine is used much more often for this purpose.

Like NSAIDs and colchicine, corticosteroids do not lower your uric acid levels, so they do nothing to help to get rid of the uric acid crystals in your body. All of these treatments can help stop urate crystals from causing inflammation, but other types of treatment are needed to actually remove the crystals from your joints.

How to Take Corticosteroids
Your doctor will look at the number of joints involved, and the severity of the flare, to determine what form of corticosteroid therapy is right for you. If multiple joints are inflamed, systemic therapy such as oral corticosteroids are the best option.

There are many acceptable dosing plans for corticosteroids in gout. Doses of these medications are tapered slowly over a number of days rather than stopped abruptly. For example, you could start by taking 0.5 mg/kg (of your body weight) of oral prednisone, reducing the dose slowly over the course of five to 10 days. Another option is an oral dose-pack of methylprednisolone, which is tapered each day, and easy to follow.

Be clear on exactly which regimen your doctor prescribes and report back to the doctor if you are not improving. Sometimes, a higher dose is needed. Also, if you take corticosteroids for a gout flare and it completely resolves, check with your doctor about whether you should complete the full course. Sometimes, the dosing can be more rapidly tapered once your flare has resolved.

An alternative to oral corticosteroid is an intramuscular injection of a steroid, such as triamcinolone acetonide (usually a 60 mg dose) followed by oral corticosteroids as needed.

If a single joint is involved (such as a toe, ankle, or knee), you may be treated with an intra-articular corticosteroid (injected directly into the joint itself). The dose of intra-articular corticosteroids may vary depending on the size of the affected joint.

The advantage of a local injection is that it concentrates the corticosteroid at the point of inflammation and reduces the amount the steroid effects your body as a whole.

What Are the Possible Side Effects of Corticosteroids?
Corticosteroids can have many side effects, especially if you take the oral form of the drug (as opposed to a local injection). Side effects may depend on the dose and how long you take corticosteroids. For many people, side effects may be mild and temporary.

Possible side effects of oral corticosteroids may include:

- Fluid buildup that causes leg swelling
- High blood pressure
- Insomnia
- Mood or memory problems
- Weight gain
- Corticosteroids could raise blood sugar, especially if taken longer-term, and this could either trigger or worsen diabetes.

Other side effects more associated with long-term corticosteroid use include:

- Cataracts
- Easy bruising
- Glaucoma
- Osteoporosis
- Poor wound healing
- Suppressed adrenal gland hormone production
- Thinning of the skin

These are not as likely to happen with a short-term dose for gout. Most people can tolerate a short course of corticosteroids, such as prednisone, without any problem. If you have an underlying problem, such as uncontrolled glaucoma or uncontrolled diabetes, make sure your doctor is aware of it before you are given prednisone therapy.

Injected corticosteroids into an affected joint are not likely to cause the same side effects as the oral drugs. Possibly, you may have a temporary reaction, including:

- Elevated blood sugar
- Flushing of your face
- Insomnia (lack of sleep)
- Thinning or loss of color in the skin around the injection site

You should not receive more than three or four injections of corticosteroid a year for any type of joint pain. Repeated corticosteroid shots are not recommended as a way to treat recurrent gout attacks. **Multiple attacks are a warning that you need medication to reduce your uric acid levels.**

Gout Flares: What Else You Can Do

While gout medication should quickly treat your joint pain, swelling, and redness, there are things you can do on your own in addition to taking your medicine to help relieve gout pain.

Ice it. Treat your swollen joint with topical ice for a short period of time (no more than 10 minutes at one time) if you need a little extra relief. Ice can ease pain and swelling. Wrap ice or an ice pack in a soft towel or cloth before placing it on your skin. Don't place ice directly onto your joint, even if it's inside a plastic bag.

Elevate it. If your big toe or foot is affected, prop it up on pillows while you rest on the sofa. Keep your joint elevated above the level of your heart for the best effect.

Give it a rest. It's okay to take it easy for a day or two while your symptoms are at their worst. Rest if you can. Try not to use your affected joint until your medications can reduce the inflammation. Gout flares often get worse if you try to ignore them and put stress on your affected joint.

✦ Corticotropin or Adrenocorticotrophic Hormone (Acthar, H.P. Acthar Gel)

Another treatment for an acute gout attack is adrenocorticotropic hormone, or corticotropin or ACTH (Acthar, H.P. Acthar Gel). The latest gout treatment guideline recommends colchicine, NSAIDs, and corticosteroids over ACTH, but it is a possible option for some people, particularly those who cannot take oral NSAIDs, colchicine, or corticosteroids for some reason, or who are hospitalized.

How ACTH Works

Adrenocorticotrophic hormone (Acthar, H.P. Acthar Gel) is also called corticotropin or systemic corticotropin. It belongs to a group of proteins in your body called melanocortins. It regulates the function of your adrenal cortex and influences your body's secretion of steroid hormones.

How to Take ACTH

An ACTH injection is given to relieve a severe flare of inflammation in gout. It's a subcutaneous injection of a dose of 25 to 40 international units (IU).

What Are the Possible Side Effects of ACTH?

Corticotropin or ACTH injections are relatively safe when used for gout treatment. Possible side effects of this drug when injected at this dosage include:

- Acne
- Bruising
- Dizziness
- Dry skin
- Edema (swelling)
- Headaches
- Hyperglycemia (high blood sugar)
- Hypokalemia (low potassium in your blood)
- Increased infection risk
- Insomnia
- Mood changes
- Poor wound healing
- Sweating
- Thinning skin
- Ulcers
- Upset stomach

While these side effects are rare, you should call your doctor immediately if you notice any of these side effects:

- Bloody or tar-like stool
- Confusion or signs of very high blood pressure (ringing in your ears, dizziness, headache, chest pain, uneven heartbeat, etc.)
- Coughing up blood
- Edema
- Rapid weight gain
- Seizures

A Note About Drug Side Effects

Do the long lists of possible side effects included on your prescription package insert worry you? You're not alone.

Remember: Side effects of any particular drug are only possible — you may not have them at all. In other cases, they may be mild and temporary. They are listed on the drug's website, medical information websites, or your prescription insert because they are possible for some people in some situations (even very rarely).

Your doctor and nurses are aware of the possible side effects of your drugs, and they will go over the most likely side effects that you may experience. If you don't understand what a particular word or term means, how the side effect actually feels, or how likely you are to experience the side effect at this dose, **ASK**. You can also ask your pharmacist when you fill a prescription.

Don't be shy when you are receiving any medication for your gout. Ask questions about side effects, risks vs. benefits, and what signs should alert you to call your doctor. Your doctor and/or nurses will tell you what you need to know about your drugs, including how to take them and what side effects are likely or possible, but speak up if you need further explanation or if you have concerns.

When you are reading about the possible side effects of medications to treat a gout flare, remember that side effects relate not just to which medication you are taking, but also to the dose and duration. Fortunately, most gout flares can be controlled quickly, especially if treatment is started early after the flare starts. Because of this, most people can take medications such as NSAIDs or corticosteroids for a gout flare and tolerate them very well, despite the fact that these medications might cause problems if used long term.

Medications for gout flare are a good example of a situation where the individual patient needs to

- Severe depression or thoughts of suicide
- Severe pain in your upper abdomen
- Shortness of breath
- Vision problems

✦ Treatment to Prevent Future Gout Flares and Lower Uric Acid

In addition to treating an acute flare of gout to relieve pain, the other part of gout management is prevention. While therapies that target inflammation (colchicine, NSAIDs, and steroids) are used to stop gout attacks, an entirely separate group of medications is used to prevent gout attacks from happening in the future.

These medications work differently: Their main purpose is to lower levels of high uric acid (called hyperuricemia) so gout attacks don't keep happening.

This is known as urate-lowering therapy, or ULT.

be taken in consideration when the medication is chosen. For example, if you have an active ulcer or poor kidney function, an NSAID may not be best for you. If you have poorly controlled diabetes, corticosteroids may not be a good option for you. Make sure that you give your health care provider your full medical history when you talk about prescription medicines for gout.

The types of treatments you will be able to use for gout may vary and change depending on the comorbid conditions you have. For example, if you have an abnormal kidney function, the dosage of some gout medications may need to be adjusted. One or multiple medications may be prescribed to treat both gout and a specific comorbid condition.

As with treating gout, lifestyle changes, a healthy sleep routine and diet, and following treatment plans as instructed will help in managing your co-existing conditions.

Who Needs Urate-Lowering Therapy (ULT)?
Not everyone who has one gout flare or receives a gout diagnosis needs to go on long-term medications to manage their gout right away. In some cases, you may be able to take a short-term treatment for your gout attacks to get the inflammation under control and make changes to your diet and lifestyle that help you manage your uric acid levels and prevent future attacks.

