



what's the
deal?

ncpic

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 derived from the plant *Cannabis sativa*. This plant contains over 500 chemical substances, with about 80 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 that a person experiences after using the drug.

Cannabis works by entering the bloodstream through the lungs when smoked, then travelling to, and activating, specific cannabis receptors in the brain. We are still not sure of the purpose of these receptors, 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 cannabis receptors and these have similar effects to cannabis. Researchers are still trying to establish their role in brain functioning.

types of cannabis

The strength, or potency, of cannabis depends mainly 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, with little or no THC found 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 as these crops are more difficult to detect. One of the most common forms of hydroponic cannabis is often referred to as 'skunk'. Hash and hash oil are not commonly produced in Australia and are usually imported.

is cannabis stronger than it used to be?

Data collected over the last 30 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. It would appear, however, at the strength of cannabis has increased, possibly doubling, over the past three decades.

Reports of increased strength could also be impacted on by changes in the way the drug is used and the increased availability of the stronger parts of the plant, particularly the flowering heads or buds.

how is cannabis used?

The most common way to use cannabis is by smoking it in waterpipes ('bongs'), hollow pipes ('chillums') or rolled cigarettes ('joints'). Water pipes or bongs are among the most common method of use 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. Tobacco is often mixed in with the cannabis to help it burn, or to make the cannabis last longer.

Vaporisers are also used by some people. These products heat the cannabis rather than burn it and are believed by some to reduce some of the risks associated with smoking the drug. Cannabis 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 usually begins to decrease after this time. Most people who use cannabis do not go on to use regularly, or develop problems with the drug.

A national survey of drug use in Australia found that just over one third of the population (35%) aged 14 years and over had used cannabis at some time in their life, and 10% had used it in the past 12 months.

Of 12-17 year olds, approximately one in ten (11%) have ever used cannabis with 9% having used it in the past year. The proportion of 18-19 year olds reporting use was significantly higher, with just under one third (32%) reporting ever using the drug, and more than one in five (21%) having used it in the previous 12 months.

Amongst school-based young people evidence continues to suggest that cannabis use 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 14% in 2008. Even so, while most young people reported using occasionally or not at all, 2% of 12 year olds, and 22% of 17 years olds reported using cannabis in the past year.

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 (taking about an hour), and last a lot longer than when the drug is smoked. Because people might eat more while they are waiting for the effects to come on, it is harder to control the desired dose and effects, which may result in a more unpleasant experience.

Cannabis is stored in the fatty tissues until it is slowly released back into the bloodstream and excreted from the body. As a result, 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. In some cases, traces of cannabis can be detected in the urine of regular users for more than a month after their 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.

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 from use. However, coordination, attention, and performance may be affected 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. Cannabis users, however, may experience a variety of negative effects which can affect their health and functioning. The severity of these effects depends on several factors including: 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?

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 commonly reported effects of cannabis use is an increased heart rate. This effect starts within a couple of minutes and can last for up to a few hours. Blood pressure also changes: it increases when sitting or lying down, and decreases when standing up, making people feel dizzy and occasionally causing 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 drugs used together are worse than using 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. Cannabis users, however, may develop tolerance to this effect. While some 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 issues, is getting into trouble at school, at home, or with the law, and they smoke cannabis, these problems may get worse or they may risk becoming dependent on the drug.

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 a young person's 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 do not go on to use it regularly, or develop problems with it. However, a small proportion of people will become dependent on cannabis. A 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 used to it. These withdrawal symptoms can often be why users have difficulty quitting. Some of these symptoms include feeling restless and anxious, having difficulty sleeping, experiencing cravings for cannabis, and a loss of appetite. Symptoms are usually quite mild and stop after a few days, but sometimes they last up to a few weeks.

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 a young person is relying on cannabis 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 system 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 the drug near young children.

Heavy use of cannabis has been linked to decreased fertility in both men and women. In females, there is evidence that cannabis use may disrupt the menstrual cycle. In males, cannabis is thought to decrease sperm quality and testosterone levels. It is also thought to decrease the ability of sperm to move quickly and has been linked to sperm abnormalities.

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. Heavy cannabis use over many years may be associated with 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. At very high doses, confusion, delusions (beliefs not based in reality), and hallucinations (seeing, feeling 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 those who are vulnerable to developing such problems, cannabis use can act as a trigger, 'unlocking' a pre-existing condition. People may not be aware that they are vulnerable, therefore knowledge of family mental health history is helpful. If they already have an illness like schizophrenia, cannabis use often makes some of their symptoms worse.

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. People who use cannabis are more likely than others to experience depression.

is it dangerous to drive while stoned?

Being stoned can affect people's ability to do things like drive or operate machinery, with research finding that driving under the influence of cannabis increases the risk of having a motor vehicle crash by 2-3 times.

It can affect perceptual and motor skills, physical coordination and reaction time. Drivers 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 do not feel stoned anymore.

Driving studies often show that people who are stoned make more driving errors than those who are not, but 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.

It is difficult to know how many accidents are caused by cannabis use because blood tests can only tell if someone has used the drug, and not whether they were stoned when they were driving. Many drivers with THC in their blood at the time of a motor vehicle crash also have alcohol in their blood. Combining cannabis and alcohol affects driving more severely than using either drug alone.

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. 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 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 may 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

This booklet was originally developed for a series of projects conducted by the National Cannabis Prevention and Information Centre staff that provided young people with assessment and feedback about their cannabis use.

It was written by Wendy Swift, Jan Copeland, Roger Roffman, James Berghuis, Robert Stephens, Greg Martin, Paul Dillon and John Howard, and is based on a resource developed for a similar project at the University of Washington, USA.

We would like to thank Annie Bleeker, Annie Malcolm, Wayne Hall, Michael Lynskey, Redfern Legal Centre and Julie Hodge for their help in putting this booklet together.

ISBN: 978 0 7334 2603 2

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