

## LEAVES OF THREE, LET THEM BE!

### A SUMMARY OF POISON IVY, OAK, AND SUMAC

As a “frequent flyer” in the realm of poison ivy dermatitis, it is only fitting that I write an article about this most irritating of plant families. Indeed, I have been itching to provide factual information while [hopefully] dispelling myths on this topic.

Interestingly, “Poison ivy, poison oak, and poison sumac belong to the cashew family, Anacardiaceae. Poison ivy is classified as *Rhus radicans* or *Toxicodendron radicans*. Poison oak is *R. diversiloba* or *T. diversilobum* and poison sumac is *R. vernix* or *T. vernix*.”<sup>1</sup> Dermatitis means inflammation of the skin, and so doctors commonly refer to the rash caused by these plants as rhus dermatitis.

“Rhus plants (poison ivy, poison oak, poison sumac) are the most common cause of allergic contact dermatitis in the United States.”<sup>2</sup> According to the American Academy of Dermatology, 85 percent of people will develop a rash when their skin is exposed to the oily resin produced by these plants. It may not happen upon first exposure. Indeed, adults who never had a rash during childhood despite multiple exposures may become sensitized as adults. On the other hand, some people become less sensitive to the oil as they get older. Approximately 15 percent of the population never develops itchiness or a rash when exposed to the plants’ oil.<sup>3</sup>

Urushiol is a clear or yellowish oily resin that is found on all parts of these plants: roots, stems, berries, flowers, seeds, and leaves. The oil can remain on dead plants for up to five years! “The name comes from the Japanese word *urushi*, which denotes a lacquer produced in East Asia from the sap of *kiurushi* trees (*Lacquer* tree). The oxidation and polymerization of urushiol in the tree’s sap in the presence of moisture allows it to form a hard lacquer, which is used to produce traditional Chinese and Japanese lacquerwares.”<sup>4</sup> In the same manner, when urushiol seeps out of damaged poison ivy, poison oak, and poison sumac plants in North America, “...the urushiol becomes a blackish lacquer after contact with oxygen.”<sup>5</sup>

According to the Poison Ivy, Oak & Sumac Information Center, “...1/4 ounce of urushiol is all that is needed to cause a rash on every person on Earth. Five hundred people could itch from the amount covering the head of a pin.”<sup>6</sup> “Urushiol oil penetrates the top layer of skin and binds to cells deep in the epidermis [the outer layer of human skin]. Any solvent or soap will remove urushiol oil from the skin prior to bonding. [However] Bonding takes place in as little as three minutes according to some web sites but on average according to most literature is thirty minutes.”<sup>7</sup> Once the oil binds to cell membranes, it cannot be washed off or transferred to other areas of the body.<sup>8</sup>

As an interesting aside, mangoes are also members of the cashew family. “People who are sensitive to poison ivy can also experience a similar rash from mangoes...the sap of the mango tree and skin of mangoes has a chemical compound similar to urushiol. A related allergenic compound is present in the raw shells of cashews.”<sup>9</sup>

A child comes into the doctor’s office with rhus dermatitis on his buttocks. Hmmm, could it be that he wiped himself with some leaves after ‘nature called’ while playing in the woods? Direct contact occurs when an individual comes into contact with any part of the rhus plant whether it is living or dead. Indirect contact occurs when an individual touches urushiol-soaked wooden handles of gardening tools, sports equipment, clothing, contaminated fur of pets or livestock, or any material with the oil on its surface. The third way to contract poison ivy, oak, or sumac is via oil droplets released into the air when these plants are burned. The droplets

can be absorbed by the skin or inhaled. Inhalation can result in acute symptoms of coughing or labored breathing. "Do NOT burn poison ivy, oak, or sumac to get rid of it. The resins can be spread via smoke and can cause severe reactions in people who are far downwind."<sup>10</sup>

The first symptom of rhus dermatitis is itchiness. Indeed, this seems to get worse when you tuck yourself in at the end of the day. No longer busy with life's daily activities, itchiness rears its ugly head as one is trying to fall asleep. It can be maddening! The next stage is the development of a red, bumpy rash often found in patches on various body surfaces. There are often telltale linear areas of rash where the plant scratched the skin's surface. Rhus dermatitis can progress to fluid-filled blisters which often weep fluid.

Now, let us get to the myths surrounding poison ivy, poison oak, and poison sumac. Rhus dermatitis is NOT contagious! The only way that you can get it from another person is if that person touches you with oily resin before it is absorbed. Remember, the oil is absorbed in 15 to 30 minutes, on average. Weeping skin lesions are NOT contagious! Your body does not ooze urushiol oil. "The blisters and oozing result from blood vessels that develop gaps and leak fluid through the skin; if the skin is cooled, the vessels constrict and leak less."<sup>11</sup> Finally, you do NOT spread the rash by scratching. Upon initial contact, the sticky oil comes in contact with any part of the body that touches any part of the plant. In those first minutes after exposure, before the oil gets absorbed, one's hands can spread urushiol to other parts of the body as well. Depending on the amount of oil and the individual's sensitivity, the rash appears in patches over days to weeks.



POISON IVY PLANT<sup>14</sup>

The key to avoidance is plant recognition. According to the U.S. Food and Drug Administration, poison ivy is found throughout the United States with the exception of Alaska, Hawaii, and parts of the West Coast. "Each leaf has three glossy leaflets, with smooth or toothed edges. Leaves are reddish in spring, green in summer, and yellow, orange, or red in [the] fall."<sup>12</sup> "Their flowers are greenish-white and are found in clusters on a long stem. The berries are white and glossy...It is found as a vine in the East, Midwest, and South. It is found as a shrub in the far Northern and Western U.S., Canada, and around the Great Lakes region. The plant can grow up to ten feet tall and climbs trees, walls, fences, and trails along the ground."<sup>13</sup>



POISON OAK PLANT<sup>17</sup>

In comparison, poison oak has a smaller distribution, found primarily along the Pacific Coast of North America, as well as in the South and South Central states. "Poison oak grows as a low shrub in the eastern United States, and in tall clumps or long vines on [the] Pacific Coast. Fuzzy green leaves in clusters of three are lobed or deeply toothed with rounded tips."<sup>15</sup> Poison oak "... May have yellow or green flowers and clusters of green-yellow or white berries."<sup>16</sup>



POISON SUMAC PLANT<sup>19</sup>

Poison sumac plants are actually quite attractive in the fall, with orange or reddish leaves. Years ago, my Uncle Danny loaded my father's truck bed with eight handsome specimens and drove up to my dad. "Warren [my dad], look what I found in the woods. Aren't these beautiful for the yard?" My father's eyes nearly popped out of his head as he exclaimed "You damn fool, those are poison sumac plants!"

Just to make identification more difficult, poison sumac "... grows as a tall shrub or small tree in bogs or swamps in Northeast, Midwest, and parts of the Southeast. Each leaf has clusters of 7 to 13 smooth-edged leaflets [which] are orange in the spring, green in summer, and yellow, orange, or red in the fall. May have yellow-white berries."<sup>18</sup>

Do you recall the Cole Porter song entitled “I’ve Got You Under My Skin?” Written in 1936, it was made famous by vocalist Frank Sinatra in 1956.<sup>20</sup> This song embodies this writer’s relationship with poison ivy, as its oil seems to love getting absorbed into my skin! Here are some tips for prevention, and I am hoping that you will fare better than me.

- ✚ Learn how to identify these plants
- ✚ When gardening, wear long pants, long sleeves, and gloves. Tuck pants into socks.
- ✚ When hiking, stay on marked trails and bring something to wipe yourself if nature calls.
- ✚ Wash your pets with pet shampoo after they have been out in the woods
- ✚ You can try Round Up™ or similar product to kill plants in your yard, but these species are tenacious.
- ✚ After gardening, hiking, or going into the woods or fields for any other reason, plan on showering right away. Have two clean towels available. Prior to stepping into the shower, place all possibly oil-soaked clothing, gloves, and shoes on one towel. Wash yourself down from head to toes with warm, soapy water and dry off with the second towel. Now, here’s the catch. Don’t touch the contaminated clothing! Instead, using the corners of that towel, transport all items to the washing machine and launder with warm, soapy water.
- ✚ Use rubbing alcohol to wash off sporting equipment and the wooden handles of gardening tools.
- ✚ NEVER intentionally burn these plants!

There are many home remedies for poison ivy, such as baking soda or oatmeal baths to relieve itch. Calamine™ lotion provides partial relief for itch, as do over-the-counter hydrocortisone creams. Diphenhydramine, the key ingredient of Benadryl™ can be given orally for itch. However, this medication can cause sedation. In severe cases involving facial swelling and/or extensive groin involvement, a physician or nurse practitioner may prescribe a course of oral steroids. In the event of secondary bacterial infection, oral antibiotics may be prescribed.

There are new products on the market to either prevent exposure to the oil or attempt to remove the oil from one’s skin. Ivy Block™ is applied to the skin prior to going outdoors. Its key ingredient is bentoquatam, “... a patented substance that actually absorbs urushiol... before it irritates the skin.”<sup>21</sup> There are products manufactured to cleanse uroshiol from human skin and pet fur after exposure as well. Tecnu™ “... is an over-the-counter skin cleanser manufactured by Tec Labs, a pharmaceutical company based in Albany, Oregon. It is intended for use by humans and furry pets after topical exposure to urushiol... Tecnu is made from deodorized mineral spirits, water, propylene glycol, octylphenoxy-polythoxethanol, mixed fatty acid soap, and fragrance.”<sup>22</sup> Zanafel™, manufactured in Morton, Illinois, “... is the only product known to remove urushiol... from the skin after bonding, enabling the affected area to immediately begin healing.”<sup>23</sup>

So, are you itching to get outdoors? Enjoy yourself, but be proactive. Remember to be on the lookout for these noxious plants and shower immediately upon returning home.

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