

Avoiding the misery of POISON OAK

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Nothing is better on a sunny spring day than taking your dog and going for a long walk in the woods. Enjoying the wildflowers and sounds of birds, sitting by bubbling creeks, and playing with your dog. Life is great. When you get home, your family pets your dog while you drop your clothes by the washer.

Unfortunately, a few days later you and your entire family develop rashes from head-to-toe from exposure to poison oak. You contacted it on your hike, your dog brought it home on his fur and passed it along, and others touched your contaminated clothes. Life is no longer so great.

According to the American Academy of Dermatology, 10 to 50 million Americans develop allergic rashes to poison oak, poison ivy, and poison sumac every year. These plants grow almost everywhere in the United States, except Alaska, Hawaii, and some desert regions of Nevada.

Poison oak is a widespread problem for both recreational users and workers in the outdoors. It has been reported that poison oak is the number one cause of workman's compensation payments related to outdoor injury. Many U.S. Forest Service firefighters are forced to leave the fire line due to rashes from poisonous plants.

Captain John Smith first reported poison ivy in North America in the 1600s. In fact, later British explorers brought it back to England where it was planted in gardens, much to the annoyance of unwary gardeners. Outside of North America, species of



Poison oak is a bush or vine that has a deep green leaf in summer consisting of a stalk and three leaflets. It can vary in color and size depending on sunlight and water.

poison oak and poison ivy grow in China, Japan, and Malaysia.

Native Americans used poison oak as a black dye, to cure warts, to weave baskets, to wrap acorn meal, and to cover and protect food stores. It is unclear if they developed immunity or handled the plant carefully, but they did not seem to suffer the effects we do.

Anyone who has ever experienced a rash from poison oak knows that it is something to be avoided. This is possible with some knowledge and a few precautions. This article will discuss the identification, prevention, and treatment of contact with poisonous plants. For simplicity, I will use the term poison oak to mean poison oak, poison ivy, and poison sumac.

What to look for

Knowing how to identify poisonous plants is the first step in preventing an itchy rash. Poison oak, poison ivy, and poison sumac all are part of a family of 600 trees and shrubs that are found all over the world. Many are known to irritate the skin including the Japanese lacquer tree, mango fruit, shells of cashews, and seeds of Ginkgo biloba.

Botanists have classified the poisonous varieties in the genus, *Toxicodendron*, *toxico* meaning poison and *dendron* meaning plant. There is some disagreement as to how many separate species and varieties exist, but most botanists agree there are four main species: Western poison oak, Eastern poison oak, poison ivy, and poison sumac.



Being deciduous plants, the leaves turn red or yellow in the fall and drop off. Only the stalk is present in the winter, but it still has the urushiol resins that can cause a rash.

Western poison oak (*Toxicodendron diversilobum*) is a deciduous shrub that is widespread from sea level to 5000 feet throughout the Pacific Coast from southern British Columbia to northern Baja California. It commonly grows as a dense thicket in woodland and coastal areas, but can present as small plants, or as a climbing vine in shady canyons and riparian habitats. The size, shape, and color of the leaf depends somewhat on whether the plant is in full sun or shade. Leaves are trifoliate, meaning there are three leaflets coming off of one stalk. Two leaflets will attach close to the stalk almost at 90° angles and the third will attach straight with a longer stalk. The leaflets are randomly lobed and resemble oak leaves. Occasionally, a plant may have leaves with five leaflets. Color depends on the time of the year. The leaves are deep green in the spring and summer and can be red, yellow, orange, or reddish black in the fall.

In the winter and early spring, the plant has no leaves and consists of light brown or grayish stems up to five feet tall. Green leaves develop in the spring, followed by hanging clusters of yellowish-green flowers. These turn into greenish-white berries by late summer which remain until early winter.

Eastern poison oak (*Toxicodendron toxicarium*) is a low shrub that does not grow as a vine. It is most common in sandy soils extending from southern New Jersey to Florida and as far west as Texas and Oklahoma. Found in oak-pine savannas in the Atlantic and Gulf coastal plains and scrub oak forests inland, the three leaflets resemble leaves of the common white oak tree.

