

TOX UPDATE

Alabama Poison Information Center

Birmingham, AL

www.childrensal.org/apic

1-800-222-1222

Letter from the Alabama Poison Information Center

As we navigate the height of the winter respiratory season, the Alabama Poison Information Center is seeing a consistent volume of calls related to seasonal illnesses and the unintended consequences of home treatments.

Additionally, the shift toward indoor play during these colder months has led to a rise in exploratory ingestions. With children spending more time confined to the home and less time outdoors, we are seeing increased reports of children accessing household cleaners, medications, and other common substances that are within reach of curious hands.

This month's ToxUpdate is designed to help you identify and manage two specific ingestion risks currently trending in our state: Vick's® VapoSteam misuse and pediatric toxicity from synthetic mushrooms.

Our specialists—including board-certified toxicologists and pharmacists—are available around the clock to assist you with bedside management or general inquiries.

Call us at 1-800-222-1222.



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ToxUpdate is brought to you by APIC and edited by Rachael Fogel, PharmD, CSPI

Lost in the Steam: Toxicologic Risks of Vicks® VapoSteam

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It's that time of year when temperatures drop, and cough and cold symptoms become more common. Over-the-counter products are highly accessible options to patients, and many tend to use brands they are familiar with. Vicks® is a well-known brand with a variety of products that combat upper respiratory symptoms. One product in particular, Vicks® VapoSteam, is used to help relieve cough and moisten irritated airway passages. This product is usually added to humidifiers or vaporizers for inhalation of medicated vapors. It contains several ingredients including camphor, alcohol, cedar leaf oil, eucalyptus oil, menthol, nutmeg oil, and other active ingredients.¹ When accidental exposures occur, camphor and ethanol are the main toxicological concern in cases of ingestion.

Clinical effects:

In mild to moderate camphor toxicity, reported clinical effects primarily include nausea and vomiting. In severe toxicity, neurologic symptoms such as seizures, delirium, visual hallucinations, cerebral edema, and status epilepticus have occurred. Systemic toxicity may also result in tachycardia, hypotension, and respiratory failure.³

In mild to moderate ethanol toxicity, reported clinical effects include inebriation, euphoria, ataxia, nystagmus, agitation, nausea, vomiting, flushing, and supraventricular tachyarrhythmias. In severe toxicity, effects may include coma, respiratory depression, pulmonary aspiration, hypoglycemia, and hypothermia. The hypoglycemic effect ethanol can cause is particularly concerning in younger children as they are more vulnerable to these effects and may exhibit more profound toxicity and complications.³

Treatment:

Any exposure to over-the-counter cough and cold products should be reported to a regional poison information center. Specialists in poison information can assist with triage of the exposure and provide accurate, confidential information on the best next steps. Generally, management of camphor exposure is primarily supportive. Patients with mild symptoms can often be managed with symptomatic care, including fluids and benzodiazepines as needed. More severe toxicity may require airway protection and seizure management, with escalation of therapy for recurrent or refractory seizures. Patients with intentional ingestions, large exposures, or significant symptoms should be referred for medical evaluation due to risk of neurologic symptoms.



Management of ethanol toxicity includes supportive care with monitoring for hypoglycemia, especially in children. In severe cases, airway monitoring is required, and signs/symptoms of ketoacidosis and withdrawal should be monitored in those with chronic use or abuse.³

Patient education:

Patients should be counseled that Vicks® VapoSteam is intended for inhalation only, requires dilution in water, and should never be ingested. It should be stored out of reach of children to prevent inadvertent exposures. The label's instructions should be closely followed, and the product should not be overused. Patients should also be advised that while this product can provide symptom relief, it does not treat the underlying cause of cough or congestion. In cases of accidental ingestion, the Alabama Poison Information Center (1-800-222-1222) should be contacted immediately.¹

Conclusion:

Compared to Vicks® VapoRub, Vaposteam contains a higher concentration of camphor (6.2%) and a significant alcohol content (78%) which may pose a greater risk if ingested directly. While both products are not intended for oral use and carry toxicological risk, ingestion increases the likelihood of neurological symptoms due to its formulation and contents. Awareness of risks and appropriate patient education are pivotal in preventing accidental exposure and optimal use.³

References:

