

what's the  
**deal?**

**nctic**

national cannabis  
prevention and  
information centre

cannabis facts for **parents**

**This booklet summarises what we know about the effects of cannabis on health and well-being. We have done our best to present the facts without any bias. Future research may change some of the information contained in this booklet, but at the time of printing, the information was accurate and up-to-date.**

## **what is cannabis?**

Cannabis is the general name used for the products made from the plant *Cannabis sativa*. This plant contains over 400 chemical substances, with about 60 responsible for its unique effects. The main mind-altering ingredient in cannabis is THC (delta-9-tetrahydrocannabinol). It is mostly responsible for the changes in mood, thoughts, perceptions and motor skills after the person has used it.

Cannabis works by entering the bloodstream, and then travelling to specific cannabis receptors in the brain, where it is activated. We are still not sure what the purpose of these receptors is, but they are most commonly found in the areas of the brain associated with motor skills, memory and thinking. The brain also naturally produces at least two chemicals that attach to the cannabis receptor, and have similar effects as cannabis. Researchers are still trying to establish their role in brain functioning.

## types of cannabis

The strength of cannabis depends on how much THC it contains. This varies from plant to plant and between the three most common ways that cannabis is prepared for use: marijuana, hash and hash oil.

*Marijuana* comes from the dried flowering tops ('heads' or 'buds'), leaves, and stems of the plant. THC concentration is affected by growing conditions and the genetics of the plant. The heads contain the greatest amount of THC, followed by the leaves, and there is little or no THC in the stems and seeds. *Hash* is made of dried cannabis resin and compressed flowers, and *hash oil*, the most concentrated form of cannabis, is made when THC is extracted from hash or marijuana using filtering and purification processes.

There is a large scale cannabis-growing industry in Australia. Growing cannabis indoors, using special lights and irrigation systems (hydroponics), has become very popular because crops are harder to detect. One of the most common forms of hydroponic cannabis is called 'skunk', although you often can't really tell what type of cannabis you are using. Hash and hash oil are not commonly produced in Australia and are usually imported.

## is cannabis stronger than it used to be?

You may have heard in the media that cannabis is now much stronger, even up to 30 times stronger than it used to be, and that this has caused an increase in the negative side-effects on cannabis users. Data collected over the last 20 years in the USA, Europe and New Zealand show that while the average THC content of cannabis has increased in some countries, there is enormous variation between samples. This means that cannabis users may be exposed to greater variation in a single year than over years or decades. Claims that cannabis is 30 times stronger than it used to be are not supported by the current evidence.

## how is cannabis used?

The most common way to use marijuana and hash is by smoking it in waterpipes ('bongs'), hollow pipes ('chillums') or rolled cigarettes ('joints'). Water pipes or bongs are the most common method in Australia, especially among young people. They can be made from a variety of materials such as glass, plastic and aluminium. The cannabis is packed in a cone and burned, and water is used to cool the smoke before it is inhaled. This helps to limit the amount of smoke that escapes, although smoking technique is also an important factor in how much THC is inhaled and absorbed. Tobacco is often mixed in with the cannabis to help it burn, or to make the cannabis last longer. Vaporisers heat the cannabis rather than burn it. They trap the tar and other toxins in the vapourising bowl so they don't enter the lungs.

Marijuana or hash can also be cooked or baked in foods and eaten, or drunk in tea.

## how common is cannabis use?

Cannabis use is most common among people aged 18 to 25 years old. The frequency of use begins to decrease after this time. Most people who use cannabis don't go on to use regularly, or develop problems with it.

A national survey of drug use in Australia found that one third of the population (34%) aged 14 years and over had used cannabis at some time in their life, and one in ten (11%) had used it in the past 12 months.

Of 14-19 year olds, approximately one quarter (26%) have ever used cannabis and almost one fifth (18%) have used it in the past year. The proportion of adolescents reporting use was lowest among 14-15 year olds, and highest among 18-19 year olds.

There is some evidence that cannabis use among young people has declined in recent years. A national survey of secondary school students aged 12-17 showed a decline in lifetime cannabis use from 29% in 1999 to 18% in 2005. Even so, while most young people reported using occasionally or not at all, 6% of 12-15 year olds, and 12% of 16-17 years olds reported using cannabis in the past month.

Compared to adolescents who did not use cannabis, cannabis users were more likely to report frequent use of alcohol and tobacco, and to use other illegal drugs.

