A QUICK GUIDE TO
Drugs & Alcohol

THIRD EDITION

by the National Drug and Alcohol Research Centre (NDARC)

Drug Info is a partnership between the
State Library of New South Wales and NSW Health.

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INTRODUCTION

This book is intended for anyone who is interested in finding accurate information about drugs and alcohol. It is not a medical or scientific book, it is set out in easy to read sections so that you can find the information that you require quickly, and read as much or as little as you like.

The *Quick Guide to Drugs and Alcohol,* 3rd edition is published by the Drug Info service which is a partnership between the State Library of NSW and NSW Health.

This third edition of the *Quick Guide to Drugs and Alcohol* has been revised and updated from the previous edition, with three new chapters added. Drug Info would like to thank NDARC for its assistance with the publication and thank all the authors who provided their specialist expertise in reviewing and authoring the various chapters of the book.

National Drug and Alcohol Research Centre (NDARC)

The National Drug and Alcohol Research Centre (NDARC) is an internationally recognised Research Centre of Excellence based at the University of New South Wales, Australia. The Centre is multidisciplinary and collaborates across a range of disciplines with institutions and individuals in Australia and overseas.

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ABOUT DRUGS

Drugs are substances that change a person's physical or mental state.

The vast majority of drugs are used to treat medical conditions, both physical and mental. Some, however, are used outside the medical setting for their effects on the mind. These are referred to as recreational drugs, and many of them are illegal in Australia.

Psychoactive drugs

Drugs that affect a person's mental state, whether prescribed for a medical condition (for example, antidepressants) or taken for recreational purposes (such as alcohol and heroin), are called psychoactive drugs. Psychoactive drugs affect the way a person thinks and feels—which may also affect the way they behave.

The most commonly used legal psychoactive drugs in Australia, apart from drugs taken on prescription, are alcohol and tobacco. The most commonly used illegal psychoactive drug is cannabis (marijuana).

Categories of psychoactive drugs

Psychoactive drugs are divided into three main categories:

- **Depressants** slow down the activity of the central nervous system (the brain and spinal cord), which reduces a person's alertness, and also slows down functions such as breathing and heart rate. Examples of depressants are alcohol, heroin, cannabis, the prescription drug group of benzodiazepines and other prescription tranquilisers.
- **Stimulants** increase the activity of the central nervous system, making the person more alert and aroused. Examples of stimulants are nicotine, caffeine, cocaine, ecstasy and the methamphetamines, speed and ice.
- **Hallucinogens** make a person see, hear, smell or feel things that aren't there. Examples of hallucinogens are LSD, magic mushrooms, ecstasy and cannabis.

Some drugs fall into more than one category. For example, cannabis is both a depressant and hallucinogen, while ecstasy is a stimulant and hallucinogen.

Why do people use psychoactive drugs?

People use drugs for many reasons—for fun or excitement; to relax, feel good, better or different; to counteract negative feelings; because they are bored or curious; because their friends or family do it; or because they have a dependence on the drug. Often people who use drugs associate with other people who use drugs. It is not always clear which comes first— the friends or the drugs.

The reasons for starting to use drugs may be different to the reasons for continuing with drug use. For example, while a person may initially experiment with a drug because of peer pressure, they may continue to use in order to feel 'normal' and to stop themselves experiencing withdrawal symptoms.

Drug dependence

Drug dependence may occur when a person continues to use drugs— legal or illegal—even though their drug use causes them significant problems. It is regarded by many as a medical condition not directly under the control of the individual. The term 'addict', with its negative implications, is not used any longer. There have been recent changes to the terminology used to describe this pattern of use, with the terms alcohol/drug abuse and alcohol/drug dependence being replaced by a single term 'alcohol/drug use disorder'. However, as dependence is a commonly understood term, for the purposes of this publication, the term dependence will be used to describe this pattern of use.

This pattern of alcohol or drug use may be diagnosed by the presence of two or more symptoms, including:

- a strong desire to take the drug, spending a significant amount of time obtaining the drug, using it, and/or recovering from its effect
- difficulties in controlling its use – unsuccessful attempts to cut down or stop, or using more of the drug or using it for longer than intended
- persisting in its use despite harmful physical or psychological consequences
- a higher priority given to drug use than to other activities and obligations – social, recreational and work
- the development of a tolerance to the drug (see page 6)
- experiencing symptoms of withdrawal when the drug use is stopped or reduced (see page 6).

Statistics on drug use in Australia

The Australian Institute of Health and Welfare (AIHW) conducts a National Drug Strategy Household Survey every three years. The data collected by the survey provides detailed information on alcohol, tobacco and other drug use within Australia, as well as community attitudes to drug use. The survey covers both legal and illegal drugs.

For the latest survey results, visit the AIHW website and go to the National Drug Strategy Household Survey page: http://www.aihw.gov.au/alcohol-and-other-drugs/data-sources/

Drugs & young people

Adolescence is a dynamic period of maturation — along with experimentation and risk taking, it may include taking drugs. Young people take drugs for much the same reasons as older people, often with the added element of rebellion. The consequences can be much worse, however, as childhood and adolescence are critical times for brain development, so the brain is more sensitive to the influences of drugs and alcohol. For example, there is evidence that alcohol use in young people can lead to impaired learning and memory which can affect them for the rest of their lives.

Also, young people may not fully understand the consequences of drug use and may make bad choices that can affect them for decades to come.

Tolerance

After using a drug for a while, a person may find that:

- they need to take more of the drug to get an effect that they previously got with less, or
- the drug simply becomes less effective in producing the desired effect.

This is called **tolerance**.

Withdrawal

When a person who has been using a drug stops taking it, or reduces the dose, they may experience a physical and/or psychological reaction as their body gets used to functioning without the drug. This is called **withdrawal**. Because the person has become tolerant to the drug's effects, they have been taking the drug just to feel 'normal'.

When the drug is removed from their body, withdrawal can be very unpleasant, producing symptoms such as tremors, sweating and vomiting, as well as strong craving for the drug. For some drugs and some individuals, medical supervision during withdrawal is necessary.

The strength of the withdrawal varies, depending on:

- the individual person
- the drug they have been using
- how frequently and for how long a person has been using the drug.

Withdrawal symptoms can make it very difficult for a user to stop or reduce their drug use and it is a common reason for people to relapse into drug use.

Detoxification

The process by which the body eliminates a drug and its immediate physical and psychological effects is called **detoxification**.

Detoxification usually leads to some level of withdrawal, and withdrawal management (sometimes involving medical assistance) may be required. Anti-anxiety drugs such as benzodiazepines are sometimes prescribed for a short time during medically-supervised withdrawal.

Treatment

Withdrawal is only the first step towards recovering from a drug use problem. While some people are able to manage cutting down or quitting without help, access to effective treatments is crucial for many people.

A number of options for treating drug and alcohol dependence are available in Australia. Some seek to help the person achieve a drug-free lifestyle, while others recognise abstinence as one option among others. All treatments have the primary aim of minimising the harm and the risks associated with drug use.

Treatment is most effective if it is tailored to suit a person's circumstances, and it usually involves a combination of methods:

- for many drugs—including alcohol and tobacco—**psychological interventions** and good **social support** are important elements of recovery
- for some drugs, there are effective medical interventions (**pharmacotherapies**)
- for some drugs, there has been little or no research on effective treatments, mainly because these drugs are less widely used and have lower impact on society or they have only recently been developed.

Although in most cases a person on treatment lives in their own home during treatment, some residential programs are available. These may be appropriate for people with serious problems who have little social support.

Psychological interventions

Three types of psychological intervention have been found effective for a broad range of drugs:

- **motivational enhancement** is an approach used by the therapist to help the client to increase their motivation to decide for themselves that they really need to change their behaviour. This can help maintain commitment in people who might otherwise leave treatment before it can be effective.

- **cognitive behavioural therapy** seeks to change the thoughts and ideas that lead to and maintain drug dependence, replacing them with more constructive ways of thinking. It can also be used to help a person recognise situations that place them at risk for resuming drug-taking and to reduce the anxiety often associated with stopping drug use.
- **contingency management** typically uses rewards, such as vouchers, to encourage compliance with treatment and reduce drug use (voucher-based reinforcement). The vouchers are exchangeable for goods and services in the community, and clients are rewarded if they meet specific treatment goals such as drug-free urine, on-time attendance at treatment or medication compliance.
- **social and family support services** provide psychological support as well as helping with medical, financial, housing and legal issues, and are important in maintaining recovery in the community.

See page 129 for contact details of drug and alcohol treatment centres and advice lines.

Peer support programs

Peer support programs such as Alcoholics Anonymous and Narcotics Anonymous may be helpful for people who can relate to their particular 12-step philosophical approach. There are also other peer support groups using different approaches, for example, SMART recovery® (self-management and recovery training) and Rational Recovery.

Pharmacotherapy

Pharmacological treatments usually involve replacing the drug, under supervision, with a less harmful alternative; for example, heroin may be replaced by methadone. This allows the person to regain some control over their life, and may ultimately lead to a drug-free lifestyle.

Pharmacological treatments are not available for all drugs and may not work for everyone.

Polydrug use

Polydrug use means:

- using two or more drugs in combination (eg tobacco and alcohol)
- using one drug to counteract the effects (or the after effects) of another
- using different drugs at different times over a short period of days or weeks.

Polydrug use is very common among people who use drugs.

The dangers of polydrug use

Using a single psychoactive drug can be dangerous; using more than one significantly increases the risks. In particular, if two drugs of the same type, such as the depressants heroin and alcohol, are used together, there are greatly increased risks of accidents, overdose and death.

Other common dangerous drug combinations include ecstasy and alcohol, heroin and sedatives, and amphetamines and sedatives.

Because alcohol is the most widely abused psychoactive drug, it is also the most commonly involved in risky polydrug use.

Drug use and safety

Many psychoactive drugs, including alcohol, have effects on the brain and behaviour that make operating machinery, and particularly driving a vehicle, more dangerous. This can have far-reaching implications, not only for safety in the workplace, but for the potential to cause harm to others.

Many people underestimate the risks involved in driving after drinking or using illegal or prescription drugs. The 2013 Australian National Drug Strategy Household Survey [1] reported that 12% of those who had consumed alcohol in the past year, and 16% of those who had used an illegal drug in the last year, had driven while under the influence of the drug. See also Chapter 18, Drug laws in NSW, page 103.

Drugs and pregnancy

Most drugs taken during pregnancy cross the placenta and reach the unborn child. Tobacco, alcohol, and a number of illicit drugs can be harmful to the developing child, resulting in adverse outcomes such as premature birth and low birth weight. See the relevant chapter on the health risks of specific drug use during pregnancy.

If a mother uses drugs while breastfeeding, it is possible that the drug will be present in her milk and may have adverse effects on the baby.

Check with your doctor if you are taking or planning to take any drug during pregnancy or breastfeeding, including prescribed and over-the-counter medications.

Drugs and mental health

Some drugs, such as cannabis, LSD, ecstasy, ice and speed, can directly produce effects that resemble symptoms of mental illness, such as hallucinations or paranoia. These effects usually disappear once the drug is out of the person's system.


ON-OFF
ML-FLOZ
ZERO
G-OZ

However, many people who seek treatment for drug or alcohol problems also have mental health problems that are not directly due to their current drug use. These people tend to be more unwell and are more difficult to treat than people with a single disorder.

It has been suggested that mental illness can cause drug problems (when a person takes drugs in the hope of escaping their symptoms), and that heavy drug use over time causes mental health problems. Most of the evidence, however, seems to indicate that the same factors can lead to both types of problems; that is, biological, social and/or environmental factors predispose a person to have both a mental health and a substance abuse problem.

Both drug and alcohol and mental health services have become much more aware of this situation, and best practice in both areas is now to treat both disorders if this is appropriate. If you are choosing a drug and alcohol treatment program for a friend or relative, it is important to ask whether they will help with any mental health problems.

If the client is a polydrug user, it is also important that the agency can treat each type of drug.

Prevalence of mental health problems associated with drug use

The Australian Institute of Health and Welfare (AIHW) conducts a National Drug Strategy Household Survey every three years. The data collected by the survey provides detailed information on alcohol, tobacco and other drug use within Australia, as well as community attitudes to drug use. The survey covers both legal and illegal drugs.

For the latest survey results, visit the AIHW website and go to the National Drug Strategy Household Survey page: http://www.aihw.gov.au/alcohol-and-other-drugs/data-sources

Previous surveys have found that many people who used illegal drugs in the month preceding the survey said they were suffering 'high or very high psychological distress'. The rate was approximately double the rate of those who did not use illegal drugs in that month. The rate is particularly high among heroin users, with approximately two-thirds expressing high or very high psychological distress.

People who reported smoking tobacco daily were twice as likely to have high or very high levels of psychological distress and to have been diagnosed or treated for a mental health condition as those who had never smoked.

The association between alcohol use and high or very high psychological distress and diagnosis or treatment of a mental health condition was less marked than for illicit drug use and daily smoking.

ALCOHOL

grog, booze, hooch, moonshine, goon, vino, piss

Alcohol is a **depressant** (see definition on page 3).

While there are many kinds of alcohol, the alcohol that people drink is **ethyl alcohol**. It is made from a mixture of yeast and water, fermented with grains, vegetables or fruits. The fermentation process changes the natural sugars into alcohol. Beer and whisky are made from grains, wine and brandy from grapes, vodka from potatoes, cider from apples, and rum from sugar, to name just a few of the most popular alcoholic drinks.

Alcohol concentration varies considerably with the type of drink. In Australia, beer contains 0.9-6% alcohol, wine 12-14%, fortified wines such as sherry and port around 18-20%, and spirits such as scotch, rum, bourbon and vodka 40-50%.

People have been drinking alcohol for thousands of years, as part of various religious ceremonies, as a painkiller, and for socialisation and fun. It is the most commonly used and socially acceptable recreational drug in Australia.

Alcohol and the law

It is legal to drink and sell alcohol in Australia, provided certain conditions are met. More detail on alcohol and the law can be found in Chapter 18, Drug laws in NSW on page 103.

Consuming alcohol

- Consumption of alcohol in designated alcohol-free zones is illegal.
- Police can detain a person who is drunk in a public place and behaving in a disorderly way.
- It is illegal for a fully licensed driver to drive with a blood alcohol concentration of .05 or over. Learner and provisional drivers must have a blood alcohol concentration of zero. See page 17 for more about alcohol and driving.

Selling alcohol

- It is illegal to sell alcohol to a person who is already drunk.
- It is illegal to sell alcohol to anyone under 18.
- Premises where alcohol is sold must have an appropriate licence. It is also necessary to obtain a licence to serve alcohol at certain events and functions.

People under 18

- People under 18 are not permitted to drink in pubs, clubs or licensed restaurants.
- People under 18 can drink in their own home, or a public place where drinking is legal such as a BYO restaurant, as long as they are supervised by:
  - their parent or guardian, or
  - another responsible adult with the permission of their parent or guardian.

How alcohol is used

Alcohol is commonly drunk in social situations for its relaxing effects, which tend to reduce people's inhibitions.

How common is alcohol use?

The Australian Institute of Health and Welfare (AIHW) conducts a National Drug Strategy Household Survey every three years. The data collected by the survey provides detailed information on alcohol, tobacco and other drug use within Australia, as well as community attitudes to drug use. The survey covers both legal and illegal drugs.

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Previous surveys have found that alcohol is the most widely used recreational drug in Australia. However, 2016 results show that young people's drinking continued to decline, with young people more likely to delay starting drinking and abstaining from alcohol use than in previous years. While risky drinking on a single occasion was more common among younger drinkers, daily drinking was more common among those aged 40 years and older.

Effects

Short-term effects

Alcohol is absorbed rapidly into the bloodstream and affects the brain within about five minutes (absorption may be slower if the person has recently eaten).

Alcohol depresses the central nervous system, slowing down heart rate, breathing and other body functions. Other short-term effects may include:

- reduced inhibitions
- a sense of relaxation
- loss of alertness and coordination, and slower reaction times
- impaired memory and judgement
- nausea, shakiness and vomiting
- blurred or double vision
- disturbed sleep patterns
- disturbed sexual functioning (such as difficulty in maintaining an erection).

As consumption continues these effects are increased, which increases the risks involved in driving, using machinery or making decisions affecting safety.

The effects gradually wear off as the alcohol is broken down by the gut and liver. It takes about an hour for the body to break down the alcohol in one standard drink (see page 21), although there is considerable variation between individuals. It takes longer if there is damage to the liver.

Variation in effects

Because of the way alcohol is stored and processed by the body, people with a lower proportion of body fat and a higher proportion of body fluids, and larger people, are generally less affected than others by the same amount of alcohol. This means that some members of the following groups may be more vulnerable to the effects of alcohol:

- women, who are generally smaller than men and usually have a higher proportion of body fat
- older people, who tend to have lower levels of body fluids and have a slower metabolism
- young people.

A person's general state of health, and whether they have recently eaten, also has an effect.

Alcohol and young people

Alcohol use is the world's third largest risk factor for disease and disability. Early alcohol use is linked to later alcohol abuse, liver cirrhosis and pancreatitis, cancer, prematurity and low birth weight, and 4% of deaths worldwide are attributable to alcohol.

Early alcohol use may interrupt cell growth in the frontal lobe of the brain, an area which does not reach full maturity until a person reaches their mid-twenties, and which controls higher mental processes such as planning. Alcohol use interferes with brain development and harms include poor attention, poor decision-making and forward planning — impacting on mental health and educational attainment.

In Australia the most recent National Drug Strategy Household Survey Data (2016) suggests that the decline in drinking among young people since 2007 has continued.

Very little is known about the consequences of less common, but more excessive, patterns of teen drinking, or whether changes to the brain are permanent.

Hangovers

On the day following a drinking session a person may experience nausea, headache, fatigue and general unwellness with varying degrees of severity. Hangovers may be produced by the immune system. Alcohol is a diuretic; that is, it causes increased fluid loss. The fluids must be replaced by non-alcoholic drinks if dehydration is to be avoided.

Some alcoholic drinks, including brandy, bourbon and red wine, contain substances called congeners, which can also cause symptoms associated with hangover.

Smoking, drinking on an empty stomach, drinking quickly, and poor quality sleep may add to the severity of a hangover.

Long-term effects

Heavy use of alcohol over a lifetime increases the risks of:

- some oral, throat and breast cancers
- liver cirrhosis
- brain damage and dementia
- some forms of heart disease and stroke.

There is increasing evidence that drinking at low risk levels does not reduce the risk of heart disease; heavy drinking is always risky.

In terms of death and disability, alcohol is a major cause of preventable harm in Australia. For example, in 2010 almost 5% of deaths in men and 3% of deaths in women were attributable to alcohol, primarily through injuries, cancers and cardiovascular disease. In 2013-14, 40% of Australians attending drug and alcohol treatment services said that alcohol was their main problem — more than for any other substance. [2]

Alcohol and driving

The effects of alcohol on both physical and mental functioning make driving hazardous — alcohol is involved in around one-third of all road deaths. The risk increases with the amount of alcohol in the bloodstream. For this reason it is against the law to drive with a blood alcohol concentration over a prescribed limit. For more information on the legal aspects of alcohol and driving see Chapter 18, Drug laws in NSW, page 103.

