

# Allergy & Asthma Center

of Southern Oregon, PC

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## POISON OAK ALLERGY

### What happens in poison oak allergy?

Poison oak allergy is a type of allergy known as contact dermatitis (also called Type IV delayed hypersensitivity). In contact dermatitis, just as in other allergies, T lymphocytes (a type of white blood cell) become allergic and begin to attack plant oils in poison oak known as urushiols. Such allergic T cells once activated can recognize the foreign material for years to come. With subsequent exposure the sensitized T lymphocytes move to the skin area of poison oak exposure. In the skin, they recruit eosinophils and other immune attack cells that cause the redness, swelling, itching, and oozing we associate with poison oak. This process of overactivated immune system is very similar to the T lymphocyte activation against dusts, molds, animal danders, and pollens in hay fever skin eczema, and other types of allergies. However, poison oak oils penetrate into skin more readily than pollens and dusts. Subsequent poison oak exposure leads to sudden onset episodes of itching, blistering rash.

### Who becomes allergic to poison oak?

We do not know why some people do or do not become sensitive to poison oak. Genetic predisposition plays a role, but so does the amount of exposure. In Western Oregon exposure is very high and many people become allergic to poison oak, perhaps as many as 50%. Older individuals are less likely to develop problems with poison oak.

### There are many misconceptions about poison oak. Some pertinent facts are listed below:

- \* You cannot get poison oak “through the air.” You must physically touch poison oak or be exposed to smoke from burning poison oak. It is possible that furry animals (cats, dogs) could carry poison oak oils into the house. The rash may take 4-24 hours to break out after exposure, making the actual exposure difficult to remember.
- \* All parts of the plant contain the urushiol oil that caused the rash. It is most prevalent in the leaves in the spring, but can be found in the stems and roots at any time of year.
- \* You cannot spread the rash on yourself or to another person once you have thoroughly washed with soap, water and a washcloth or paper towel. Soaps destroy the urushiol chemical. It is, however, important to scrub all parts of the body including under the fingernails with a soapy paper towel or wash cloth since the oil tends to adhere to skin surfaces or the oil may still be present. You may also acquire poison oak exposure from the oil on animals, clothes, tools, fishing rods, binoculars, cameras, and other inanimate

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objects where it could remain active for months if not washed with soap and water or other organic solvents.

\* Interestingly, washing thoroughly with soap and water within 1 hour of exposure is likely to prevent poison oak rash. After 1-4 hours, the oil fixes to the skin and is difficult to remove by washing.

\* You do not need special soaps such as Fel's Naptha. Any soap will do.

\* There is evidence from observational study of loggers and others that repeated exposures or possibly chewing poison oak leaves might make one less sensitive. There may be something to oral desensitization as well as poison oak allergy shots. However, these treatments were never standardized and were pulled from the market around 1990. Avoidance is the key treatment.

\* Poison oak, poison ivy, and poison sumac all have the same urushiol oil. They are not separate allergies. If you are sensitive to one you are sensitive to the others.

\* Poison oak is more common at low altitudes. There is very little poison oak if you hike or travel up in the mountains above 3000 feet elevation or so.

### **How do you avoid getting poison oak?**

Essentially you must be aware and very careful to avoid touching the plants.

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***First***, become very familiar with the appearance of poison oak in all of its different variations. It may be 1 inch tall or a 30 foot tall bush. It may be a vine. It may grow in clumps or alone. It has many appearances, but is generally easy to recognize once you are familiar with it.

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***Second***, think about poison oak and look for it constantly every time you are off of a paved road in an area where it grows. This is important at all times of the year.

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***Third***, try to wear protective clothing and remember to not touch your body with your hands until they are washed. This is the most common reason for spread to the face and genitals.

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***Fourth***, consider taking soap and water (or at least a soapy washcloth) and a change of clothes if you are hiking, fishing, or for some reason are spending a length of time away from a shower. Washing with a soapy washcloth and putting on a clean set of clothes for the evening may prevent poison oak even on prolonged backpacking trips, even if you must put the contaminated clothes on the next day to hike in.

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***Fifth***, remove poison oak from your yard. Spray it with Crossbow or other alternatives and cut it down. Do not burn it. This may be a never ending job, but eventually you can remove most of it from areas near your home.

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### **Will barrier creams help prevent poison oak?**

Tecnu and Stokogard are topical creams that are said to prevent poison oak if applied before exposure. They may help prevent poison oak, but the evidence is not conclusive. They certainly are not substitutes for other avoidance measures.

### **How can I treat poison oak on my own if I get it?**

There are only a few things you can do that do not involve prescription medicines.

Very cold or moderately hot water may provide temporary relief for some individuals.

Nonprescription cortisone creams are usually too weak to be effective for poison oak.

Oral antihistamines (such as Benadryl) may reduce itching, but less so than for other types of allergic rashes and usually only at doses that cause significant sedation. Try 2-3 Benedryl at bedtime to relieve itching (expect to go to sleep).

### **What treatments are available through a doctor?**

Cortisone is the principal medicine that makes a significant difference. *Topical cortisones* may help if they are very potent (such as Halog, Lidex, Diprolene, Temovate). These *cannot* be used on the face or under skin folds and may be expensive, making them practical only for outbreaks that involve small areas of the body. *Cortisone pills* (such as Prednisone) may be very useful and may be used safely in short courses. These are the mainstay of treatment. *Cortisone shots* (kenalog, depomedrol, etc.) used to be used. Cortisone pills are preferred rather than shots because they tend to be more effective and do not linger for weeks to months in the body as cortisone shots do.

### **What about desensitization (available prior to 1990)?**

Desensitization for poison oak was never standardized, and poison oak materials were removed from the market by the FDA in 1990 or so. Work is ongoing in this area and perhaps we will have effective desensitization in the future.

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