However, if flares become more frequent, you will likely need to add a medication to control your uric acid levels.

According to the latest gout treatment guideline, starting ULT is recommended in the following cases:

- If you have 2 or more gout flares a year
- If you have tophi (hardened, lumpy uric acid crystals that can damage joints)
- If your doctor determines that there is damage to your joints that is visible on X-rays or other imaging

It's common to be nervous about starting ULT. Many patient advisors who helped create the gout treatment guideline "reported that they were initially hesitant to start ULT, [but] after experiencing improved control of inflammatory symptoms and tophi, they became strong advocates for its earlier institution."

Starting ULT may also be recommended in these cases:

- If your gout flares are so severe that you're not able to work or perform your daily tasks. If so, you may not need to wait until two attacks in a year.
- If you have kidney damage, kidney stones, or if you excrete high amounts of uric acid in your urine
- If your uric acid level is especially high (greater than 9.0)

Generally, it's not recommended that people start ULT:

- If you've only had your first gout flare and have no other complications/risk factors
- If you have "asymptomatic hyperuricemia" — high uric acid levels but without any gout flares or symptoms

Types of Medications to Lower Uric Acid

High uric acid, or hyperuricemia, is what causes gout, and there are several medications used to help lower it. There are three categories of medications that your doctor can prescribe to keep uric acid at a healthy level:

- **Xanthine oxidase inhibitors (XOIs):** These drugs lower the uric acid in your blood.
- **Uricosuric agents:** These drugs help your kidneys more efficiently filter out uric acid.
- **Enzymes that break down uric acid:** This medication is given as an intravenous (IV) treatment when other therapies to lower uric acid haven't worked well enough.

The latest gout treatment guideline recommends allopurinol — a xanthine oxidase inhibitor — as the preferred first-line treatment for ULT. This means your doctor will likely first recommend allopurinol over other medications.

Understanding 'Treat to Target' in Gout

Your doctor and you will work as partners in an effort to reach a "target" goal for your uric acid levels. Your doctor will create and, if necessary, adjust your treatment plan to reach this target and keep you there. You can take an active part in this effort by taking your medications as prescribed and following whatever lifestyle recommendations your doctor suggests.

For most people with gout, the target goal is to lower your uric acid level to less than 6 mg/dL. Some people may need to lower uric acid to less than 5 mg/dL (this lower goal is generally for people with tophi, the "lumps" of urate that can be felt on the body). Make sure you know your goal uric acid level, and work with your doctor to get there.

What happens if one ULT medication doesn't work well enough for you? Your doctor will assess your progress. If one drug isn't working, you can either increase the dosage, switch to a different medication, or add a uricosuric agent to help your kidneys work more effectively to filter out uric acid, so you can excrete it when you urinate.

These drugs may take up to six months to achieve full effect. You may have gout attacks during that time. To treat these acute attacks, your doctor can prescribe colchicine, NSAIDs, or corticosteroids to take short-term. Don't stop taking your uric acid-lowering drug if you have a gout flare. Talk with your doctor to get treatment for the inflammation and ease your pain.

When you first start a medication to lower your uric acid, it's good to plan ahead with your doctor for possible flares of gout. Know ahead of time what medication you should take if a flare occurs. Have that medication with you when you travel and be ready to start quickly if a flare occurs. Rapidly treated gout flares often resolve quickly, while those given time to build up a full level of inflammation can take much longer to get better (and require a lot more medication).

✦ Allopurinol

Allopurinol (Aloprim, Lopurim, Zyloprim, and generics) is a drug used to treat gout, lower uric acid levels in your blood, and prevent kidney stones. It's recommended as the first-line urate-lowering therapy for gout.

Allopurinol prevents gout flares but doesn't treat the symptoms of the flare.

How Allopurinol Works
Allopurinol is a xanthine oxidase inhibitor (XOI). It blocks the enzyme xanthine oxidase. This blocks the breakdown of purines and lowers the total amount of uric acid in the body. If levels are lowered sufficiently the risk of gout flares and urate-related kidney stones is dramatically reduced.

Allopurinol helps lower uric acid regardless of the reason it was elevated in the first place: whether your body makes too much or has trouble getting rid of it.

The medication works quickly — within a week of starting it, uric acid levels should lower. However, allopurinol can cause a short-term increase in gout flares when you first start it, which is why it may be prescribed along with colchicine, which helps prevent flares even though it doesn't lower uric acid level.

How to Take Allopurinol
Allopurinol comes in tablet (pill) form. You take it once or twice daily with or without a meal. For doses of 300 mg or lower, you can take all your allopurinol at once. Even for higher doses, the main possible issue of taking it all at once is gastrointestinal (GI) upset. If you can tolerate 400 mg of allopurinol all at once, it may be more convenient to take it that way.

Being dehydrated can worsen gout. It is important to stay hydrated while taking allopurinol. Drinking huge amounts of water will not "wash out" uric acid crystals, but you still need to drink a healthy amount of fluids and stay hydrated, especially if you are out in the heat or exercising.

It's recommended that people start on a lower dose of allopurinol (usually 100 mg a day) and gradually take more as needed to hit their uric acid level target. Those with kidney disease may need to start with even lower doses (for example, 50 mg a day). Your doctor will check your uric acid levels to see if you've reached your target goal (most commonly below 6.0 mg/dL), and increase your dosage if not. Many people will need to take 300 mg (the most commonly used dose) or more to

reach their target uric acid level. Have your uric acid tested at least two weeks after any dosage change, and have your allopurinol dosing adjusted if you are not hitting the uric acid target.

Don't stop taking allopurinol just because you start to feel better. Research shows that stopping uric acid-lowering medication — even if you haven't had gout flares for over a year — is likely to cause uric acid levels to increase again and trigger gout flares to happen again.

Possible Interactions and Precautions
Let your doctor know if you are taking any of the following medications before starting allopurinol:

- Antibiotics like amoxicillin or ampicillin
- Azathioprine (Imuran)
- Blood thinners like warfarin (Coumadin)
- Chlorpropamide (Diabinese)
- Cyclophosphamide (Cytoxan)
- Cyclosporine (Neoral, Sandimmune)
- Diuretics
- Mercaptopurine (Purinethol)
- Other gout medications

Your doctor will also ask you if you've ever had kidney disease, liver disease, heart failure, or if you're female, if you're pregnant, are planning to become pregnant or are breastfeeding.

Preventing Mobilization Flares
Lowering uric acid is extremely likely to lead to fewer future gout flares. However, when you first start lowering uric acid, crystals start getting released from the lining of the joint and can cause flares of gout. These are called mobilization flares. To try and prevent or reduce mobilization flares, your doctor may also prescribe colchicine to take with allopurinol to prevent those attacks. Colchicine is generally given for the first six months of allopurinol therapy, since that is the time when the mobilization flares are most common. Sometimes a low dose of an NSAID or a small dose of corticosteroid is used instead of colchicine during this first six months.

Genetic Testing
Prior to starting allopurinol, you may receive screening for a certain gene marker called HLA-B*5801. It may be recommended for certain groups, including people of Southeast Asian descent (e.g., Han Chinese, Korean, Thai) and African Americans. This genetic marker could put you at higher risk for a severe sensitivity reaction to allopurinol. Your doctor will determine if you need this screening or not. It's not universally recommended for everyone before they start allopurinol, but if you're of African American or Southeast Asian descent, you should ask your doctor about this screening if they don't bring it up.

What Are the Possible Side Effects of Allopurinol?
Allopurinol can make you drowsy, although this is not common. Don't drive a car or operate any machinery until you know how allopurinol affects you. Other possible side effects include diarrhea and upset stomach, which again, are pretty unusual. Taking your medication with food may help ease stomach upset.

Alcohol may also decrease allopurinol's effectiveness, so talk to your doctor if you plan to drink while on allopurinol. Alcohol raises urate levels and can set off gout flares.

Other uncommon side effects of allopurinol that could be serious include:

- Blood in the urine
- Irritated eyes
- Itching
- Loss of appetite
- Pain when urinating
- Signs of infection (fever, chills, sore throat)
- Skin rashes
- Swollen lips or mouth
- Weight loss

Though it is rare, allopurinol can increase the risk of a serious allergic reaction, called allopurinol hypersensitivity syndrome. This can cause a severe rash and liver and kidney function abnormalities. This may be more likely to occur in people who already have decreased kidney function, but allopurinol is still recommended for patients with kidney disease. People with kidney problems should start allopurinol at lower doses and be monitored closely to make sure they're tolerating the medication safely. On the rare occasion that allopurinol hypersensitivity syndrome occurs, it happens within the first three months of allopurinol treatment. For this reason, a person starting allopurinol should be aware of the possible risk of developing of a skin rash and stop the allopurinol until they can speak to their medical provider.

