



# Patient education: Poison ivy (Beyond the Basics)

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## INTRODUCTION

When the skin comes in direct contact with an irritating or allergy-causing substance, contact dermatitis can develop. Exposure to poison ivy, poison oak, and poison sumac causes more cases of allergic contact dermatitis than all other plant families combined.

People of all ethnicities and skin types are at risk for developing poison ivy dermatitis. The severity of the reaction decreases with age, especially in people who have had mild reactions in the past. People in occupations such as firefighting, forestry, and farming are at a higher risk of poison ivy dermatitis because of repeated exposure to toxic plants.

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## POISON IVY DERMATITIS CAUSES

Poison ivy, poison oak, and poison sumac plants contain a compound called urushiol, which is a light, colorless oil that is found in the fruit, leaves, stem, roots, and sap of the plant. When urushiol is exposed to air, it turns brown and then black; plant leaves develop small black spots.

There are several ways that you can be exposed to urushiol:

- By touching the sap or rubbing against the leaves of the toxic plant at any time of year.
- By touching something that has urushiol on it, such as animal fur or garden tools.
- By breathing in smoke when toxic plants are burned.

- Ginkgo fruit and the skin of mangoes also contain urushiol and can produce symptoms similar to poison ivy dermatitis.
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## IDENTIFYING POISON IVY

"Leaves of three, leave them be" is a phrase often used to identify plants that cause poison ivy dermatitis. Generally, poison ivy and poison oak have three green or reddish-green leaflets per leaf with flowering branches on a single stem. Poison sumac has five, seven, or more leaflets per leaf that angle upward toward the top of the stem ( [figure 1](#)).

Poison ivy plants produce a green or off-white fruit in autumn, and in some cases, black dots form on the plants' leaves. It is not always possible to identify the plant by the leaves alone since the appearance can vary depending upon the season, growth cycle, region, and climate.

Poison ivy, oak, and sumac plants grow in many areas across the United States and throughout the world. East of the Rocky Mountains, poison ivy commonly grows as a climbing vine. In the Rocky Mountain area, in the northern United States, and in the western United States, poison ivy tends to grow low to the ground as a shrub. Western poison oak grows west of the Rocky Mountains, and eastern poison oak grows in the southeast United States. Poison sumac inhabits boggy areas in the southeastern part of the United States. The plants are not usually found in areas at high elevations or in desert climates, although the authors have seen the shrub-like northern poison ivy above 5000 feet in the Colorado Rocky Mountains and near 4000 feet in Spearfish Canyon, South Dakota.

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## POISON IVY SIGNS AND SYMPTOMS

After contact with urushiol, approximately 50 percent of people develop signs and symptoms of poison ivy dermatitis. The symptoms and severity differ from person to person.

The most common signs and symptoms of poison ivy dermatitis are:

- Intense itching
- Skin swelling and blisters
- Skin redness

These symptoms usually develop within four hours to four days after exposure to the urushiol. After the initial symptoms, allergic individuals develop fluid-filled blisters in a line or streak-like

pattern. The symptoms are worse within 1 to 14 days after touching the plant, but they can develop up to 21 days later if one has never been exposed to urushiol before.

The blisters can occur at different times in different people; blisters can develop on the arms several days after blisters on the hands developed. This does not mean that the reaction is spreading from one area of the body to the other. The fluid that leaks from blisters does **not** spread the rash. Poison ivy dermatitis is **not** contagious and cannot be passed from person to person. However, urushiol can be carried under fingernails and on clothes; if another person comes in contact with the urushiol, he or she can develop poison ivy dermatitis.

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## POISON IVY DIAGNOSIS

The rash caused by poison ivy is usually diagnosed based upon how the skin looks. Further testing is not usually necessary. A study revealed that visiting an emergency department for poison ivy dermatitis costs three times more than going to an urgent care clinic or doctor's office.

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## POISON IVY TREATMENT

Poison ivy dermatitis usually resolves within one to three weeks without treatment. Treatments that may help relieve the itching, soreness, and discomfort caused by poison ivy dermatitis include:

**Skin treatments** — For some people, adding oatmeal to a bath, applying cool wet compresses, and applying [calamine lotion](#) may help to relieve itching. Once the blisters begin weeping fluid, astringents containing [aluminum acetate](#) (Burow's solution) and Domeboro may help to relieve the rash.