## how long does it take for cannabis to leave the body?

Depending on how cannabis is used, the body absorbs, metabolizes (breaks down) and gets rid of THC differently. When it is smoked, the effects come on quickly, because the THC is rapidly absorbed into the lungs and enters the bloodstream within minutes. THC begins metabolising in the lungs and continues in the liver, forming several different compounds (metabolites).

When it is eaten, THC takes much longer to be absorbed into the blood, so the effects come on more slowly (about an hour), and last a lot longer than when it is smoked. Because people might use more while they are waiting for the effects to come on, it is harder to control the desired dose and effects, which may be unpleasant.

Cannabis is stored in the fatty tissues, until it is slowly released back into the bloodstream and excreted from the body. As a result, traces of cannabis can be detected in urine for up to several weeks, depending on factors such as how much, how long and how often it is used. Traces of cannabis can be detected in the urine of regular users for more than a month after the last use.

Urine tests can really only identify whether cannabis has or has not been used in the recent past. They cannot accurately tell when or how much a person has smoked. Tests can also detect cannabis in blood, strands of hair and saliva, but more research is needed to establish how accurately they can measure patterns of use.

## being stoned

The main effect cannabis use produces is the feeling of being ‘stoned’. When someone is stoned they experience a mild euphoria and feel relaxed. They may feel like talking and laughing more than usual. Their perceptions are also altered – time may seem distorted, short-term memory may be affected, focus may be increased (‘tunnel vision’), and they may have more intense or altered senses – e.g. when eating, watching films and listening to music. They may also develop ‘the munchies’, which means they feel really hungry and want to eat lots of food.

## intoxication levels

There is no *direct* relationship between the amount of THC in the blood and how stoned someone feels. In general, the greater the amount of cannabis that is smoked, the greater its effect on thinking and performance, and the greater the ‘stone’. The intoxication or stone decreases quickly, and has mostly gone one to two hours after use. However, coordination, attention, and performance may be decreased for hours, even after the stone has gone. People often report feeling a little cloudy and vague the morning after a heavy smoking session.

## what effects does cannabis have on the body?

There is no convincing evidence that humans have ever died from a cannabis overdose. However, cannabis users may experience a variety of negative effects which can affect their health and functioning. The severity

of these effects depends on several factors. These include: how much and how frequently it is used, how it is used (e.g. smoked or eaten), health, and other drug use.

## does cannabis affect the body's immune system?

People often worry that cannabis damages their immune system, which protects the body against disease and infection. We do not know if cannabis users experience more illnesses than people who do not use cannabis. However, based on our current knowledge, it is not likely that small amounts of cannabis will seriously interfere with the immune system of healthy people. We are less certain about the effects of heavy daily cannabis use on the immune system. Also, people with illnesses, particularly of the immune system, may make their conditions worse by using cannabis.

## how does smoking cannabis affect the heart?

One of the most reliable effects of cannabis use is to increase heart rate. This effect starts within a couple of minutes and can last for about 2 hours. Blood pressure also changes: it increases when sitting or lying down, and decreases when standing up, which can make people feel dizzy and occasionally causes fainting. Regular users may develop tolerance to these effects. It is very unlikely that occasional cannabis use has permanent negative effects on the cardiovascular system, although people who already have heart conditions like coronary artery disease should be advised to avoid cannabis and tobacco.

## can cannabis damage the lungs?

The negative effects of tobacco smoke on the lungs are well known. Cannabis and tobacco smoke are similar, and cannabis smoke contains even more of some cancer-causing ingredients than tobacco smoke. This smoke can damage the lungs and affect physical fitness (e.g. for sport) and general health.

Cannabis smoking over many years may interfere with the functioning of the lungs and increases the chances of developing lung disease, such as chronic bronchitis. This causes symptoms such as coughing, phlegm and wheezing. Regular smoking may also interfere with the lungs' ability to resist infections. There is also growing evidence that regular, long-term cannabis smoking may lead to cancers of the respiratory tract (e.g. tongue, lip, throat) in young adults.

In general, people with respiratory diseases, such as asthma, bronchitis and emphysema may make their condition worse if they continue to smoke cannabis.

The way people smoke cannabis also affects their risk of experiencing these effects. Smoking cannabis in a bong is probably worse for the lungs than smoking it in a joint. This is because people tend to hold the smoke deeper in their lungs for longer, even though the smoke is cooled before it is inhaled. Bongs may also produce higher levels of tar and carbon monoxide than joints that are smoked with a filter.