✦ Febuxostat

Febuxostat (Uloric) is another, newer xanthine oxidase inhibitor (XOI). It manages gout by lowering levels of uric acid.

Like allopurinol, febuxostat prevents gout flares, but doesn't treat the symptoms of the flare.

How Febuxostat Works
Like allopurinol, febuxostat blocks the enzyme xanthine oxidase, which blocks the breakdown of purines. This lowers total amount of uric acid in the body. Febuxostat blocks the same enzyme

that allopurinol does, but at a different spot on the enzyme.

Febuxostat can also cause mobilization flares, like allopurinol does. This means you can have a short-term increase in gout attacks when you first start taking it. Your doctor may prescribe either colchicine, an NSAID, or corticosteroid to help you treat them. You should keep taking febuxostat even if you have these attacks in those early months on the drug, as the attacks do not mean febuxostat isn't working.

Febuxostat vs. Allopurinol
Allopurinol is recommended over febuxostat for most patients when starting uric acid-lowering therapy.

But some people can't tolerate allopurinol, or it is not effective for them, which can make febuxostat a good alternative. Allopurinol is excreted from the body mainly by the kidneys and febuxostat is excreted mainly by the liver.

Febuxostat can likely be used in people who are allergic to allopurinol.

Febuxostat is not believed to interact with the blood thinner warfarin (Coumadin), which allopurinol does.

There is also some data that suggests higher doses of febuxostat (80 mg a day) may help more people hit a uric acid target of 6 mg/dL than do higher doses of allopurinol (300 mg a day). However, note that allopurinol can be used up to 800 mg daily as needed to get the uric acid level to goal.

Febuxostat, Cardiovascular Disease, and the Black Box Warning
You may have heard about 2018 research on heart safety in febuxostat compared with allopurinol. The research found that there were more cardiac-related deaths in people taking febuxostat compared with allopurinol, which led to the U.S. Food and Drug Administration (FDA) putting a black box warning on febuxostat's label. (A black box warning is the FDA's strictest warning; it highlights serious and sometimes life-threatening side effects.)

However, researchers and doctors have subsequently found some problems with the original research that led to the black box warning. For example, all of the patients who died had already stopped taking their gout medication (either allopurinol or febuxostat), making it difficult to associate the differences in deaths with one drug compared to another. The was also a high drop-out rate.

Importantly, a newer study published in 2020 found no differences in rates of death in people on febuxostat compared with allopurinol. This research was conducted similarly to the original research that led to the black box warning, but many experts believe it's a stronger study with fewer problems in interpreting the results.

This newer research suggests that febuxostat is not more risky for the heart and should be reassuring for people taking febuxostat.

That said, the latest American College of Rheumatology gout treatment guideline conditionally recommends that people at high risk for heart disease take a different uric acid-lowering therapy

over febuxostat — assuming they're a good candidate for other therapies — but acknowledges the importance of patients talking to their doctors and using shared decision-making to pick the right medication for them. (A conditional recommendation isn't as definitive as a strong recommendation. It means there may not be sufficient data or consensus among experts to suggest this for everyone.)

All of this is understandably confusing, especially for people with gout who have a history of cardiovascular disease. Cardiovascular disease is a common gout comorbidity.

If your doctor recommends febuxostat for treating your gout, make sure to discuss the risks and benefits of taking it over other medications. Ask questions if you are concerned about possible risks of taking febuxostat.

How to Take Febuxostat
Febuxostat is a tablet (pill) you swallow once a day, with or without food. The most common dose is 40 mg per day, although some people will take 80 mg per day. After two weeks of taking febuxostat, your doctor will test your uric acid levels to see if you need a higher dosage.

Febuxostat interacts with two other drugs, and this can raise the level of those drugs in your body. If you take azathioprine (Imuran) or mercaptopurine (Purinethol), your doctor will take caution in prescribing febuxostat for you. Note that these medications have the same interaction with allopurinol.

Let your doctor know if you have ever had one of the following health conditions: chest pain, cancer, stroke, organ transplant, heart disease, kidney disease, liver disease, or Lesch-Nyhan syndrome, a disorder that causes high uric acid levels in the blood and other symptoms.

Also, if you're female, tell your doctor if you're pregnant, planning to become pregnant or are breastfeeding before you start febuxostat.

What Are the Possible Side Effects of Febuxostat?
Febuxostat may cause side effects like nausea or joint pain (most likely related to a gout flare). It may raise your liver enzymes, so your doctor will monitor this with regular blood tests to be sure the drug is not causing damage to your liver. If you notice side effects like chest pain, rashes, shortness of breath, dizziness, slow or slurred speech, or weakness or numbness in your arm or leg, seek medical attention right away.

You should also be aware of the potential cardiovascular risks, as discussed above.

✦ Probenecid

Probenecid (Benemid, Probalan) is a different kind of medication from allopurinol and febuxostat. It's called a uricosuric. If you can't take XOIs (allopurinol and febuxostat) for any reason or don't tolerate them well, it may be an alternative first-line gout management treatment for you. Or your doctor may prescribe it to you along with an XOI if that drug doesn't work well enough for you to achieve your uric acid target.

Most commonly, probenecid is used as an "add-on" medication to an XOI, such as allopurinol or febuxostat.

Probenecid is not effective in people with moderate to severe kidney disease.

How Probenecid Works
Probenecid helps the kidneys more effectively filter out uric acid in your urine, so you keep uric acid levels in your body at a healthy level.

Like allopurinol and febuxostat, it's used as a long-term drug to manage your gout and prevent attacks. It does not treat acute gout attacks, reduce inflammation, or ease symptoms like pain or swelling.

Probenecid can also cause mobilization flares, like allopurinol and febuxostat do. This means you can have a short-term increase in gout attacks when you first start taking it. Your doctor may prescribe either colchicine, an NSAID, or corticosteroid to help you treat them.

Probenecid increases the amount of uric acid you excrete in your urine, which means it can increase the risk of developing a kidney stone. If your doctor is considering prescribing probenecid for you, they may check a 24-hour urine sample for uric acid first. If your numbers are high to begin with, probenecid may not be a good choice for you. If your results are borderline, drinking extra fluids can help prevent kidney stones from forming.

How to Take Probenecid
Probenecid comes in tablet form you take by mouth. It's a good idea to take with food because it could cause an upset stomach. Adults with chronic gout usually take 250 mg of probenecid twice a day (500 mg total) and can increase to 500 mg two times per day and higher if necessary. Your doctor will watch how well the drug works for you and how well you tolerate it.

Starting with lower doses reduces the risk of having gout mobilization flares.

It's important to stay hydrated while taking probenecid to prevent kidney stones. Aim to drink six to eight full glasses of water or other healthy fluids each day when you take probenecid. Extra fluid intake beyond healthy ranges like this won't "wash out" uric acid crystals, so you generally don't need to go beyond this range unless you are losing a lot of fluid, due to such things as being out in the heat or exercising heavily. Drinking enough water is a good habit if you have gout, so remind yourself to reach that goal every day.

Before you start probenecid, let your doctor know if you are taking any other vitamins or supplements and/or one of the following medications:

- Aminosalicylic acid
- Antibiotics
- Anti-anxiety medications
- Aspirin

- Clofibrate (Atromid-S)
- Dapsone
- Diabetes medications
- Diflunisal (Dolobid)
- Diuretics
- Heparin (a blood thinner)
- Indomethacin (Indocin)
- Methotrexate (Rheumatrex, Trexall, Otrexup)
- Nitrofurantoin (Microdantin, Macrobid)
- Pyrazinamide
- Salsalate (Disalcid)

Do not take aspirin for a headache or joint pain while you take probenecid. Aspirin can interfere with probenecid's effectiveness. Take acetaminophen (Tylenol) instead or ask your doctor for a recommendation.

Let your doctor know if you have or have had ulcers, kidney stones, kidney or blood disorders, are pregnant, are planning to become pregnant or are breastfeeding. Probenecid can affect some urine test results, so let any doctor know you take probenecid before you take a urine test.

What Are the Possible Side Effects of Probenecid?
Probenecid (Benemid, Probalan) could give you an upset stomach, so take your tablet with some food, such as after meals or with a snack. You can also take an over-the-counter antacid tablet if you have an upset stomach from your pill.

- Other possible side effects include:
- Dizziness
- Headaches
- Loss of appetite
- Vomiting

If you notice any signs of a reaction to your drug, like skin rash, breathing difficulties, or strange bruising or bleeding, let your doctor know immediately. Probenecid can cause a rash but is less likely to cause the severe hypersensitivity reaction that allopurinol does.

