

Mercy Hospital of Pittsburgh
Department of Emergency Medicine

"Leaves Three, Let it Be!"

Preventing Poison Ivy

Keith Conover, M.D., FACEP
April, 1998

Plant contact dermatitis is a true allergy, though a severe one. About 75% of the population of the U.S. get plant contact dermatitis at once in their lives. Only about 15% of the population is "immune" (not allergic) to **urushiol** (the oil in poison ivy and similar plants to which so many people are allergic).

"Allergy shots" don't work for poison ivy allergy, so prevention consists of (1) avoiding exposure by knowing what poison ivy looks like, (2) if you know you're likely to be exposed, using blocking agents to prevent it from getting deep into your skin, and (3) cleaning the urushiol off if you've been exposed.



Poison Ivy Plant - Summer, Mid-Atlantic States

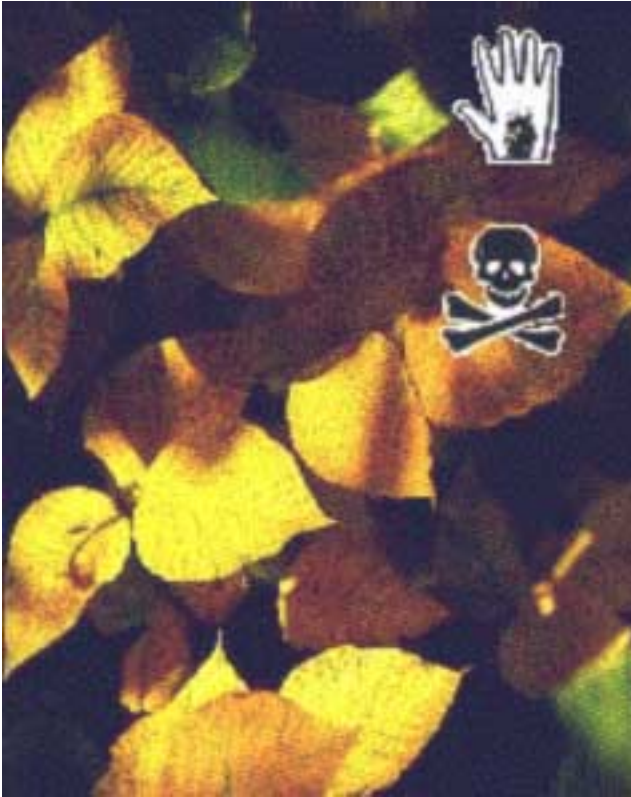
An acute skin allergy is manifested by itching, swelling, and redness; more severe cases may develop scaling, blisters, or open, oozing sores. Itching leads to scratching, which may result in a secondary bacterial infection. A small amount of cloudy to purulent material (pus) may be found in the blisters of a severe allergy, but a large amount of purulent drainage indicates a secondary bacterial infection.

The typical rash starts in a single place and "spreads" to nearby areas. This is not truly spreading, but it is simply that the areas with less exposure take longer to react. The fluid from blisters or sores does **not** have any urushiol to spread the rash, whether to other areas or to other people.

Identifying Poison Ivy (and related plants)

All these plants are known by the name *Rhus*, or the more modern name, *Toxicodendron*.

POISON IVY (*Rhus (Toxicodendron) radicans*) - All parts of the plant contain a poisonous oil (urushiol, which can remain active for a year or more) which may cause blistering of the skin. A woody perennial which may grow as a small shrub or a high-climbing (aerial roots) vine. Compound leaf consisting of three bright green, shiny leaflets are alternately arranged on the stem. Leaflets are elliptic to egg-shaped and have either smooth, toothed or lobed margins. Upper leaf surface is smooth, while hairs are found on veins of underside of leaf. Leaf shape varies greatly. Small



flowers have 5 grayish-white, green petals about 3/16" in diameter. Fruit is waxy white or cream colored in clusters. Reproduces by creeping roots and seed.

Poison ivy is often confused with Virginia Creeper (*Parthenocissus quinquefolia*). This climbing vine's foliage is palmately divided into five leaflets, each can be 6" long.

Virginia Creeper is nonpoisonous unless ingested.