In general, smoking rapidly, inhaling deeply and holding the breath increases the toxins that are absorbed into the lungs, without increasing the stone. People who smoke tobacco or mix it in with their cannabis may also increase their chances of harming their lungs because the effects of both of them together are worse than either of them alone.

## is it true that cannabis can help asthma?

One of the short-term effects of the THC in cannabis is to expand the airways in the lungs, even in people who have asthma. However, cannabis users may develop tolerance to this effect. While people may feel this short-term effect of cannabis provides them with relief, because cannabis is usually smoked, they are also exposing their lungs to the toxins contained

in the smoke. Regular smoking can cause irritation and damage to the lungs, especially in people with lung disease. Cannabis is not a good therapy for asthma.

## are there added risks to smoking cannabis as an adolescent?

Generally, the earlier a person starts using cannabis, and the more heavily they use it, the more likely it is they will continue to use it and develop problems with it. If a young person already has emotional problems, or problems at school, at home, or with the law, and they smoke cannabis, this may also increase their chances of having problems or becoming dependent.

Regular cannabis use during adolescence exposes the body to the negative effects of cannabis at a time of rapid physical and social development. This may interfere with their options and choices in a whole range of areas in their life, now and in the future.

## does cannabis use lead to other drug use?

Many people say that cannabis is a 'gateway' drug that leads to the use of other drugs such as heroin and cocaine. It is true that most heroin and cocaine users first used cannabis. There is no evidence that this occurs because cannabis physiologically causes them to want other drugs. Most cannabis users never go on to use these drugs, or if they do, will only experiment. However, cannabis users are more likely to experiment with other drugs than non-users, probably because people who try cannabis may also be curious to try other drugs. They may also experiment because they come into contact with other types of illegal drugs.

## can cannabis cause dependence?

Most people who use cannabis don't go on to use it regularly, or develop problems with it. However, a small proportion of people will become dependent on cannabis. A recent large survey of drug use among the adult Australian population found that approximately 200,000 adults (that's about 1.5% of the adult population) were diagnosed with cannabis dependence.

In general, the chance is similar to the chance of becoming dependent on alcohol. Someone who is dependent on cannabis may experience a number of symptoms, including difficulty controlling their use even if it is causing them problems, and spending a lot of time involved with cannabis and less time on other things in their life. Some regular users also experience withdrawal symptoms when they stop using cannabis because their body has become so used to it. Some of these symptoms include feeling restless and anxious, difficulty sleeping, and loss of appetite. They are usually quite mild and stop after a few days, but sometimes they last longer. Some of the heaviest users report having difficulty quitting cannabis because of the withdrawal symptoms. For them, the symptoms are associated with 'cravings', an intense desire for cannabis, which may be difficult to overcome.

We do not know exactly how frequently or how much people need to use before they become dependent on cannabis. However, the more frequently they use it, the greater the chance that they will become dependent. Some research suggests that adolescents can become dependent on cannabis using lesser amounts than adults. Whenever drug use starts occupying larger and larger amounts of their time, it signals that they are relying on it rather than developing a broader set of activities that bring pleasure and help cope with the stresses of life. These circumstances place them at risk of becoming dependent.

## what effect does cannabis have on fertility and pregnancy?

Cannabis use during pregnancy may affect the development of the baby, leading to premature birth and smaller birth-weights. Both of these outcomes are dangerous for the survival and health of the baby. These effects may be made worse by smoking tobacco, because the effects of smoking tobacco and cannabis during pregnancy are similar. They are also affected by lifestyle factors such as nutrition.

THC can cross the placenta into the baby during pregnancy and pass into breast milk after the baby is born. So, if you smoke cannabis and breast-feed, the baby gets the THC into their body as well. The developing nervous systems of babies and young children are very vulnerable.

Some studies suggest that certain effects may be delayed and appear when the child is aged between 4 and 12 years old. The children of mothers who smoked cannabis during pregnancy may develop problems with attention, memory and decision making, and have difficulty controlling their behaviour. It is not known how serious these problems may be or whether they are permanent.

For these reasons it is best to be safe and not use cannabis during pregnancy or breast-feeding and to avoid smoking it near young children.

We are still not exactly sure how cannabis affects fertility, but there is some evidence that it may reduce fertility in men and women and interfere with the hormones associated with reproduction. Although occasional cannabis use is unlikely to cause severe problems, people experiencing fertility problems should not smoke cannabis.