**Antihistamines** — Antihistamines **do not** help to relieve itching caused by poison ivy dermatitis. Some antihistamines make you sleepy while others do not. The ones that make you sleepy (eg, [diphenhydramine](#) [sample brand name Benadryl]) can help you to ignore the itch while sleeping, but the quality of sleeping is worse than normal, and patients scratch just as much during the night as if they were not taking an antihistamine.

**Steroid creams** — Steroid creams may be helpful if they are used during the first few days after symptoms develop. Low-potency steroid creams, such as 1% [hydrocortisone](#) (available in the United States without prescription) are not usually helpful. A stronger prescription formula may

be helpful, but such steroid creams cost more and are less helpful than taking steroid pills or receiving an injection.

**Steroid pills or injections** — If you develop severe symptoms or the rash covers a large area (especially on the face or genitals), you may need steroid pills (eg, [prednisone](#)) or injections (eg, [triamcinolone](#) acetonide, [budesonide](#)) to help relieve itching and swelling. Pills are usually given for 14 to 21 days, with the dosage slowly decreased over time. When pills are stopped sooner than 14 days, it is common for the rash and itching to reappear.

**Antibiotics** — Skin infections are a potential complication of poison ivy, especially if you scratch your skin. If you develop a skin infection because of poison ivy dermatitis, you may need antibiotics to treat the infection. Do not use over-the-counter topical antibiotic creams; many bacteria are resistant to them **and** they are one of the chief causes of allergic contact dermatitis not caused by plants.

**Other treatments** — You should not use antihistamine creams or lotions, anesthetic creams containing [benzocaine](#), or antibiotic creams containing [neomycin](#) or [bacitracin](#) to the skin. These creams or ointments could make the rash worse.

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## POISON IVY RASH PREVENTION

The best way to prevent poison ivy dermatitis is to identify and avoid the plants that cause it. These plants can irritate the skin year round, even during the winter months, and they can still cause a reaction after dying.

- Wear protective clothing, including long sleeves and pants, when working in areas where toxic plants may be found. Keep in mind that the resin and oils from the toxic plants can be carried on clothing, pets, and under fingernails.
- Wear heavy-duty vinyl gloves when doing yard work or gardening. The oils from toxic plants can seep through latex or rubber gloves.
- After coming in contact with poison ivy, remove any contaminated clothing. As soon as possible (minutes count, but you can try up to two hours later), wash under very warm or hot running water using dishwashing liquid on a damp washcloth. Wash your entire body three times, while always wiping in one direction and not back and forth. This seems to reduce irritation and help remove the oils. If you do not have rapid access to dishwashing liquid, try to use plain water and wipe your skin in the same fashion; you will at least get rid of some of

the resin. Comparison of dishwashing liquid with more expensive products made for removing poison ivy oils did not show a difference in effectiveness.

- Creams and ointments that create a barrier between the skin and the urushiol oil may be somewhat effective for people who are frequently exposed to poison ivy.
- Avoid burning poisonous vegetation, which can disperse the plant particles in the smoke, irritate the skin, and cause poison ivy dermatitis.

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## WHERE TO GET MORE INFORMATION

Your healthcare provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our website ( [www.uptodate.com/patients](http://www.uptodate.com/patients)). Related topics for patients, as well as selected articles written for healthcare professionals, are also available. Some of the most relevant are listed below.

**Patient level information** — UpToDate offers two types of patient education materials.

**The Basics** — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

[Patient education: Poison ivy, poison oak, and poison sumac \(The Basics\)](#)

[Patient education: Contact dermatitis \(The Basics\)](#)

[Patient education: Blisters \(The Basics\)](#)

**Beyond the Basics** — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

This topic currently has no corresponding Beyond the Basics content.

**Professional level information** — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

## Allergic contact dermatitis in children

### Overview of dermatitis (eczematous dermatoses)

### Poison ivy (*Toxicodendron*) dermatitis

The following organizations also provide reliable health information.

