

# Poison Ivy

## Introduction

According to the American Academy of Dermatology, about 85% of us will develop a rash if exposed to poison ivy, oak or sumac (members of the cashew family). To develop this allergy usually requires several exposures, which may occur years apart. Sometimes only one exposure is needed. So, if you have never had a reaction to poison ivy, it may be only a matter of time.

## What causes the rash?

Poison ivy, oak and sumac all have the same identical chemical ... *urushiol* ... pronounced *oo-ROO-shee-ohl*. Urushiol is an odorless, colorless, sticky resin found in the sap of the leaves, stems and roots. Though the chemical is found in and not on the plants, the stems and leaves are easily broken by passing animals, chewing insects or blowing wind. This releases the urushiol.

There is no difference in the chemical between the three plants so it doesn't matter which one you came in contact with. It isn't worth the effort or time to wonder if you touched poison ivy or poison oak. This handout will use the term poison ivy for all three plants.

## How did I get exposed?

Many times you know where you got the exposure ... walking or playing in the woods and pulling weeds in the backyard are the common situations. However, you may not remember any contact at all. Why? Urushiol is sticky. It can stick to the fur of pets, garden tools, balls or clothing. So you may have been exposed when:

- Your cat walked through or lay down in the poison ivy. Then he comes inside, sits in your lap and you stroke him.
- Your dog chased a ball into the woods, got the resin on his fur and then you petted him.
- You pick up the ball that rolled into the woods.
- A garden tool fell into the weeds and you picked up urushiol from the handle.
- You went hunting and the resin stuck to your coat.

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Unfortunately, urushiol is very stable and can remain potent for years, especially if kept dry. This means that the ball that rolled into the woods or your coat that got exposed can still transfer urushiol to your skin a year or two later. If kept dry, urushiol can remain potent for decades. Your dog or cat will not get a rash because animals (other than some apes) are not sensitive to urushiol.

## How do I recognize the plant?

“*Leaves of three, let them be.*” This is the classic advice but sometimes they have leaves in groups of five to nine. Excellent color pictures of poison ivy at different times of the year can be found at <http://www.poison-ivy.org/>. The term poison ivy was coined by Captain John Smith in 1609.

## How does urushiol cause a rash?

To cause a rash, urushiol must penetrate your skin and be metabolized to a different compound that our body then reacts to. In areas where the skin is very thick (soles of the feet, palms of the hand), it cannot penetrate well. Thus you will seldom if ever get a rash in those areas even when the rest of the body is covered. The thinner the skin and the heavier the dose of urushiol, the worse the reaction.

Poison ivy dermatitis (the medical term) is a *delayed hypersensitivity* reaction. This means that the body reacts to urushiol in a slow rather than fast way. The rash typically begins 12 to 48 hours after exposure but may rarely, in some people, be delayed until seven to ten days later.

If our bodies did not react so violently to urushiol, then the chemical itself would not do any harm to the body.

I found these fascinating facts about Urushiol at the [poisonivy.aesir.com](http://poisonivy.aesir.com) web site:

- Only 1 nanogram (billionth of a gram) is needed to cause a rash.
- The average exposure for most people is 100 nanograms.
- 1/4 oz. of urushiol is all that is needed to cause a rash in every person on earth.
- 500 people could itch from the amount covering the head of a pin.
- Specimens of urushiol several centuries old have been found to cause dermatitis in sensitive people.
- 1 to 5 years is normal for urushiol oil to stay active on any surface including dead plants.
- The name is derived from *urushi*, the Japanese name for lacquer.

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- When the Japanese restored the gold leaf on the golden Temple in Kyoto, they painted the urushiol lacquer on it to preserve and maintain the gold. Guess you could say that you would be caught red handed if you stole it.

## Does poison ivy spread through my blood?

No. Urushiol does not penetrate to the blood and spread throughout the body. The rash will only occur where urushiol has come in direct contact with the skin. The different exposed skin areas though may not react in unison. One area will break out before another area. This gives the impression that the rash is spreading from one place to the other. The amount of urushiol and the thickness of the skin determine how fast the reaction occurs.

## What should I do after exposure?

First you should know that urushiol penetrates the skin within ten minutes of exposure. To perhaps prevent further spread you should:

- **First** – Clean your exposed skin with rubbing alcohol (isopropyl). Don't return to the yard or woods the same day though. The alcohol while helping to remove the resin, also makes your skin more sensitive to a second exposure on the same day.
- **Second** – Wash your skin with lots of *cold* water to remove the urushiol completely ... not just spread it around. Hot water will open up your pores and allow more urushiol to penetrate. Don't use soap immediately after exposure since the soap can move the urushiol around on your skin.
- **Third** – Take a regular shower with soap and warm water.
- **Fourth** – Wear disposable gloves and wipe your clothes, shoes, tools, etc. with alcohol and water.

## Can I spread the rash by touching it?

The skin forms an irregular, raised, red, intensely itchy inflamed rash which may characteristically have areas of long streaks. The skin may blister and ooze. The rash and the liquid of the blisters *is not contagious*. They do not contain urushiol and you cannot get poison ivy dermatitis from touching the lesions or the fluid. After the urushiol is soaked in (10 to 15 minutes), you cannot spread the rash from one area of your body to another by touching or rubbing. You can spread the rash by touching clothing or other objects that still have urushiol on them.

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## How long will the rash last?

The rash will last 14 to 20 days.

## What do I do about the itch?

Use Benadryl at night to control the itch. Benadryl makes most people sleepy *and* stops itching. Take 25 to 50 mg at bedtime. Your doctor may prescribe an anti-itch medication such as Atarax (hydroxyzine) for itch during the day.

Heat makes the itch worse. Going out in hot weather, exercising or taking hot baths can all make the itch worse. Interestingly, the hot bath may feel good at the time but you will itch more when you get out.

If heat makes the rash worse, then cold or cool compresses can help with the itch. Some people put alcohol on the rash. This helps because of the cooling effect of the alcohol as it evaporates, not because of any special benefit from alcohol.

Applying over-the-counter steroid creams (0.5% or 1.0% hydrocortisone) is safe for mild temporary relief of the itch. Your doctor may prescribe stronger steroid creams. Unfortunately, the steroid creams seldom halt the reaction or make the rash go away faster. You would have to apply them immediately after exposure to prevent the rash.

## How do I treat the blisters?

Dry up the blisters. This is where topical treatments come into play. Here are some over-the-counter (OTC) products you can use.

- Calamine lotion
- Aluminum acetate (Burrow's solution)
- Baking soda
- Aveeno (oatmeal bath)
- Aluminum hydroxide gel
- Kaolin
- Zinc acetate
- Zinc carbonate
- Zinc oxide

A more effective way to dry the blisters are *wet-dry* compresses.

- Mix up a *cool* solution of *Epsom Salts* as directed on the box.
- Soak a clean cloth in the solution.

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- Apply to the blistered, oozing area for five minutes. The concentrated salt solution draws the fluid out of the lesions (for those of you who remember high school chemistry, this is *osmosis*).
- Remove the cloth and let the area air dry. Use a fan to speed up the process.
- Apply the cloth again for five minutes, remove and air dry.
- Repeat the cycle several times. Each time, more fluid will be drawn out.
- This has the additional benefit that Epsom salts kill bacteria and prevent the blisters from becoming infected.

## What are the complications?

Anytime the skin has breaks in it, infection is a possibility. You should try to avoid scratchy blisters because they may become infected. Should the blisters start draining yellow pus or have honey-colored crusts (impetigo or a strep skin infection) then you may need antibiotics. Keep the blisters clean with soap and water and apply *Bacitracin* antibiotic ointment or a similar generic brand if they start to look infected. Severe infections require a doctor's prescription.

## What is the strongest treatment?

There is only one way to treat a severe reaction ... prednisone or other prescription steroid ... either with pills or a shot. These are used if the rash is on the face, genitals, eyes or covers more than 30 percent of the body.

The prednisone pills need to be taken for a minimum of 14 days and preferably 21 days. Remember, the rash untreated will last up to 20 days. Taking a short course of steroids (Medrol Dose Pack for six days) will work quickly but not long enough. The rebound from a short course of steroids can be worse than the initial rash.

Because you have to take steroids for such a long time, think twice before you take them. Steroids are generally safe for short periods of time (weeks rather than months) but they can affect your moods, prevent you from sleeping, reduce your immunity to infections and make you lose muscle and gain fat.

Using pills for your rash limits the length of time you are exposed to the steroid. Using a shot keeps the steroid in your body for months. If you are repeatedly exposed to poison ivy in your work then this may be the better option.

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## What are some other topical treatments?

- Aloe Vera – This can reduce the itch and inflammation.
- Mentholatum ointment which contains 9.0% camphor
- Hemorrhoid cream (Tronolane) containing Pramoxine Hydrochloride, 1%.

## What about prevention products?

In 1996, the FDA approved IvyBlock by EnviroDerm Pharmaceuticals, Inc. as a barrier cream. Apply this before your exposure and every four hours. You still need to wash well after exposure. Other barrier creams include Stokogard Outdoor Cream, Hollister Moisture Barrier, or Hydropel Moisture Barrier.

At this time, conventional medicine (versus alternative medicine proponents on the Internet) does not recognize that shots or poison ivy pills are an effective prevention for poison ivy dermatitis.

## How do I get rid of the plants?

There is no easy way. You must pull out the leaves, vines and roots or it will sprout again. You can use *Roundup* or *Ortho Poison Ivy Killer*. Both are effective but may kill other plants as well.

The plants are most dangerous in the spring and summer when they contain lots of sap laden with urushiol. You can get poison ivy dermatitis in the winter though from the dead plants.

Never burn the plants. The resin, if vaporized, can cause serious lung irritation if inhaled. This is a serious work hazard for firefighters.

## Where can I find more information?

I prepared this handout from personal experience and the valuable information found at these three very good web sites:

<http://www.poison-ivy.org/>

<http://poisonivy.aesir.com/>

[http://pediatrics.about.com/library/blpoison\\_ivy.htm](http://pediatrics.about.com/library/blpoison_ivy.htm)