

# Gout Patient Education

## What is gout?

- Gout is a form of arthritis that causes sudden and severe pain, tenderness, redness, warmth and swelling/inflammation in some joints. Gout occurs when uric acid crystallizes in the joint, causing inflammation and swelling.
- The big toe is the most commonly affected joint, but it can also occur in the knees, ankles and feet. Less commonly, gout can occur in the hand, wrist and elbow.
- Uric acid crystals can also form in the soft tissues, leaving hard nodules called “tophi”.
- Elevated uric acid levels can also predispose to chronic kidney disease.
- Elevated uric acid levels can be a risk factor for kidney stones.

## What causes gout?

- Uric acid is formed by the breakdown of purines, genetic material found naturally in foods.
- The kidneys normally filter uric acid, and uric acid leaves the body through the urine. However, people with gout sometimes have a build-up of uric acid in the blood. Uric acid may build up because the body makes too much; it may also build up because the body does not get rid of enough uric acid through the urine.
- The amount of uric acid in your blood depends on many things, including:
  - How efficiently your kidneys get rid of uric acid
  - Your body weight
  - Your diet
  - Your overall health
  - Your alcohol consumption
  - Your current medications
  - Your current medical condition
- Uric acid levels of  $>6.7$  mg/dL may make you more prone to developing gout. However, not everyone with an elevated uric acid level gets gout.
- Predisposing conditions to an acute gout flare:
  - Men  $>40$  years of age
  - Women after menopause
  - Thiazide diuretics
  - Trauma
  - Surgery
  - Starvation
  - Dehydration
  - Fatty foods and dietary overindulgence
  - Increased alcohol consumption

## How do you diagnose gout?

- It is first important to exclude other causes of a painful, red, and swollen joint such as trauma, infection, pseudogout, and autoimmune diseases.
- Ideally, joint fluid analysis under polarized light is the gold standard for visualization of uric acid crystals. However, this requires a physician skilled at this procedure.
- Many times, the diagnosis is made clinically in a patient with a previous history of gout, or presenting with classic big toe inflammation as the involved joint.
- Uric acid levels are not always elevated during an acute flare; a low or normal uric acid doesn't exclude gout as the cause of joint inflammation.

## How do you treat an acute gout flare?

- Non-Steroidal Anti-Inflammatory medications (NSAIDs)
  - Caution for use in patients with chronic kidney disease
  - Caution for use in patients with a history of peptic ulcer disease
  - Caution for use in patients on anti-coagulation
- Colchicine
- Steroids (alternative for patients that cannot take NSAIDs); can be given orally or by injection into the joint

### **How do you prevent a gout flare?**

- Lifestyle modifications
  - Dietary changes
  - Reduction in alcohol consumption
  - Weight loss
- Medication adjustments
- Management of co-morbid health conditions
  - Hypertension
  - Chronic kidney disease
  - Cardiovascular disease
  - Metabolic syndrome
- Medications
  - Allopurinol (Zyloprim)
  - Febuxostat (Uloric)
  - Colchicine (Colcrys or Mitigare)
  - Probenecid
- Low purine diet

### **How can I make low-purine foods a regular part of my diet?**

- Limiting the amount of purines in your diet is a change that may help you to manage gout. You may need to make these changes part of your daily routine. Changing what you eat and drink may be hard at first. Think of these changes as "lifestyle" changes not just "diet" changes.
- Choose a variety of items on this diet to avoid getting tired of having the same items everyday. Keep the purine food list in your kitchen to remind you about the diet.
- Carry the purine food list with you to remind you about the diet when you are away from home. Tell your family or friends about this diet so that they can remind you about it.
- Ask your caregiver, a dietitian, or a nutritionist any questions you may have about your diet plan. A dietitian or nutritionist works with you to find the right diet plan for you.

**What foods contain purine?** A variety of foods contain purine in different amounts. Below is a food list that shows which foods are high, medium and low sources of purine. Avoid the high-purine foods. Ask your caregiver how to fit the medium-purine foods and the low-purine foods into your diet.

- **High-purine foods:**
  - Anchovies.
  - Roe (fish eggs).
  - Fish such as herring and mackerel.
  - Sardines.
  - Scallops and mussels.
  - Game meats, like goose, duck, and partridge.
  - Organ meats: brains, heart, kidney, liver, sweetbreads.
  - Meat extracts.
  - Mincemeat.
  - Broth, bouillon, and consommé.
  - Gravy.
  - Yeast (baker's and brewer's) taken in the form of a supplement.
- **Medium-purine foods:**
  - Fish and shellfish not on the high purine list above.
  - Poultry foods not on the high purine list above.
  - Beef, lamb, pork, other red meats not on the high purine list above.
  - Dried beans, peas, lentils.
  - Asparagus.
  - Mushrooms.
  - Spinach.
  - Cauliflower.
  - Green peas.
  - Oats and oatmeal.
  - Wheat germ and bran.
  - Whole grain breads and cereals.

- **Low-purine foods and beverages:**
  - Eggs (limit to 3 to 4 per week).
  - Nuts and peanut butter: limit if trying to lose weight.
  - Low-fat and fat-free cheeses and ice cream.
  - Pudding.
  - Milk: skim or 1% (limit to 24 ounces per day).
  - Cream-style soups made with low-fat milk.
  - Soups made without meat extract or broth.
  - Vegetables not on the lists above
  - Fruits and juices.
  - Breads cereals: low fiber, white flour, or refined grain.
  - Pasta and macaroni.
  - Rice.
  - Soda.
  - Coffee and tea.
  - Gelatin.
  - Cake and cookies in small amounts.
  - Fats and oils in small amounts.
  - Sugar, syrup, and other sweets in small amounts.

**What other guidelines should I follow?**

- **Low-fat foods:** Gout increases your risk of heart disease, so you should limit the amount of fat in your diet. Choose low-fat foods such as skim milk, low-fat cheeses, fruits and vegetables. Choose foods that are baked instead of fried.
- **Liquid intake:** Increase the amount of liquids you drink to at least 10 to 12 (eight-ounce) cups of liquid each day. Increasing the amount of liquids you drink each day can help your body to get rid of extra uric acid.
- **Alcohol:** Limit the amount of alcohol you drink, especially beer. Beer contains a high amount of purine. Other drinks that contain alcohol are hard liquor (such as whiskey, vodka, gin and rum) and wine. Wine may not increase the amount of uric acid in your blood as much as other types of alcoholic drinks. Talk to your caregiver before drinking alcohol.
- **Maintain a healthy weight:** If you are overweight, you should lose weight slowly. Losing weight can help to decrease the amount of stress on your joints. Losing weight may also decrease levels of uric acid in your blood. Regular exercise can help you lose weight if you are overweight or maintain your weight if you are normal weight. Talk to your caregiver before starting an exercise program.

**Risks:** Following a low-purine diet may help to decrease gout attacks. If you do not limit high-purine foods and alcohol, you may have gout attacks more often.

**If you desire more information about the above topic or other health related issues, please visit the following website:** <http://www.nlm.nih.gov/medlineplus>