Alcohol and pregnancy

Drinking alcohol during pregnancy increases the risk of miscarriage, lower birth weight, stillbirth, and premature birth. Alcohol can also harm the development of the baby's brain and physical growth and some babies may be born with a condition known as Fetal Alcohol Spectrum Disorder (FASD). A baby born with FASD may have birth defects and facial abnormalities. More often a child with FASD can have lifelong problems with learning, growth, behaviour, memory, language, communication and everyday living.

After birth, the babies of alcohol dependent mothers can suffer withdrawal symptoms, including tremors, irritability and fits.

There is no known safe level of drinking during pregnancy, and a pregnant woman or a woman planning a pregnancy, is advised not to drink alcohol.

Fetal Alcohol Spectrum Disorders (FASD)

Alcohol is a known teratogen – a toxic substance that interferes with the development of the unborn child. Fetal Alcohol Spectrum Disorder (FASD) is an umbrella term used for a range of conditions resulting from alcohol exposure in-utero including: Fetal Alcohol Syndrome (FAS), Alcohol Related Birth Defects, and Alcohol Related Neurodevelopmental Disorders. Features of FASD include: poor growth, facial abnormalities, structural damage to the central nervous system, neurological damage, reduced cognitive function, impaired ability to plan and organise, developmental delay, learning or intellectual disability.

Many of the adverse effects from alcohol consumption in pregnancy persist over time and result in significant challenges in adulthood. Studies that follow similarly-affected individuals throughout their lives have reported a range of adverse life outcomes including disrupted education and persistent behavioural and mental health problems. Individuals with FASD are at increased risk of problems in adulthood classified as 'secondary disabilities' including anxiety and depression, substance use disorders, criminal justice involvement, and education and employment difficulties.

Alcohol and breastfeeding

Alcohol in the mother's bloodstream passes into breast milk. It can reduce the milk supply, and can cause irritability, poor feeding, sleep disturbance, and poor psychomotor development in the baby. As breastfeeding has many advantages for a young baby, it is recommended that a mother who does choose to drink should continue to breastfeed her baby, but keep her alcohol consumption to a low level, not drink before feeding the baby, and not drink at all until the baby is one month old. Expressing milk before drinking may be an option. [3]

Alcohol and mental health

Many people who have alcohol-related problems also have mental health problems. For example, people with post-traumatic stress disorder (such as war veterans and people who have experienced violence) are more likely to develop problems with alcohol.

There are also strong associations between alcohol problems and affective disorders such as major depression, bipolar disorder and anxiety disorders. The use of alcohol can make the symptoms and prognosis of mental illnesses worse.

Using alcohol with other drugs

Because alcohol depresses brain activity it should not be used with other drugs or medications that have similar effects on the brain, particularly benzodiazepines and heroin. Drinking alcohol while using these drugs can cause bodily functions to slow to the point where death occurs. Many heroin overdoses are associated with heavy alcohol use.

A person taking a prescription medication should always find out about the possible effects of drinking alcohol at the same time by reading the information that comes with it, and discussing the matter with their doctor or pharmacist.

Dependence

Heavy or regular alcohol use can lead to dependence (also described as an alcohol use disorder) (see definition on page 4).

When a heavy drinker suddenly stops or reduces their drinking they are likely to experience withdrawal symptoms—which makes stopping more difficult. Withdrawal symptoms can be quite mild or quite severe, ranging from insomnia and shakiness to severe seizures and **delirium tremens**—often called the DTs—where the person is not in touch with reality (delirium) and needs urgent medical treatment.

Most people do not suffer delirium tremens, but there can be significant risks in withdrawing from alcohol, and people undergoing withdrawal should be medically monitored.

Most people who are going through withdrawal are treated in an outpatient setting. Sometimes medications such as benzodiazepines are prescribed to help reduce the severity of symptoms.

Overdose

If drinking continues for an extended period, bodily functions can decrease to such an extent that the person loses consciousness (blacks out), which can lead to death by suffocation if the person vomits while unconscious.

In rare cases, a person's physical functioning may decrease to the point where they stop breathing. This is called **alcohol poisoning**.

Australian Alcohol Guidelines

The National Health and Medical Research Council (NHMRC) publishes guidelines for reducing the health risks of drinking alcohol.

The four basic recommendations can be summarised as follows:

- **To reduce the risk of alcohol-related harm over a lifetime** (such as chronic disease or injury), a healthy adult should drink no more than two standard drinks a day (see opposite).
- **To reduce the risks of injury on a single occasion of drinking**, a healthy adult should drink no more than four standard drinks on any one occasion. (No distinction is made between men and women in this recommendation. Although women may become intoxicated more easily, men are at greater risk because they are more likely to engage in risky behaviour.)
- **For children and young people under 18**, not drinking is the safest option. For young people aged 15-17 years, delaying the start of alcohol consumption for as long as possible is the safest option. Parents and carers are advised that children under 15 years of age are at the greatest risk of harm from drinking and for this age group, not drinking alcohol is especially important.
- **Women who are pregnant, planning a pregnancy or breast feeding** should not drink at all. The greatest harm to the fetus or breastfeeding infant occurs when drinking is at high and frequent levels, but no level of drinking is considered safe.

The guidelines do not mean that any drinking is recommended. In fact they suggest that there is no universally safe level of drinking.

Treatment

Advice from a doctor or other health professional can be effective, especially with people who have milder alcohol problems, while there are several online or internet-based treatment options now available.

For those with more serious problems, other forms of treatment may be required. This may involve withdrawal under medical supervision, followed by psychological or medical treatments to help prevent the person going back to their risky behaviour.

Psychological treatments such as motivational interviewing, cognitive behavioural therapy and contingency management (see pages 7-8) have been found to be effective in treating alcohol disorders. More recent research has found that naltrexone, acamprosate and/or disulfiram in conjunction with psychological treatment can improve recovery.

Standard drinks

A standard drink in Australia contains 10 g of alcohol. This is always the same, no matter what type of alcoholic beverage it is or how it is served. As some drinks are stronger than others (eg, low-strength beer is around 2.7% where spirits are typically 40%), the higher the alcohol concentration of a drink, the less liquid it contains. A serving of alcohol in a pub or club can often be larger than a 'standard' drink, for example a standard glass of wine is 100 mL but a typical serve may be 150 mL.

3

BENZODIAZEPINES

benzos, downers, sleepers, valium, Xanax, Kalma

Benzodiazepines belong to a group of central nervous system depressants (see definition on page 3) called **minor tranquilisers**. They come as pills in a variety of colours and shapes, according to the brand.

The first benzodiazepine (chlordiazepoxide) was synthesised in 1954 in Austria. It was discovered by chance during research on chemical dyes, and found to be a very effective tranquiliser. It was marketed in 1959 under the brand name Librium.

Valium, was released in 1963 and became widely used. Since then many other benzodiazepines have been developed.

Benzodiazepines and the law

Benzodiazepines can be prescribed by doctors and are legal if used as prescribed.

It is illegal to use benzodiazepines without a prescription, or to give or sell them to other people.

If you are under the influence of drugs (including prescription drugs prescribed to you), it is not legal to drive a car. All benzodiazepines dispensed from a pharmacy will come with a label warning you not to drive a car or operate machinery when affected by them.

How benzodiazepines are used

Benzodiazepines are widely prescribed in Australia for problems such as anxiety and insomnia. They can also be prescribed for epilepsy, alcohol withdrawal, and agitation in severe psychiatric disorders. Prescribed benzodiazepines are usually taken orally as pills. Because there is a high risk of dependence, it is recommended that benzodiazepines only be used on a short-term basis.

Benzodiazepines are also used illegally as recreational drugs. In this case they may be ground to a powder, mixed with water and injected, as well as being swallowed as pills.

Some common benzodiazepines and their trade names

diazepam—Valium, Ducene, Antenex, Valpam

oxazepam—Serepax, Murelax, Alepam

nitrazepam—Mogadon, Alodorm

temazepam—Normison, Temaze, Temtabs

lorazepam—Ativan

flunitrazepam—Rohypnol, Hypnodorm

bromazepam—Lexotan

clonazepam—Rivotril, Paxam

alprazolam—Xanax, Kalma

Benzodiazepine-like drugs

zolpidem—Stilnox, Ambien

zopiclone—Imovane, Zimovane

Effects

Short-term effects

The immediate effects of taking benzodiazepines include:

- a feeling of relaxation, sleepiness and lack of energy
- dizziness
- euphoria
- confusion
- visual distortions
- moodiness
- short-term memory loss.

Benzodiazepines take around 30 minutes to work when they are swallowed as pills, because they have to be digested before the drug can enter the blood stream. Injected benzodiazepines have an almost immediate effect.

Like other depressants, benzodiazepines affect both physical and mental performance, reducing coordination, slowing reaction times and impairing memory. There is increased risk of accidents and falling, and impairment of performance in tasks such as driving.

Different benzodiazepines are processed by the digestive system and eliminated from the body at different rates. For example, the effects of one of the more common short-acting benzodiazepines, temazepam, reach a peak after two or three hours; the drug ceases to be effective after about six to eight hours. The effects of diazepam (Valium), on the other hand, peak after 30 to 90 minutes, while the drug remains in the blood for up to three days.

There is also considerable variation between individuals, depending on various factors such as age and liver health.

Long-term effects

There is a long list of adverse physical and mental effects associated with long-term benzodiazepine use, including:

- anxiety, irritability, paranoia, aggression, and depression
- muscle weakness, rashes, nausea and weight gain
- sexual problems
- menstrual irregularities
- memory loss, cognitive impairment, dementia and falls
- confusion, lethargy and sleep problems.

Risks of injecting benzodiazepines

Injecting any drug can lead to serious health problems, including cellulitis (infection of the deep layers of the skin) and the spread of blood-borne viruses such as HIV and hepatitis. Injecting benzodiazepines can have even more serious effects. Benzodiazepine tablets must be dissolved before they can be injected, and the result is a sticky or lumpy fluid that has the potential to damage the circulation. Although injecting benzodiazepines is fairly uncommon, the consequences can be serious, such as: organ damage, loss of limbs, stroke and, occasionally, death.

Benzodiazepines and driving

Benzodiazepines can cause drowsiness, confusion, and slowed reaction times. It is dangerous, as well as illegal, to drive while affected by benzodiazepines.

If you have been prescribed benzodiazepines, you should not drive if your doctor has advised you not to, or if you experience symptoms of drowsiness or confusion.

Benzodiazepines and pregnancy

Benzodiazepines cross the placenta to the unborn baby. High doses can cause the baby to be born with poor muscle tone, poor feeding ability, drowsiness and low body temperature.

The use of opioids with benzodiazepines increases the risk of neonatal abstinence syndrome (NAS) – a group of problems that occur in a newborn who was exposed to addictive opiate drugs while in the mother's uterus.

A woman who is pregnant or is planning a pregnancy, and who has been prescribed benzodiazepines, should discuss this with her doctor.

Using benzodiazepines with other drugs

Using benzodiazepines with alcohol, which, like benzodiazepines, is a depressant, has been shown to increase the risk of dying from sedative overdose.

Heroin users sometimes use benzodiazepines as a substitute for heroin if it is unavailable. Benzodiazepines can also be used both to help withdrawal from heroin, and to increase its effects. Since heroin is another depressant, however, combining the two drugs greatly increases a person's risk of dying from a heroin overdose — benzodiazepines are involved in about a quarter of heroin overdose deaths. [4]

People who use amphetamines and ecstasy often use benzodiazepines to help them relax or sleep when they are recovering from the effects of these stimulant drugs.

The Australian Institute of Health and Welfare (AIHW) conducts a National Drug Strategy Household Survey every three years. The data collected by the survey provides detailed information on alcohol, tobacco and other drug use within Australia, as well as community attitudes to drug use. The survey covers both legal and illegal drugs.

For the latest survey results, visit the AIHW website and go to the National Drug Strategy Household Survey page: http://www.aihw.gov.au/alcohol-and-other-drugs/data-sources

A previous survey found that 'In 85% of the episodes with benzodiazepines as the principal drug, the client reported additional drugs of concern'. The most common additional drugs were alcohol and cannabis (both 18%). [5]

Dependence

Benzodiazepines are addictive and are only recommended for short-term use. Tolerance can develop quickly; this means that dosage must be increased to get the same effect, increasing the chances of dependence (see definition on page 4). It is possible to become dependent and suffer withdrawal symptoms after only two weeks of regular use. Dependence can result in cravings and/or physical withdrawal symptoms when benzodiazepines are stopped.

Withdrawal

Common symptoms of benzodiazepine withdrawal are often those for which the drugs were prescribed in the first place, such as insomnia, anxiety and irritability. Other possible symptoms include headaches, nausea, tremors, sweating, loss of appetite, visual and hearing disturbances, digestive disturbances, hallucinations and seizures.

Symptoms can be decreased by gradually reducing the dose rather than stopping suddenly.

If you have been using benzodiazepines for a long time you should seek medical advice before tapering off them.

Overdose

Overdosing on a benzodiazepine alone rarely results in death, although high doses of benzodiazepines can lead to unconsciousness or even coma. A person who has taken an excessive dose can die by passing out and suffocating on vomit or mucus.

Benzodiazepines are commonly implicated in overdoses with multiple medications or substances. If benzodiazepines are taken with other depressants, such as alcohol, heroin or prescribed pain medication, the possibility of fatal overdose is increased. [6]

Treatment

Treatment for benzodiazepine dependence involves a gradual withdrawal of the drug under medical supervision. Doses are often reduced gradually over weeks or months.

Psychological treatments aimed at keeping the person motivated and improving their coping skills (see pages 7-8) are recommended to maintain recovery. Where anxiety or insomnia were part of the original reason for using benzodiazepines, treatments like cognitive behavioural therapy (CBT) can be useful to develop other strategies to deal with these symptoms without using benzodiazepines. Research shows that in the long term CBT can be more effective than benzodiazepines for insomnia and anxiety. Good social support can also be very helpful.

4

CAFFEINE & ENERGY DRINKS

What is caffeine?

Caffeine is a naturally-occurring substance that can be found in the seeds, nuts and leaves of various plants, including coffee beans, tea leaves, cocoa beans, kola nuts and guarana seeds. It is a central nervous system stimulant (see definition on page 3), increasing mental alertness and reducing drowsiness and fatigue.

Human consumption of caffeine has a long history. Recognition of the stimulant properties of caffeine is thought to date back to the Stone Age, with people of that era using the seeds, bark and leaves of caffeine-containing plants to increase alertness and ward off drowsiness. The use of caffeine became more widespread in the late 17th century, through the increased production and availability of popular sources of caffeine, such as coffee, tea and chocolate. Today, caffeine is the most widely consumed psychoactive drug worldwide.

What are energy drinks and energy 'shots'?

Formulated energy drinks are non-alcoholic beverages containing caffeine ('caffeinated'). They are designed to increase energy and enhance mental performance. Since the debut of Red Bull® onto the global beverage market in 1997, the popularity and consumption of energy drinks has increased dramatically. In Australia, energy drinks are the fastest growing segment of the soft drink market. As their name implies, energy drinks promise a 'boost' of energy. They are marketed primarily to young adults, athletes, students and people in occupations that require sustained alertness in particular, although a significant proportion of the consumer market are children and adolescents.

Energy drinks typically contain the following ingredients in varying amounts:

- caffeine
- taurine – an amino acid naturally present in meat, fish and milk
- glucuronolactone – a natural substance produced by the metabolism of glucose in the human liver
- herbal extracts (eg, guarana, ginseng)
- water-soluble vitamins (eg, vitamins B3, B5, B6, and B12)
- sweetening agents (eg, glucose, sucrose).

Energy shots are a concentrated form of energy drink, which contain caffeine and other substances similar to energy drinks, but in small volumes (typically 50-60 mL).

Caffeine and the law

It is legal to consume and sell caffeine in Australia, although adding it to foods and beverages is strictly regulated by the Food Standards Code of Australia and New Zealand.

Caffeine content

In cola-type beverages containing caffeine as a food additive, the total caffeine content must not exceed 145 mg/L (36 mg/250 mL serve).

The Food Standards Code stipulates that formulated caffeinated beverages must contain no less than 145 mg/L and no more than 320 mg/L of caffeine (from all sources, including guarana). As such, the legal caffeine limit for a standard 250 mL energy drink in Australia is 80 mg, the equivalent of an average cup of instant coffee. Despite regulation of the level of caffeine in energy drinks, there are no regulations on the volume (pack size) of retail units and therefore, the dose of caffeine consumed per retail unit can vary greatly. The volume of cans sold in Australia range from 250-550 mL, with the stated level of caffeine in the large cans equivalent to two cups of coffee (176 mg).

Energy shots have been found to contain caffeine and other substances at concentrations that exceed the 320 mg/L caffeine limit and, therefore, do not meet the requirements of the Food Standards Code legislating caffeinated beverages. Although energy shots cannot be manufactured in Australia, they can be imported from New Zealand, where they are regulated by the Supplemented Food Standard, and legally sold in Australia. The Industry Code for the Manufacturing and Marketing of Energy Shots specifies that adults are the target market for these products, and requires that energy shots do not exceed 160 mg caffeine per shot.

Labelling

In addition to limiting their caffeine content, foods containing added caffeine must also have a statement on the label that the product contains caffeine. Foods containing guarana must also be labeled as containing caffeine.

The label of a formulated caffeinated beverage is required to state the quantity of caffeine in mg/100 mL and mg per serving size. Energy shots that are marketed as dietary supplements must state the level of caffeine if greater than 145 mg/L. The regulatory standards for energy drinks (Food Standards Code) and energy shots (Supplemented Food Standard) include additional labelling requirements whereby labels advise that the products are not recommended for children, pregnant or lactating women, and individuals sensitive to caffeine; and, subject to containing certain substances beyond caffeine (for example, taurine, glucuronolactone), no more than a certain amount should be consumed per day.

How is caffeine used?

Caffeine is typically consumed orally. Naturally occurring caffeine is found in a variety of foods and beverages (such as coffee, tea, cocoa, cola-type drinks, chocolate), as well as dietary supplements (eg, guarana). Caffeine, from either synthetic or natural sources, is also added as an ingredient or food additive to a number of products, such as various soft drinks, sports foods and energy drinks. Caffeine is available in tablet form (eg, No-Doz®) and may also be present in prescription and over-the-counter medications, including some cough medicines, weight-loss products and pain relievers.