Remember: Probenecid could affect a urine test. If you need to take a urine test for a medical reason or when interviewing for a job, let the technician know that you take probenecid.

✦ Pegloticase

Pegloticase (Krystexxa) is a newer intravenous (IV) medicine for gout. It is an enzyme that rapidly converts uric acid in the blood into a substance easily eliminated by the kidneys, which lowers the amount of uric acid in your system. Your doctor may prescribe pegloticase if you have uncontrolled gout symptoms and other urate-lowering therapies don't work well for you or you can't tolerate them for any reason. Pegloticase is also used in gout patients with visible and persistent tophi that are uncomfortable or draining fluid, since it is the only medication that has been shown to shrink tophi in just months for many patients.

Pegloticase is not recommended as a first-line treatment for gout. Rather, your doctor may recommend it if you've already tried other uric acid-lowering treatments and they're not working well enough to control your gout. This means:

- Your uric acid levels are still too high and you haven't reached your target
- You continue to have frequent flares (two or more a year)
- You have tophi that won't go away, especially if they are causing problems

How Pegloticase Works
Pegloticase is part of a newer class of drugs called pegylated uric acid-specific enzymes. It treats hyperuricemia that can cause gout by turning uric acid into a substance that your kidneys can more easily eliminate in urine. Pegloticase helps your body dissolve the buildup of uric acid crystals from gout over time. It can work rapidly. In clinical trials, pegloticase lowered uric acid levels to as low as 1 mg/dL (or less) within 24 hours.

Pegloticase helps manage gout and prevent flares, but it will not treat a gout flare or its symptoms.

It may take several months to feel the full effects of pegloticase, and you may still have gout flares early in your treatment. Don't stop taking pegloticase if you have a gout flare. In fact, in some patients, gout flares mean pegloticase is working well to remove uric acid from the body. Your doctor can prescribe colchicine, an NSAID, or a corticosteroid to treat the gout flares and ease your symptoms.

How to Take Pegloticase
Pegloticase is given intravenously (IV), administered into a vein after a catheter is inserted by your doctor or nurse.

You will get your pegloticase infusion at your doctor's office or other health care setting. A health care professional will watch you while you receive pegloticase. It takes about two hours total to complete the treatment, and while you're on therapy you'll need an infusion every two weeks.

Because of the fast onset and high effectiveness of pegloticase in lowering uric acid levels and

shrinking tophi, the medication is usually given only for a matter of months in most patients. Unlike other uric acid-lowering gout medications, you don't take pegloticase indefinitely.

Your doctor may also want you to come in early to prepare you for the treatment, and watch you for an hour afterward, so plan on spending three to four hours at the doctor's office.

Your doctor will monitor your uric acid levels while you take pegloticase to see if the medicine is working. If your uric acid levels increase while you are still receiving infusions, pegloticase may not continue to work for you, or it may work for a while and then stop being effective. If your uric acid rises to above 6.0 mg/dL while on pegloticase, the doctor will discuss the therapy plan with you and may decide to stop your pegloticase infusions. Even patients who stop pegloticase therapy after a few months had important decreases in their uric acid and some resolved tophi as well.

Let your doctor know if you are already taking allopurinol or febuxostat before you start pegloticase. They should not be taken while on pegloticase. You should also tell your doctor if you have or have ever been diagnosed with heart disease, heart failure, or high blood pressure.

You should tell your doctor if you are pregnant, plan to get pregnant, or are breastfeeding before starting pegloticase.

People who have a rare blood problem called glucose 6-phosphate dehydrogenase (G6PD) deficiency or favism cannot take pegloticase. Your doctor should test you for this.

You and your doctor should discuss your dosing schedule for pegloticase and make sure you can get the infusions consistently every two weeks for the next few months.

'Immunomodulation' for Pegloticase

Even though pegloticase can be highly effective at lowering uric acid — and quickly — one challenge is that some people can form antibodies to the medication, which makes it stop working as well. Antibodies are proteins made by your body's immune system, which help recognize things like viruses and bacteria as foreign invaders. In this case, the body is recognizing the medication as foreign and triggering an immune system response against it.

Recent research has shown that giving people on pegloticase additional immunosuppressant medication to dampen the immune system response can help prevent antibody formation to pegloticase. These medications include methotrexate, mycophenolate mofetil (CellCept), and azathioprine (Imuran). They are commonly used to treat other rheumatic or inflammatory conditions, such as rheumatoid arthritis, lupus, and inflammatory bowel disease.

In one recent study, 86 percent of people taking pegloticase and who also took the immunosuppressant mycophenolate mofetil hit a uric acid target of less than 6 mg/dL, compared with just 40 percent of people taking pegloticase who also took a placebo.

This is known as immunomodulation. It appears to be a promising way to help improve the effectiveness of pegloticase. In turn, this has the potential to help many people with uncontrolled gout avoid long-term complications, such as permanent joint damage and disability. The decision about whether to add an immunosuppressant when you take

pegloticase is an individual decision for each patient. It will depend on other medical conditions the person may have, and the person's willingness to add another medication to their regimen.

What Are the Possible Side Effects of Pegloticase?
Possible side effects of pegloticase include gout flares and allergic reactions. While on pegloticase, gout flares can occur in the first few months on therapy, and then tend to become less common after that. (This is because the medication is flushing out the uric acid that's built up in your joints and throughout the body, which can cause a temporary uptick in flares.)

Allergic reactions that occur while pegloticase is given tend to occur in patients who have a high uric acid levels (above 6 mg/dL) right before infusions. This is why your doctor will check your uric acid levels before each infusion after the first, and consider stopping therapy if your uric acid levels rise to above 6 mg/dL. Having a high uric acid level during pegloticase therapy suggests that the medication is no longer working, generally due to antibodies formed against the medication. Those same antibodies can cause infusion reactions with your next dose of pegloticase. Infusion reactions can be mild or can cause anaphylaxis (a severe allergic reaction) that could be life-threatening if not treated quickly. These usually happen within two hours of the infusion.

Common symptoms of allergic reactions include hives, chest discomfort or pain, itching, rash, or trouble breathing. Other less common side effects seen with pegloticase include bruising, chest pain, constipation, nausea, sore throat, or vomiting.

Let your doctor know right away if you experience any side effects while taking this drug. Your doctor or nurse will monitor you for an allergic reaction when you are getting your treatment, and for up to two hours afterward.

✦ Off-Label Treatments for Gout: Interleukin-1 (IL-1) Blockers

Presently available medications are effective at treating gout in the majority of patients. But new medications are always being studied to help people who, for various reasons, can't take or don't respond well enough to current treatments.

One promising category of medication is known as interleukin-1 beta antagonists. This includes two drugs — anakinra (Kineret) and canakinumab (Ilaris) — that are being used by some rheumatologists as an "off-label" treatment for severe gout attacks. While they are approved by the FDA for use in other types of arthritis, such as rheumatoid arthritis, anti-IL-1 beta drugs are not specifically approved to treat gout.

When you use an FDA-approved drug to treat a condition for which it is not FDA-approved, it's called an off-label use. It means that anakinra and canakinumab have been approved as safe and effective treatments for several conditions, but that the clinical trials necessary to ensure their safety and efficacy for use as gout treatments are not yet sufficient to achieve this "indication" by the FDA. That may happen in the future, as studies of anakinra and canakinumab in gout are ongoing. It's up to your doctor and you to decide if anakinra, canakinumab, or any

other off-label treatment is a good option for you.

At this time, anakinra and canakinumab may be prescribed off label for very severe gout attacks. This is not a urate-lowering therapy. They are given as injections.

These medications interrupt the inflammatory process involved in a severe gout attack and treat the attack. These drugs are also called biologics. They lower your immune system's processes in order to stop inflammation. They may work well for severe gout, but they also lower your body's ability to fight off infections. Your doctor will explain the balance of risks versus benefits of using this type of drug for gout.

These medications are not recommended as a first-line treatment for gout flares — those include colchicine, NSAIDs, and corticosteroids. These medications are options for people for whom other treatments do not work, who cannot tolerate any of the other treatments, or who have very severe gout.

Surgery for Gout: When Is It Needed?

If you start gout medications and lifestyle changes early, you're more likely to control your gout, lower high uric acid, and prevent additional gout attacks. However, some people do not respond well to treatment or delay their treatment for various reasons. Their gout may progress to gouty arthritis. They may develop tophi in one or more joints. This can cause permanent damage to the joint.

