



## ToxTalks: Substances of Use and Misuse

### *Highlights from the Field*

Blue Ridge Poison Center

| University of Virginia Health

| July 2023

## Psilocybin

*This is a special edition dedicated to substance use & misuse. Look for more of these editions as we encounter emerging and growing concerns. Funding support provided by the CDC's Prescription Drug Overdose: Prevention for States program in partnership with the Virginia Department of Health.*

### Case Example

*A 24-year-old presents to the emergency department after ingesting "shrooms" with his friend. He became progressively agitated after ingesting and suddenly began screaming and jumped from the 2nd floor balcony. EMS was called, the patient had an obvious leg fracture, 5 mg of haloperidol and 5 mg of midazolam was administered to calm the patient for transport.*

### What are hallucinogenic mushrooms?

Certain species of mushrooms are capable of producing psychoactive effects including hallucinations. These mushrooms most often contain the chemical psilocybin. Psilocybin is found in three major genera of mushrooms: *Psilocybe*, *Panaeolus*, and *Conocybe*. Mushrooms that are capable of producing hallucinations are nicknamed "magic mushrooms". They have been used for thousands of years for North and South American religious ceremonies. Psilocybin has been featured in the media recently for its reported effectiveness in the management of psychiatric conditions such as anxiety, depression, and obsessive-compulsive disorder. Psilocybin-containing mushrooms grow abundantly in warm, moist areas of the United States. They are also available for purchase through magazines or the Internet. In 2023, Oregon legalized the use of psilocybin-containing mushrooms for adults. As other states consider similar legislative actions, use may increase leading to visits to medical providers for potential toxicity or adverse side effects.

*Continued next page*

**Free. Fast. Expert help.**  
**24 hours a day, 7 days a week.**

**POISON**  
**HELP**  
**1-800-222-1222**



**Psilocybin Mushrooms: Dried**  
Source: Canva



**Psilocybin Mushrooms: Fresh**  
Source: U.S. Drug Enforcement Agency

### **What do hallucinogenic mushrooms look like?**

Mushrooms containing psilocybin are available fresh or dried. They have long, slender stems with caps and dark gills on the underside. Fresh mushrooms may have white-gray stems. The caps are dark brown around the edges and light-brown or white in the center. When cut or bruised, *Psilocybe* may turn a blue or green color.

### **What are effects of hallucinogenic mushrooms?**

Hallucinogenic mushrooms include species such as *Psilocybe*, which contain the chemical psilocybin. Psilocybin can be eaten or made into a tea. A typical reported oral dose is 5 g of mushrooms. Onset of symptoms is 30 to 60 minutes and effects may last up to 6 to 12 hours. Effects are similar to other hallucinogens such as LSD. Hallucinogenic effects are best explained by partial agonism at the 5-HT<sub>2</sub> receptor. Psychological effects include hallucinations and an inability to discern fantasy from reality. This may result in two of the most common reasons for emergency department evaluation following hallucinogen use, trauma or a “bad trip.” Trauma may occur then the hallucination or fantasy leads the individual to participate in harmful activities. A “bad trip” is a hallucination associated with negative emotions that may result in fear or anxiety. Individuals may have ataxia, anxiety, tremor, and hyperkinesia. Tachycardia and mydriasis may be found on physical examination. At higher doses, agitation and psychosis can occur. Nausea and vomiting may precede the psychedelic effects.

### **How should toxicity from hallucinogenic mushrooms be managed?**

Management of symptoms is supportive. Trauma should be evaluated per standard practice. Fear or anxiety associated with a “bad trip” can often be managed with calming measures such as reassurance that the hallucination is not real and that the hallucinations will resolve with time, and placing the person in a calm room, with low lighting if tolerated. If agitation is severe, benzodiazepines or other sedating medications, such as haloperidol, can be administered. Fatalities associated with use are rare, but cases of acute kidney injury, seizures, and cardiopulmonary arrest have occurred in psilocybin-containing species.

## **BRPC STAFF**

### **Director**

Christopher Holstege, MD

### **Nursing Director**

John Gilday, MSN, NREMT-P

### **Medical Toxicologists**

Andy Baer, MD

Nathan Charlton, MD

Aaron Frey, DO

Avery Michienzi, DO

Justin Rizer, MD

### **Medical Toxicology Fellows**

Abigail Kerns, MD

Conner McDonald, MD

David Schaffer, MD

Scott Schmalzried, DO

### **Epidemiologist**

Rita Farah, PharmD, MPH, PhD

### **Senior Poison Specialist**

Jennifer Horn, BSN, CSPI

### **Poison Specialists**

Andre Berkin, BSN, CSPI

Michael Brookshire, BSN, CSPI

Katerina Deasy, BSN

Angela Hooe, FNP-C, BSN

Liz Martin, RN

Lisa Turner, BSN, CSPI

Steven Yoder, BSN, CSPI

### **Public Health Educator**

Kristin Wenger, MA, BS

### **Administrative Specialist**

Heather Collier

The University of Virginia Health's Blue Ridge Poison Center is always available for guidance with managing these exposures. Please contact us at 1-800-222-1222 or use our healthcare provider hotline 1-800-451-1428.

Poison safety tips, free materials, & more:

