Poison Ivy, Oak and Sumac
Plant Identification, Prevention & Treatment
What does Poison Ivy look like?

Poison Ivy, known for its compound leaf with three pointed leaflets can grow as a shrub or vine. In the fall, the leaves turn bright yellow or red. Lots of variation in leaflet size, shape, and shade of green.
Poison Ivy has a compound leaf with three “leaflets”.
The stem of each leaf is called a “Petiole”. The petiole of the distal leaflet is at least twice as long as the other two petioles.
Urushiol on leaf, oxidized to black. Urushiol self-melanizes on exposure to oxygen. The 'black-spot test' helps identify toxic Anacardiaceae, but it also increases one's likelihood of contracting a nasty dermatitis! Use a stone to thoroughly crush plant contents, especially the leaf stalks, between the folds of white paper. Urushiol turns dark brown within 10 minutes and black.
White berries on poison ivy in the fall/winter.

*Used with permission – Photo from Jere Guin, MD – University of Arkansas*
Figure 1: Early shrub version of *T. radicans*.

Figure 2: *T. radicans* ssp. *radicans* growing at least 20 feet up an alanthus tree. Fort Detrick, MD. All the leaves on the lower half of the tree are poison ivy. Note the rear end of a truck in the lower left hand corner for comparison.
Western poison ivy (*T. rydbergii*) growing just west of Loveland, Colorado in the Rocky mountains. Contrary to what many sources say, poison ivy can grow above an altitude of 4000 feet. The elevation here is 7000 feet.

*Picture courtesy of Dan Boelman RN.*
Poison Oak?

There is NO poison oak in the state of Minnesota!
Eastern Poison Oak
Eastern Poison Oak Map
Western poison oak (T. diversilobum)

Used with permission – Photo from Jere Guin, MD – University of Arkansas
What does Poison Sumac look like?

Poison Sumac has seven to 13 leaflets per leaf. Grows in wet/swampy areas of the eastern U.S. as a small tree. Has white berries that grow between the leaf and the branch. It’s the only sumac that produces white berries.
Poison sumach (*T. vernix*). Note flowers growing from an axillary position.

*Used with permission – Photo from Jere Guin, MD – University of Arkansas*
Poison Sumac Map
Non-allergenic *Rhus glabra* (Common sumac) growing on the campus of Kansas State University in Manhattan, KS. Note the terminal, red fruiting structure (inset).
Virginia Creeper: a woody vine with 5 leaves, which frequently grows near poison ivy. The sap contains oxalate crystals which can cause skin irritation. It does not contain urushiol.
Allergy to Urushiol: What is it?

- Poison ivy, oak and sumac belong to a family of plants that produce the most common allergic skin reaction in the United States.
- The reaction, known as “urushiol induced allergic contact dermatitis,” occurs after the urushiol toxin bonds with skin cells after a person’s direct or indirect exposure to the oil.
- According to the American Academy of Dermatology, (AAD), 85% of the population is allergic to urushiol, the toxin found in poison ivy, oak and sumac. (1)
- The AAD estimates each year up to 50 million Americans experience a reaction to poison ivy, oak or sumac (1), which is about 16% of the population.

Symptoms of Urushiol Induced Allergic Contact Dermatitis

Symptoms include:

- severe itching
- rash
- swelling
- blisters
- clear yellow drainage
- red leathery skin
Onset of Symptoms

• Itching is usually the first symptom, followed by erythema (redness), papules (raised areas), drainage (oozing), vesicles (small blisters), and bullae (large blisters).

• Outbreak of a urushiol induced rash usually occurs 24 to 48 hours after exposure, but the onset of the rash can happen as long as 9 days after exposure in less sensitive individuals.
TYPICAL MILD-TO-MODERATE REACTION TO URUSHIOL OIL

If new lesions do occur on day 4 or 5, you may have a systemic reaction and should seek immediate medical treatment.
Figure 1: Acute reaction to poison ivy from hand transfer of allergen to face. Note significant periorbital edema.
Used with permission. Bolognia

Figure 2: Acute poison ivy dermatitis with vesicles and bullae.
Used with permission. Bolognia
Note pattern of transfer from this photo to the next in a young women with poison ivy dermatitis.

*Used with permission – Photos from Jere Guin, MD – University of Arkansas*
Hand transfer pattern of urushiol to forearm.

Used with permission – Photos from Jere Guin, MD – University of Arkansas
Black spot reaction after 30 minutes of urushiol contact.

Photo courtesy of Dr. O. Fred Miller, MD, Geisinger Medical Center in Danville, PA.
Weed-whacker Black Spot dermatitis.

Photo courtesy of Dr. O. Fred Miller, MD, Geisinger Medical Center in Danville, PA.
Incidence of Poison Ivy

Peak poison ivy season is between Memorial Day and Labor Day, yet people suffer from poison ivy exposure throughout the year. Even in winter, the dormant plants are still toxic.
Myths and Facts

Myth: Poison ivy rash is contagious.

