

Learn about...

Hallucinogens

What are hallucinogens?

Hallucinogens refer to drugs that significantly alter a person's senses and perceptions. Despite the name, they do not necessarily produce true hallucinations. Hallucinations are perceptions that have no basis in reality, but appear realistic to the person having them. Instead, many hallucinogenic drugs cause users to have experiences that are different from their ordinary reality, but may not involve full scale hallucinations.

Sometimes these drugs are called psychedelics because the conscious mind becomes aware of things that it normally is not aware of. Sometimes they're called entheogens because hallucinogens may provoke intense emotional responses that may be akin to spiritual or religious experiences.

Some hallucinogens are plants or fungi that grow naturally in different parts of the world. The most common ones (with their active ingredients) include:

- Peyote cactus (mescaline, phenethylamine)
- Magic mushrooms (psilocybin or psilocin)

- DMT (N,N-dimethyltryptamine)
- Salvia divinorum (salvinorum A)
- Ayahuasca (harmaline, N, N-dimethyltryptamine)
- Cannabis (tetrahydrocannabinol or THC)—can cause hallucinogenic effects at higher doses

Some natural hallucinogenic compounds can be produced synthetically. Other hallucinogens have no known basis in nature and are completely man-made. Examples of man-made hallucinogens (with their active ingredients) are:

- Acid (lysergic acid diethylamide or LSD)
- Angel dust (phencyclidine or PCP)
- Ketamine (cyclohexanone hydrochloride)
- Laughing gas (nitrous oxide)
- Ecstasy (methylenedioxymethamphetamine or MDMA)—also sometimes considered a hallucinogen in high doses

How do hallucinogens work?

The active ingredients in hallucinogens are chemically similar to substances that naturally occur in the brain



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(neurotransmitters). For example, psilocybin and LSD are similar to serotonin, and mescaline is similar to dopamine. When hallucinogens enter the blood stream, their active ingredients bind to receptors in the brain. As a result, functions of the brain are suppressed, stimulated or otherwise changed, which results in unusual sensory perceptions.

In low doses, hallucinogens alter a person's mood and change the way they experience the world. In high doses, hallucinogens can significantly affect a person's perception of reality including alternating perceptions of time and space.

The effects of hallucinogens usually begin within an hour of taking a drug, and they can last for 12 hours or more. For example, in very high doses, the effects of PCP can last for days or even weeks.

Why do people use hallucinogens?

For thousands of years, people all around the world have been using hallucinogens medicinally and in religious or spiritual ceremonies. Today people still use them for these purposes.

Many ceremonial users say they have spiritual or mystical experiences that give them new insights into themselves and into life. Some say hallucinogens allow them to step "outside" themselves or even "off the earth." Others say they help them connect more deeply with nature.

Hallucinogens are also used recreationally. Depending on the particular substance and dosage, some people find hallucinogens can make them feel euphoric. Some hallucinogenic substances can encourage feelings of empathy and openness so taking them with other people can create intense bonding experiences.

For a brief time in the mid-20th century, some hallucinogens such as LSD and MDMA, were used experimentally in Western medicine as part of psychotherapy. They are currently being studied again for medical

purposes. For example, ibogaine and ayahuasca are being studied for the treatment of substance abuse, mushrooms are being studied for cancer-related anxiety, and ecstasy for Post Traumatic Stress Disorder (PTSD) and palliative care.

What are potential health effects of using hallucinogens?

How a hallucinogen affects a person is often unpredictable. It depends on many factors, including the type and amount of drug used, the user's attitude, expectations and past experiences with the drug, and the environment it is used in.

Some of the basic physical effects include:

- numbness
- muscle weakness
- impaired motor skills and coordination
- dilated pupils
- increased or lowered heart rate, blood pressure and temperature
- nausea

The physical effects of hallucinogens are often minor compared to the psychological effects. However with some hallucinogens, the physical effects may be more severe, including

- extreme loss of coordination,
- inability to move,
- immunity to pain, or
- loss of consciousness.

Psychologically and emotionally, hallucinogens can produce very positive (joyful) or very negative (scary and stressful) experiences. Sometimes the good and bad can be experienced within the same 'trip'. Acute negative experiences or 'bad trips' are more likely to occur among novice users or those using large dosages in unfamiliar environments. In low doses, hallucinogens rarely make people feel confused or disorientated.

Most users of hallucinogens can integrate positive and negative experiences into their regular lives. Bad experiences are often resolved after the drug has worn off. However, some people may feel depressed or anxious long after taking the drug.