Common caffeine-containing foods and beverages

Food	Caffeine content
instant coffee (1 teaspoon/cup)	60-80 mg/250 mL cup
percolated coffee	60-120 mg/250 mL cup
brewed coffee	80-350 mg/250 mL cup
tea	10-50 mg/250 mL cup
formulated caffeinated beverages (energy drinks)	80 mg/250 mL can
Coca Cola	48.75 mg/375 mL can
milk chocolate	20 mg/100 g bar

Effects of caffeine

The effects of caffeine are due to its action as both a stimulant and a diuretic (a substance that increases the production of urine) and can vary according to a number of factors:

- amount consumed
- person's height, weight and general health
- genetic factors
- whether the person is used to having caffeine
- whether food or other drugs (including alcohol) are taken around the same time
- pregnancy or breastfeeding
- mood.

Short-term effects

The effects of caffeine are typically experienced within 30 minutes after consuming and can last up to six hours, although there may be individual variations in the onset and duration of effects. For example, caffeine stays active in the body for a longer duration in babies, pregnant women and the elderly.

For small doses of caffeine (for example, 100-200 mg: approximately one to two cups of coffee) the short-term effects include:

- feeling more alert and active
- needing to urinate more often
- higher body temperature
- faster breathing and heart rate
- increased production of stomach acid.

Children and young people who consume energy drinks containing caffeine may also suffer from sleep problems, bed-wetting and anxiety.

Long-term effects

Regular, heavy use of caffeine (more than 600 mg per day — approximately four cups of coffee/strong tea per day) may eventually lead to:

- bone loss (osteoporosis) in post-menopausal women
- cardiovascular problems
- heartburn
- ulcers
- difficulty sleeping (insomnia)
- anxiety
- depression.

Caffeine and driving

There is no evidence to suggest that caffeine has an adverse impact on the ability to drive and there are several studies that have shown that caffeine may even improve driving performance by increasing driver alertness and attention.

Some people may use caffeine, such as drinking coffee or energy drinks, to try and counteract the effects of alcohol on driving. Research has shown, however, that caffeine has no effect on the metabolism of alcohol by the liver and does not reduce breath alcohol concentration (as measured by a breathalyser).

Caffeine and pregnancy

Caffeine passes across the placenta to the fetus and can enter the mother's breast milk, exposing babies to its stimulatory effects both during pregnancy and after birth. Babies are less able to break down caffeine than adults and, as such, may be more sensitive to the effects of the mother's caffeine consumption. Significant amounts of caffeine consumed by the mother can, for example, lead to wakefulness and agitation in the baby.

Although some studies have shown that caffeine intake of greater than 300mg per day has been associated with decreased fertility (i.e. delayed conception), miscarriage, low birth weight and delayed fetal growth, there is insufficient evidence to conclude that low to moderate caffeine consumption (one to two cups of coffee per day) has an adverse effect on fertility and pregnancy outcomes. Nevertheless, it is recommended that women who are pregnant, or planning to become pregnant, not exceed this level in order to exclude any increased risk of pregnancy complications.

Guidelines as to the recommended caffeine levels in pregnancy vary, although

Australian and international food and health authorities generally advise that pregnant and breastfeeding women should limit their caffeine intake to a maximum of 200 mg per day (about two cups of coffee or four cups of tea).

Energy drinks are not recommended for pregnant and breastfeeding women.

Using caffeine with other drugs

Caffeine may interact with other drugs, including over-the-counter and prescribed medications, and may increase the effects of other psychoactive substances. Conversely, other drugs can prolong the time that caffeine is active in the body and increase its stimulatory effects. The effects of using caffeine with other substances, however, are unpredictable and potentially dangerous. If you are taking other drugs or medications, consult your health care provider for advice on potential interactions with caffeine.

Caffeine (a central nervous system stimulant) when consumed with alcohol (a central nervous system depressant) may mask the sedative effects of alcohol (drowsiness, falling asleep); however, caffeine does not reduce the level of alcohol intoxication or alcohol-induced impairment in cognitive and motor functioning.

The use of energy drinks with alcohol has become an increasingly popular phenomenon. People typically use energy drinks with alcohol to intensify and prolong the effects of alcohol and to remain awake and alert in order to keep drinking and socialising. People who consume energy drinks with alcohol report increased stimulation and alertness, reduced fatigue, and the ability to consume more alcohol, particularly over long periods of time. Research has found that the consumption of energy drinks with alcohol is associated with greater alcohol consumption and an increased likelihood of alcohol-related harm. Moreover, as people drink more alcohol and become intoxicated, they may lose track of the number of energy drinks (and caffeine) they consume, increasing the risk of adverse reactions to caffeine (see **Overdose** on page 35).

Using caffeine with other central nervous system stimulants, such as cocaine and methamphetamine, can increase the toxic effects of each drug. In particular, the risk of adverse effects on the cardiovascular system (for example, abnormal heart rate and rhythm) may be increased, causing serious harm to the user.

Dependence

Although some people report that they are unable to reduce their caffeine consumption, despite negative physical or psychological consequences associated with continued use, the extent to which 'caffeine dependence' is a clinically significant disorder is unclear. Due to insufficient clinical evidence for a dependence syndrome for caffeine, caffeine dependence

is not formally recognised in the same way as dependence on other drugs of abuse. Further research in this area has been recommended.

Withdrawal

For people who consume caffeine on a regular (daily) basis, ceasing consumption can induce a caffeine withdrawal syndrome. Withdrawal symptoms usually start within 12-24 hours after the last dose, but can start within six hours for people who consume a lot of caffeine regularly and as late as 36 hours. The duration of symptoms is typically between two and seven days; occasionally even longer for people who consume large amounts of caffeine.

These symptoms can include:

- headache
- fatigue (tiredness, lethargy)
- drowsiness (sleepiness, yawning)
- nausea
- depression
- difficulty concentrating
- inability to think clearly
- irritability
- anxiety
- sweating
- muscle pains and weakness.

Overdose

Although caffeine has positive effects, such as increasing alertness, energy and concentration, and healthy people can tolerate caffeine in moderation, consuming large amounts of caffeine can have a range of adverse effects that are collectively known as 'caffeine toxicity'.

Caffeine toxicity is usually associated with high doses (greater than 500 mg) of caffeine. It is important to note, however, that there are individual differences in how people respond to a particular dose of caffeine. A person with high sensitivity and low tolerance to caffeine might show signs and symptoms of caffeine toxicity in response to doses of caffeine much lower than a regular user.

The symptoms of caffeine toxicity vary in their severity, and how commonly they occur, and include:

- nervousness
- anxiety
- irritability
- agitation
- insomnia
- headache
- rapid and/or irregular heart rate
- rapid breathing
- gastrointestinal disturbances (abdominal pain, diarrhoea, nausea/vomiting)
- muscle tremors/twitches
- delirium (confusion, hallucinations, excitability)
- headaches.

Seizures associated with caffeine toxicity have also been reported. For people who already have heart problems or anxiety disorders, large amounts of caffeine may make these problems worse.

Caffeine toxicity is rarely fatal, although very high doses of caffeine (for example 5-10 g in adults) can be lethal, and sudden death due to caffeine toxicity, while uncommon, has been reported.

How much caffeine is safe?

There is currently no uniformly recognised safe level of caffeine consumption, although a moderate intake of caffeine of up to 400 mg per day for healthy adults – equivalent to about 4 cups of coffee –is generally considered safe.

People with existing medical conditions (for example, high blood pressure, heart disease, liver disease) may have an increased susceptibility to the adverse effects of caffeine consumption, making a typically consumed amount of caffeine potentially more dangerous. For these people, a lower daily limit or no caffeine ingestion should be considered.

Children and adolescents should limit their intake of caffeinated drinks. The caffeine intake for children should not exceed 100 mg per day and, for adolescents, should not exceed 2.5 mg/kg per day.

Adverse reactions following the consumption of energy drinks stem primarily from their caffeine content. Food Standards Australia New Zealand recommends a ratio of 3 mg to each kilogram of an average adult (210 mg per day for an adult who weighs approximately 70 kg). Based on this, the recommended consumption limit for energy drinks is two cans per day.

Treatment

Research suggests that some caffeine users are sufficiently distressed by their caffeine use to seek assistance to reduce or cease caffeine consumption. There is little research on treatment for problems related to caffeine use and limited treatment options currently available. Of the few studies that have investigated such treatment, the primary forms of treatment are psychological therapies designed to change consumption behaviour. More research is needed to determine the best methods to promote caffeine reduction and cessation.

CANNABIS

marijuana, weed, dope, pot, grass, ganga, gunja, mull, doobie, mary jane, bud, hash, bhang, skunk, head, hydro, chronic, yarndi, bush

Cannabis comes from the *Cannabis sativa* plant. It acts as a central nervous system depressant that also alters sensory perceptions.

The primary active ingredient is THC (delta-9 tetrahydrocannabinol), which is responsible for the mood-altering effects of cannabis, the 'high' and the unpleasant mental health effects, such as paranoia, experienced by users. However, it also contains numerous other cannabinoids, chemicals produced by the plant, which play a number of roles that are still being discovered. One of the most important of these is cannabidiol (CBD), which has important potential medicinal effects, and may help counteract some of the unpleasant effects of THC on mental health. Worldwide research has shown a shift towards the cultivation of cannabis with high levels of THC and low levels of CBD over the past decade or more.

Cannabis comes in different forms. The most common are:

- **marijuana**, the dried leaves and flowers of the cannabis plant —this is the weakest form
- **hashish (or hash)**, the dried resin from the cannabis plant, which is stronger than marijuana
- **hashish oil (or hash oil)**, which is oil extracted from hashish, which is the most potent form

It can also come in the form of edibles and increasingly, highly concentrated extracts, such as wax and cannabinoid oils.

The cannabis plant has been used for centuries for very different purposes:

- its effects as a drug
- as a medicine
- the production of hemp fibre.

Cannabis was first used for medical and religious purposes in China, India and the Middle East. It was introduced to the Western world via India in the early

1800s, and was the most commonly used drug for pain relief before the introduction of aspirin in the late 1800s.

The medicinal use of cannabis

The medicinal use of cannabis has become increasingly common, as a number of states in the USA and several countries in Europe and South America have legalised possession and use for this purpose. In some places the crude cannabis plant is permitted to be used, while there are also some registered pharmaceutical preparations developed from the plant, which typically contain THC and/or CBD, e.g., nabiximols, (Sativex).

There is evidence that cannabis preparations may be useful for treating spasticity in multiple sclerosis patients, withdrawal symptoms in people addicted to cannabis and some forms of pain. In some cases, side effects seemed to outweigh benefits and more research is required to confirm how effective it is compared to existing medicines.

People with a terminal illness may be eligible to legally use cannabis to alleviate their symptoms, under the Medicinal Cannabis Compassionate Use Scheme.

Medicinal cannabis is currently not readily available in Australia, although use may be granted in exceptional circumstances. For example, the NSW Medicinal Cannabis Compassionate Use Scheme, aims to assist police in exercising discretion towards registered users (aged 18 years and older), and their carers, who may use cannabis products to help alleviate symptoms. Trials on the efficacy of cannabis for certain medical conditions are also currently underway in NSW.

For more information go to www.medicinalcannabis.nsw.gov.au

Cannabis and the law

The use, possession and supply of cannabis is illegal in all states and territories in Australia. It is also illegal to possess items used to take cannabis, such as bongs. In NSW, first offenders with a small amount of cannabis may be issued with a formal caution, which can include information about the harm associated with cannabis use and a number to call for drug-related information or referral. A person can receive up to two cautions.

More serious or subsequent offences may lead to a period of imprisonment.

How cannabis is used

Marijuana is most commonly smoked, rolled up in a cigarette paper (a joint) or in a water pipe (a bong) — usually, but not necessarily, with tobacco. The use of vaporisers ('vaping'), which heat cannabis products without combustion, has increased as people have become concerned about the effects of smoking cannabis. 'Dabbing', which is the inhalation of vapours from concentrated forms of cannabis extracts using solvents, is also becoming more common.

The plant material can also be cooked into food and eaten.

Effects

Short-term effects

When cannabis is smoked the active ingredient is absorbed directly from the lungs into the blood stream, and then on to the brain and other organs, so the effect is almost immediate. Cannabis acts on specific receptors in the brain.

Cannabis eaten in food takes longer to have an effect (up to 60 minutes), as it must be digested before it can enter the blood stream. Oral absorption is highly variable so the effects are unpredictable. This method does not carry the risks associated with smoking, but the time lapse between consumption and effect makes it hard for the user to judge how much to take.

The effects of cannabis vary considerably from one person to another. Relevant factors include mood, body weight, the person's previous experience with cannabis and the type being used. In some cases there may be no noticeable effects at all.

Short-term effects may include:

- a feeling of being 'stoned'—relaxed, euphoric and uninhibited
- enhanced sensory perceptions, particularly enjoying food, for example, or music
- feelings of hunger (having 'the munchies')
- panic reactions, confusion and feelings of paranoia
- nausea, headaches and reddened eyes
- increased heart rate for up to three hours after smoking
- dizziness, with impaired balance and coordination.

Cannabis intoxication can impair a person's ability to perform tasks requiring coordination, judgement and quick reactions, such as driving.

The short-term effects of cannabis can last from two to four hours, but the drug is stored in fatty tissue and slowly released back into the bloodstream before being excreted from the body. Traces of cannabis can be found in urine for one to five days after occasional use and up to six weeks (or more) in people who use cannabis regularly (more than three times a week, over a number of years). While cannabis can be detected in many bodily fluids (eg, blood, urine and saliva) and hair, it is difficult to assess the meaning of a positive result.

Due to the lengthy storage of cannabis in the system, positive test results may indicate recent use rather than impairment. This is particularly important when considering random driver and workplace testing for cannabis.

How common is cannabis use?

The Australian Institute of Health and Welfare (AIHW) conducts a National Drug Strategy Household Survey every three years. The data collected by the survey provides detailed information on alcohol, tobacco and other drug use within Australia, as well as community attitudes to drug use. The survey covers both legal and illegal drugs.

For the latest survey results, visit the AIHW website and go to the National Drug Strategy Household Survey page: http://www.aihw.gov.au/alcohol-and-other-drugs/data-sources

Cannabis is the most commonly used illegal drug in Australia. Previous surveys have shown that people in the 20-29 age group were the main users of cannabis, with about one in five reporting use in this period. There has been a steady decline in the recent use of cannabis among younger age groups since 2001. However, use had remained stable or increased among those aged 40 or older, indicating an ageing cohort of cannabis users. [7]

Long-term effects

Ongoing heavy use may increase the risk of:

- developing cannabis dependence
- upper respiratory tract cancers, chronic bronchitis and permanent damage to the airways when smoked (particularly when smoked with tobacco)
- cardiovascular system damage (the heart and circulation)
- experiencing negative mental health effects—see page 42.

Babies whose mothers smoke cannabis in pregnancy are more likely to be born prematurely and have a low birth weight, probably mainly due to the fact that they smoke tobacco.

Cannabinoid hyperemesis syndrome

Associated with long-term chronic cannabis use, cannabis 'hyperemesis' (severe vomiting) is a rare syndrome characterised by recurrent nausea, vomiting and stomach pain. Hot baths may be helpful in relieving symptoms temporarily, and symptoms stop when cannabis use is ceased. The exact mechanisms responsible for causing the symptoms are unknown.

Cannabis and driving

It is dangerous and illegal to drive under the influence of cannabis. Research suggests that a driver affected by cannabis is two to three times more likely to have an accident. [8]

Random drug testing of drivers for cannabis (an 'oral fluid' test) has been introduced in NSW (see page 119 for further information).

Cannabis and mental health

Cannabis use can have serious consequences for the mental health of particularly vulnerable people. It increases the frequency of episodes of psychosis in those with a disorder such as schizophrenia. Whether it can cause a psychotic illness is not known, but it appears that heavy use at a young age can bring about a psychotic episode in susceptible individuals, and at a younger age. The association between anxiety and depression is less certain, but there is some evidence that regular, long term cannabis use from an early age may increase the risk of experiencing symptoms into adulthood. Regular adolescent use may also increase the risk of attempting suicide.

Cannabis and pregnancy

If a pregnant woman smokes cannabis with tobacco—the most common way of using cannabis—the unborn baby is exposed to the risks presented by tobacco smoking (see page 100). Cannabis-smoking in pregnancy also increases the risk that the baby will be born prematurely.

Cannabis also passes into breast milk, which means that it is likely to affect a breast-fed baby.

Parents who smoke cannabis, especially with tobacco, in the presence of children risk exposing them to the dangers of passive smoking. This increases the risk of SIDS (sudden infant death syndrome), bronchiolitis and childhood asthma.

Using cannabis with other drugs

Cannabis is often used with other drugs.

Using cannabis with any other drugs (illegal or prescription) is more dangerous than using cannabis alone. Cannabis and tobacco are a common combination. The risks to the respiratory and cardiovascular systems of using both drugs appear to be higher than for using either cannabis or tobacco alone.

It is also common to mix alcohol and cannabis, and there is evidence that even small doses of the two drugs together can impair driving performance to a greater extent than either alone.

Dependence

Regular users of cannabis can become dependent (see definition on page 4).

Withdrawal

Symptoms of cannabis withdrawal tend to be similar to those of tobacco withdrawal. They include increased anxiety, mood swings, sleep problems, aggression, reduced appetite and cravings for cannabis. While individual symptoms may be milder than those of drugs such as alcohol and heroin, in combination they can still contribute to a relapse to use. Symptoms tend to peak two to three days after quitting but may last for several weeks.

Treatment

Treatment for cannabis dependence and withdrawal is generally on an outpatient basis under supervision from a health professional.

Cognitive behavioural therapy, focused on improving the person's coping skills to prevent relapse, has been found to be effective. Motivational enhancement and contingency management may also be useful (see pages 7-8). There are currently no proven pharmacotherapies available to treat those with a cannabis problem.

Is cannabis a gateway to hard drugs?

There has been ongoing debate about whether cannabis acts as a 'gateway' to the use of other illegal drugs such as heroin or speed. It is true that many people who take these drugs previously used cannabis. However, the majority of people who try cannabis do not go on to use cannabis regularly, or to use other illegal drugs.

People who consider cannabis a gateway drug argue that the cannabis affects the body and mind in a way that makes an individual more susceptible to other drug use. However, there may be other reasons for an association; for example, the person may have a tendency to engage in risky behaviour, which leads to experimentation with a variety of drugs. [9]

COCAINE

coke, crack, snow, nose candy, white dust

Cocaine is obtained from the leaves of the coca plant, but it can also be chemically synthesised. It is a stimulant drug (see definition on page 3), as well as a potent local anaesthetic.

Coca leaves have been used for thousands of years in South America for religious, mystical, social and medicinal purposes.

The active chemical was isolated in 1855, and purified and named cocaine in 1860. By the end of the 1800s, cocaine was used in a number of medicines, as well as being an ingredient in the soft drink Coca-Cola. The drug was banned from use in medicines and beverages in the United States in 1914.