Fact: Since poison ivy rash is an allergic reaction to urushiol (the toxin found in poison ivy, oak and sumac plants), the only ways to contract poison ivy is through direct contact with the plant; indirect contact by touching something that has urushiol on it (like a family pet or garden tool); or through airborne exposure to burning plants.
Myths and Facts

**Myth:** Scratching poison ivy blisters will spread the rash.

**Fact:** The fluid in the blisters will not spread the rash. After the first five minutes to two hours following exposure, neither scratching nor skin-to-skin contact can spread the reaction. However, excessive scratching may cause infection because it allows bacteria from dirt on the hands to enter the skin.
Myths and Facts

**Myth:** Dead poison ivy plants are no longer toxic.

**Fact:** Urushiol stays active on any surface, including dead plants, for up to five years in wet climates and up to nine years in dry climates.
The poison ivy toxin, urushiol quickly bonds with skin cells:

Once urushiol touches the skin, it begins to penetrate in minutes. It is completely bound to the skin within 60 minutes.

# Prevention of Poison Ivy Rash by Cleaning with Regular Soap and Water

<table>
<thead>
<tr>
<th>Time of Washing After Exposure</th>
<th>Extent of Removal of Poison Ivy Oil (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediately</td>
<td>100</td>
</tr>
<tr>
<td>10 min</td>
<td>50</td>
</tr>
<tr>
<td>15 min</td>
<td>25</td>
</tr>
<tr>
<td>30 min</td>
<td>10</td>
</tr>
<tr>
<td>60 min</td>
<td>None</td>
</tr>
</tbody>
</table>

How to Prevent a Scratchy Situation

• **Know what to look for and educate your crew.** Before you head outside, make sure everyone knows how to identify these plants so they can avoid them.

• **Wear protective clothing.** Clothing, including long pants, long-sleeved shirts, hats and gloves, can help protect you from exposure.

• **Gloves:** heavy duty vinyl gloves provide the best protection. Cloth, rubber, and leather gloves are inadequate!!!

• **Do not burn any suspicious plants.** Burning poison ivy, oak, or sumac and inhaling the smoke can cause a systemic reaction, which can be deadly.

• **Stop the symptoms before they start.** If you know you’ve been exposed to poison ivy, cleanse the area immediately to remove any urushiol which hasn’t already bonded with the skin.

• **Use laundry detergent and water (washing machine) to remove urushiol from clothing.**

• **Use water and liquid dish soap (Dawn) to decontaminate tools/gear.**
## Treatment Options

<table>
<thead>
<tr>
<th>Product</th>
<th>Time of Application</th>
<th>Duration of Action</th>
<th>Frequency of Use</th>
<th>Product Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ivy Block (Bentoquatam 5%)</td>
<td>15 minutes Before exposure</td>
<td>Four Hours</td>
<td>Once and Every 4 hours As Needed</td>
<td>Cannot be applied to an open rash</td>
</tr>
<tr>
<td>Antihistamines</td>
<td>At Onset of Symptoms</td>
<td>4 – 6 Hours</td>
<td>Every 4 – 6 Hours As Needed</td>
<td>Limited by side effects; poorly effective</td>
</tr>
<tr>
<td>Calamine Lotion</td>
<td>At Onset of Symptoms</td>
<td>Variable</td>
<td>As Needed</td>
<td>Runs off the skin when a person sweats.</td>
</tr>
<tr>
<td>Topical Steroid</td>
<td>At Onset of Symptoms</td>
<td>4 – 6 Hours</td>
<td>Every 4 – 6 Hours As Needed</td>
<td>Can’t be applied to open rash, negative effect on the skin.</td>
</tr>
<tr>
<td>Soaps</td>
<td>First 60 Minutes After Exposure</td>
<td>Indefinite</td>
<td>Once After Exposure</td>
<td>Must be applied within 60 minutes of exposure to be effective.</td>
</tr>
<tr>
<td>Tecnu Wash</td>
<td>2 – 8 Hours After Exposure</td>
<td>Indefinite – Removes urushiol from the skin</td>
<td>Once After Exposure</td>
<td>Cannot be applied to open rash, or for 3 days after hydrocortisone, limited window of effectiveness.</td>
</tr>
<tr>
<td>Zanfel Wash</td>
<td>ANYTIME After Exposure or Outbreak</td>
<td>Indefinite – Removes urushiol from the skin</td>
<td>Once or Twice</td>
<td></td>
</tr>
</tbody>
</table>
Treatment Options

• Pre Exposure:
  Bentoquatam Lotion (formerly Ivy Block), Ivy X

• Post Exposure – Cleanser:
  Zanfel Poison Ivy, Oak and Suma Wash,
  Dawn Dishwashing Soap, Tecnu Wash, Ivy X

• Post Eruption – Cleanser & Symptom Relief:
  Zanfel Poison Ivy, Oak & Sumac Wash

• Symptomatic Relief:
  Antihistamines, Calamine Lotion, Topical Steroids,
  Systemic Steroids (oral/injectable)
Zanfel Facts