Other poisonous plants, not common in Pennsylvania:

POISON OAK (*Rhus (Toxicodendron) diversiloba*) - Grows as a small shrub about 8 feet high. Compound leaf consists of three more bluntly ended leaflets which usually have 3-7 deep teeth or lobes along the margins.

Poison Ivy, Fall (yellow leaves)

POISON SUMAC (*Rhus (Toxicodendron) vernix*) - Usually

found in shady swamps. Grows to a height of 15-20 feet. Leaves have 7-13 leaflets. Fruit clusters are white.

Related plants include the tropical mango and the Japanese lacquer plant. If you are severely allergic to *Toxicodendron* plants, you may develop allergy from picking mangoes or touching furniture coated with lacquer made from the Japanese lacquer tree.

Blocking Poison Ivy

You may apply various blocking agents to prevent urushiol from penetrating the skin. One, Ivy-Shield, was effective in controlled scientific studies. It is available from Inter-Pro, Haverhill, MA, and in many drug and outdoor stores. Another effective urushiol blocker, though not marketed as such, is Stokogard Outdoor Cream, available from some outdoor stores and industrial suppliers¹. The most effective, however, is organoclay (a quaternary ammonium salt of Bentonite, to be more specific). This has long been used as an inert ingredient in

¹ Stockhausen, Inc. Greensboro, NC 27406; 1-800-334-0242.

many deodorant and antiperspirant sprays. It is now widely available as Ivy-Block after extensive testing by the Food and Drug Administration.

The best blocking agent, however, is clothing with long sleeves, long pants, and gloves. Urushiol is difficult to wash off, and may be spread by hands or contaminated clothes, gloves, or pets. Washing clothes or gear with detergent once or twice should remove any urushiol. Pretreating clothes with alcohol may help remove the urushiol.



Poison Ivy, Canada (note different leaf shape)

Removing Urushiol From Your Skin

Removing urushiol from the skin as soon as possible after exposure will decrease the eventual rash. A long, hot shower (copious amounts of warm water) is effective, although urushiol is oily and not very water soluble. So, if copious amounts of warm water are not available (i.e., if you're in the backcountry, far away from hot showers), you must use another method. Alcohol is very effective at dissolving urushiol, and thus you might use alcoholic beverages. Some, however, think that alcohol wipes will merely spread the urushiol around. Some dermatologists suggest that soap may

merely spread the urushiol, especially when only small amounts of water are available. If you have large amounts of cold water available (e.g., a lake or stream, or a fire hose), using alcohol or soap and then rinsing with large amounts of water seems appropriate. An inexpensive commercial product, Tecnu Poison Oak-Poison Ivy cleaner, somewhat better than alcohol at removing urushiol, is available. It has reportedly been found effective used even up to 48 hours after exposure.²

Urushiol is spread through the smoke when *Toxicodendron* plants burn in a fire. Exposure to such smoke can produce severe dermatitis. Inhalation of the smoke can cause severe pulmonary symptoms. Some *Toxicodendron* species grow in ivy form on trees, and the urushiol can last for long periods after death of the vine. Careful selection of firewood, therefore, is essential for anyone building a campfire.

Your doctor or nurse will give you some information about your specific treatment, but here are a few notes about over-the-counter treatments.

Creams: Diphenhydramine (e.g., Benadryl®) is available as a cream, also in an older version of Caladryl® lotion, but when applied to the skin, tends to cause diphenhydramine allergy. Tetracaine, procaine, and benzocaine are also commonly used in over-the-counter anaesthetic creams, and they, too, tend to cause allergy. We recommend non-sensitizing anesthetics such as pramoxine (available in nonprescription form as Prax® cream) or menthol. A new (1997) reformulation of Caladryl® lotion replaces the Benadryl® with pramoxine, and this new Caladryl® is an ideal lotion for poison ivy.

Steroid Cream such as 1% hydrocortisone (e.g., CortAid®) are the most important part of treatment. Doctors often prescribe stronger steroids for severe cases of poison ivy rash.

Antihistamine pills such as diphenhydramine (e.g., Benadryl®) will both reduce itching and decrease the degree of the reaction.

Over-the-counter pain medicines such as aspirin or acetaminophen (two every four hours), or ibuprofen (e.g., Motrin®, Advil®, Nuprin®) or naproxen (Aleve®) may also help relieve itching and swelling.

² call Tecnu at 1-800-ITCHING for further information.