Climbing poison ivy (*Toxicodendron radicans*) grows as a vine in the East, Midwest, and South. **Non-climbing poison ivy** (*Toxicodendron rydbergii*), classified as Rocky Mountain poison oak by some botanists, grows as a shrub in the western United States east of the

Cascades and the far northern United States, Canada, and the Great Lakes. It is rarely found south of New England. Leaves are usually trifoliate, but can have 5 or 7 leaflets. It is often mistaken for Virginia creeper, which has 5 leaves, box elder, and Boston ivy.

Poison sumac (*Toxicodendron vernix*) is found in low, damp, swampy areas of the Southeast, Northeast, and Midwest, from Quebec to Florida and as far west as Texas. It grows up to 15 to 20 feet in height. One leaf consists of a stem with 7 to 13 green, smooth-edged leaflets. It has sweet-smelling flowers in the spring that produce cream-colored berries that hang in bunches. Leaves turn bright red and yellow in the fall.

Whatever the plant, all cause the same reaction and the prevention and treatment are the same. Learn to identify the poisonous plants in the area you live as well as the non-poisonous ones that look similar.

Poison oak dermatitis

All toxicodendron plants produce urushiol (pronounced you-ROO-she-ohl), a toxic resin in the sap of the plant that causes allergic contact dermatitis (rash) in humans. It is a colorless or pale-yellow oil that is in the resin canals of the plant and comes to the surface of the leaves, stems, or roots only if a plant is cut, bruised, crushed, or attacked by insects. Urushiol turns brown-black when exposed to air making it easier to spot. It is not in the pollen and is not volatile, although it may be carried in ash and dust when the plant is burned.

Contact with urushiol resin can occur by touching the plant, touching something to which urushiol has spread, such as clothes, animal fur, or tools, or from airborne particles from burning plants. Some individuals are so sensitive that one millionth of an ounce is enough to cause a reaction.

Five hundred sensitive individuals could have a reaction from the amount on a pinhead.

Urushiol begins to penetrate the skin within minutes of contact. In sensitive individuals, a reaction can occur within hours, or it may take 3 to 5 days. First, a red streak or rash occurs, followed by red, itchy bumps, and then by blisters and severe itching. The blisters ooze and crust over during the next few days. Overall, it can take 10 miserable days for the rash and blisters to go away.

A rash can occur on any part of the body. Areas where the skin is thin, such as the face, seem to be more often affected than areas where the skin is thick, such as the soles of the feet and palms of the hands. Touching other parts of the body with hands contaminated by the resin is a common way to spread the rash.

While scratching the rash and oozing from the blisters does not spread poison oak, the rash does break out in other areas. This delayed reaction may be due to the fact that urushiol is absorbed slower through thicker skin or that it is being spread to other

areas by the hands. The rash cannot be spread from person to person, only by contact with urushiol.

Humans are not born with a sensitivity to poison oak. It develops after our first exposure. The body's immune system builds up a resistance and after the next exposure a severe reaction can occur. While about 15% of individuals are immune to poison oak, most individuals are allergic, with a few being severely allergic. In such cases, they may have swelling of the face, eyes, arms, legs, and genitals requiring medical care. Sensitivity seems to decrease with age and some people who were allergic may even lose their sensitivity later in life.

Prevention

It is almost impossible to avoid poison oak plants if you work or play outdoors, but you can avoid skin contact with them. Learn to identify the poisonous plants in your area, their seasonal variation in appearance, and how they differ from similar appearing non-poisonous plants.

If you hike or work in the same areas year after year, remember the location of the plants. Spring and summer are the times when sap on leaves are most often encountered and winter is the time when contact is made through burning plants or using vines for wreaths. Around your house, poisonous plants in your yard can be destroyed with herbicides and then the brush removed. Don't burn the brush, as urushiol resin can be attached to ash and dust causing a poison oak reaction to those who come in contact.

If you are hiking or working where poison oak is likely to grow, protect yourself by wearing long pants, long sleeves, and closed shoes. Gloves are handy if you might encounter brush that might need to be moved out of the way.

For exposed skin, barrier creams offer some protection if applied prior to contact with poison oak. *IvyBlock*

is a lotion or spray developed for the U.S. Forest Service that contains bentonite, a mineral in bentonite clay. This forms a barrier that prevents urushiol from reaching the skin while binding with it so it becomes inactive. It should be applied to the skin at least 15 minutes before exposure and reapplied every four hours. *StokoGard Outdoor Creamis* another barrier product available through industrial supply houses.