- Zanfel is a soap and is effective at any stage of the allergic skin reaction. It is never “too late” to use Zanfel.
- Zanfel works as both a treatment and a post-exposure prophylaxis for urushiol induced rashes.
- In many cases, one washing is adequate for each affected area (For mild to moderate reactions).
- Zanfel is safe for the face and genitals, and can be used by children and pregnant or nursing women.
- Once the urushiol toxin has been removed from the skin by Zanfel, itching stops and the body is put in a position to immediately begin the healing process.
- Zanfel has a 10 year shelf life.
- Zanfel is also effective for eliminating itching and pain associated with mosquito, chigger and ant bites, and insect stings.
Zanfel Directions

Zanfel is easy to use: (The following directions are for an area the size of an adult hand or face.)
For best results, use Zanfel in a shower or sink where it is easy to thoroughly rinse off the product.

1. Wet the affected area.
2. Squeeze 1 and 1/2 inches (no less; see ruler at right) of Zanfel onto one palm. (Product will not work if less than 1 and 1/2 inches is used)
3. Wet and rub both hands together for 10 seconds, working the product into a paste. (This will activate the ingredients. Do not bypass or modify this step.)
4. Rub both hands (up to 3 minutes, if needed) on the affected area, working Zanfel into the skin until there is no sign of itching (15 seconds is typical for mild to moderate reactions).
5. Rinse area thoroughly.

If the itch returns (which could be several hours later), rewash, following steps 1 through 5, and read the Q&A insert found in this package.

This tube contains enough Zanfel to wash approximately 15 patches the size of an adult hand or face.
Note: Severe reactions (that typically look like thick leathery burns) will probably require additional washings. If symptoms persist, reread the Q&A insert and see a healthcare provider.
Topical Treatments To Avoid

• Jewelweed (*Impatiens biflora*), has been used for centuries, but when tested, showed no advantage over placebo.

Long D, Ballentine NH, Marks JG Jr. Treatment of poison ivy/oak allergic contact dermatitis with an extract of jewelweed. Am J Contact Dermatitis 1997; 8(3):150-153
Topical Treatments To Avoid

- Topical antihistamines, topical anesthetics with benzocaine, and antibiotics neomycin or bacitracin should be avoided because of their potential to cause their own allergic contact dermatitis when absorbed through large breaks in the skin.

- Topical antihistamines do not work to reduce itching in urushiol induced contact dermatitis.

Williford PM, Sheretz EF. Poison ivy dermatitis. Arch Fam Med 1994; 3(2):184-188
Topical Treatments To Avoid

- Over the counter Hydrocortisone 1%, is far too weak to have any helpful effect, regardless of the frequency of application.

Kligman AM. Poison ivy (Rhus) dermatitis. Arch Dermatol 1958; 77:149-180
Williford PM, Sheretz EF. Poison ivy dermatitis. Arch Fam Med 1994; 3(2):184-188
Selected Indications For Medical Attention

- Widespread rash covering >20 – 30% of body surface area.
- Lots of brand new spots of rash breaking out after the fourth day of the reaction.
- Fever
- Joint Swelling
- Rash on face or genitals
- Bacterial skin infection of poison ivy lesions
- Inhaling the smoke of burning poison ivy/oak/sumac is a true medical Emergency
Treatment Summary

- **Wash** — as soon as possible after exposure to remove loose urushiol oils, using regular soap and water. Researchers concluded that Dawn dishwashing soap can provide post exposure protection that is not significantly different than Tecnu Wash*.

- **Treat** — steroids should be used with caution: the shortest possible course with tapering dosage, and watch for side effects. Zanfel Poison Ivy, Oak & Sumac Wash is effective **ANYTIME** after outbreak to stop itching and put the body in a position to start healing. Zanfel’s very specific instructions must be followed.

Questions?
Other Plants That Cause Skin Reactions

• Members of the Apiaceae (carrot) plant family including:
  1. Wild Parsnip
  2. Queen Anne’s Lace
  3. Water Hemlock
  4. Cow Parsnip
  5. Giant Hogweed

• Stinging Nettles
Phyto-photo-dermatitis

- When the sap from these plants contacts skin that is exposed to sunlight, a burn-like blistering rash occurs 24 – 48 hours later.
- Discoloration of the skin can last for months
- Often mistaken for poison ivy
- Sufferers complain of a painful/burning sensation as opposed to the severe itching of poison ivy
- Treatment includes steroids and staying out of the sun
Phytophotodermatitis
Wild Parsnip
Queen Anne’s Lace/Wild Carrot
Water Hemlock
Giant Hogweed
Stinging Nettle

• Stinging Nettles are covered in tiny, fragile hairs that break off in the skin and then act as a needle injecting six different irritants

• Symptoms include hives, swelling, itching, redness and pain

• Wash the affected area with soap and cool water. Treatment includes calamine, topical antihistamines
Stinging Nettle
Contact Information

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Questions?