In its pure form, cocaine is a white crystalline powder called **cocaine hydrochloride**. Cocaine hydrochloride cannot be smoked effectively because it is destroyed at high temperatures. If the hydrochloride is removed through a chemical process the drug is converted into **freebase**, which can be smoked.

Crack is a particularly pure form of freebase cocaine. It often comes in the form of small lumps known as 'rocks'. Crack cocaine is rarely seen in Australia.

Cocaine sold on the street is often cut or diluted with other substances, such as glucose or lactose.

Cocaine and the law

It is illegal to use, possess, supply or manufacture cocaine in New South Wales.

How cocaine is used

Cocaine may be snorted, swallowed, smoked or injected.

Effects

Short-term effects

Short-term effects include:

- a sense of euphoria and wellbeing
- increased blood pressure, heart rate and body temperature
- increased alertness and energy
- sexual arousal
- loss of appetite.

The effects depend on the amount taken, its purity and how it is taken. The effects are generally short-lived (less than 30 minutes).

Long-term effects

Long-term effects include:

- sleep disorders
- sexual problems such as impotence
- nose bleeds, sinusitis and damage to the nasal wall from snorting
- heart attack
- stroke
- paranoia, depression and anxiety
- cocaine-induced psychosis.

Cocaine and the heart

The most serious physical consequence of cocaine use are cardiac and cerebrovascular disease ('stroke').[10] Cocaine is strongly implicated in causing heart attacks by a combination of increasing oxygen demand, constriction of the coronary arteries, and enlargement of the heart. The drug also causes 'atherosclerosis' (clogging of the arteries). Chest pain and palpitations are among the most common complaints among cocaine users presenting with

acute cocaine toxicity. Cocaine-induced strokes are also well recognised, and users are at a far higher risk of stroke than non-users. [11]

It does not matter how cocaine is used, it is toxic to the heart and causes damage to it and the coronary arteries, as well as increasing the risk of stroke. Hot weather increases the risk of death, as there are already heavier demands upon the cardiovascular system.

Importantly, toxic reactions can occur irrespective of dose, frequency of use, or route of administration, and have been reported with small amounts of cocaine and on the first occasion of use. [12]

Cocaine and psychosis

One major harm associated with regular cocaine use is the development of a cocaine-induced paranoid psychosis. This has been recognised as a major concern since the late 19th century. A psychosis involves a loss of contact with reality. The person may have paranoid beliefs that they are being persecuted, or that people are trying to kill them, and may also experience hallucinations. The psychosis may be associated with aggression and suicidal behaviours. A state of extreme agitation ('agitated delirium syndrome'), may also be seen in cocaine users. This may involve such a degree of agitation that it results in heart attack and death. [13]

Cocaine and driving

It is dangerous, as well as illegal, to drive while under the influence of cocaine. Cocaine can make a person feel over-confident when driving, leading to risk-taking behaviour and poor judgement.

Cocaine and pregnancy

Cocaine use during pregnancy can affect fetal development by increasing the heart rate of both the mother and the unborn baby, reducing the supply of blood and oxygen to the baby. There is also an increased risk of bleeding, miscarriage, premature labour and stillbirth.

It is likely that, if a mother continues to use cocaine while breastfeeding, the drug will be present in her milk, which may have adverse effects on the baby.

Using cocaine with other drugs

Cocaine and alcohol used in the same session combine in the liver to form cocaethylene, which has been shown to produce more adverse effects on the heart and circulation (cardiovascular toxicity) than either cocaine or alcohol alone. [14] The use of cocaine in conjunction with other drugs that affect the

cardiovascular system, such as methamphetamine or ecstasy, increases the risk of heart attack and stroke, due to the combined stimulant effects of these drugs.

Dependence

Dependence can develop after a relatively short period of use (see definition on page 4). Just how long it takes may depend on the way the drug is used—smoking or injecting may lead to dependence in a matter of weeks or months, while dependence associated with snorting may take longer to develop.

Withdrawal

Withdrawal from cocaine produces symptoms such as a strong craving for the drug, fatigue, anxiety, irritability, agitation and depression.

Overdose

Several toxic reactions can follow the use of cocaine. Cocaine toxicity is often called cocaine overdose, but it can occur with relatively small doses, especially in combination with other drugs or when there are pre-existing medical conditions.

Symptoms of cocaine toxicity may include:

- nausea and vomiting
- chest pain
- heart palpitations
- tremors
- increased body temperature and heart rate
- seizures

- extreme paranoia, anxiety, panic and agitation
- hallucinations and delirium.

Treatment

Psychosocial approaches are the first step in treatment for people with stimulant use disorders, including cocaine dependence. Evidence-based interventions include cognitive behaviour therapy, motivational interviewing and relapse prevention (see pages 7-8).

Cognitive behavioural therapy (CBT) is an effective approach for preventing relapse. This approach helps patients develop critical skills that support long-term abstinence – including the ability to recognise the situations in which they are most likely to use cocaine, avoid these situations and cope more effectively with a range of problems associated with drug use.

Therapeutic communities (TCs) can be an effective treatment for people who use drugs, including cocaine. TCs are drug-free residences where people in recovery from substance use disorders help each other to understand and change their behaviours. Programs may vary anywhere from a one-month to a 12-month stay and can include onsite vocational rehabilitation and other supportive services that focus on successful reintegration of the individual into society. TCs can also provide support in other important areas – improving legal, employment and mental health incomes.

Unlike the opioids, there is no proven pharmacotherapy for cocaine dependence. Many behavioural treatments for cocaine addiction have proven to be effective in both residential and outpatient settings. Behavioural therapies are often the only available and effective treatment for many drug problems, including stimulant addictions.

ECSTASY

E, pills, eccy, XTC, MDMA, pingas, Adam, X

7

Ecstasy is a derivative of methamphetamine (the active ingredient is **3, 4-methylenedioxymethamphetamine**, abbreviated to **MDMA**). It has both stimulant and hallucinogenic properties (see definitions on page 3).

Ecstasy usually comes as a tablet, in a variety of colours and sizes, sometimes marked with a design or logo (brands such as Mitsubishi and Calvin Klein have been found stamped on ecstasy tablets). Pills that look the same, even pills stamped with the same logo, are not necessarily of the same quality — they may contain varying amounts of other substances besides MDMA, including methamphetamine, ketamine, other substances chemically related to MDMA, and legal substances such as caffeine.

MDMA was first synthesised in 1912 and patented in 1914, but it found no widespread use until the 1970s when it was used in psychotherapy to help patients 'get in touch with their feelings'. In a controlled medical environment, it appeared to have only moderate effects and to be relatively safe.

By the 1980s, the term 'ecstasy' was coined and the drug was being used recreationally. Around this time it became a prohibited substance.

Ecstasy and the law

It is illegal to use, possess, supply, traffic or manufacture ecstasy in New South Wales.

How ecstasy is used

Ecstasy is sold as tablets (the most common form), capsules, powder and crystals. It is usually swallowed, though it can also be snorted, smoked, injected (after being dissolved in water) or inserted into the anus or vagina.

Findings from a 2016 survey found an increasing trend to the use of ecstasy crystals since 2012. A significant proportion of users of ecstasy crystals report bingeing for up to 48 hours. [14] The crystal form of ecstasy is normally of higher purity than tablets – that is it contains more of the active ingredient MDMA. Increased purity, coupled with uncertainty around the amount of the drug being taken, increases risks of overdose.

Effects

Short-term effects

The short-term effects of ecstasy include:

- euphoria and a feeling of wellbeing
- feelings of intimacy with others
- confidence
- a lack of inhibitions
- nausea
- sweating
- increased blood pressure and pulse rate
- jaw clenching and teeth grinding.

The 'comeup' is a users' term for the stage at which the effects begin to be felt. At the 'peak' the effects are at their most intense.

The effects appear in around 30 to 40 minutes after ecstasy is swallowed, plateau at two to three hours after consumption and diminish in intensity over the next three to four hours. Snorting or injecting can result in much quicker onset of effects.

How long the effects last may depend on how the drug is taken, how much is taken, and whether the person has recently eaten, as well as the person's individual metabolism.

As ecstasy may cause an increase in body temperature, a serious health concern is dehydration. Sipping water can help prevent this (although it is possible to drink too much water, leading to water intoxication, which can be fatal).

During the 'comedown', the user may feel physically and emotionally drained. Some users may experience a 'crash'—negative feelings associated with coming down from ecstasy. There is some evidence that you can have a hangover effect after the effects of ecstasy have worn off, lasting up to several days. Symptoms of this include:

- not being hungry
- sleep problems
- feeling depressed
- muscle aches
- finding it hard to concentrate.

Long-term effects

Little is known about the long-term effects of ecstasy. Some long-term users appear to experience depression and some memory and cognitive impairment.

Ecstasy and driving

It is dangerous, as well as illegal, to drive while taking ecstasy. Ecstasy can make a person feel overconfident when driving, leading to risk-taking behaviour and poor judgement.

Ecstasy and pregnancy

It is possible that using ecstasy when pregnant increases the risk of miscarriage.

It is possible that if a mother uses ecstasy while breastfeeding, the drug will be present in her milk and may have adverse effects on the baby.

Using ecstasy with other drugs

Ecstasy can be dangerous when combined with any of the prescription antidepressant drugs called monoamine oxidase inhibitors, eg phenelzine (brand name 'Nardil') and tranylcypromine (brand name 'Parnate').

Dependence

There is limited research on dependence associated with ecstasy (see definition on page 4). Studies suggest that dependence is possible.

Withdrawal

Heavy or regular users may go through a period of anxiety and depression when they stop taking the drug.

Ecstasy-related deaths

There have been some ecstasy-related deaths in Australia, some linked to PMA (paramethoxyamphetamine) an amphetamine-type drug with both stimulant and hallucinogenic properties. It is more potent than most of the other drugs of this type and far more toxic. Users may experience hallucinations, delirium, restlessness, agitation, muscle contractions, thrashing around, sweating, high fever, seizures, coma and death.

In Australia, research suggests that people who have died after taking PMA took pills that they thought were ecstasy (MDMA). [15]

Overdose

High doses of ecstasy may lead to users experiencing a non-fatal stimulant overdose. Symptoms may include:

- nausea and vomiting
- chest pain
- tremors
- increased body temperature and heart rate
- seizures
- extreme paranoia, anxiety, panic and agitation
- hallucinations and delirium.

Treatment

People do not generally seek treatment for ecstasy use, and there has been little ecstasy-specific research.

Evidence from better-researched drugs suggests that services providing good social support, as well as psychological interventions to help maintain motivation and improve coping skills, are likely to be useful (see pages 7-8).

8

GHB

G, grievous bodily harm (GBH), fantasy, liquid E, liquid ecstasy, liquid x, 4-hydroxybutanoic acid, blue nitro

GHB stands for **gamma-hydroxybutyrate**, which is a central nervous system depressant (see definition on page 3). Although it is sometimes called 'liquid ecstasy' it is not chemically related to ecstasy and has entirely separate chemical and pharmacological modes of action.

GHB is a naturally occurring substance found in the body. It was first synthesised in the 1960s and developed as an anaesthetic, and has been used as a treatment for a number of medical conditions, including insomnia, depression, narcolepsy and alcoholism. It has also been used by bodybuilders and athletes for its ability to stimulate growth hormone levels. More recently, it has been associated with the nightclub and rave scenes.

GHB usually comes as a liquid, and is sold in vials, bottles or fish-shaped soy sauce containers. It is colourless, but may have colour added to stop it being mistaken for water or other clear liquids. It is odourless and can have either a bitter or a salty taste.

Less often, GHB is found in the form of a white powder.

GHB and the law

It is illegal to use, possess, supply or manufacture GHB in New South Wales.

How GHB is used

GHB is usually swallowed.

Effects

Short-term effects

The short-term effects of GHB include:

- feelings of euphoria and increased wellbeing
- increased libido
- drowsiness
- nausea and vomiting
- visual disturbances
- agitation and dizziness
- coordination
- respiratory depression and distress.

Initial effects occur 15-20 minutes after oral administration, with peak effects occurring 30-60 minutes post-ingestion. The effects of GHB can last from one and a half hours, up to three hours, or even longer if large doses have been consumed.

GBL and 1,4-B

Analogues such as gamma-butyrolactone (GBL) and 1,4-butanediol (1,4-B) are converted to GHB by the body when they are ingested. GHB is reported to have a salty taste, while GBL and 1,4-B are said to have a 'chemical' taste.

Long-term effects

Little is known about the long-term effects of GHB due to the short time it has been used as a recreational drug.

GHB and driving

The short-term effects which include drowsiness, visual disturbances, incoordination and dizziness, mean that it is dangerous and illegal, to drive while under the influence of GHB.

GHB and pregnancy

Little is known about the effects of GHB on the unborn child. However, it is possible that GHB crosses the placenta in pregnancy, and has some effect on the baby. It is also possible that GHB will be present in breast milk if taken during breastfeeding.

It is generally risky to take any drug while pregnant or breastfeeding without medical advice.

Using GHB with other drugs

When GHB is mixed with other depressants, such as alcohol or benzodiazepines, it increases the depressant effects of both drugs, which may lead to respiratory distress and even death. Small doses of GHB are potentially very potent and when combined with alcohol or methamphetamines the risk of overdose is greatly increased.

Dependence

Dependence (see definition on page 4) can develop with chronic GHB use, although tolerance is not normally observed.

Withdrawal

Binge use does not seem to be a risk for significant withdrawal symptoms — rather, long term continuous use of GHB or its analogues seem to be a pre-requisite for the development of the withdrawal syndrome. Withdrawal symptoms may include insomnia, anxiety, tremors, sweating, hallucinations, increased heart rate and blood pressure, and psychosis. Sudden withdrawal from high doses may require medical assistance, as bladder and bowel incontinence or blackouts may be experienced.

Drink spiking

While there are public perceptions that drugs such as GHB are commonly used to spike drinks, toxicology results do not support these claims. It is often suggested that GHB is used in drink spiking because it can be tasteless, odourless and hard to detect. However, GHB can have a strong salty taste that would be potentially noticeable.

Overdose

Overdosing is a serious danger with GHB. The difference between a dose that produces the desired effects and a dose that produces dangerous effects is very small. Serious adverse effects can include sudden sedation and respiratory distress. Analysis of different vials of GHB has shown that the concentration varies considerably, so users can never be sure of how much they are taking.

Treatment

Evidence from better-researched drugs suggests that services providing good social support, as well as psychological interventions to help maintain motivation and improve coping skills, may be effective (see pages 7-8).

9

HEROIN

smack, H, horse, Harry, junk, shit, skag

The opioids are a class of drugs, of which heroin (diacetylmorphine) is a member, that include the natural products of the opium poppy and synthetic compounds derived from it. [16] Heroin is a central nervous system depressant (see definition on page 3). It is a narcotic analgesic ('pain killer'), and an effective cough suppressant.

Heroin was first synthesised in 1874, and was sold as an over-the-counter cough suppressant between 1898 and 1910. [17] The drug is highly addictive, and for this reason its use has been severely restricted. It is not prescribed for any medical purpose.

The most commonly used form of heroin in Australia is white powder or rock, followed by brown powder or rock. [18] The white powder from South-East Asia is soluble in water, and more readily used for injection. Dealers normally cut it with other substances, typically sugar or caffeine. The brown powder from South-West Asia is insoluble in water, so it is less amenable to injecting. While it may be injected, it is commonly heated and the vapours inhaled.

Other opioids

There are a range of pharmaceutical opioids used non-medically in Australia that have similar effects in the body to heroin. These include pain medications such as oxycodone and morphine. The number of people seeking treatment for addiction to opioids other than heroin has been increasing in Australia. The side effects seen are also similar to those for heroin, including overdose. Pharmaceutical opioids can be taken orally or injected for the euphoric feelings that they cause.

The Australian Institute of Health and Welfare (AIHW) conducts a National Drug Strategy Household Survey every three years. The data collected by the survey provides detailed information on alcohol, tobacco and other drug use within Australia, as well as community attitudes to drug use. The survey covers both legal and illegal drugs.

The 2016 survey showed that nearly 5% of Australians reported using an analgesic or 'pain killer' non-medically in the past 12 months. Overall misuse of pharmaceuticals appears to have been on the increase since 2007.

For the latest survey results, visit the AIHW website and go to the National Drug Strategy Household Survey page: http://www.aihw.gov.au/alcohol-and-other-drugs/data-sources

Heroin and the law

Heroin was banned from legal prescription in Australia in 1953. The use of heroin for any purpose is illegal in all states and territories in Australia. Supply is much more severely punished than other activities associated with heroin use.

How heroin is used

Heroin can be injected, smoked, swallowed, snorted, or heated and its fumes inhaled ('chasing'). In Australia, it is usually injected. While injecting carries the highest risk of overdose, people can also die from smoking, snorting or swallowing heroin.

Effects

Short-term effects

Heroin suppresses nerves that signal pain, making it an especially effective

painkilling medication. It also suppresses the centres in the brain that control breathing and coughing.

The initial effect of heroin, when injected, inhaled or smoked, is a surge of pleasurable feeling called 'the rush', which is usually accompanied by warm flushing of the skin, a dry mouth and a heavy feeling in the hands and feet. Other immediate symptoms can include nausea, vomiting and a severe itch. The effects are almost immediate, following injection or inhaling.

After the initial rush, users become drowsy for several hours, with slowing of the heart and breathing, as well as reduced mental alertness and response to pain.

Long-term effects

Heroin use has very high mortality rate, estimated at 15 times that of the general population. [19] The most common cause of death is overdose, with marked respiratory depression resulting in death. [20] The use of heroin may cause marked depression of respiration, even in people who are tolerant to the drug. Many of the other damaging effects of heroin are associated with injecting. Constant injection can lead to collapsed veins, bacterial infection and abscesses at injection sites. Heroin injectors are also at risk of infections, such as endocarditis (an infection of the lining of the heart), from non-sterile equipment. In particular, if a person shares needles or uses dirty equipment they are also vulnerable to blood-borne viruses, such as HIV, hepatitis B and hepatitis C.

Heroin itself can cause:

- depression of respiration
- severe constipation
- tooth decay (from lack of saliva)
- irregular menstrual periods
- impotence in males
- loss of appetite and weight.

Heroin use and psychological problems

Heroin users suffer high levels of major depression and anxiety disorders, including post-traumatic stress disorder (PTSD). [21] Suicide rates amongst heroin users are extremely high, and estimated at 14 times that in the general population. [22] They also have high rates of borderline personality disorder and antisocial personality disorder. [23] Heroin users are also very likely to have been sexually and/or physically abused as children. [24]

Regular heroin users are often in poor general health which, along with suppression of the respiratory system, makes them vulnerable to lung infections such as pneumonia. Their dental health is also very poor. [25]

Heroin and driving

Heroin causes drowsiness and impairs alertness, concentration and reaction times. It is dangerous, as well as illegal, to drive under the influence of heroin. If heroin is used with alcohol or benzodiazepines the risk is greatly increased.