## does cannabis use damage the brain?

Memory and attention may be affected when someone is stoned, which can interfere with their ability to take in and remember new information. Cannabis use probably doesn't cause severe damage to the brain or mental processing, but heavy cannabis use over many years may be associated with more subtle problems with memory, attention, and the ability to handle complex information. This can affect everyday life, particularly when learning something new or doing something difficult. We still need to learn more about how severe these problems are and whether quitting cannabis for a while will improve people's mental functioning.

## is cannabis connected to mental illness?

Some people experience very unpleasant psychological effects when they use cannabis, like severe anxiety or panic reactions (a fear of going mad). At very high doses, confusion, delusions (beliefs not based in reality), and hallucinations (seeing or hearing things that aren't really there) may also occur, but this is uncommon. These symptoms are more likely to be felt by people who aren't used to the effects of cannabis or have smoked more than they are used to. These experiences do not usually last after the effects of the cannabis wear off, but can be very frightening, and may be enough to put some people off using cannabis.

Some people are more vulnerable to the psychological effects of cannabis than others and should avoid using. In people with a family history of severe mental illness, such as schizophrenia, or who are vulnerable to developing such problems, cannabis use might trigger an episode. They may not be aware that they are vulnerable. If they already have an illness like schizophrenia, cannabis use often makes some of their symptoms worse.

Recent studies also suggest that cannabis may play a role in the development of depression in some people, particularly young people who begin their cannabis use at an early age.

## is it dangerous to drive while stoned?

Being stoned can affect people's ability to do things like drive or operate machinery, because it can affect their perceptual and motor skills, physical coordination and reaction time. So, their body and hands may be less steady. They may find it hard to divide their attention between several tasks or hold their attention for a long time. They may also find it harder to react when something unexpected happens. They may experience some of these effects even when they don't feel stoned anymore.

Some cannabis users drive after smoking, and it is commonly found in drivers who have been involved in accidents. The effects of cannabis on driving performance are not clear however. While driving studies often show that people who are stoned make more driving errors than those who aren't, they tend to take less risks than those who are drunk. Cannabis users may also drive more slowly, perhaps because they are trying to compensate for being stoned. But it is difficult to know how many accidents are caused by cannabis use because blood tests can only tell if they have used cannabis, and not whether they were stoned when they were driving. Also, about 80% of drivers with THC in their blood at the time of an accident also have alcohol in their blood. Combining cannabis and alcohol affects driving more severely than either drug alone, so they should not be combined.

People should not drive while they are stoned, or if they are still feeling the effects of a big night or session, even if it was hours ago.

## does cannabis have positive effects on some diseases?

Some cannabis users report that cannabis helps them relieve the symptoms of medical problems. In 2000, a NSW Government report concluded that cannabis could be helpful for certain medical conditions and recommended more research should be conducted. Although there are good therapies available for many of the problems identified, some patients develop negative reactions or do not benefit from them. So it is important to find out if cannabis can help. A lot of work is being done on developing artificial forms of cannabis which can be taken as tablets, as the natural plant form is usually smoked and this may cause respiratory symptoms in some people.

The report suggests that cannabis may be most useful for these conditions:

- **pain relief (analgesia)**, for example in people with cancer
- **nausea and vomiting**, particularly in people having chemotherapy for cancer
- **wasting, or severe weight loss**, in people with cancer or AIDS. Cannabis may help increase the person's appetite and relieve their nausea
- **neurological disorders**. Cannabis may be useful in relieving the symptoms of multiple sclerosis, spinal cord injury and other movement disorders, because it helps relieve muscle spasms

## what is the legal status of cannabis?

Cannabis is illegal in all Australian states and territories, but each one has different laws and penalties. In some places the possession and use of small amounts of cannabis have been decriminalised. This does not mean that cannabis use is legal in these places, it means that if someone is caught, they may have to pay a fine and can still end up having a criminal record.

Most of the drug arrests in Australia relate to cannabis. While being arrested for cannabis may not seem a big deal when young, having a criminal record for a cannabis offence may restrict their options for things they want to do in life, such as employment or travel, even years later.

### acknowledgements

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**For more information contact:**

**National Cannabis Information  
and Helpline**

**1800 30 40 50 (toll free)**

**Useful websites include the following:**

**National Cannabis Prevention  
and Information Centre**

[www.ncpic.org.au](http://www.ncpic.org.au)

**Family Drug Support**

[www.fds.org.au](http://www.fds.org.au)

**Alcohol and Drug Information  
Network (ADIN)**

[www.adin.com.au](http://www.adin.com.au)

**Australian Drug Foundation (ADF)**

[www.adf.org.au](http://www.adf.org.au)