

**Featured this issue**

- CO poisoning from small engine exhaust
- Poison ivy
- News & Notes

**BRPC Staff:**

**Director**

Christopher Holstege, MD

**Nursing Director**

Beth Mehring, MSN

**Medical Toxicologists**

Andy Baer, MD  
 Heather Borek, MD  
 Nathan Charlton, MD  
 Justin Rizer, MD

**Medical Toxicology Fellows**

Aaron Frey, DO  
 Avery Michienzi, DO  
 Jennifer Ross, MD, MPH

**Epidemiologist**

Saumitra V. Rege, PhD

**Poison Specialists**

Andre Berkin, BSN, CSPI  
 Michael Brookshire, BSN, CSPI  
 Jenni Goodwin, BSN, CSPI  
 Jennifer Horn, BSN, CSPI  
 Teresa Kinzie, RN, CSPI  
 Kathy Mayo, RN, CSPI  
 Lisa Turner, BSN, RN  
 Steven Yoder, BSN, CSPI

**Public Health Educator**

Kristin Wenger, MA, BS

**Administrative Specialists**

Heather Collier  
 Teresa Dorrier

## Warning: Fuel-Powered Tools May Cause Carbon Monoxide Poisoning

Warm weather is finally here! It's time to clean the deck, refinish the basement, or work on that shelving project in the garage. But before you fire up any small equipment, take steps to protect you and your family from the engine exhaust. The following are real cases reported to the Blue Ridge Poison Center at UVA Health:

- A woman was using a pressure washer to clean the inside of her garage. She suddenly developed a terrible headache and dizziness. She believed she was having a migraine.
- A farmer was using a small diesel engine to heat up a work shed on a chilly day. After running it for a while, he closed the shed doors to keep the heat inside. He began to feel dizzy,



nauseous, and confused. He was a diabetic and thought he was experiencing low blood sugar.

- A plumber was found unconscious in a basement where he had been using a gas-powered concrete saw.

Doctors who treated these patients at an emergency department discovered all of them had actually been **poisoned by carbon monoxide gas**.

continued page 2

## Poison Ivy: Myth vs. Fact

Poison ivy is the most common cause of contact dermatitis (skin irritation) in the United States, according to the American Academy of Dermatology. Every part of the poison ivy plant—even the roots and berries--contains *urushiol* (you-ROO-she-ol), an oily chemical that is absorbed by the skin within about 30 minutes after contact. Many people have experienced the red, itching, blistering skin rash as a

continued page 3



## POISON TRIVIA

“Mad honey” poisoning is a rare but serious condition that can happen when people eat honey made by bees feeding largely on these toxic plants. Symptoms may include nausea, vomiting, weakness, seizures, and serious heart effects. What are the plants?

Answer on pg. 4

### A sneaky poison

Carbon monoxide (CO) is a gas produced when certain types of fuel are burned, including gasoline, propane, kerosene, even charcoal or wood. CO is a sneaky poison. It has no smell or color, and is non-irritating, so people do not know when they are breathing it. Poisoning happens when too much CO is in the air. The CO builds up in the bloodstream and replaces oxygen in the red blood cells. This can lead to serious tissue damage or even death.

### The dangers of small engine exhaust

You may have heard that car engines and portable power generators are sources of CO poisoning. But you may not have thought about the dangers of smaller fuel-powered machines and tools, such as **pressure washers, compressors, welding equipment, floor buffers, leaf blowers, chainsaws, and more**. The amount of CO produced by these sources usually isn't cause for concern when used properly in open, well-ventilated spaces. But if they're used in a closed or partially-closed space—such as an attic, crawlspace, barn, or basement--the carbon monoxide can build to dangerous levels. This may happen even when exhaust fans or open windows are present. Even a garage with the door open can trap CO, leading to a dangerously high concentration inside.

“Carbon monoxide can overcome people without warning,” says Dr. Aaron Frey, medical toxicology fellow with the Blue Ridge Poison Center. “Often there is little time before they experience symptoms, which inhibits their ability to get to safety.”

Symptoms of CO poisoning may be mistaken for other medical conditions, such as alcohol overdose or the flu, and can include:

- Headache
- Dizziness
- Nausea, vomiting
- Confusion

- Sleepiness
- Unconsciousness (“passing out”)

Dr. Frey advises that everyone should familiarize themselves with the symptoms of CO poisoning, and know what to do if a CO alarm sounds or if someone is experiencing symptoms. “If possible, turn off any running equipment. Move all people and animals to fresh air. Call 9-1-1 immediately. Do not go back into the enclosed area until professionals have tested the air. Do not drive a car until you have been checked by a healthcare provider.”



CO poisoning is preventable. Here are some guidelines when using equipment that creates exhaust:

- ☑ Do not use fuel-powered tools and machines in closed or partially enclosed spaces. Use electric-powered equipment instead.
- ☑ When using compressors or pressure washers, place the power unit outdoors, far from open doors or air intake vents. This will prevent engine exhaust from being drawn indoors where the work is being done.
- ☑ Use CO detectors to monitor the level of CO in the surrounding air. If the space does not have a CO detector, use a portable one. Workers can use small, wearable versions.