Heroin and pregnancy

Heroin taken by a pregnant woman crosses the placenta, and can affect fetal development. It increases the risk of miscarriage, premature birth, low birth weight and fetal death.

The baby of a woman who uses heroin in pregnancy may have to go through a withdrawal following birth (this is called neonatal abstinence syndrome). Neonatal abstinence can be effectively treated without long-term problems. In some cases, medication may be necessary. If the mother has a blood-borne virus such as hepatitis B or C, or HIV, the baby may become infected pre-delivery or at childbirth.

Heroin passes into breast milk and can cause further adverse effects on a breast-fed baby.

Using heroin with other drugs

Heroin users frequently use other depressant drugs such as alcohol and tranquillisers at the same time. Combining heroin with these drugs greatly increases the risk of overdose. [26]

Dependence

Research suggests that around one in four of those people who ever try heroin become dependent on it (see definition on page 4). Daily heroin use over several weeks or months is probably necessary to develop dependence. Daily use typically occurs after a one or two-year period from first use. Australian research has found that people can develop a dependence through smoking heroin as well as by injecting. [27]

Withdrawal

Within the first 12 hours after their last dose a dependent user can experience withdrawal symptoms, including:

- runny eyes and nose
- excessive sneezing and yawning
- sweating.

These symptoms may be followed by:

- agitation and irritability
- goose bumps
- hot and cold flushes
- loss of appetite.

After about 24 hours very strong cravings develop, which may be accompanied by:

- stomach cramps
- diarrhoea
- nausea and vomiting
- headaches
- poor sleep
- lethargy
- pains in the back, joints and/or legs and arms.

Symptoms reach their peak in two to four days; by the fifth to seventh day most physical symptoms have begun to settle down. Over the following weeks, general health and mood improve, but the former user may experience ongoing problems related to sleep and appetite, as well as drug cravings.

Overdose

The risks of overdose and death are high. Heroin is a very effective nervous system depressant, and death is commonly due to respiratory depression. The risk of death is substantially increased if other depressants, such as alcohol

or tranquillisers, are used at the same time. In fact, most overdose deaths occur when heroin has been mixed with another depressant. [28]

A person returning to heroin after a break or a significant reduction in their use is at particular risk. They will have lost their tolerance to the drug, so then, if they take the amounts that they previously used, they can overdose.

Treatment

Opioid substitution treatment, also known as medication assisted treatment for opioid dependence (MATOD) is the most common frontline treatment for heroin dependence. It involves substituting other less harmful drugs for heroin, usually on a long term basis. The most common medicines used in Australia are methadone, buprenorphine and naltrexone. Another treatment less common in Australia is the use of naltrexone as a blocking agent. In high enough doses, naltrexone blocks the sites in the brain activated by heroin, so that any heroin taken will have no effect. More information on MATOD is available from the NDARC website.

Residential rehabilitation is also an option widely available in Australia, although there can be long waiting lists in the public sector. It is a drug-free treatment plan, where patients are required to reside at the treatment agency after first having undertaken detoxification. Residential rehabilitation can also be useful for people on medication-assisted treatment, to provide additional support when their lives are in chaos. The Australian Treatment Outcomes Study (ATOS) found that detoxification as a standalone treatment is associated with poorer outcomes over the long term. This indicates that detoxification should be considered as a gateway into other treatments

Methadone

Methadone maintenance therapy is a commonly used substitution treatment. Substances that activate receptors in the brain are called 'agonists'. Methadone is a synthetic opioid agonist that affects the brain in the same way as morphine and heroin. Methadone is typically swallowed as a liquid. Because it is swallowed, the risks associated with injecting drug use are removed. When stabilised on methadone, a person is able to undertake usual life activities, including driving. Since the methadone is prescribed by a doctor, problems associated with controlling dosage and using the illegal market are less than with heroin.

Methadone can be injected, and overdose is still possible. The evidence suggests, however, that methadone maintenance treatment substantially reduces the risk of death. It can also reduce heroin use, other criminal activity associated with the illegal market, and obstetric and fetal complications, and improve physical and psychological health.

Because methadone is not effective for all heroin users, other drug therapies have been developed, including buprenorphine.

Buprenorphine

Buprenorphine is taken by dissolving a tablet of the drug under the tongue. It activates the opioid receptors in the brain to a lesser extent than methadone, but it acts at the same time to block the receptors, preventing heroin and other opioids from having much effect. Substances that activate receptors in the brain are called 'agonists' and those that block these affects are called 'antagonists'. Buprenorphine is classified as a mixed opioid agonist-antagonist. The action it has on the brain means it has a 'ceiling effect' and does not increase potency after a certain dose, unlike heroin and methadone. This means the risk of overdose with buprenorphine is lower than with methadone. It must be prescribed at doses high enough to maintain people in treatment, and should be accompanied by appropriate psychological and social support. It has a similar effectiveness to methadone in terms of retention in treatment and reducing illegal drug use.

Newer forms of treatment usually involve buprenorphine in combination with naloxone. Naloxone is the opioid antagonist administered at overdose to reverse the effects of opioids. The aim of combining it with buprenorphine is to prevent injecting, with the naloxone only being activated if the substance is injected.

Naltrexone

Another treatment that is less common in Australia is use of the blocking agent (or 'antagonist') naltrexone. In high enough doses, naltrexone blocks the sites in the brain activated by heroin, so that any heroin taken will have no effect. However, most people who start taking the medication will discontinue its use.

Naltrexone brings on a severe withdrawal reaction. Because of this, people planning to enter naltrexone treatment are often required to go through withdrawal before entering treatment. The treatment appears to be best suited to highly motivated people with good social support.

Naltrexone can also be administered via an implant. However, as naltrexone implants are not registered for use in Australia treatment can only be authorised under the Therapeutic Goods Administration Special Access Scheme.

Residential rehabilitation

Residential rehabilitation or therapeutic communities (TCs) can be an effective treatment for people who use drugs, including heroin. TCs are drug-free residences where people in recovery from substance use disorders help each other to understand and change their behaviours, subsequent to having undertaken detoxification. Clients on medication-assisted treatment may also be admitted for stabilisation and assistance. Programmes may vary anywhere from one month to 12 months' duration, and are frequently based upon group therapy, with possible adjunct Narcotics Anonymous meetings. TCs can also provide support in other important areas – improving legal, employment and mental health outcomes.

10

ICE, SPEED & OTHER METHAMPHETAMINES

speed, base, crystal, ice, crystal meth, meth, shabu, ox blood, whiz, goey

Amphetamine was first synthesised in 1887, and was used in the 1930s to treat asthma. Today, amphetamines and amphetamine derivatives are used in the treatment of narcolepsy (a sleep disorder) and attention deficit hyperactivity disorder (ADHD).

In 1935 a study of the effects of amphetamine in hospital workers found that the most commonly reported effects were a sense of wellbeing and exhilaration, and reduced fatigue, while during World War II amphetamine was extensively used to combat fatigue and increase alertness in soldiers.

Methamphetamine is a man-made stimulant drug (see definition on page 3) — a more potent form of the drug amphetamine. It was first synthesised from ephedrine in 1919, and was also used during World War II.

There are different forms of methamphetamine, generally distinguished by their appearance and perceived purity. The three main forms are:

- crystalline (ice or crystal)
- powder (speed)
- base.

Crystalline methamphetamine (ice) is a highly purified form of methamphetamine with a crystal-like appearance. It undergoes additional refinement to remove impurities and to be characterised as 'ice' has to be of a certain purity.

Ecstasy, which is sold as a tablet, is also a methamphetamine derivative (see page 50 for information on ecstasy).

Methamphetamines and the law

It is illegal to use, possess, supply or manufacture methamphetamine in New South Wales.

How methamphetamines are used

Methamphetamine can be swallowed, snorted, smoked, inhaled as a vapour or injected. Ice is usually smoked or injected.

Effects

Short-term effects

The short-term effects of methamphetamine include:

- increased energy
- a sense of euphoria and wellbeing
- increased attention and alertness
- increased talkativeness
- increased heart rate, breathing and body temperature
- decreased appetite
- jaw clenching and teeth grinding
- nausea and vomiting
- a dry mouth
- changes in libido
- nervousness, anxiety and paranoia.

High doses may lead to aggressiveness, hostility and violent behaviour.

These effects vary from person to person, and are influenced by factors such as the person's weight, how much they have eaten, their general health, how

much of the drug they have taken, and whether they have taken any other drugs.

Taking large quantities can intensify some of the effects. Heavy users may also experience effects such as:

- blurred vision
- tremors
- irregular breathing
- loss of coordination
- collapse.

The most serious effects of taking large quantities may include stroke, heart failure, seizures and excessively high body temperature.

Cardiac effects

Heavy methamphetamine use is associated with a range of chronic and acute cardiovascular problems including stroke, heart failure and seizures. Post-mortems of methamphetamine-related deaths of people in their 20s, 30s and 40s commonly reveal heart conditions more frequently associated with old age.

Long-term effects

Long-term effects may include:

- agitation or aggression
- decreased motivation
- depression and anxiety
- poor concentration and memory
- psychotic symptoms such as paranoia and hallucinations
- disturbed sleep
- weight loss
- chest pains.

People who inject methamphetamine may experience problems related to injection such as collapsed veins, abscesses and the spread of blood-borne viruses like hepatitis B and C or HIV, while those who snort may suffer from nasal irritation.

Methamphetamines and driving

It is dangerous and illegal to drive while under the influence of methamphetamines. Methamphetamines can make a person feel overconfident when driving, leading to risk-taking behaviour and poor judgement.

Methamphetamine psychosis

Methamphetamine use can induce psychosis with symptoms of paranoia and hallucinations, and can make people who have schizophrenia or other chronic psychotic symptoms worse.

Methamphetamines and pregnancy

There is evidence that methamphetamine use can affect fetal development. Methamphetamine use during pregnancy has been linked with bleeding, early labour and miscarriage. Use of methamphetamines will also increase the heart rate of both mother and baby.

If methamphetamines are used close to birth, the baby may be born with symptoms of methamphetamine use.

Not much is known about the effects of methamphetamines on the baby during breastfeeding. It is generally risky to take any drug while breastfeeding without medical advice.

Using methamphetamines with other drugs

Methamphetamines can be dangerous when taken with any of the prescription antidepressant drugs called **monoamine oxidase inhibitors**, e.g. phenelzine (brand name 'Nardil') and tranylcypromine (brand name 'Parnate').

Dependence

People who become dependent (see definition on page 4) on methamphetamine typically inject or smoke the drug, and use it at least twice per week.

Withdrawal

Withdrawal symptoms for methamphetamine can include:

- feeling depressed, irritable, restless and lethargic
- stomach cramps
- nausea
- rapid heartbeat
- hot and cold flushes.

Overdose

Several toxic reactions can follow the use of methamphetamines. Methamphetamine toxicity is often called methamphetamine overdose, but

it can occur with relatively small doses, especially in combination with other drugs or when there are pre-existing medical conditions.

Symptoms of methamphetamine toxicity may include:

- nausea and vomiting
- chest pain
- tremors
- increased body temperature and heart rate
- seizures
- extreme paranoia, anxiety, panic and agitation
- hallucinations and delirium.

Treatment

Most people seeking treatment for their methamphetamine use will receive help from community drug treatment services. The main types of services can be categorised as detoxification (or withdrawal management), residential rehabilitation (e.g. therapeutic communities) and out-patient counselling. The best outcomes are achieved if people continue their treatment beyond attending detoxification (e.g. continue with rehabilitation and/or counselling). People who stay in treatment longer are less likely to relapse. Relapse rates are high and people seeking help should look to ongoing support after they leave treatment (e.g. via out-patient counselling services) to support them through their recovery.

Research evidence suggests that the best approaches to treat dependence on methamphetamine are structured psychological and behavioural therapies (e.g. cognitive-behavioural therapy and contingency management). These approaches are usually provided by psychologists and are not available through all treatment services.

Pharmacotherapies

There is no approved pharmacological treatment but the need to develop safe and effective medications is well recognised, and research to date suggests substitution agonist therapies (as for nicotine and opioid dependence) are most promising for those with severe addiction. Lisdexamfetamine is a prodrug of dexamphetamine (converted to dexamphetamine in the body after oral dosing) with lower abuse potential (misuse and diversion) than other stimulants. A four-year randomised controlled trial is currently underway led by St Vincent's hospital in Sydney.

INHALANTS

The street names of inhalants depend on the product used. For example, amyl nitrite is sometimes called 'amyl' or 'poppers', while nitrous oxide may be called 'bulbs'.

Inhalants are substances that are sniffed to give the user an immediate 'high'.

These substances are easily absorbed through the lungs and carried to the brain, where they act to slow down the central nervous system. This means they are classed as depressants (see definition on page 3).

Types of inhalants

The main categories of inhalants are:

- volatile solvents (including aerosols)
- nitrites
- gases.

Volatile solvents

Volatile solvents are substances that change rapidly from a liquid or semi-solid state to a gas when exposed to air. They are found in a range of readily obtainable products, including:

- petrol
- paint thinner
- spray paint
- paint removers
- hair spray
- deodorants
- air fresheners
- lighter fuels
- propellant gases used in aerosol spray cans.

Aerosols

Some volatile solvents that come in an aerosol spray can, such as hair spray and many deodorants, are inhaled for the effects produced not only by the product's main ingredient, but by the aerosol's propellant gases.

'Chroming'

Gold, silver and other metallic spray paints are sniffed mainly for the effects caused by the solvents used to suspend the metallic particles in the spray. Sniffing metallic paints is called 'chroming'.

Nitrites

Nitrites have historically been used to enhance sexual experience. The most popular are amyl nitrite and butyl nitrite.

Amyl nitrite relaxes most of the muscles involved in non-conscious processes, such as digestion and breathing. Among other things, it dilates blood vessels, increasing their diameter, which leads to increased heart rate and body temperature (the 'rush').

These drugs are occasionally used for their muscle-relaxing rather than their psychoactive properties, in particular in conjunction with anal sex.

Nitrous oxide ('laughing gas') is the most popular anaesthetic inhalant, and is often associated with the dance and rave scenes.

Gases

Inhalants that come in a gaseous form include products used in medical anaesthetics (such as ether or chloroform).

Inhalants and the law

Most inhalants are common products and are readily available.

The sale of amyl nitrite is prohibited by law; however, it is sold in some adult stores under the guise of room deodorants, video head cleaners or leather cleaners.

How inhalants are used

Inhalants are usually inhaled directly from the container or sprayed onto a cloth, and then inhaled. If a plastic bag is used there may be increased risk of suffocation.

Petrol fumes are sniffed from a can or a bottle, or from a cloth soaked in petrol and held over the nose and mouth.

Petrol-sniffing

Long-term petrol-sniffing has many serious effects. Chronic use may cause irreversible brain damage. Lead poisoning, which can result in liver, kidney and brain damage, is also a major problem (in leaded petrol only).

Effects

Short-term effects

Some of the short-term effects of using inhalants are similar to those of alcohol, such as:

- slurred speech
- blurred vision
- dizziness
- nausea
- euphoria
- loss of coordination.

Other short-term effects may include:

- irritation of the eyes and throat
- hallucinations
- loss of memory
- headaches
- nose bleeds.

Some inhalants, such as amyl nitrite, can cause enhanced sensual awareness and a loss of inhibitions.

Amyl nitrate is immuno-suppressive; a person's immune response dips immediately on inhaling it, and stays down for about 96 hours.

Using a plastic bag to inhale substances increases the risk of suffocation.

Long-term effects

Little research has been done on the long-term effects of most inhalants. Possible health problems may include:

- brain damage affecting coordination, movement and memory
- weight loss
- fatigue and tremors
- paranoia, hostility and depression
- social and psychological delays in development.

Inhalants and driving

It is not safe to drive while using inhalants, given their effects on vision and coordination.

Inhalants and pregnancy

It is generally risky to take any drug while pregnant or breastfeeding without medical advice.

Using inhalants during pregnancy may increase the risk of miscarriage, premature birth, birth defects and sudden infant death syndrome (SIDS).

Using inhalants with other drugs

Combining amyl nitrate and Viagra is particularly problematic. It may cause loss of consciousness and, in extreme cases, even death.

Dependence

Psychological dependence—that is, using inhalants to help cope with the problems of everyday life—may develop with prolonged use. Physical dependence (see definition on page 4) can also occur, as the person develops a tolerance to the substance they are using.

Withdrawal

Chronic users may have withdrawal symptoms such as hand tremors and headaches when they stop using the drugs.

Overdose

The possibility of death from using inhalants is rare, however it is a risk. 'Sudden sniffing death' has followed the use of a range of inhalants including aerosols and correction fluids. It is believed that chemicals in these products can cause heart failure, particularly if the user is stressed or does heavy exercise after inhaling.

If nitrites are swallowed they can interfere with the blood's ability to transport oxygen. Death from a lack of oxygen, pneumonia, cardiac failure or cardiac arrest, or from breathing in vomit, is a possible consequence.

Treatment

Little research has been carried out on treatments for inhalant abuse.

Evidence from better-researched drugs suggests that services providing good social support, as well as psychological interventions to help maintain motivation and improve coping skills, are likely to be useful (see pages 7-8).

KETAMINE

K, special K, vitamin K, kitkat

Ketamine (Ketamine hydrochloride) is a dissociative general anaesthetic.

Ketamine was first synthesised in the 1960s as part of an effort to find a safer alternative to the anaesthetic phencyclidine (PCP), and it is still widely used as an anaesthetic due to its safety profile and low toxicity. Doctors and vets use this drug because it produces analgesia (pain relief) and amnesia. It is considered a safer alternative to general anaesthetic for some people (for example, older people and children) because it doesn't slow down a person's breathing or heart rate.

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Ketamine and the law

It is illegal to use, possess, supply, or manufacture ketamine in New South Wales. There are exceptions under the law, for example authorised use by medical practitioners.

How ketamine is used

Ketamine is usually manufactured as a liquid, which is then evaporated to form a powder that can be snorted or dissolved in other liquids and swallowed. It is usually sold in 'bumps' (a small amount of powder) or grams. Ketamine is usually snorted (a bump is snorted through a small glass nasal inhaler called a 'bumper') although it can also be swallowed, smoked or injected.

Effects

Short-term effects

Ketamine produces a feeling of detachment from one's body and the external world. It does this by reducing or blocking signals to the conscious mind from other parts of the brain, typically the senses. The short-term effects of ketamine include:

- a sense of euphoria and wellbeing
- increased libido
- drowsiness
- slurred speech
- dissociation
- hallucinations
- a sense of floating
- amnesia
- nausea and vomiting.