In those severe cases, surgery may be necessary. Surgery is not a first-line treatment for any joint affected by gout. Surgery is only used for situations when someone has advanced gout and tophi that are causing problems, such as preventing a person from putting on their shoes, or if the tophus opens up to the skin and is draining fluid. On occasion, joint damage in gout is so severe that surgery is needed for the joint. If your pain and joint deformity have progressed so far that you cannot use your joints, your doctor may refer you to an orthopedic surgeon for treatment. It is important to note that aggressive treatment to lower uric acid can be quite effective, over time, in shrinking tophi. Therefore, surgical removal of tophi may only be necessary in special circumstances.

Surgery for gout-related joint damage may include:

- **Removal of tophi nodules** that have inflamed or damaged toes or fingers, or even your bursae or tendon sheaths. Tophi could become infected in some cases, so they may need to be removed.
- **Joint fusion** can fuse together two small joints if one joint is badly damaged by gouty arthritis. This procedure does limit the movement of the fused joints, but it can ease the severe pain caused by the damage. It's very rare that people with gout need this type of surgery.
- **Joint replacement or arthroplasty** may be used to replace a damaged joint, usually a knee, that's severely damaged from gout.

PART VI Gout Self-Management

Managing gout usually requires a combination of taking medications and making lifestyle changes, such as exercising, losing weight if needed, and avoiding foods that can trigger gout flares. Together, this can help lower uric acid levels, prevent gout flares, and improve your overall health.

Gout has many different risk factors — things that make one person more likely to develop gout than others — and some of these are related to your lifestyle and general health. People who are obese or overweight may be at higher risk of gout; higher weight is associated with higher urate levels.

Eating high amounts of foods and drinks rich in purines can also increase your risk of gout. That doesn't mean that your friend who drinks a lot of beer and eats red meat at every meal will necessarily get gout and you will not. But if you do have certain lifestyle factors or habits that you can modify, it can help you prevent future gout attacks or a worsening of your gout.

If someone is genetically predisposed to gout, eating high-purine foods or drinking alcohol could cause their attacks to come on sooner, and be more frequent, than they otherwise would have.

While gout medications are powerful tools against high uric acid and gout flares, the changes you make in your daily habits can have a big impact too. We know that gout is associated with a higher risk of cardiovascular disease, diabetes, and other chronic health problems. Fortunately, many of the recommended lifestyle changes that help reduce heart disease and diabetes can also reduce the severity of gout.

What I Learned About Managing Gout, According to Patients

"Gout forced me to live a healthier lifestyle. Allopurinol [a uric acid-lowering medication] protects me from having gout attacks, but I know that if I also live a mostly healthy lifestyle, I have better chances of handling gout for the long term." — *Ross W.*

"It's really a combination of taking my medication and maintaining my dietary changes that's allowed me to experience fewer flares and fewer day-to-day symptoms overall. I've cut out excess sugar and I've probably tripled the number of vegetables I eat." — *Ashley N.*

"Drink a lot of water. Don't drink a lot of alcohol. Make sure you take your medicine that balances your uric acid levels. The uric acid is what's causing your pain." — *Ken L.*

"Part of being a chef is that you have to see everything that goes on all the time. I was trying to figure out what things were preceding my gout flare-ups and I realized it was usually a large catering or opening a restaurant or something that was causing a lot of stress. I learned that when I overwhelm myself with too many projects, that's usually when the gout would kick in." — *Oso W.*

"I regularly use an app called ArthritisPower [created by CreakyJoints] to take an assessment about my gout symptoms. I complete it about once a month, and then I take that with me to my doctor so that we can look at it together and understand how my symptoms and experiences are changing as we implement new medications or new dietary changes. It really allows us to see how well those are working for me personally." — *Ashley N.*

"I eat healthy, but I eat what I want. I've lost 60-something pounds since I've started a new treatment for gout. I eat frequently and small amounts. I try to drink a gallon of water a day. I try to limit my alcohol intake." — *Sharon N.*

✦ Diet Changes for Gout

Can your diet "give you" gout? In a word: no.

Gout occurs because your body either makes too much uric acid or has difficulty excreting uric acid, and this is mainly due to the interplay of such factors as genetics, other medical conditions, and medications. However, certain foods and drinks that are high in substances called purines can play a role in triggering gout flares. The body breaks purines from your diet down into uric acid during digestion. This can contribute to high uric acid levels that turn into urate crystals that settle into joints, causing inflammation.

Making diet changes may help control gout in people whose uric acid levels are slightly moderately elevated (say, 7 mg/dL) but for those with higher uric acid levels, diet changes alone usually cannot effectively manage gout. Even a very strict diet only reduces uric acid levels by about 1 mg/dL, which is usually not enough to prevent gout flares without also taking medication to lower uric acid.

That said, it is a good idea to try to limit high-purine foods — especially when you are first starting medication to lower uric acid levels, which can trigger gout attacks in the short-term.

The latest American College of Rheumatology gout treatment guideline advises limiting purine intake for people with gout, noting that "dietary modifications likely yield only small changes in [uric acid levels], but dietary factors may serve as triggers for flares, and patients frequently seek advice on dietary management."

High-Purine Foods
In the past, doctors gave patients with gout a long list of foods to avoid, but research has shown that this is not practical or necessary. Your providers will go over specific recommendations for you, but here are some useful tips:

Avoid or limit these if possible:

- Organ meats like liver, kidney, or glands of any kind (sweetbreads)
- Red meat, such as beef and pork
- Shellfish, such as mussels, scallops, and oysters
- Excessive amounts of alcoholic beverages, including liquor, beer, and wine
- Foods or drinks sweetened with high-fructose corn syrup, such as sweetened (not diet) sodas

It's okay to eat these:

- Vegetables and legumes that are higher in purines, such as beans or lentils, asparagus, cauliflower, spinach, peas, and mushrooms
- Moderate amounts of coffee
- Vitamin C, preferably in fresh, whole fruits, but ask your doctor if you should take a supplement
- Cherries, especially fresh cherries not packed in sugary syrup, or fresh cherry juice in moderation

Definitely include these in your diet:

- Whole grains
- Fresh fruits and vegetables
- Lean protein sources

The Myth About Cherry Juice

It's an often-recommended home remedy for gout: Sip on tart cherry juice to prevent attacks of gout. This is probably because vitamin C, which is found in cherry juice and cherries, may help reduce uric acid levels.

But a 2020 study published in the journal *Rheumatology* found that drinking cherry juice doesn't do much. No matter how much tart cherry juice the study participants with gout consumed, uric acid levels remained unchanged. In fact, drinking cherry juice sweetened with high-fructose corn syrup may contribute to or worsen a gout flare.

Even strong proponents of cherry juice acknowledge that its effects on urate level are small, so cherry juice does not replace a medication to lower your uric acid.

- Low-fat or fat-free dairy
- Water and non-sugary fluids

The DASH Diet for Gout

While there are foods that can increase uric acid levels, you can also eat in a way that has the opposite effect and may help reduce purines and uric acid levels. **The DASH diet (Dietary Approaches to Stop Hypertension)** is of great interest to gout researchers at the moment. It was originally developed to lower blood pressure, but it also seems to modestly help lower uric acid levels.

The DASH diet focuses on fruits, vegetables, whole grains, and low-fat dairy products along with some fish, poultry, legumes, and nuts. It's also low in red and processed meats and sugary drinks, which are high-purine foods that people with gout are recommended to keep to a minimum. The DASH diet is similar to the Mediterranean diet.

Alcohol: Why It Matters

Alcohol increases levels of uric acid in the body because it decreases how much uric acid your kidneys excrete. Beer, in particular, has earned a reputation as being especially bad for gout, since it has this effect on your kidneys, but also because beer is high in purines that are broken down to urate in the body.

You won't necessarily have to give up alcoholic beverages entirely if you're diagnosed with gout, but you should limit how much and how often you drink.

Moderate intake of alcohol is generally defined as:

- Two drinks per day for men
- One drink per day for women

However, even moderate drinking on a regular basis (which is common for many adults) is associated with a higher risk of recurring gout attacks. You may be able to drink occasionally and not experience a gout flare, but regular drinking of any type of alcohol (especially beer and liquor, and mixed drinks with sugary sodas or juices) puts you at risk. Also, regular drinking adds calories to your daily intake and can contribute to weight gain.

Also, when making any changes in your diet or alcohol intake related to gout, remember that timing is important. During the first six months of taking a urate-lowering medication (such as allopurinol), you are especially at risk for gout attacks. This is a great time to be strict with your diet, and to limit your alcohol intake as much as possible.

Over time, and as you continue to take medication, gout attacks often are rare or absent, and a lot of the uric acid has been removed from your joints. At that point, your risk of gout flares is less so you

may be able to be a little less strict with your diet without as much risk of setting off a gout flare.

Tips on Decreasing Your Alcohol Intake
If you're looking to decrease your alcohol intake as part of your gout treatment, here are some tips that can help:

Be honest with your doctor and nurses. Don't downplay how much (or how often) you drink. Being straightforward about your alcohol intake can help your health care provider advise you on your risk. Remember, they are there to help you, not judge you.