A very small number of hallucinogen users experience flashbacks, or Hallucinogen Persisting Perception Disorder. This is when moments of a previous drug experience are experienced over again in a different setting. Flashbacks are often unpleasant and can happen days, weeks or months after taking the drug. Flashbacks are more common among users whose “trips” have been interrupted by circumstances that occur while they are under the influence of the drug. For example, if they were arrested and were not able to “finish” their experience.

Long-term psychological benefits have been documented for the use of some hallucinogens in certain contexts. However, using hallucinogens may trigger or exacerbate underlying mental problems in some people. Frequent, long-term use at high dosages may disrupt consciousness and lead to mental disorders or the development of concentration and memory problems.

It is very difficult to overdose with some hallucinogens such as acid, magic mushrooms and peyote. However others, particularly those considered deliriants (e.g. Datura) or dissociative (e.g. PCP and Ketamine), can slow breathing or heart rate to levels resulting in death.

When is using hallucinogens a problem?

Whenever a person’s hallucinogen use negatively affects their life or the lives of others, it can be considered problematic. As with other drugs, the potential for harm from hallucinogen use depends on factors related to the substance, the person using it and the context of use.

Using hallucinogens has the potential to be particularly problematic when a person is

- **suffering from mental health problems.** Hallucinogens can make mental health problems worse or lead to acute and chronic problems in vulnerable individuals.
- **pregnant or breastfeeding.** Some hallucinogens may cause problems if used during pregnancy or

breastfeeding. At high dosages some hallucinogens may cause miscarriage.

- **younger than 16 years old.** Because adolescence is a key time for brain development, it is possible that some hallucinogen use may affect a youth’s physical, mental and emotional development.
- **using alcohol and other drugs.** It is extremely dangerous to mix some hallucinogens with alcohol or other drugs that depress consciousness and breathing.
- **using alone or with strangers.** Using without a ‘sober sitter’ or experienced user can lead to injuries resulting from physical impairment. Such injuries can be fatal.
- **living with a heart condition.** Many hallucinogens effect blood pressure and heart rate.

Fast facts about hallucinogen use in British Columbia

- Vancouver youth aged 16 to 24 say ecstasy is the easiest to obtain of all hallucinogens.
- 13 per cent of students in Grades 7–12 have tried magic mushrooms.
- 7 per cent of students in Grades 7–12 have tried LSD or other man-made hallucinogens.
- Most BC youth who have used hallucinogens say they experimented a few times but did not continue use over time. Tobacco, alcohol (and cannabis) are used far more regularly than hallucinogens.

Most people who use hallucinogens do so experimentally and do not use them very often. For many of these substances, there are no withdrawal symptoms and people do not find it hard to stop using them. In general, hallucinogens do not create a physical dependence, but they can create psychological dependence.

Most hallucinogens are not associated with the development of tolerance. This means that people do not need to take larger and larger amounts to achieve the same high. However, for some hallucinogens, users will experience no psychoactive effects for a few days after extensive use.

Depending on where and how a drug is acquired, it can be hard to tell what it actually is, and how much you are using. What is supposed to be a tablet of ecstasy may actually be methamphetamine. What looks like magic mushrooms may actually be another type of toxic mushroom.

Are hallucinogens legal?

Possessing, making and selling most hallucinogens are illegal in Canada and can lead to fines and jail, as well as a criminal record. In the case of some plant hallucinogens, such as peyote, the active ingredient is a controlled substance rather than the plant itself. In some other countries there are legal exceptions for religious or medical use of some hallucinogens.

Salvia, a psychoactive drug that produces a high similar to LSD, is currently still legal in Canada and in most US states. It has, however, been banned in Australia since 2002. It is controlled in various ways in Belgium, Denmark, Estonia, Finland, Italy, Spain, and Sweden. Salvia is a naturally occurring substance that is also known as Diviner's Sage or Magic Mint. Users report that the feelings it evokes are more dream-like and natural than other hallucinogenics. Its effects are

much shorter-lived than those of most other hallucinogens, usually lasting less than 30 minutes.

What to do if you or someone you know is experiencing a problem with hallucinogens

For information on treatment options and resources throughout BC, call the

Alcohol and Drug Information Referral Service

1-800-663-1441 (throughout BC)
604-660-9382. (in Greater Vancouver)

For information on ways to help yourself with a substance use problem, see the "Tips" section of the Here to Help website: www.heretohelp.bc.ca. The website also features detailed information on substances and mental health disorders.

You can also find information on a wide variety of substance use issues on the Centre for Addictions Research of BC website: www.carbc.ca.