Used in small doses, it produces feelings of dissociation, helping the user to feel separated or detached from their body and/or environment. It also has hallucinogenic effects and can impact on the senses and on a person's perception of reality. At higher doses, ketamine users can experience an 'emergent state' also called a 'K-hole', which is a trip-like experience that varies from person to person. The effects of the emergent state can begin as soon as 5 to 10 minutes after first taking the drug and can begin with the user being unable to move followed by a total disconnect from physical sensations as hallucinations start to manifest. Risks of this dissociative state include: hallucinations, disorientation, sense of invincibility, inability to communicate with others, and a limited awareness of surrounding environment.

The effects of ketamine may come on quickly, within 5 to 15 minutes, and may last from 45 to 60 minutes.

How common is ketamine use?

The 2016 National Drug Strategy Household Survey found that 1.9% of Australians aged 14 and over have ever tried ketamine, while 0.4% used it in the year preceding the survey. [29]

The Australian Institute of Health and Welfare (AIHW) conducts a National Drug Strategy Household Survey every three years. The data collected by the survey provides detailed information on alcohol, tobacco and other drug use within Australia, as well as community attitudes to drug use. The survey covers both legal and illegal drugs.

For the latest survey results, visit the AIHW website and go to the National Drug Strategy Household Survey page: http://www.aihw.gov.au/alcohol-and-other-drugs/data-sources

Long-term effects

Chronic heavy use of ketamine can lead to urinary tract damage including pain and ulceration in the bladder, bladder shrinkage and incontinence. This can be referred to as 'ketamine bladder syndrome' or 'ketamine cystitis'.

Frequent use is also associated with memory impairment.

Some regular users of ketamine experience 'flashbacks'—the spontaneous recurrence of an experience that occurred while the user was under the influence of the drug.

Ketamine and driving

It is not safe to drive while using ketamine. Drowsiness, impaired motor coordination and hallucinations, can affect the ability to drive.

Ketamine and pregnancy

Little is known about the effects of ketamine on an unborn child. However, many drugs and medications taken during pregnancy cross the placenta, or are present in breast milk. It is generally risky to take any drug while pregnant or breastfeeding without medical advice.

Using ketamine with other drugs

Some drugs may affect the recovery from ketamine anaesthesia particularly barbiturates, and opioids. The use of stimulants can also have a negative effect on blood pressure and heart rate.

Drugs that may affect recovery from ketamine anaesthesia

Drugs that may increase recovery time from anaesthesia with ketamine include:

- barbiturates such as amobarbital, butabarbital, mephobarbital, secobarbital and phenobarbital
- opioid medications such as fentanyl, hydrocodone, hydromorphone, methadone, morphine, oxycodone and propoxyphene.

Dependence

Non-physical and physical dependence can develop when ketamine is taken on a regular basis (see definition on page 4).

Withdrawal

Ketamine does not appear to produce significant withdrawal symptoms in chronic users. There are anecdotal reports of tension, twitchiness, poor attention span and restlessness in abstinent long-term users, typically lasting 4-6 weeks after last use. This may be due more to the sedative **norketamine** (a product of the breakdown of ketamine) lingering in the bloodstream.

Overdose

Unlike most anaesthetics, ketamine does not suppress breathing or heart rate, so fatalities from overdose are rare.

Treatment

Evidence from better-researched drugs suggests that services providing good social support, as well as psychological interventions to help maintain motivation and improve coping skills, are likely to be useful (see pages 7-8).

LSD

acid, tabs, trips, blotters, microdots

Lysergic acid diethylamide (LSD) is a hallucinogenic drug which when taken produces powerful sensory distortions, intensifies mood and alters thought processes. LSD is usually prepared in liquid form, which is then dropped onto small pieces of blotting paper known as tabs.

LSD was originally synthesised by Swiss scientist, Albert Hofmann, from the ergot parasitic fungus. Four years after this accidental discovery, the Sandoz pharmaceutical company patented LSD and sold it for use in psychotherapy. In the early 1950s, LSD was used by the CIA in a series of experiments testing its efficacy for interrogation and torture. Recreational use of the substance was popularised during the 1950s and 1960s, commonly associated with the anti-establishment culture of this period.

The popularity of LSD decreased during the 1970s to 1980s; however in the 1990s it was largely associated with the club and dance party drug culture, which included substances like MDMA (ecstasy) and ketamine.

LSD and the law

It is illegal to use, possess, supply or manufacture LSD in New South Wales.

How LSD is used

LSD is usually taken orally, either through swallowing or sublingual (under the tongue) administration. In rare cases LSD is inhaled, injected or applied to the skin.

Effects

The effects of LSD are usually experienced 20-60 minutes after administration. Users typically report effects for 6 to 11 hours, but this period can be longer depending on the dose.

Short-term effects

The short-term effects of LSD may include:

- vivid perceptual distortions (hallucinations)
- a distorted sense of time and place
- rapidly changing emotions
- altered state of thinking and depersonalisation
- increased body temperature, heart rate and blood pressure
- insomnia, dizziness and nausea
- paranoia, panic and anxiety.

Long-term effects

The most commonly discussed long-term effect of using LSD is the experience of flashbacks—brief, but intrusive LSD-like experiences that occur after the effects of LSD have worn off. These experiences could be visual distortions, changes in mood or the experience of dissociation.

A rare, long-term risk of LSD use is hallucinogen persisting perception disorder (HPPD), which unlike flashbacks, involves a persistent, distressing and long term experience of hallucinogen-like experiences.

Given its potent effects, prolonged use of LSD can lead to personality disruption, depression and poorer memory.

There is no apparent link between LSD use and the development of schizophrenia or affective disorders, though use could precipitate pre-existing psychiatric illness.

LSD and driving

It is extremely dangerous to drive with the distorted sense perceptions, poor coordination and lack of judgement caused by taking LSD and other hallucinogens.

LSD and pregnancy

There is some evidence linking the use of hallucinogens in pregnancy to an increased risk of miscarriage and birth complications.

If a mother uses hallucinogens while breastfeeding, it is possible that the drug will be present in her milk and have adverse effects on the baby.

Dependence

Tolerance of both the psychological and physical effects of LSD can develop, though it may be lost within several days. LSD is not thought to cause physical dependence (see definition on page 4). Regular users may develop psychological dependence, although this is not common.

Using LSD with other drugs

Cross-tolerance can occur between LSD and other psychedelics—that is, users with a tolerance to LSD may find that they have a tolerance to drugs with similar effects such as mescaline. (See page 6 for a definition of tolerance).

Withdrawal

There are few physical effects when use ceases. Users may experience residual psychological effects such as feelings of anxiety.

Overdose

LSD is not a particularly toxic drug; deaths that have been linked to LSD are usually unintended consequences of perceptual distortion, such as falls. Despite this, taking a larger than intended dose can result in extremely distorted perception, unstable mood, intense fear and an extremely depressed mood.

Treatment

People who use LSD do not generally seek treatment from health professionals and there are few treatment options that can be recommended, apart from those found to be generally effective for drug dependence (see page 4).

NATURAL HALLUCINOGENS

psilocybin mushrooms*: mushrooms, magic mushrooms, shrooms, mushies, caps, boomers*

Salvia divinorum*: salvia, diviner's sage, sage of the seers, maria pastora, magic mint*

mescaline*: buttons, mesc, peyote*

Many hallucinogens occur naturally, including **psilocybin** ('magic mushrooms'), **DMT** (dimethyltryptamine), ***Salvia divinorum*** and **mescaline** (from the peyote cactus).

Psilocybin or psilicin are hallucinogenic substances found in more than 180 species of mushrooms. They are mainly used for spiritual or recreational purposes and cause similar but distinct hallucinogenic experiences compared with LSD.

It is dangerous to pick and eat wild mushrooms because it is difficult to distinguish edible mushrooms from their poisonous lookalikes. Poisonous mushrooms can cause stomach pains, vomiting and diarrhoea, while some can cause permanent liver damage, respiratory failure, unconsciousness and even death. Symptoms can take up to 40 hours to develop.

DMT is a powerful hallucinogen found in the seeds, bark, leaves or stem of various plants around the world, including some acacia species native to Australia. It is consumed by many individuals as ayahuasca which is mainly used for spiritual purposes. Alternatively, it can be synthesised into a crystalline form which is typically vaporised or smoked.

Salvia divinorum is a species in the mint family which can be chewed, drunk or smoked in order to produce hallucinogenic experiences. Given that salvia is not controlled under the UN conventions, it is classified as a new psychoactive substance (see Chapter 15, New & emerging psychoactive substances).

Mescaline is most commonly known as the active ingredient of the peyote cactus and is used both spiritually and recreationally. The effects of mescaline include visual hallucinations and altered states of consciousness, but can also include vomiting, headaches and fear/anxiety.

Natural hallucinogens and the law

It is illegal to use, possess, supply or manufacture hallucinogens in New South Wales.

How natural hallucinogens are used

Naturally occurring hallucinogens are used in a variety of ways, depending on their form. They are often smoked (with the exception of mushrooms) and can be boiled into tea preparations.

Mushrooms can be dried or boiled, then added to other foods.

Effects

The short- and long-term effects vary greatly depending on the hallucinogen used. Additionally, the effects of each drug can differ substantially from person to person.

Short-term effects

The short-term effects of naturally-occurring hallucinogens include (but are not limited to):

- vivid perceptual distortions (hallucinations)
- a distorted sense of time and place
- altered sense of consciousness
- loss of coordination
- increased body temperature and sweating, and/or chills

- nausea and vomiting
- anxiety.

The effects produced by these substances, and the user's reaction to these effects, vary greatly between individuals.

Long-term effects

Given that these substances both distort reality and alter consciousness, one of the many long-term risks associated with using naturally occurring hallucinogens is a change in personality and/or patterns of thinking.

Other rarer effects include flashbacks (brief but intrusive hallucinogen-like experiences that occur after the effects of the hallucinogen have worn off), hallucinogen persisting perception disorder (HPPD), impaired memory, prolonged depression and anxiety.

Hallucinogens and driving

It is extremely dangerous, as well as illegal, to drive with the distorted sense perceptions, poor coordination and lack of judgement caused by taking hallucinogens.

Hallucinogens and pregnancy

Most of the research looking at hallucinogens and pregnancy have focused on LSD and have provided some evidence that LSD use during pregnancy leads to an increased risk of miscarriage and birth complications. It is very likely that other naturally occurring compounds may have the same effect.

If a mother uses hallucinogens when breastfeeding, it is possible that the drug will be present in her milk and have adverse effects on the baby.

Interaction with other drugs

Cross-tolerance can occur between psychedelics. This means that users with a tolerance to, for example, LSD, may have a tolerance to drugs with similar effects such as mescaline (see page 6 for a definition of tolerance).

Dependence

Naturally occurring hallucinogens are not thought to cause physical dependence (see definition on page 4). Regular users may develop psychological dependence, although this is not common.

SALVIA DIVINORUM

AYAHUASCA

Withdrawal

Given that there is little risk of physical dependence, there are minimal physical effects when use ceases. Users may experience residual psychological effects such as low feelings of anxiety.

Overdose

Naturally occurring hallucinogens are not particularly toxic drugs; deaths that have been linked to hallucinogens are usually unintended consequences of perceptual distortion, such as falls. Despite this, taking a larger than intended dose can result in extremely distorted perception, unstable mood, intense fear and an extremely depressed mood and can also prolong the experience for much longer than expected.

One of the dangers of using magic mushrooms is that of accidentally ingesting a highly toxic non-hallucinogenic variety. Some other naturally occurring hallucinogens, such as datura, may cause poisoning in high doses.

Treatment

People who use natural hallucinogens do not generally seek treatment for their drug use and there are few treatment options that can be recommended, apart from those found to be generally effective for drug dependence (see page 4).

NEW & EMERGING PSYCHOACTIVE SUBSTANCES

research chemicals, analogues, legal highs, herbal highs, synthetic drugs, designer drugs, novel psychoactive substances, bath salts

What are new and emerging psychoactive substances?

There are multiple terms in use globally that refer broadly to new, novel or emerging drugs. Terms such as 'designer drugs', 'research chemicals' and 'emerging psychoactive substances' are often used interchangeably with 'NPS' (new psychoactive substances), however as outlined below, they have slightly different definitions.

New Psychoactive Substances (NPS)

These are substances that are not controlled by the 1961 Convention on Narcotic Drugs or the 1971 Convention of Psychotropic Substances, but which may pose a public health threat similar to drugs that are listed in these conventions.

Designer drugs

Designer drugs are manufactured to mimic the effects of a controlled substance. These close copies are referred to as 'analogues'. The purpose of creating these analogues is to avoid detection or classification as 'illegal'.

Emerging psychoactive substances (EPS)

This is a term used to describe psychoactive drugs that are relatively new to recreational drug markets. This term captures all NPS as well as drugs that may not be newly invented, but have recently experienced a resurgence, or increase in use.

Research chemicals

These are experimental chemicals not approved for human use; many of these chemicals were discovered in labs and examined in test-tubes (in vitro) or in low-level animal studies.

The terms 'synthetic drugs' and 'legal highs' can cause confusion when used to refer to NPS. This confusion stems from:

1. the fact that many 'traditional' illegal drugs, such as LSD, methamphetamine and MDMA (ecstasy), are also synthesised; and
2. many countries (including Australia) have moved to prohibit these substances, despite remaining 'legal' at the international level.

This chapter focuses on NPS as defined above; however, it also looks at some EPS (2C series, DMT).

The NPS market has grown rapidly over the past decade and currently encompasses hundreds of different substances, which can be classified into a number of different categories (outlined below). In Australia, synthetic cannabinoids have been the most widely used NPS, although stimulant and psychedelic NPS are also relatively common.

Synthetic cannabinoids

Synthetic cannabinoids (eg, Spice, K2, Kronic, Northern Lights, Kaos) are substances that are functionally similar to the primary substance responsible for the psychoactive effects of cannabis. They are generally sold in foil sachets and typically contain 1-3 grams of dried plant matter onto which the synthetic cannabinoid has been sprayed. More recently, liquid products containing synthetic cannabinoids have emerged for use with electronic cigarettes.

While the side effects of cannabis are well known, information on the health risks associated with synthetic cannabinoid use remains limited. Research to date suggests that the adverse effects of synthetic cannabinoid use may include:

- cardiovascular events
- acute kidney injury
- seizures

- psychiatric problems
- persistent severe vomiting
- abnormally fast heartbeat (tachycardia)
- agitation
- nausea.

Phenethylamines

Phenethylamines refer to a class of drugs with psychoactive and stimulant effects and includes amphetamine, methamphetamine and MDMA (ecstasy) — all of which are controlled under the 1971 Convention of Psychotropic Substances and are therefore not classified as NPS. Examples of phenethylamine NPS in Australia include the '2C series', the NBOMe series, PMMA, and benzodifurans (Bromo-Dragonfly).

The 2C series are a group of psychedelic phenethylamines, with 2C-B being the most frequently reported 'new' phenethylamine. 2C-B has been described as a cross between LSD and ecstasy and is usually consumed in either powder or pill form. 2C-B first gained popularity internationally in the mid-1980s and was brought under international control in 2001, which means that it is no longer strictly classified as an NPS (as is the case with a number of the 2C series). However, in the Australian context, 2C-B is often still considered to be an 'emerging' psychoactive substance due to the fact that it is relatively new to the recreational drug scene.

The NBOMe series are a group of phenethylamines that contain an N-methoxybenzyl group. The most common of the NBOMe series are derivatives of the 2C-series (but more potent) and appeared on recreational markets in 2010. Compounds of the NBOMe series are not active when swallowed, and are usually taken by placing them under the tongue (sublingually). There have been reports of NBOMe being sold as LSD (when deposited on blotter paper LSD and NBOMe are virtually identical in appearance), which is concerning given that the effects of NBOMe are active at very low doses. Information on the health risks associated with use of these drugs is limited, however research suggests that the adverse effects of NBOMe toxicity may include:

- cardiovascular complications
- agitation
- seizures
- elevated body temperature (hyperthermia)
- imbalance of acids in the body (metabolic acidosis)
- abnormally fast heartbeat (tachycardia)
- organ failure
- death.

Synthetic cathinones

Synthetic cathinones are closely related to the phenethylamine family and typically have an amphetamine-type analogue. Examples of synthetic cathinones in Australia include Mephedrone ('Meow Meow', 'M-CAT'); Methylone; MDPV ('Ivory wave'); alpha-PVP ('flakka').

Synthetic cathinones first appeared in drug markets in the mid-2000s, with methylone the first to be reported. Mephedrone is perhaps the most well-known of the synthetic cathinones — it first appeared online as an NPS between 2007 and 2009 (although reported to have first been synthesised in 1929). Mephedrone became increasingly common in Europe; however, it never gained much prominence in Australia. Mephedrone is mostly available in powder form, although it can also be pressed into pill form, and is usually snorted or ingested. Research suggests that some of the health risks associated with the use of synthetic cathinones may include:

- anxiety
- agitation
- chest pain
- abnormal sensation, typically tingling or prickling of the skin (paraesthesia)
- heart palpitations
- seizures
- abnormally fast heartbeat (tachycardia)
- high blood pressure (hypertension)
- dependence.

Tryptamines

Some tryptamines are natural neurotransmitters (brain chemicals), but most are psychoactive hallucinogens found in plants, fungi and animals. For information on natural tryptamines, see Chapter 14, Natural hallucinogens page 83.

DMT does not fall under the NPS definition mentioned above, but it could be classified as an emerging psychoactive substance in that it is relatively new to Australia's recreational drug scene. 5-Meo-DMT is a powerful psychedelic that is found in a wide variety of plant species, and in the venom of the *Bufo alvarius* toad. It has been used by South American shamans for thousands of years, and was first synthesised in 1936. It is similar to DMT in effects, however it is substantially more potent and is usually smoked or snorted. Little is currently known about the short and long-term health effects of tryptamine use.

Piperazines

Piperazines have been described as 'failed pharmaceuticals', and are frequently sold as ecstasy due to their central nervous system stimulant properties. They are usually available in pill, capsule or powder form and are usually swallowed. **Benzylpiperazine** (BZP) is one of the most commonly reported piperazine NPS and was initially developed as a potential antidepressant drug. However, it was found to have similar properties to amphetamine and was therefore considered liable to abuse. BZP is often used in combination with trifluoromethylphenylpiperazine (TFMPP) to produce similar effects to ecstasy, however with less potency. Many of the piperazine NPS have limited information regarding the short and long term health effects of their use. Research suggests that some of the health harms associated with BZP and TFMPP use may include:

- headaches
- tremors
- poor concentration
- palpitations
- vomiting
- anxiety
- confusion
- increased body temperature (hyperthermia)
- destruction of muscle cells
- kidney failure
- seizures
- dizziness
- dilation of the pupils
- insomnia
- urine retention.

Novel benzodiazepines

Novel benzodiazepines are less well categorised and understood than other NPS; their interaction with the human body, as well as how similar they are to established agents, remain relatively unknown. Pyrazolam was the first novel benzodiazepine to appear as an NPS, having originally been a research trial drug that did not proceed to clinical use. Other novel benzodiazepines that have appeared online include:

- diclazepam
- flubromazepam

- clonazolam
- deschloroetizolam
- flubromazolam
- nifoxipam
- meclonazepam
- etizolam.