Protective clothing that has come in contact with poison oak should be removed and handled carefully to avoid getting any urushiol resin on the skin. It should be laundered immediately. Resin can stay on clothing well over one year and anyone touching it is at risk for contracting a rash.

Pets routinely get urushiol resins on their fur. While it does not reach their skin and they do not get a rash, it can be transferred to humans in contact with the animal.

Exposure to poison oak

If you come in contact with poison oak, wash all exposed areas with cold running water from a stream, lake, or hose as soon as possible. If you can do so within five minutes, you may be able to wash the urushiol resin away before it contacts the skin. Within 30 minutes of exposure, you may be able to wash it away with soap and water.

Up to eight hours after exposure, you may still be able to remove the oil from the skin by using a solvent. *Oak-n-Ivy* brand *Tecnu Outdoor Skin Cleanser* is a mixture of organic solvents (including mineral spirits, propylene glycol, and fatty acid soap) developed in 1961 as a material to remove radioactive dust from skin and clothing. It was accidentally discovered to be effective in removing urushiol resin.

When you think you may have been exposed to poison oak, but do not yet have a rash, apply *Tecnu* to exposed



Enjoy your days outdoors, but watch out for poison oak, poison ivy, and poison sumac. Found throughout North America, they can make your life miserable for the next

skin and rub vigorously for two minutes to remove resin and other dirt. Then wash it off with cool running water or, if water is not available, wipe it off with a towel. If you know you are hypersensitive to poison oak, wash your entire body with *Tecnu*.

If a rash appears, rub *Tecnu* on the affected area and surrounding skin for two minutes, while being careful not to break the skin. Since you know that you have resin on your skin, it might be best to apply to your entire body to possibly help prevent outbreaks elsewhere. Rinse it off with cool running water, not a bath, and gently towel dry.

Resin can also be removed from clothes with *Tecnu* cleanser. Be sure to try it on a corner of the fabric first to check for colorfastness. Saturate dry clothes with *Tecnu* and let the cleanser soak in for several minutes before laundering the clothes with detergent and hot water.

Equipment, tools, and boots can be wiped down with a cloth saturated with *Tecnu* cleanser and rinsed with running water or wiped down. Be sure to wear gloves or clean hands with *Tecnu* cleanser after decontaminating these items.

Other organic solvents are also reported to remove urushiol resin, including rubbing alcohol, paint thinner, acetone, and gasoline. These may also be very irritating to the skin and should be thoroughly rinsed off with water.

Once the rash begins, it cannot be stopped and will resolve by itself in about two weeks. Symptomatic care is helpful during this time. Itching may be relieved by taking cool showers or by soaking in a lukewarm bath containing baking soda or an oatmeal solution, like *Aveeno Bath Treatment*. *Calamine* lotion, *CalaGel*, or *Burrow's* solution may also lessen itching. Antihistamines, such as *Benadryl* 25 to 50 mg every 6 hours, may be useful. Over-the-counter steroid creams may alleviate small

patches of rash, but are not strong enough to have much effect.

Avoid scratching the blisters. While scratching does not spread the poison oak, it actually increases itching and can cause secondary skin infections.

In severe cases or when the face or genitals are involved, a physician can prescribe strong steroid drugs such as prednisone. If used early, steroids can actually prevent blister formation, so see a physician soon if you know you have been exposed and have had severe reactions in the past.

Dermatologists have found that most individuals can be immunized to prevent allergic reactions from contact with poison oak. A several month regime of exposure to increasing amounts of urushiol can give a reasonable desensitization. It is recommended only for individuals that work or live in areas where they are at high risk of allergic reactions. It is not without problems, so consult a dermatologist for more information.

While it is almost impossible to avoid poison oak, poison ivy, and poison sumac plants if you venture outdoors, you can prevent getting the rash. Learn to identify the poisonous plants in your area and keep away from them. Wear protective clothing and use skin barrier creams to prevent contact. Wash urushiol resins off quickly with soap and water or use *Tecnu* cleanser. Enjoy the outdoors, but take a few precautions to avoid two weeks of a miserable rash. Δ