1. Vicks® vaposteam®. Accessed January 26, 2026. <https://dailymed.nlm.nih.gov/dailymed/fda/fdaDrugXsl.cfm?setid=c28da455-07ad-4053-8b9e-fc559f9a3f72>
2. Camphor. Merative Micromedex. Merative. Ann Arbor, MI. Accessed January 26, 2026. <http://www.micromedexsolutions.com>
3. Ethanol. Merative Micromedex. Merative. Ann Arbor, MI. Accessed January 26, 2026. <http://www.micromedexsolutions.com>

The New 'Shroom' on the Block: Synthetic Psilocybin Products and Pediatric Toxicity

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An increasing number of commercially available products marketed as “mushroom” edibles including gummies, chocolates, and snack bars do not contain natural psilocybin mushrooms. Instead, they may contain synthetic psychedelic tryptamines, most commonly 4-acetoxy-DMT (4-AcO-DMT) and 4-acetoxy-DET (4-AcO-DET). These products are widely available in smoke shops or through online retailers and social media marketplaces, often with minimal regulation, inaccurate labeling, and child-attractive packaging.

Pediatric exposures are most often accidental and occur due to:

- Edible appearance: Gummies and chocolates are visually indistinguishable from candy. Additionally, fun, and colorful packaging make them attractive to young children.
- Improper storage: Products kept in kitchens, backpacks, nightstands, or unlocked drawers. Additionally, products may be removed from the original packaging and inappropriately stored for transport within zip lock bags, pill planners, or loose within purses.
- Misleading labeling: Terms such as “legal,” “natural,” or “plant-based” may reduce perceived risk by caregivers.

Clinical Effects and Toxicity

Over half of psychedelic exposures reported to poison information centers across the United States have resulted in symptoms requiring medical attention and treatment, with many cases experiencing residual effects, or even death. Between 2023 and 2024, 5.4% (n=409) of all hallucinogenic mushroom exposures were reported in patients less than 6 years old.¹

The most common clinical effects with all hallucinogenic mushroom exposures were hallucinations/delusions (37.5%), agitation (31.1%), tachycardia (27.0%), nausea or vomiting (20.5%), confusion (20.1%), mydriasis (16.9%), hypertension (13.1%), and drowsiness/lethargy (6.2%). More severe effects included respiratory depression, seizures, and cardiac arrest.¹ Many of these effects are primarily due to agonism of serotonin 5-HT_{2A} receptors, which are responsible for the hallucinogenic effects as well potentiating serotonin toxicity.² Additionally, the synthetic tryptamines found in these products pose specific cardiovascular risks, including QT interval prolongation due to hERG potassium channel inhibition.²



Treatment and Management

No specific antidotes exist for these synthetic tryptamines, and treatment is primarily supportive. Due to the absence of published human studies of 4-AcO-DMT, management is largely extrapolated from experience with classic hallucinogens such as LSD and psilocybin.³ For agitation, delirium, and seizures, benzodiazepines are first line therapy. Cardiac monitoring is also essential given the cardiotoxic potential of these compounds. Both 4-AcO-DMT and its metabolite 4-HO-MET display QT interval prolongation. Gastrointestinal decontamination with single-dose activated charcoal may be considered within one hour of ingestion if the airway is intact and protected.

Toxicity with hallucinogenic mushroom products can be life-threatening. Parents or guardians who use these products should be counseled on proper storage out of reach of children. It should also be emphasized that many of these products exist in a largely unregulated market and may carry hidden dangers. In the event of an ingestion of a mushroom-containing edible product, the Alabama Poison Information Center should be contacted at 1-800-222-1222 for guidance and assistance. Most pediatric exposures will require referral to a healthcare facility for acute management.

References

1. Simon, Mark W., et al. "Clinical Effects of Psychedelic Substances Reported to United States Poison Centers: 2012 to 2022." *Annals of Emergency Medicine*, vol. 84, no. 6, Dec. 2024, pp. 605–618, doi:10.1016/j.annemergmed.2024.06.025
2. Yoon, Kyung Sik et al. "Cardiotoxic effects of [3-[2-(diethylamino)ethyl]-1H-indol-4-yl] acetate and 3-[2-[ethyl(methyl)amino]ethyl]-1H-indol-4-ol." *Toxicology letters* vol. 319 (2020): 40-48. doi:10.1016/j.toxlet.2019.10.022
3. Hill, Simon L, and Simon H L Thomas. "Clinical toxicology of newer recreational drugs." *Clinical toxicology (Philadelphia, Pa.)* vol. 49,8 (2011): 705-19. doi:10.3109/15563650.2011.615318