None of these have been approved for medicinal use in any country. Little is currently known about the short and long-term health effects associated with the use of novel benzodiazepines.

Other NPS

There are a range of other NPS categories including:

- aminoindanes (for example, MDAI)
- arylcyclohexylamines (for example, Methoxetamine); a class of compounds which typically produce dissociative anaesthesia, a form of anaesthesia that does not necessarily cause unconsciousness but produces other affects such as analgesia, catatonia and amnesia
- ketamine; classified as a NPS since it is not controlled under UN conventions (see page 76 for further information)
- opioids (for example, fentanyl analogues)
- plant-based NPS (plants with psychoactive properties; for example, kratom, khat, *Salvia divinorum*; see page 83).

NPS and the law

The laws surrounding NPS are complex and vary across jurisdictions. In 2011, Western Australia was the first government to ban individual synthetic cannabinoids. Most Australian jurisdictions followed suit shortly thereafter, and in July 2011 it became a federal offence to possess eight specific cannabinoid agonists. In 2012, the Therapeutic Goods Administration introduced a blanket ban on any type of synthetic cannabinoid that produces the same pharmacological effect as cannabis.

In order to deal with the rapid growth in the number of NPS, from 2013 onwards some Australian states (including Queensland, NSW, South Australia and Western Australia) introduced blanket bans on possessing or selling any substance that has a psychoactive effect (exempting alcohol, tobacco and food). In other Australian jurisdictions, specific NPS are banned with additional NPS regularly added to the list. Commonwealth laws are also in place that ban any substance with a psychoactive effect that is not otherwise covered by existing

legislation. It is the importer's responsibility to prove that a substance falls into an exemption category.

Effects

There is currently limited information available on the short and long term health risks associated with NPS use, their addiction potential, interaction with other drugs and their impact upon driving behaviour. Some of the adverse effects of specific NPS are outlined in the sections above.

A difficulty of understanding the effects of these new substances is that they are not always consumed intentionally. For example, it was reported that the NPS 25I-NBOMe was being sold as LSD in Australia. Monitoring systems that do not include forensic analysis of drug samples or testing of bodily fluids will not be able to accurately match reported effects and adverse events with the substances consumed.

NPS and pregnancy

Little is known about the effects of NPS on an unborn child. However, many drugs and medications taken during pregnancy cross the placenta, or are present in breast milk. Therefore it is likely that NPS may be dangerous to pregnant women and their unborn babies.

It is generally considered risky to take any drug while pregnant or breastfeeding without medical advice.

STEROIDS

anabolic-androgenic steroids*: steroids, anabolic steroids, anabolics, roids, gear, juice*

Anabolic-androgenic steroids (referred to as 'anabolic steroids' or simply 'steroids') are typically derivatives of testosterone. Testosterone is the natural male hormone that is responsible for the primary and secondary sex characteristics such as body hair, deepening of the voice, development of the male sex organs and sex drive. Steroids can assist in the growth and repair of tissues, mainly skeletal muscles and bones (**anabolic** effects). They also have an effect on the development and maintenance of male sex characteristics (**androgenic** effects).

Steroids were developed to treat medical conditions and have been prescribed to restore hormone levels in hypogonadal men (a condition in which the body does not produce enough testosterone), improve bone density, and to increase body weight and muscle mass in wasting syndromes associated with HIV. They are a member of a class of drugs referred to as 'performance and image-enhancing drugs', which are substances used to enhance sporting or athletic performance or physical appearance. Although groups like bodybuilders, weightlifters and athletes may use steroids for competitive advantage, some men use them to achieve a muscular physique.

Steroids and the law

It is illegal to manufacture, import, possess, use or supply steroids without a prescription or medical practitioner licence in New South Wales.

Steroids are banned under the Olympic Movement's World Anti-Doping Code Prohibited Classes of Substances and Prohibited Methods.

How steroids are used

Steroids are used in a variety of ways, depending on their form. There are many different brand names of steroids, developed for either human or veterinarian use, which differ slightly in chemical structure. Increasingly, there are a range of pro-hormones being developed, which when metabolised by the body,

purport to increase testosterone levels. Typically, steroids are either taken orally in tablet form or via intra-muscular injection, but there are also some gels or creams that are applied to the skin.

How common is steroid use?

The 2016 National Drug Strategy Household Survey found that 0.6% of the population reported any lifetime use of steroids for non-medical purposes, and 0.1% had used steroids in the past year. These proportions have remained stable over many years of monitoring, although are likely to be an under-estimate of use among specific groups of men.

The Australian Institute of Health and Welfare (AIHW) conducts a National Drug Strategy Household Survey every three years. The data collected by the survey provides detailed information on alcohol, tobacco and other drug use within Australia, as well as community attitudes to drug use. The survey covers both legal and illegal drugs.

For the latest survey results, visit the AIHW website and go to the National Drug Strategy Household Survey page: http://www.aihw.gov.au/alcohol-and-other-drugs/data-sources

Effects

Steroids are associated with a range of adverse effects, even when prescribed under medical supervision. When used outside medical guidance, people typically take much higher doses than those prescribed. Two or more different steroids are sometimes used concurrently ('stacking'), often mixing oral and injectable forms. These practices are likely to increase the risk of adverse effects.

Physical effects of steroids include acne, high blood pressure, liver problems, heart problems, increased cholesterol levels, hair loss/baldness, sleeplessness, headaches, tendon injuries, permanent short stature in adolescents, tendon / ligament damage and water retention. Side effects specific to men include abnormal growth of breasts (gynaecomastia), reduced testicle size, reduced sperm count and prostate problems. Reduced fertility among men may persist following cessation of steroids. Side effects specific to women include clitoral enlargement, smaller breasts and voice changes (deepening). Many of these effects among women are irreversible.

The psychological effects of steroids include increased aggression (colloquially referred to as 'roid rage'), increased irritability, mood swings, depression and dependence.

Using steroids with other drugs

The risks of taking higher doses, and combining steroids with other performance and image-enhancing drugs or other medications, are not fully understood.

Steroid use in pregnancy

The risks of non-medical steroid use in pregnancy are not fully understood. It is likely that the androgenic effects may impact on the development of fetal sex characteristics, but steroid use in women is typically rare.

Dependence

Some steroid users develop a dependence syndrome, characterised by chronic steroid use despite adverse effects on physical, psychosocial or occupational functioning. Although steroid dependence shares many features with other drug dependence, such as a well-documented withdrawal syndrome, steroids do not immediately produce euphoria or intoxication.

Withdrawal

Regular steroid users may experience a need or craving if they stop taking the drug. Withdrawal symptoms can be both psychological and physiological. They may include feeling depressed, nervous, angry or irritable. Prolonged steroid use can result in the suppression of natural testosterone production for a period of time, resulting in physical withdrawal symptoms such as changes in sex drive and sleep.

Overdose

Steroids (particularly used in high doses outside medical guidance) may cause irreversible heart damage when used in high doses for prolonged periods. Steroid use has also been associated with liver damage.

Treatment

People who use steroids do not generally seek treatment for their drug use and there are few treatment options that can be recommended.

TOBACCO

smokes, ciggies, cigs, fags, rollies, durries

Tobacco is made from the dried leaves of the tobacco plant. The ingredient in tobacco that has an effect on the mind is **nicotine**, which is highly addictive.

Tobacco originated in the Americas and was introduced to Europe in the 15th century. It was first smoked in pipes, then snorted as snuff and smoked in cigars. By the early 20th century, smoking cigarettes was the most popular way of using tobacco.

An association between tobacco smoking and lung cancer was identified by medical researchers in the 1920s, and by the 1950s there was good evidence of a range of damaging effects. By this time, however, nicotine addiction was widespread, and tobacco companies opposed public health measures, which they perceived as threatening their commercial interests.

Since the 1970s, largely in response to pressure from medical and health organisations, laws have been introduced across Australia aimed at reducing the damage caused by tobacco through, for example, restrictions on advertising and other measures to minimise the impact of passive smoking.

Tobacco and the law

Tobacco use in Australia is legal, but is subject to many restrictions, including the following:

- it is illegal to smoke in a car in which children under 16 are passengers
- it is illegal to sell or supply cigarettes and tobacco to people under 18
- cigarette packets are required to carry graphic images of the harm caused by smoking tobacco
- tobacco advertising is illegal on TV, on radio, in the print media and in retail outlets
- two signs must be displayed prominently at retail outlets, one displaying the words 'SMOKING KILLS, Call the Quitline 131 848'; and the other advising the illegality of selling tobacco products to people under 18
- retailers must not display cigarettes, tobacco or smoking products so that they can be seen by the public from inside or outside the premises.

Smoking is also banned in the following places:

- in 'enclosed public spaces', which are very broadly defined to include, among other places - public transport, offices, shopping centres, hotels, restaurants and cinemas
- within 10 metres of children's play equipment in outdoor public places
- public swimming pools
- spectator areas at sports grounds or other recreational areas used for organised sporting events
- public transport stops and platforms, including ferry wharves and taxi ranks
- within 4 metres of a pedestrian access point to a public building
- outdoor dining areas of hotels, clubs, restaurants and cafes.

More information is available from http://www.health.nsw.gov.au/tobacco/Pages/smokefree.aspx

How tobacco is used

Tobacco can be smoked in cigarettes, pipes or cigars. It can be snorted in the form of a powder (snuff) and it can be obtained in blocks for chewing.

Recent surveys indicate that cigarettes account for nearly 90% of all tobacco use, but there is an increasing trend in the use of 'e-cigarettes' (nearly one-third of smokers reported having used them in 2016, nearly double the 2013 figure). Overall, smoking is declining in Australia.

The Australian Institute of Health and Welfare (AIHW) conducts a National Drug Strategy Household Survey every three years. The data collected by the survey provides detailed information on alcohol, tobacco and other drug use within Australia, as well as community attitudes to drug use. The survey covers both legal and illegal drugs.

For the latest survey results, visit the AIHW website and go to the National Drug Strategy Household Survey page: http://www.aihw.gov.au/alcohol-and-other-drugs/data-sources

Effects

Short-term effects

When tobacco is smoked, the nicotine dissolves instantly in the saliva, and is absorbed quickly into the bloodstream. In a few seconds it reaches the brain, and the smoker feels light-headed and dizzy. The short-term effects can include:

- a feeling of stimulation and alertness
- increased heart rate and blood pressure
- acid in the stomach
- nausea
- a weakened sense of taste and smell
- reduced appetite
- reduced muscle tension, leading to a feeling of relaxation.

Long-term effects

- Smoking is associated with an increased risk of diseases of the heart and blood vessels throughout the body, including the brain.
- It is a primary cause of diseases of the airways such as emphysema, chronic bronchitis and chronic obstructive lung disease.
- It worsens conditions such as hayfever, asthma and acute rhinitis (runny nose and inflammation in the nose).
- It can reduce fertility in both men and women, particularly women.
- It accelerates the ageing of the skin, delays wound healing, and contributes to osteoporosis.

Tobacco and cancer

Tobacco smoke is a mixture of almost 4000 different chemical compounds, including nicotine, tar, carbon monoxide, acetone, ammonia and hydrogen cyanide. Sixty-nine of these chemicals have been proven to be carcinogenic (cancer-causing). Smoking is a direct cause of lung cancer, oral cavity cancers (tongue, pharynx), oesophageal and stomach cancer, cancer of the larynx, kidney and bladder cancer, pancreatic cancer, leukaemia and cancer of the liver. The incidence of cancer is related to the amount and duration of smoking.

Tobacco and driving

There is little evidence that tobacco impairs driving ability. However, smoking while driving, like eating and using mobile phones, does contribute to road accidents by distracting the driver and occupying the driver's hands.

Tobacco and pregnancy

During pregnancy the chemicals in tobacco pass through the placenta to the baby in the uterus, while carbon monoxide replaces some of the oxygen in both the mother's and baby's bloodstreams. This can affect the baby's growth and development, increasing the risk of low birth weight, premature birth and spontaneous abortions.

After birth babies are vulnerable to the effects of passive smoking if people around them smoke. Babies of smokers are more likely to suffer from asthma and other respiratory infections, and have a greater risk of sudden infant death syndrome (SIDS) than babies of non-smokers.

Feeling better?

Nicotine may help some people concentrate. However, smoking also releases chemicals in the blood that increase stress. The smoker believes they are smoking to relieve stressful feelings, but in fact the smoking can increase agitation.

The feeling of relief is also associated with reducing the withdrawal symptoms which gradually increase between cigarettes.

Using tobacco with other drugs

Alcohol consumption increases the risks of some of the cancers associated with smoking, especially oral, pharyngeal and laryngeal cancer. Heavy alcohol consumption further increases these risks.

There is no evidence that other drugs increase the damaging effects of tobacco.

Dependence

Nicotine is addictive. Tolerance develops rapidly, with two in three smokers demonstrating nicotine dependence; that is, they experience withdrawal symptoms when they try to stop.

Tobacco and breastfeeding

The harmful products of tobacco smoking are absorbed in breast milk. Apart from causing direct harm to the baby, they can reduce the supply of breast milk, can affect the 'let-down' process and make feeding more difficult.

It is recommended that a mother who finds that she cannot quit smoking should still breastfeed, but should not smoke before feeds, and should always go outdoors to smoke.

Withdrawal

Symptoms of withdrawal from nicotine include irritability, anxiety, difficulty concentrating, restlessness, sleep problems, cravings, tingling sensation and dizziness, coughing (because the lungs are recovering), and a possible increase in appetite.

Not everyone has all these symptoms.

Symptoms are usually strongest for the first one to two days, and decline in intensity over the next two weeks. Craving may recur, especially under stress, for months, or even years after quitting.

Overdose

Nicotine is a poison (eating quite a small amount of pure nicotine could kill an adult), but it is not possible to overdose by smoking or chewing tobacco, or using snuff.

Treatment

Research has shown that nicotine replacement therapies (such as transdermal patches, gum, lozenges, inhalers, nasal sprays and sublingual tablets) may be useful for people trying to give up smoking.

Medications such as bupropium (Zyban) and varenicline (Champix) can help some people cope with physical withdrawal symptoms. However, such medications are only of use during the period of withdrawal—up to two weeks—and in most cases psychological dependence must also be addressed. Psychological intervention (see pages 7-8), support groups or even good self-help books can be helpful. For more information on quitting smoking, contact Quit on 13 78 48, or see your doctor for further advice and support.

The benefits of quitting

In general, after a person stops smoking:

- there is an improvement in sense of taste and smell after about five days
- blood pressure returns to normal and the immune system shows signs of recovery within a month
- risk of death from heart disease is halved within 12 months
- after ten years the risk of lung cancer due to smoking is halved, and continues to decrease
- after 15 years the risk of heart attack and stroke returns to that of a person who has never smoked.

Risks associated with other lung diseases such as emphysema and chronic bronchitis are also reduced once smoking has stopped.

DRUG LAWS IN NSW

In NSW, it is an offence to possess, use, produce or supply a drug which has been declared prohibited. Most drug charges in NSW are laid under the *Drug Misuse and Trafficking Act 1985 (NSW)*. The Commonwealth Criminal Code covers offences involving importing and exporting drugs.

The Drug Misuse and Trafficking Act 1985 (NSW)

The NSW *Drug Misuse and Trafficking Act 1985* [30] classifies a wide range of drugs as 'prohibited drugs' (and 'prohibited plants' in the case of cannabis, opium and coca). The Act creates offences for:

- use of prohibited drugs
- possession of prohibited drugs
- supply and trafficking of prohibited drugs (with the seriousness of the offence depending on the quantities involved)
- cultivation and possession of prohibited plants
- manufacture of prohibited drugs
- aiding and abetting and taking part in offences involving prohibited drugs or plants
- possession of drug-use implements.

The drugs prohibited by the Act are listed in a schedule. They include the common street drugs—cannabis (marijuana), heroin, ecstasy, amphetamines, LSD, cocaine, methadone—and many others.

Synthetic drugs

Synthetic drugs are criminalised by a combination of the *Poisons and Therapeutic Goods Act 1996* and the *Drug Misuse and Trafficking Act 1985*.
See also page 108.

Commonwealth Criminal Code

The Commonwealth Criminal Code [31] is a federal law, so it applies to all of Australia, including New South Wales. The Code aims, among other things,

to prevent the import and export of prohibited drugs. The range of drugs (again listed in a schedule) is similar to that in the *Drug Misuse and Trafficking Act 1985* (NSW).

Commonwealth Criminal Code offences include dealing with imported drugs after they have been brought into the country.

International treaties and conventions

Australia is a signatory to a number of international treaties and conventions about drugs and drug policy. These treaties are all prohibitionist in their basic intent. Countries that sign these treaties must agree to pass laws against using and trading of recreational drugs.

International treaties and conventions are not law in Australia. The only law in NSW is legislation passed by state or federal parliament and precedent decisions made by the courts. The legal status of the treaties is to guide the federal government. In some cases, treaties give the federal government constitutional power to pass laws it might not otherwise have had. New South Wales and other Australian states are not signatories to international treaties so they are not strictly legally bound by their terms, although there is a tradition that states and provinces should act consistently with treaties entered by their national governments.

The main international treaties about drugs that Australia has signed are:

- Single Convention on Narcotic Drugs 1961
- Convention on Psychotropic Substances 1971
- United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances 1988.

These treaties require the nations that sign them to pass laws imposing criminal penalties on drug use, possession and supply. However, the treaties also allow for flexibility. For example, they allow signatory countries to permit the use of prohibited drugs for medical purposes.

Importantly, the treaties also provide an option to divert drug offenders to rehabilitation and treatment programs, instead of imposing criminal punishments.

Possession

Some of the most common drug offences are for possession, use and supply of prohibited drugs. Each drug offence has specific legal 'elements' which the prosecution must prove beyond reasonable doubt. In this section, we examine the necessary legal elements for these offences.

Possession of a prohibited drug is an offence under section 10 of the NSW *Drug Misuse and Trafficking Act*. To prove possession, the prosecution must show beyond reasonable doubt that:

- an illegal drug was in a person's 'custody' or 'control', and
- the person knew that they had custody or control of a prohibited drug.

Proving custody or control

The police must prove that the person actually had control over drugs found, for example, in their car or house. The fact that a person owns a car, or owns or rents a house, does not necessarily mean that they own things in it. If a person knows that there are drugs in their house, but someone else has control of them (that is, the person does not own the drugs or have any right to use them), they are not guilty of possession.

What is custody or control?

Custody means immediate physical possession, such as a person having something in their pockets. Control refers to the right to do something with the drug—for example, it can be kept, consumed or shared.

Momentary custody and control

A person can be found guilty even if their custody and control was only momentary; for example, by taking a joint passed to them.

