

HOW DOES CRYSTAL METHAMPHETAMINE WORK?

ICE AND THE BRAIN

Crystal methamphetamine ('ice') triggers the release of three chemicals in the brain, called dopamine, serotonin and noradrenaline. These chemicals are also released during pleasant activities - like eating and sex - and they are responsible for making us feel alert and excited. But flooding the brain with these chemicals can cause an 'overload' in the system which is why some people can't sleep for days or experience symptoms of **psychosis** after taking ice.

Ice also stops the brain from reabsorbing these chemicals which lowers their **supply** in the brain. This is why people often feel low or irritable for 2-3 days after taking ice.

Over the long term, regular use of ice can damage or destroy dopamine **receptors** in the brain - sometimes to a point where the person using the drug no longer feels normal without having ice in their system. Even after people have stopped using ice it can take up to a year before these brain changes return to normal.

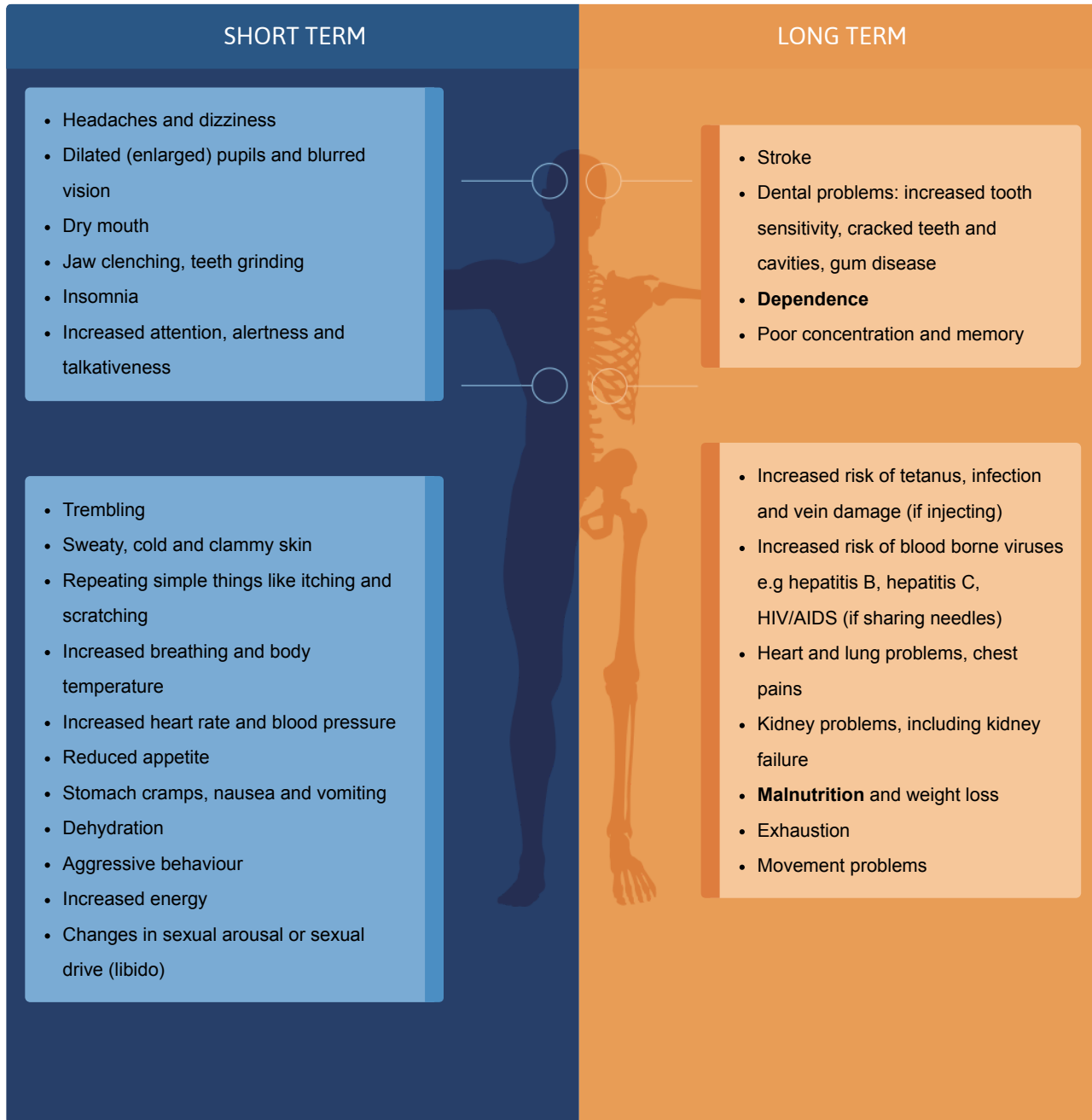
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WHAT ARE THE EFFECTS OF ICE?

The initial effects of ice often last for between 4 and 12 hours depending on how much ice is consumed. Although the effects of ice are usually felt quickly (within minutes if it is smoked or injected, or about 30 minutes if snorted or swallowed), it can take 1 to 2 days to entirely leave the body. The effects of ice can be both physical and mental.

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The physical effects of ice can include:



Use of **methamphetamines** (including ice) is also associated with elevated mortality rates relating to overdose, natural diseases (such as coronary disease), suicide and accidental injury.

It is also important to know that mixing ice with other drugs, including over-the-counter or prescribed medications, can cause enormous strain on the body. This increases the risk of negative mental and physical effects as well as increasing the likelihood of overdose. Learn more about the risks associated with "using ice with other drugs".

THE COMEDOWN PHASE AND WITHDRAWAL

A '**comedown**' phase or 'crash' is often experienced by people who use ice as the drug starts to wear off. These feelings can last a few days and symptoms can include:

- Feeling down or depressed
- Decreased appetite
- Exhaustion
- Increased need for sleep
- **Irritability**
- Feeling anxious.

Withdrawals refer to unpleasant symptoms experienced by people with a **dependence** on ice. These symptoms can last for several days or many weeks, depending on the severity of use. Withdrawal symptoms can include:

- Intense cravings
- Headaches
- Feeling anxious
- Feeling down or depressed
- Fatigue
- Aggression
- Restlessness
- Cramps
- Vomiting

For more information about treatment and support options available to people who are experiencing problems with ice and other drugs please visit "[what type of help is available](#)". Information about what to expect from the withdrawal, treatment and recovery processes is also discussed.

HOW TO HELP SOMEONE WHO MAY BE EXPERIENCING AN OVERDOSE

The effects of ice can be unpredictable, as there is no quality control when an illegal drug is made. It can be cut or mixed with a number of other substances increasing the risk of unpredictable side effects.

Serious side effects and symptoms of a possible overdose include:

- Racing heartbeat and chest pain
- **Panic attacks**
- Extreme confusion or agitation

- Overheating and dehydration
- Exhaustion or unconsciousness
- Fits, seizures or convulsions
- Stroke or heart attack

Call an ambulance (000) if someone is showing any of these symptoms. For more information about how to help someone who has taken ice please visit "[how to protect yourself and others](#)".

KEY SOURCES

Australian Drug Foundation. (2016). *Amphetamines*. Melbourne: State Government Victoria.

Australian Institute of Health and Welfare. (2018). *Alcohol, tobacco & other drugs in Australia*. Canberra: Australian Institute of Health and Welfare.

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McKetin, R., & Black, E. (2014). *Methamphetamine: What you need to know about speed, ice, crystal, base and meth*. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

See '[The effects of ice on the brain](#)' fact sheet for sources related to cognitive effects.