- American Academy of Allergy, Asthma, and Immunology  
( [www.aaaai.org](http://www.aaaai.org))
- American Academy of Dermatology  
( [www.aad.org](http://www.aad.org))
- National Institute of Allergy and Infectious Diseases  
( [www.niaid.nih.gov](http://www.niaid.nih.gov))
- National Institute of Arthritis and Musculoskeletal and Skin Diseases  
( [www.niams.nih.gov](http://www.niams.nih.gov))
- National Library of Medicine  
( [www.medlineplus.gov/healthtopics.html](http://www.medlineplus.gov/healthtopics.html))

[1-5]

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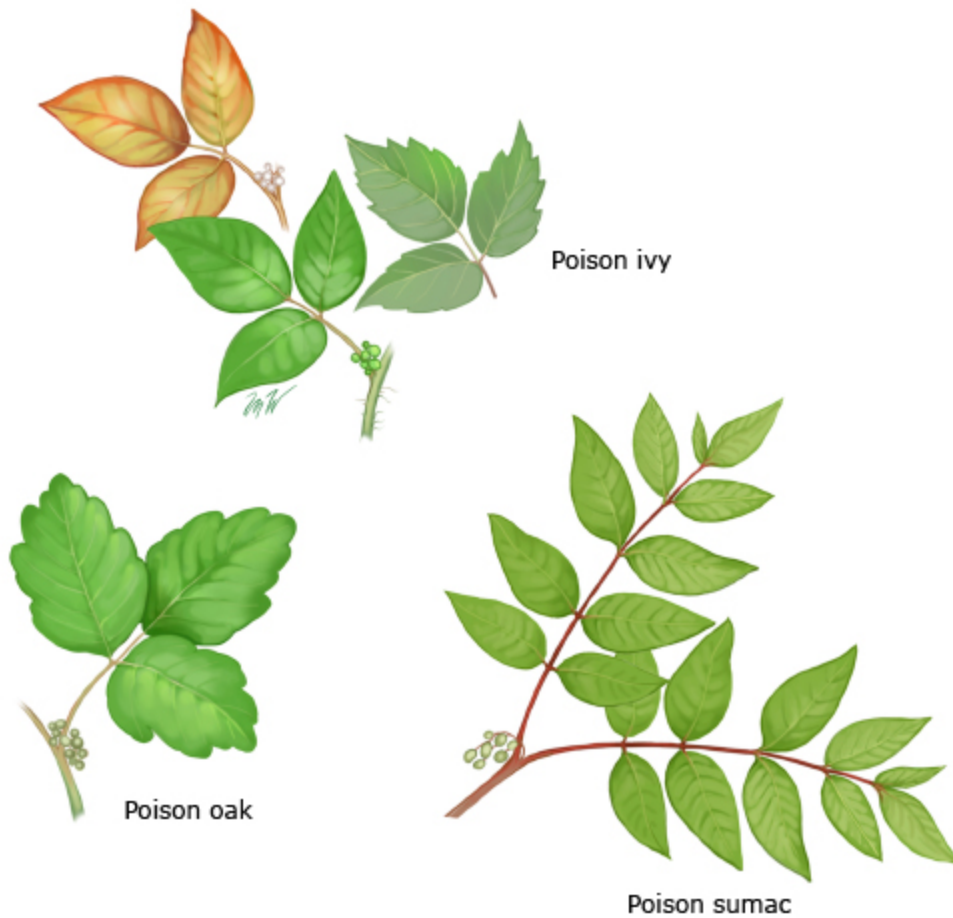
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## GRAPHICS

### Poison ivy, poison oak, and poison sumac



Generally, poison ivy and poison oak have 3 leaves on each stem. Poison sumac has 5, 7, or more leaves on each stem.

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## Contributor Disclosures

**Lori Prok, MD** No relevant financial relationship(s) with ineligible companies to disclose. **Thomas McGovern, MD** No relevant financial relationship(s) with ineligible companies to disclose. **Robert P Dellavalle, MD, PhD, MSPH** Grant/Research/Clinical Trial Support: Pfizer [Pfizer Dermatology Fellowship Grant (#65894351) in Big Data Research]. All of the relevant financial relationships listed have been mitigated. **Rosamaria Corona, MD, DSc** No relevant financial relationship(s) with ineligible companies to disclose.

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