Track your alcohol intake. If you are not sure how much you drink, write it down in a diary or notepad for a few weeks. Share it with your doctor.

Watch serving size. In general, 12 ounces of beer, four fluid ounces of wine, and one ounce (a jigger) of liquor is a serving. Mixers add liquid and, if they contain sugar, calories to a "drink." If you are making a drink at home, use a liquid measuring cup, then pour the proper amount into your glass.

Ask for help. If you would like to cut back on your drinking — either the amount or frequency — but find that it's hard, talk with your doctor or nurse. Ask about ways to reduce your intake or resources like counseling that may help you make these changes.

Skip alcohol when dining out with friends or family. Iced tea, coffee, flavored seltzers, or club soda with a lime wedge are good alternatives.

Set goals. Pick days when you will drink and days when you won't drink. Keep track of it on your calendar. Set a limit for how much you will drink that night and stick to it. Don't "save it up" for one night per week and overdo it.

Don't keep alcoholic beverages in the house. If you don't have alcohol in your home, you won't be able to reach for a drink when you feel stressed or want to unwind.

Sip, don't guzzle. Don't rush through your drinks. Sip or "nurse" a drink while you enjoy talking to friends or watching the game on TV. Don't let anyone else push you to drink faster or more than you want.

Avoid tempting scenarios. If you typically drink a lot of alcohol in certain settings or during certain activities, such as when you meet your friends to watch sports or after work for happy hour, it's okay to skip those outings or cut way back on how many you attend.

Surround yourself with supportive friends and family. Whether you decide to quit drinking or to cut way back, your friends and family members should support your decision and understand that you're doing this for your health. If they tease you or encourage you to drink "just this one time," remind yourself that you don't need to drink any alcohol to celebrate an occasion or to have fun. While you can't change your family, you can stop hanging out with friends who don't support your decision not to drink. Remember: It is your body and your life.

Don't get discouraged. If you have been a moderate or even heavy drinker for years, it's not easy to suddenly quit or cut way back. Many people socialize or relax with drinking or

associate alcohol with celebrating. You can make changes to how much and how often you drink, and still be a fun person who enjoys life. Don't give up. You may have setbacks at times. Ask for support if you need it.

✦ Exercise: How It Helps with Gout

Regular physical activity or exercise is a good habit to adopt if you have gout. This can help with weight loss or weight maintenance, which is important for gout management. While you will have limitations to your exercise during an acute gout attack, once you get your symptoms under control, think about how you can incorporate more physical activity into your daily life.

Exercising During a Gout Flare

Anyone who has experienced a bad gout flare knows that exercising during it may be impossible. (If it hurts for a bedsheet to touch your toes, how could you lace up sneakers and go for a jog?) Take it easy when you are experiencing a gout attack.

If you suspect a gout attack is coming in, it's also a good idea to stay off your feet, since this can make the pain worse. Watch for signs like swelling, redness, heat, and pain in a joint.

If you suspect a gout attack is coming, follow your doctor's advice for what medication to take during a flare and avoid exercising or putting strain on affected joints until your symptoms start to feel better.

Getting Started with Exercise
Talk to your doctor about exercises you can safely do or should avoid. Especially if gout has already caused some joint damage, they may recommend sticking with low-impact exercise (walking, biking, or swimming) that doesn't put as much stress on your feet, ankles, or knees.

Aim for about 150 minutes of moderate physical activity per week, which is just 30 minutes of activity (like brisk walking) five days a week, or about 20 minutes a day. If it's easier, break up the activity into 10 minutes of movement throughout your day.

Find activities you enjoy. You can choose from a variety of exercises (and you don't have to stick with just one) so try a few different types to determine what's right for you. Here are a few options to consider:

- Aerobic exercise machines (treadmills or ellipticals)
- Barre
- Biking
- Cross fit
- Dance classes
- Swimming

- Tai chi
- Walking
- Yoga

Add a healthy distraction to keep you moving and motivated. If you find exercise boring, try listening to music or watching your favorite TV show while you're on the treadmill or elliptical machine. Walk or bike with friends. Or try a class so you can follow an instructor or meet up with others who are working to improve their fitness.

Include three types of exercise in your routine. A comprehensive exercise program should a well-rounded approach to fitness that includes:

- **Cardiovascular or aerobic movement** to rev up your heart so you sweat and burn calories
- **Flexibility or "range-of-motion"** movements to keep joints and soft tissues limber
- **Strengthening or strength training** to build muscle tone and strength

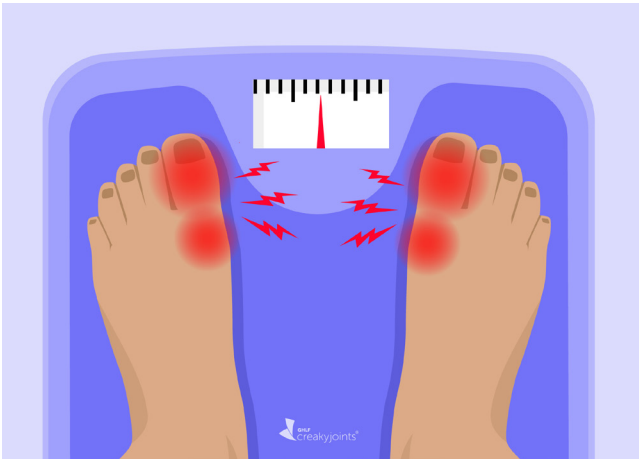
Physical Therapy
Need professional guidance on how to get fit with gout, or how to manage your pain and mobility issues? Ask your primary care physician, nurse practitioner, physician assistant, or rheumatologist to refer you to a physical therapist or prescribe physical therapy.

Physical therapists, or PTs, are trained in treating patients with all types of musculoskeletal conditions, including gout. They often use non-drug treatments like heat, cold, electrical stimulation, or exercise.

If it's been a long time since you've been physically active, starting with a physical therapist can help you learn how to increase your physical activity in ways that are safe and appropriate. A PT can ease you back in to exercising again, and work with you to build up strength and flexibility while avoiding pain or risking injury.

✦ Weight Loss: Its Role in Gout Management

When you see your doctor for your diagnosis of gout, you'll be weighed to determine if you are obese or overweight. If you are, your doctor may suggest that you lose weight and manage your weight moving forward to reduce your chances of disease progression.



The latest gout treatment guideline advises patients who are overweight or obese (regardless of disease activity) to use a weight loss program, although no specific program is endorsed.

For the vast majority, weight loss itself is rarely enough to attain a goal level of uric acid (say, below 6 mg/dL) or replace urate lowering therapy. However, it does provide a few key benefits, including preventing excessive weight-bearing force on your joints and reducing your risk of many serious diseases.

Being overweight or obese increases your risk of developing the following health problems:

- **Certain types of cancer**
- **Coronary heart disease**
- **Depression**
- **Gallbladder disease**
- **High blood pressure**
- **High cholesterol**
- **Osteoarthritis**
- **Pain and impaired mobility**
- **Stroke**
- **Sleep apnea or other sleeping problems**
- **Type 2 diabetes**

Getting Started with Weight Loss
Weight loss is not easy — it takes time, dedication, help, and support. If your health care team recommends that you lose weight, ask them what type of healthy eating and exercise plan or weight-loss program is right for you.

It's important to lose weight safely and gradually, which means avoiding crash or fad diets. Losing weight too quickly can raise uric acid. Plus, when you lose weight in a drastic or extreme way, you are less likely to keep it off.

While you will need to consult your doctor for a comprehensive approach to weight loss for gout, here are a few general tips to consider:

- **Focus on diet and exercise**, as one or the other may not do the trick. The most effective way to lose weight is with a combination of healthy eating (that reduces your caloric intake) and an increase in physical activity.
- **Set realistic goals.** Even modest weight loss can have a big benefit on your gout and overall health.
- **Make small adjustments.** For example, try using a smaller plate for meals or dividing up each of your servings by half to save for later.

- **Cut back on high-sugar, highly processed foods.** Eliminating some foods like sugar may seem difficult, but after two weeks you will notice that your cravings subside.
- **Take stock (and modify) poor eating habits.** For instance, if you're an emotional or stress eater, find ways to manage your stress that don't involve overeating. If you starve all day long and gorge on huge meals at night, try to eat smaller meals throughout the day or add some healthy snacks to your diet.
- **Go easy on yourself.** Weight loss is very challenging. When you reach a weight-loss goal, reward yourself (not with dessert).
- **Surround yourself with people who encourage and support you.** Don't listen to people who tell you weight loss is a lost cause or impossible.
- **Get help if you need it.** Join a weight-loss program recommended by your doctor; check out motivational support groups of other people trying to manage their diet and weight; or make an appointment with a registered dietitian (RD) or nutritionist.

