



Medical Psilocybin Use

What is the therapeutic potential of psilocybin?

Psilocybin is a hallucinatory drug with a low potential for abuse.

Psilocybin is a substance, found in some species of North American mushrooms, that can cause extended hallucinatory events ([Lowe 2021](#)). Side effects of psilocybin use include nausea, vomiting, muscle weakness, headache, higher blood pressure, fear or paranoia, and reduction in coordination ([US DEA 2020](#)).

Toxicity and Risks. Repeated psilocybin use can result in users needing higher doses over time to have the same effect.

- No psilocybin addiction, overdose, or withdrawal symptoms have been recorded to date ([Johnson 2018](#)).
- Only one psilocybin-related fatality has been recorded. Due to the unique features of that case, it is difficult to make broad conclusions about how the presence/dose of psilocybin related to the cause of death.
- Psilocybin interactions with other drugs are not well-studied.

Federal law limits recreational & medicinal psilocybin use.

Like many psychoactive substances, psilocybin is classified under Schedule 1 of the federal

Research Highlights

Psilocybin is a hallucinatory substance with virtually no potential for addiction or overdose.

Federal drug law restricts psilocybin research funding; no large-scale clinical trials have validated the health impacts of psilocybin treatment.

Psilocybin treatment has been proposed for over 30 medical conditions. The strongest evidence for therapeutic psilocybin use is for treatment-resistant depression and anxiety.

Controlled Substances Act. Drug scheduling by the Drug Enforcement Agency, the Food and Drug Administration, and Congress determines levels of restriction and regulation.

- Schedule 1 drugs cannot be legally used or possessed for recreational purposes and receive limited federal clinical research support ([Lowe 2021](#); [CRS 2019](#)).
- Private clinical research must be approved by the [Drug Enforcement Administration](#).

While states largely mimic federal drug restrictions, some states have recently legalized the recreational and/or medicinal use of specific substances (e.g., cannabis, psilocybin) ([NCSL 2022](#)). Read our Science Note on [Cannabis Legalization](#) for more information on state policies that limit or regulate cannabis use.

- Medicinal psilocybin use in supervised treatment centers is legal in [OR](#) and [CO](#). [DC](#) decriminalized the possession of psilocybin.
- In [OR](#), psilocybin use improved anxiety, depression, alcohol and tobacco addiction, leading to federal permission for continued medical research ([Abbas 2021](#)).

Table 1. Physical and behavioral conditions being explored with psilocybin treatment.

Alcohol addiction	Narcissistic personality disorder	Adjustment disorder	'Suicide' headaches
Cocaine addiction	Post-traumatic stress disorder	Cancer-related depression	Chronic pain
Tobacco addiction	Substance use disorder	Cancer-related anxiety	Phantom pain
Nicotine addiction	Obsessive-compulsive disorder	Major depression disorder	Epilepsy
Opioid addiction	Treatment-resistant depression	Existential depression	Inflammation
Suicidal ideation	Distress from a terminal disease	Loss of purpose	Psychopathy
Anxiety disorder	Dysfunctional social cognition	Loss of purpose (AIDS)	Cannabis use disorder
	Emotional control and violence	Borderline personality disorder	

Psilocybin can be an effective treatment for anxiety and depressive disorders.

In 2018, the Food and Drug Administration (FDA) designated psilocybin as a “[Breakthrough Therapy](#),” which allows for the development and review of drugs that provide a substantial improvement over current options ([Bird 2021](#)).

In 2019, private investors spent more than \$420 million on research and development for psychedelic drug treatments for several neurological disorders.

- Private investing is expected to reach \$6.8 billion by 2027 ([Lowe 2021](#)).

Table 1 describes the range of disorders that psilocybin treatment is being researched for.

- Providers currently lack screening tools for patients that might benefit from psilocybin treatment.

Given the limited legal use, no large-scale or long-term studies exist to make strong conclusions about therapeutic psilocybin.

Some studies suggest that psilocybin can treat post-traumatic stress disorder (PTSD). However, no robust clinical research has confirmed its short- and long-term efficacy ([Bird 2021](#)).

There is stronger evidence that psilocybin use can lead to long-term improvements in depression and general anxiety, particularly in chronic or terminally ill patients ([Lowe 2021](#)).

- Read our Science Note for more information on the use of [psychoactive compounds in palliative care and hospice patients](#).

In a small-scale toxicity study (18 patients), male, long-term AIDS survivors given two doses of psilocybin and multiple group therapy sessions (over 18 hours) had reduced rates of **PTSD and depression** ([Khan 2022](#); [Abbas 2021](#)).

Interviews with small veterans' groups suggest that psilocybin can cause unique short- and long-term changes in how the brain processes and adapts to trauma, which can reduce **PTSD** symptoms ([Smith 2022](#)).

In medium-scale efficacy trials (20 patients), patients with **treatment-resistant depression** had fewer symptoms after psilocybin use (42–54% reduction) as early as a week after treatment ([Gill 2020](#); [Abbas 2021](#)).

Several studies on cancer patients suggest that one dose of psilocybin can reduce **anxiety**, improve **mood** and enhance quality of life for at least 6 months ([Goldberg 2020](#); [Mithoefer 2016](#)).

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