If you have any questions or concerns about carbon monoxide poisoning, experts at the Blue Ridge Poison Center are standing by 24 hours a day, every single day. Free and confidential. 1-800-222-1222.

result. The itching and discomfort can be intense. The more exposure you have had to poison ivy in your lifetime, the faster and more severe this reaction may be. Burning poison ivy is also dangerous. The urushiol binds to smoke particles and becomes airborne, landing on the skin of any people nearby and causing irritation to the face and eyes, or a severe reaction in the lungs if inhaled.



Poison ivy: Summer

Poison ivy grows in all U.S. states except Hawaii and Alaska. Though less widespread, poison oak and poison sumac are plants that also contain urushiol and are also capable of causing that itchy rash.



Poison ivy: Fall

Even though poison ivy exposure is such a common problem, there's a lot of confusion about it. Here are some myths about poison ivy:

**MYTH:** You can "catch" poison ivy just by standing near it.

**FACT:** You have to physically touch the plant or its oil in order to be affected. The rash will occur only where urushiol is absorbed by the skin. But it's common for a person to be unaware that they have been exposed. The oil is very stable and can remain active for a year or more, clinging to objects like gardening tools, shoes, or clothing, and then be spread to human skin. People may be exposed through poison ivy roots or vines unknowingly in the winter when the above-ground plant parts have died. You can also be exposed to urushiol from your pet's fur if they have had contact with poison ivy.

**MYTH:** The rash is contagious.

**FACT:** The rash and blisters do not contain urushiol, so touching or scratching them does not spread the rash from person to person or from one part of the body to another. It may seem like the rash is spreading if it appears over time instead of all at once. But it is normal for the rash to continue to develop up to 5 days after an exposure.

**MYTH:** Some people are immune to poison ivy.

**FACT:** Most experts agree this is probably not true. Evidence shows that people's sensitivity to urushiol can change over time. If you have never experienced a poison ivy rash—lucky you! However, you should still take steps to protect yourself from exposure.

**Avoiding poison ivy altogether is your best defense.**

- ☑ Learn to recognize the plant and stay away.
- ☑ If you suspect contact with poison ivy, wash your skin as soon as possible; preferably within 30 minutes. If no soap is available, use lots of plain water.
- ☑ When working outdoors in areas known to have poison ivy, wear long pants, long sleeves, and gloves.
- ☑ Avoid touching contaminated objects, such as tools or clothing, until they can be washed with soap.
- ☑ Try to prevent pets from romping in areas with poison ivy.



Poison ivy vine on a tree.

Many people find relief from a poison ivy rash by applying cool compresses, applying an over-the-counter anti-itch product, or taking an over-the-counter antihistamine. No matter how tempting, try not to scratch the rash. Scratching will break open the blisters

and damage your skin, which can lead to infection and scarring. It may take up to 3 weeks for all symptoms to go away.

**You should see medical help for poison ivy if:**

- You have a particularly severe reaction.
- You have a reaction on the face, genitals, in the eyes, or over a large portion of your body.
- You have difficulty breathing after contact with smoke from burning poison ivy.



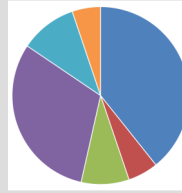
NEW! ***The Socrates Project: Poisonous Plants in Virginia*** is a reference guide available online and as a [free download](#) from the Blue Ridge Poison Center website. This second edition is a joint effort between the Virginia Master

Naturalist Program, the Blue Ridge Poison Center, and the University of Virginia School of Medicine’s Division of Medical Toxicology – Department of Emergency Medicine. Note: images and information about poison ivy, poison oak and poison sumac are included.



Poison Trivia Answer: Plants in the genus *Rhododendron*, which includes rhododendrons, mountain laurel, and azaleas.

## News & Notes



**THE NUMBERS ARE IN!** The Blue Ridge Poison Center just published their [2020 Annual Report](#). Here are some highlights:

- ◇ Children under age 6 were responsible for the most calls (39%). However, most of the cases with more serious outcomes involved adults.
- ◇ The most common medicinal source of poisoning was analgesics (pain relievers.) The most common non-medicinal source of poisoning was cleaning products.
- ◇ The public education program distributed over 174,000 free materials throughout the service area.
- ◇ With guidance from our healthcare professionals, nearly 73% of callers experienced no or minor health effects as a result of their exposure. *Helping callers treat their exposure on site saves time, worry, and money by preventing unnecessary trips to a healthcare facility.*



Looking for a fun way to teach others about poisoning prevention? Try our Kahoot

games! We have two: one for elementary grades 2-5, and one for teens and adults. Kahoot is an online game-based learning platform available free to all teachers and to leaders of small groups. It can be used in the classroom or virtually. Paid plans are available for non-teachers or leaders of larger groups. See our [TEACHERS TOOLKIT](#) for more details, or visit [www.kahoot.com](http://www.kahoot.com).

This free, quarterly newsletter is courtesy of the Blue Ridge Poison Center, serving Southwest and Central Virginia and the Shenandoah Valley. We encourage you to print, post, forward, or share in any way. Questions or comments? Contact Kristin Wenger, Health Educator, Blue Ridge Poison Center, University of Virginia Health: 434-982-4386 or [klw2s@virginia.edu](mailto:klw2s@virginia.edu).