✦ Smoking and Gout

You may have seen recent studies that found people with gout who smoke have lower uric acid levels, but this does NOT mean that people with gout should keep smoking.

Our present medications to lower uric levels are much safer than smoking. Plus, smoking has so many negative effects on your health that outweigh any possible perceived benefits for hyperuricemia or gout. Especially important is that gout is associated with an increased risk of coronary disease and heart attacks, so adding the heart risk of smoking is a bad idea for someone with gout.

Smoking tobacco in any form is associated with a higher risk of some serious health problems, including:

- **Certain cancers (bladder, blood, kidneys, liver, larynx, trachea, throat, esophagus, stomach and colon)**
- **Coronary heart disease**
- **Lung cancer**
- **Stroke**

If you smoke now, it's not too late to quit. While stopping smoking is not easy, it is critical for your health. Talk to your doctor or nurses about smoking cessation programs or resources to help you kick the habit once and for all.

PART VII Affording Your Gout Treatment

In today's health care environment, copayments and out-of-pocket costs for drugs are on the rise. Your drug copay is the amount you will pay out of pocket for your prescription drugs — what's not covered by your insurance.

If you struggle to afford your gout medications, you may be less likely to take them at all or as prescribed. That will only make your gout or hyperuricemia worse. You will be more likely to have recurrent gout attacks, or worsening gout that leads to tophi that cause gouty arthritis and joint damage.

While some gout drugs are generic, others are only available in brand-name versions, and even generic drugs like colchicine may be rising in price for many people.

If you find that your gout drugs or other medications are hard or impossible to afford, first speak with your doctor and nurses. They may be able to do one of the following:

- **Prescribe another, less costly treatment** that also works for your gout
- **Contact your insurance company** to negotiate with them if they will not cover the drug or approve another treatment
- **Suggest copay support programs,** or discounts that you can use to lower your out-of-pocket costs. You can find these online, through your pharmaceutical company's website, or through non-profit organizations built to provide help paying for medications.
- **Direct you to drug discount websites,** or online resources and smartphone apps like GoodRX.com that help you locate the cheapest pharmacy price for your drug
- **Refer you to your pharmacist,** who may have additional ideas about ways to purchase your drugs at a lower price

Since biosimilars have been available in the U.S. only since 2015, the time frame to evaluate their impact has been short. If their use grows over the next decade, as is predicted, this could result in substantial savings to the health care system and allow expanded access to treatments for patients. Insurers may offer price incentives to patients for using biosimilars, as they have done for using some generic drugs.

✦ About Copay Support Programs

Drug copay support programs are offered by the drug manufacturers, and these programs can help many people afford their treatments. There are three types of copay support programs:

Copay assistance programs: Copay cards allow eligible patients to receive savings on their prescription copayment/co-assistance out-of-pocket costs – think of them like coupons for those

who qualify. Check out the websites for your individual drugs (or search the brand name of the drug followed by .com) to find out if the manufacturer offers a copay assistance program, such as a coupon, rebate, drug card, or other options. Note: Copay card programs are generally not accepted for use if you have any type of government insurance covering your medication such as Medicare, Medicaid, or Tricare.

Pharmaceutical companies' assistance programs: Drug companies offer pharmaceutical assistance programs to provide financial assistance for the products that they manufacture. These corporate programs aim to provide eligible patients with low-cost or free medications.

Patient assistance foundation programs: These are independent organizations that are usually not-for-profit. While their services vary, the programs help patients locate copay assistance programs and pharmaceutical assistance programs. They also may allocate funds to disease-specific programs and award this financial assistance to qualifying patients.

CreakyJoints.org has a great deal of information on these programs for arthritis patients: **creakyjoints.org/support/arthritis-copay-cards-assistance**. Or you can email us at **info@creakyjoints.org** to ask any questions about assistance in obtaining your gout medications.

✦ Tips to Find More Affordable Treatment

Speak with your pharmacist: Ask if there are ways to purchase your drugs at a lower price. In many states, some prescription medications cost less if purchased with cash or a personal credit card (such as a Visa, MasterCard or American Express) than if purchased through insurance with a drug copay. We all assume that our out-of-pocket cost will be less if we purchase our prescription with insurance than if we paid cash for the drug at the pharmacy counter, but this hasn't always been true for every medication.

You can also ask your pharmacist or pharmacy tech if there are two different prices, and insist on being charged the lower price no matter what. Contact your insurance company and lodge a complaint if your out-of-pocket cost with a co-pay through your policy is higher than the cash price.

Shop around: Many gout drugs, like NSAIDs, oral corticosteroids, colchicine, and allopurinol, are generics. Different pharmacies or mail-order pharmacies may have different prices for the same drug. Do a little research online or call some pharmacies to ask their price for your drug.

Speak up (and stay the course): Let your doctor or nurse know if the medication you are taking for gout is costing you too much, since there may well be options for changing medications, getting an insurance company to approve a medication it previously denied, or to get the medication at lower cost.

Most importantly, don't...

- Stop refilling your prescriptions or taking your gout medications
- Split or space out your dose to "stretch" a bottle of medications
- Stay quiet and do nothing

PART VIII Make Your Voice Heard

Living with a chronic disease like gout may impact many areas of your life. On top of communicating with your health care team, you will also need to be able to speak with your insurance provider, employer, support network, and elected officials.

✦ How to Talk to Your Health Insurance Provider

Before you talk with your health insurance provider, review your plan and develop an understanding of what is covered. To do this, look at your list of benefits, or medical services that are covered. You may also find a list of closed benefits, which means your provider will not pay for the cost of any treatment not on the benefit list.

To keep track of what services your provider has covered and what money you may owe them, you can review your explanation of benefits (EOB) — a statement usually sent by mail or email from your health plan. You may find you owe money through a copay or coinsurance fee.

Common Health Insurance Terms
When you speak with your health insurance provider on the phone, be sure to have a good understanding of what your plan covers. If certain medications or treatments are deemed necessary by your doctor but not covered, there are appeals and processes you can make to prove medical necessity.

Start by familiarizing yourself with the following health insurance terms:

- **Coinsurance:** the percentage of health care expenses you pay after your deductible
- **Copay:** the dollar amount you pay for health care expenses, most often after you meet your deductible limit
- **Drug tiers:** groups of different drugs, often grouped by price. Each group or tier requires a different copay. You might see groups listed as generic, brand name, or preferred brand name drugs. Generic drugs often have lower copays; brand name drugs have higher copays.
- **Explanation of benefits (EOB):** explains which medical services were paid for by the insurance company
- **Formulary:** a list of generic and brand name prescription drugs covered on your health plan
- **Formulary exclusion list:** a list of prescription drugs not covered by a health plan
- **Health insurance bill:** shows what services were used and the total amount the insured individual needs to pay

- **Medically necessary:** even if your prescribed medication is on your plan's formulary, health plans usually pay only for care that is "medically necessary," which is determined using medical standards or research that states what care is most effective. This is also referred to as "medically necessary services" or "medical necessity."
- **Open formulary, or preferred drug:** typically, a greater choice of drugs than formulary, or the preferred drug list
- **Reimbursement:** the money you get back from your health plan for covered costs paid to your doctor

How to Talk to Your Employer

Gout flares, as well as the many doctor appointments needed to treat and manage your gout, can often translate to missed work. This, of course, depends on the severity of your symptoms as well as your occupation. If, for example, you drive a truck or stand behind a register all day, you may need to call out sick during an acute gout attack.

Unfortunately, employers may not be familiar with gout and understand the pain, swelling, and physical limitations that gout can cause. But discussing your condition with your manager or human resource department (HR) can help you get the support you need to do your job safely and successfully.

Here are a few tips for talking to your employer about gout:

Know what to say. You'll want to explain your diagnosis, including what it means for you and your work and why you feel they should know.

Know your rights. If you receive health insurance from your employer, go over your benefit

Who's Who in Your Office

Understanding the roles of each member of your health care team is important, especially when managing a chronic condition. Knowing what each professional does, and the differences between roles, will help you, the patient at the center of everyone's job.

It is important to disclose all information regarding medications, diet, and lifestyle choices to your doctor. In order to make the best treatment recommendation, they need to consider a lot of information specific to you. Leaving out an important detail, like a medication, could lead to adverse side effects on a certain treatment. Never hesitate to ask your physician any questions you may have about your treatment or gout in general. They are there to help.

Medical assistant: Brings you to exam room; measures height, weight, and blood pressure; and records and relays relevant information to your physician

Nurse (RN): Coordinates your care with other doctors and medical professionals; administers vaccinations; and, in some cases, performs biopsies and other interventions

Nurse practitioner (NP): Orders and interprets tests; diagnoses conditions like high blood pressure or an infection; prescribes medications in certain situations

Office manager: Ensures the facilities are safe and up-to-date and coordinates the goals of the medical staff

Physician: Cares for people of all ages and provides treatment and support across a vast range of areas. Your primary care physician can diagnose gout in most cases. However, you may be referred to a rheumatologist for treatment and long-term management.

Physician's assistant (PA): Interprets lab results, treats injuries, and performs exams. Some PAs can prescribe medicine, but while they have a

package with human resources, including the company's disability plan and insurance policy. The Family and Medical Leave Act (FMLA) allows you to take up to 12 weeks off each year for medical emergencies. This is unpaid but allows for job security.

Ask about accommodations. You may be able to modify aspects of your job to better suit your gout symptoms. Businesses with 15 or more employees are legally required to provide reasonable accommodations for employees with disabilities if it does not cause undue hardship in the workplace. For example, you could negotiate regular rest breaks or working from home during painful flares.

license, they can only practice medicine under a physician's guidance.

Receptionist: Handles most of the paperwork and processes your insurance information

Rheumatologist: Diagnoses, treats, and supports patients with arthritis and other diseases of the joints, muscles, and bones.

Technician: Performs medical tests, such as X-rays or blood tests, and relays the results to your physician. Technicians cannot offer a definitive diagnosis.

Gout may or may not fall under the Americans with Disabilities Act. Depending on your diagnosis and essential functions of the job, you might qualify for certain accommodations.

Consider telling close or trusted colleagues. Knowing you have understanding people around you at work, who you can talk to when symptoms flare or you're having a tough day, can be comforting.

Here is a list of helpful websites you can use to research options should your condition impact your work:

ADA: www.eeoc.gov/facts/fs-ada.html
FMLA: www.dol.gov/whd/regs/compliance/whdfs28.htm#.UNHq_2_hrFk
Job Accommodation Network: askjan.org

RAISE YOUR VOICE:

Ask For An Advocate

If you're insured through your job, ask your HR department if your company or its insurer has a patient advocate or employee assistance programs as part of your coverage. These advocates, or advocacy programs, are designed to work on your behalf to provide information or assistance related to your health care.

How to Talk to Your Family and Friends

When you have gout, you may not always look like you're sick or in pain. People around you may not realize what gout is or why it causes an acute attack that can limit your mobility and cause severe pain. They may not realize that you need to take medications regularly, control your diet

and alcohol intake, or that some activities are harder for you to do. They may not know that you sometimes you feel stressed, anxious, or even depressed because you have a chronic disease.

Talk to your friends and family about your gout so they understand what's going on with you. Let them know some ways that they can help you cope better with the challenges of your disease. Find out which people in your life will be good sources of support when you have an acute gout flare, or when you feel like living with gout is a lot to handle. Some family members or friends could be great exercise buddies too.

Here are a few tips for talking with your family and friends about your gout, and getting help when you need it:

Explain a little bit about your disease. Talk about how gout affects your body, what inflammation and uric acid are, and how your joints could be at risk for serious damage if you don't control your gout. Do your best to give a few specific examples of how gout affects your life. For instance, relay how you cannot put on your shoe or stand on your feet for too long during a gout flare.

Don't hide your pain or other symptoms from those you love. It's okay to admit that you are having a flare or struggling to get tasks done. Ask for help. Let people know ahead of time if you need help with tasks like walking the dog or running to the grocery store.

What Other People Don't Get About Gout, According to Patients

"When you have a chronic condition like gout, getting your family to understand how it works and to help support you on that is a big part of relieving stress." — *Oso W.*

"My colleagues didn't really know how to address the fact that I could barely walk. I knew that it was a gout attack and it would pass, but that was always challenging to deal with." — *Ross W.*

"I was always a little embarrassed to tell people I had gout — something about the name of it bothered me. I also had shingles at one point and I hated to mention what was another 'old person's disease.' Why am I young and getting these 'old-people diseases?'" — *Ken L.*

"I was 32 years old when I was diagnosed with gout. I was an active runner and in reasonably good health. In fact, I had lost over 90 pounds and kept it off for more than a year. So getting diagnosed with gout was surprising because I was young, I was a woman, and I was actively running and following a pretty strict diet." — *Ashley N.*

"While gout is typically thought of as acute pain and one swollen joint, it's not always that way. For me, there is next to no actual pain and no swollen joints, but I still have issues from the gout because I have tophi everywhere." — *Sharon N.*

Keep your close friends and family up to date about your gout treatments. Make a list of the drugs and dosages you take and give it to a couple of people who you trust in your inner circle. They may need to have this information handy in a medical emergency. Also, people that care about you want to know what you are doing to treat your disease, and how you're doing. They can be the best cheerleaders for your treatment success.

✦ How to Talk to Your Elected Officials

Your elected officials at the federal, state, and most importantly, the local level want to help you.

After all, YOU are their constituent, and their job is to represent their constituents.

Getting in contact with your state senator, house representative, or assembly person can help:

- Clear up insurance coverage issues
- Speed up the insurance claim process
- Improve existing guidelines of care
- Send a message that your issue is real (and needs to be taken seriously)
- Paint a picture of their constituents that will help inform their decisions on future legislation

There are several reasons to contact your elected officials, and it's important to understand that many will work to help you, but mostly on an individual level as a "constituent service." As much as you and they may want sweeping change to the laws, change takes time and sustained interest from constituents.

How to Share Your Story

While a personal hand-written letter is the most impactful way of sharing your story, a phone call or personal email is a more practical way of contacting your elected official.

You can also get involved with the 50-State Network, a national organization of patients just like you who want to make their voices heard by their elected officials. Learn more and sign up at www.50statenetwork.org. This is a program developed and run by the Global Healthy Living Foundation, the parent nonprofit of CreakyJoints.

The American College of Rheumatology (ACR) also brings together patients like you, rheumatologists and health professionals, and families of kids with rheumatic diseases each fall to lobby members of Congress about important legislative issues. You can find out more about joining this event at www.rheumatology.org/Advocacy/Advocates-for-Arthritis.

So now that we've tempered your expectations about government, how should you go about contacting your local officials, and what can they help you with?

First you need to find them. To do so, follow this link: openstates.org

PART IX Conclusion

While gout is a chronic disease, the good news is that it is very manageable and highly treatable. The early phases of gout treatment can be difficult as you deal with gout flares. Yet most people with gout can stop having flares completely over time if they follow their treatment regimens. The key is to stick with the medications and diet or lifestyle changes your doctor recommends.

Your health care team, with you at its center, is there to help you treat and manage your gout, so you can live a healthy, active life. They want you to feel better, prevent gout flares, avoid any long-term problems or joint damage, and have a great quality of life.

There are medications that are highly effective for treating gout flares and symptoms, managing hyperuricemia, and preventing recurrent gout flares or gouty arthritis. Your physicians, which may include a rheumatologist, can help you find the best treatment and advise you on how you can change your lifestyle to reduce your risk of a gout flare or worsening gout. If one treatment doesn't work well for you, your doctor can suggest something else.

You can also take an active, impactful role in your gout management by eating a healthy diet, managing your alcohol intake, quitting smoking, getting regular exercise, and keeping your weight at a healthy level. If you need help with any of these changes, ask your doctor and nurses for recommendations or referrals to other health care professionals, like a physical therapist, registered dietitian, or addiction specialist (if you're struggling with alcohol misuse).

Remember: You are not alone, and there is no shame in having gout. Many people in your life may not understand gout, or how it affects you, so do your best to communicate what you're going through. Welcome the support of loved ones but also seek out others living with gout. Gout is a common condition, so there's a good chance you already know quite a few people who have gout but may have never mentioned it.

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Theodore Fields, MD, FACP, is an attending rheumatologist at Hospital for Special Surgery and Professor of Clinical Medicine at Weill Cornell Medical College. He is the rheumatology medical editor of **www.hss.edu**, the HSS website providing comprehensive education on musculoskeletal disease treatment and prevention for physicians and patients. He is the Clinical Director of the Early Arthritis Initiative at HSS, which focuses on education of patients and physicians about early intervention in inflammatory arthritis. His special clinical interests are rheumatoid arthritis and gout. His most recent publications have focused on clinical aspects of gout and on improving education for patients with gout.

ASHLEY NEWTON

Ashley Newton was diagnosed with gout in 2016. Since then, she has researched the condition thoroughly on credited sources like the American College of Rheumatology, American Medical Association, and the National Institute for Health, among others. She is a member of our CreakyJoints Gout Patient Council and hopes that these patient guidelines can help others living with gout control their disease.

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