Proving knowledge

The prosecution must prove that the person knew they had something in their physical custody and control that was, or was likely to be, a prohibited drug.

The legal test for the prosecution is not 'what a reasonable person might or should think in the circumstances'. The actual knowledge of the accused person must be proved. Knowledge can be inferred from the circumstances in which the drugs were discovered.

If someone is apprehended with drugs on them, a court would probably reasonably infer that they had knowledge and control of those drugs. It is difficult for someone in this situation to escape the inference that they knew what was in their bag or sock or pockets. Similarly, where drugs are stored in a part of a house that is private (say, in a person's bedroom) it is open to be inferred that they had possession of those drugs.

Shared houses

When drugs are found in a place that is accessible to a number of people (such as the living room of a shared house), it may not be inferred that any single person has possession of the drugs. The drugs could belong to anybody who had access to the room.

If no-one makes a statement to the police that the drugs are theirs (or belong to someone else), it is likely that no-one will be convicted.

The prosecution must rule out all other reasonable explanations. If there is the possibility of several people having access to the drugs, there is room for reasonable doubt about whether the drugs are possessed by the accused.

They could be possessed by someone else.

It is possible that all the people living in a shared house could be charged and convicted of possession if the police can prove that they all had knowledge and control over (or access to) the drugs. But that would require evidence that all people had access—for example, statements from all the residents admitting they had knowledge and access.

Charges against several persons

If a number of people are charged with possession in this situation, the prosecution must prove in each case that the person charged had possession of the drugs.

This can be difficult. Courts are not allowed to presume that all the people must have shared possession—each individual accused is presumed innocent. Without admissions ('Yeah, I knew the weed was in the cupboard...'), it may be difficult to prove that any one of the accused is guilty of possession.

Medicinal cannabis

The law around medicinal cannabis is subject to change.

In 2016, the Commonwealth passed amendments to the *Narcotic Drugs Act 1967*. The aim of the changes is to provide a pathway of legally-grown cannabis for the manufacture of suitable medicinal cannabis products in Australia while still meeting international obligations under the Single Convention on Narcotic Drugs. It also sets up a national regulator to track cannabis products for medicinal use from cultivation to supply. However these amendments do not actually legalise medicinal uses of cannabis. They just create a framework for States to legalise medicinal use.

From August 2016, the NSW Government has established a process where medicinal cannabis can be prescribed by a doctor, but there are many practical hurdles. The doctor (who is expected to be a specialist) must obtain approval to prescribe the cannabis product from a panel of experts appointed by NSW Health, proving that all other treatment options have been exhausted. If approved by the NSW panel, the doctor must then get permission from the Commonwealth Therapeutic Goods Administration (TGA). The medicinal cannabis product must be imported (there are no local products which have TGA approval) and cannot be in raw plant form.

Otherwise, the use of cannabis for medicinal reasons officially remains prohibited in NSW. It is not a defence to a charge of possession of cannabis (or self-administration or cultivation of cannabis) that the person used the cannabis for a legitimate medical reason. However, evidence of a significant illness or medical condition can be a relevant issue to be taken into account in sentencing.

NSW has been conducting clinical trials with medicinal cannabis. The three trials have been for terminally ill patients (see Medicinal Cannabis Compassionate Use Scheme); children with severe epilepsy; and for severe nausea and vomiting in patients undergoing chemotherapy. The drug can be administered without the psychoactive effects of smoking cannabis.

Many cannabis preparations designed for medicinal applications will have a higher proportion of cannabidinol (CBD) and less tetrahydrocannabinol (THC) than other cannabis.

Cannabis oil is defined in the *Drug Misuse and Trafficking Act 1985* to mean any liquid containing THC, so it would not be an offence to possess or supply a cannabis preparation with zero THC.

Medicinal cannabis will be legal in Victoria from 2017, for people in exceptional circumstances who are authorised by a medical specialist under the *Access to Medicinal Cannabis Act 2016* (Vic).

Medicinal Cannabis Compassionate Use Scheme

People with terminal illnesses and their carers can register on the Medicinal Cannabis Compassionate Use Scheme (previously the Terminal Illness Cannabis Scheme). [32] The register is maintained by the NSW Police. The registration process requires a doctor to certify that the person has a terminal illness, which is defined to mean an illness which in reasonable medical judgement, in the normal course and in the absence of extraordinary measures, will likely result in the person's death.

A person listed on the register or their carer will not be prosecuted for possession of up to 15 grams of cannabis or 2.5 grams of cannabis resin (hashish). Being on the register is not a defence to a charge of cultivation or supply or driving under the influence of a drug or driving with the presence of THC in saliva.

Synthetic drugs

'Synthetic' drugs are, or are at least marketed as, chemically different from but with similar effects to better known illegal drugs. The possession, manufacture, production or supply of 'synthetic' drugs is criminalised by a combination of the *Poisons and Therapeutic Goods Act 1966* and the *Drug Misuse and Trafficking Act 1985*. A number of synthetic drugs are listed by their market names in Schedule 9 of the Poisons Standard (a list of poisons and other substances). It is an offence under the *Drugs Misuse and Trafficking Act 1985* to possess, manufacture, produce or supply a substance listed on Schedule 9 of the Poisons Standard. See Chapter 15: New & emerging psychoactive substances.

'Psychoactive substances'

In addition, the *Drug Misuse and Trafficking Act 1985* creates offences for dealings with 'psychoactive substances', which may include synthetic drugs not included on Schedule 9 of the Poisons Standard.

A psychoactive substance is defined as a substance that, when 'consumed', has the capacity to induce a psychoactive effect. 'Psychoactive effect' is broadly defined to include any stimulation or depression of the central nervous system, hallucination or significant disturbance or change to perception.

It is an offence to manufacture or supply a psychoactive substance for human consumption, either knowingly or recklessly in relation to the intended supply. There is no offence of possession of a psychoactive substance.

It is an offence to publish or display any form of advertising which, knowingly or recklessly, promotes the consumption, sale or supply of a substance for its psychoactive effect, or provides information on how or where a psychoactive substance may be acquired.

There are no categories of offence based on quantity.

Use

Using an illegal drug (also known as 'self-administration') is an offence under the NSW *Drug Misuse and Trafficking Act*. The police must prove that the substance consumed was a prohibited drug. Obviously they cannot analyse the substance if it has been completely consumed, and blood tests can only be taken by a doctor after arrest. So for most convictions they must rely on admissions made by the accused.

Intoxication as a defence to criminal charges

Self-induced intoxication with illegal drugs does not generally provide defence to criminal charges.

Prescription drugs

It is legal to possess and use some drugs, like methadone and the benzodiazepines (such as Serapax and Valium), if they have been prescribed by a doctor. It is only an offence to possess or use these drugs without a prescription.

Injecting methadone

It is an offence to inject methadone, even by someone on a methadone program. Methadone is legally prescribed subject to conditions on quantity and the 'purpose' of the prescription, which must be according to 'recognised therapeutic standards' (NSW Poisons and Therapeutic Goods Regulation 2002).

The 'purpose' specified in methadone prescriptions is oral dose. Administration by any other method means the methadone is not lawfully prescribed and is illegal.

Administering drugs to others

It is also an offence to administer a drug to someone else, for example by injecting them, or to allow someone to administer drugs. It is an offence even if the person consents to the drug being administered to them.

Drink spiking

The offence of administering a prohibited drug includes drink spiking, where a prohibited drug is added to someone's alcoholic drink, and the person is not aware and does not consent to the administration of the drug.

If someone dies

A person who injects someone else with a drug that causes their death may be charged with manslaughter. Manslaughter means causing an unlawful death where the intention was not to kill or inflict a serious injury, but to inflict a minor injury or commit some other criminal offence.

Getting medical help

If an overdose or other emergency situation involving drug use occurs, you should call an ambulance or seek other suitable medical help. It is obviously the best medical option for the person who has overdosed.

The ambulance service does not notify the police when it attends a drug overdose. Hospitals and doctors also do not notify the police if you go to them requesting medical attention.

Police sometimes do attend overdose scenes. But police guidelines are designed to encourage people to seek medical help when necessary.

So police are directed not to arrest an overdose victim or their friends, or any other people who are present at an overdose and may have also consumed drugs or be in possession of drugs.

Injecting rooms

The NSW Government has licensed one medically supervised injecting centre, in Kings Cross. The injecting centre's licence is issued under the *Drug Misuse and Trafficking Act*.

It is lawful for a person to use or possess a small quantity of a prohibited drug while in the injecting centre.

Police guidelines also encourage the exercise of discretion to not arrest or charge a person who is on their way to or from, or in the vicinity of, the injecting centre with possession offences. Supply offences in or near the injecting centre are policed. It is an offence for anyone except the operators of the licensed injecting centre to 'advertise or hold out in any way' that their premises are available for the administration of a prohibited drug.

Harm reduction

Harm reduction focuses on minimising the negative impacts associated with drug use, individually and socially. While not advocating drug use, supporters of harm reduction argue that we should accept that some drug use will occur, and focus on addressing the harms caused.

In 1985, the federal and state governments adopted a National Drug Strategy which included a pragmatic mixture of prohibition and a stated objective of harm reduction. Harm reduction has been an official part of Australian drugs policy ever since, although most resources by far are devoted to policing and border patrol attempts at interdiction ('supply reduction'). Fewer resources are made available for health treatment and drug rehabilitation programs, or for preventative public health programs such as needle exchange. The needle exchange program has been successful. Australia maintains an extremely low rate of HIV infection among injecting drug users. The success of the needle exchange programs encouraged governments to at least consider adopting other harm minimisation initiatives.

Australia has been tentative about allowing legal injecting rooms, with NSW the only state to permit an injecting room, and then only one. The Medically

Supervised Injecting Centre (MSIC) operated from 2001 to 2010 on a 'trial' basis. In October 2010, legislation to make the Kings Cross MSIC permanent was passed by both Houses of the NSW Parliament. The Police Commissioner and the Director-General of NSW Health will continue to oversee the centre and it undergoes regular statutory evaluations every five years.

In all states, the impact of prohibitionist laws on drug users is somewhat modified by a number of diversion programs, diverting some eligible users from the criminal justice system to cautions or treatment.

Discrimination against drug users

The social stigma attached to illegal drug use means that people who are identified as drug users can experience discriminatory treatment such as denial of services or accommodation.

Is drug addiction a disability?

Under both NSW and federal anti-discrimination laws, it is unlawful to discriminate against a person on the grounds of disability. Over a number of years, it had been frequently suggested that drug dependence was a form of disability, and therefore covered by the discrimination laws. Following a complaint to the Australian Human Rights Commission, a Federal Court case decision found that drug addiction could be classed as a disability according to the Commonwealth *Disability Discrimination Act 1992*.

The NSW Government amended the NSW law (the *Anti-Discrimination Act 1977*) to legally allow discrimination against a person on the grounds of addiction to a prohibited drug - but only in the area of employment.

Discrimination remains unlawful in other fields, including:

- providing goods and services
- education
- accommodation.

The NSW Act does not allow discrimination:

- against users of methadone or buprenorphine
- on the grounds of being hepatitis C or HIV positive, or having any other medical condition.

So, if a person is refused a job because they are on a methadone or buprenorphine program or are seropositive, they could make a claim for disability discrimination under the NSW Act.

Supply

Supply is very broadly defined to include not only selling or giving away drugs but also simply agreeing to supply them.

Supply also includes 'deemed supply'—possessing certain quantities of drugs which are deemed to be for the purpose of supply.

A person can be charged with supply if they tell police they intended to sell even a small quantity of drugs found in their possession, or if they deliver drugs to a friend.

They are also guilty of supply if they simply offer to supply a drug, even if they have no hope, or no intention, of fulfilling the offer.

What if it isn't really a drug?

If a person offers a substance to someone and says that it is a drug to persuade that person to buy or take it, they are guilty of supplying the drug whether the substance is actually the drug or not. For example, a person who offers to supply someone with heroin when all they have is icing sugar is considered guilty of supplying heroin.

This is the case whether they have made a genuine mistake or are deliberately attempting to cheat the buyer.

For possession and use offences the court must be satisfied that the substance is in fact a prohibited drug.

Deemed supply

A person will be presumed to be supplying a drug if they are simply in possession of a particular quantity of the drug, known as the traffickable quantity. This amount varies from one drug to another, and in many cases is not especially large.

If the police can prove that a person is in possession of a traffickable quantity of a drug, the person then has the onus of proving that the possession was not for the purpose of supply.

A traffickable quantity of a drug is an amount deemed in law to be in a person's possession for the purpose of supply.

Purity does not matter—only weight. Under NSW law, one gram of a powder that is 10% heroin and 90% glucose is treated as one gram of pure heroin.

Anybody found in possession of a traffickable quantity is presumed to be a supplier unless they can prove otherwise—for example, that the drug was intended for personal use, or disposal.

Ongoing dealing

Ongoing dealing involves the supply of a prohibited drug (except cannabis) on three separate occasions within a 30-day period. The acts of supply must be for some financial or other material reward. They do not all have to involve the same drug.

A charge of ongoing dealing could be laid where an undercover police officer buys drugs from the same street dealer on three different days. The police are not obliged to arrest the dealer immediately after the first sale.

Large scale supply

Higher penalties apply for charges involving the supply of larger amounts of drugs.

The Act divides trafficking offences into:

- indictable quantities
- commercial quantities
- large commercial quantities.

As with deemed supply, proof of possession of the relevant quantity is sufficient to establish that a person is guilty of that particular trafficking offence, unless the person can prove that the possession was for a reason other than supply (which is obviously more difficult the larger the quantity).

Drug use equipment

It is an offence to possess equipment with the intention of using it to consume drugs. The use must be future use. Evidence that the equipment has been used in the past is not relevant or sufficient to prove the charge.

The prosecution must show that the equipment was illegally possessed. The law is the same as for possession—there must be knowledge and custody or control.

Injecting equipment

It is not an offence to possess a needle or syringe, whether it has been used or not.

It is (technically) an offence to possess other injecting equipment, such as tourniquets, spoons, and swabs. In practice, possession of this equipment is not prosecuted.

Sale of bongs and pipes

It is an offence to sell, supply or display for sale a bong or ice pipe, or the component parts of a bong or pipe, whether or not the bong or pipe was intended to be used to administer a prohibited drug.

Offences involving prohibited plants

The cultivation or possession of prohibited plants, such as cannabis, is an offence.

It is an offence to:

- cultivate
- knowingly take part in the cultivation of
- possess
- supply

a prohibited plant.

Cultivation

Cultivation is defined to include sowing seed, planting, tending, nurturing or harvesting.

Watering a plant, shading it from the sun, picking the heads off a friend's plant, even watering ungerminated seeds, all come within the definition of cultivation.

Possession of plants is also an offence under the same section and with the same maximum penalty as for cultivation. A charge of possession of prohibited plants would be laid where there was no evidence of any act of cultivation (such as planting or watering), but there was evidence of possession (again, requiring proof of knowledge and custody or control) of the plants.

Quantities

The penalty categories for cultivating cannabis depend on the number of plants, not their gender or size. Cultivating a hundred seedlings that can fit into a baking tray is treated the same as cultivating a hundred mature female plants. Having 250 seedlings is regarded as more serious than having five big plants, even though the weight of the five big plants may be many times greater.

Higher penalties apply to offences involving the cultivation, supply and possession of a 'commercial quantity' of prohibited plants.

Defences to cultivation

It is a defence to a charge of cultivation of a prohibited plant if the accused can establish that they did not know the plant was a prohibited plant. The prosecution may rebut the accused's evidence by bringing, with leave of the court, evidence of any previous convictions.

Hydroponic cultivation

It is an offence to participate in the 'cultivation by enhanced indoor means' of cannabis plants. The offence requires the cultivation to be:

- inside a building or structure and
- involve growing the plant in nutrient enriched water or applying artificial light or heat or suspending the roots and spraying them with nutrient solution.

Where the number of plants involved is more than 5, the maximum penalties are significantly higher than for an equivalent number of plants cultivated outdoors.

For cases involving between 5 and 50 plants cultivated by enhanced indoor means, the prosecution must also prove the cultivation was for a 'commercial purpose'. 'Commercial purpose' means intending to sell or believing that another person intended to sell the product. For cases involving 50 or more plants cultivated by enhanced indoor means, the prosecution does not need to prove a commercial purpose.

Exposing a child to indoor cultivation

It is an offence to cultivate 'a plant' (note the singular) by enhanced indoor means and 'expose a child' to the cultivation process or to substances stored for use in cultivation. The penalties are substantial, with heavy fines and imprisonment possible even for one to four plants.

It is a defence if the defendant can prove that the exposure did not endanger the health and safety of the child. For these purposes, a child is defined as a person under 16.

Manufacturing drugs

It is an offence to manufacture, or to take part in the manufacture of, a prohibited drug.

The maximum penalty for manufacture of a prohibited drug depends on the quantity involved, with the same penalties applying as for supply offences involving comparable amounts.

Possession of precursors

It is an offence to possess a 'precursor' intended to be used in the manufacture of a prohibited drug. Substances defined as precursors are listed in Schedules 1 and 2 to the Drug Misuse and Trafficking Regulation 2006 (NSW). The Regulation also provides that, for legitimate uses, records must be kept for any storage or supply of precursors, including an 'end user certificate' which includes the name and address and proof of identity of the end user.

Knowingly take part in cultivation, manufacture or supply

It is an offence to 'knowingly take part in' the supply, cultivation, or manufacture of a prohibited drug or plant.

'Taking part in' manufacture, cultivation, or supply is defined to mean:

- the person takes, or participates in, any step, or causes any step to be taken in the process of manufacture, cultivation or supply; or

- the person provides or arranges finance for any step in that process; or
- the person provides the premises in which any step in that process is taken, or allows any step in the process to be taken in premises owned, leased, occupied or managed by the person.

A person may be considered to be taking part in supply, for example, if they arrange or provide finance or provide premises, or allow their premises to be used for selling or distributing or growing drugs. It would also include making a telephone call to arrange a meeting or allowing their house to be used for a meeting at which supplying drugs is discussed.

The participation must be done 'knowingly'. Proof that a person suspected that somebody else might be involved in drug offences is not proof of knowledge; but knowledge may be inferred if someone shuts their eyes to suspicious circumstances.

Similarly, the word 'permits' means the owner or controller of the premises knew or had grounds for reasonable suspicion that the premises would be used by someone for that purpose, and was unwilling to take reasonable measures to prevent it.

Drug premises

Drug premises are premises used for the supply or manufacture of prohibited drugs or the commercial indoor cultivation of cannabis.

It is an offence to be found on or entering or leaving drug premises. It is also an offence for an owner or other occupier to allow property to be used as drug premises, or for a person to organise or conduct drug premises, or to assist in the conduct of drug premises (for example, as a lookout or door attendant).

Any place where there are five or more indoor cannabis plants being grown for profit is capable of being a drug premises, exposing occupants and visitors to prosecution for offences such as entering or being on drug premises.

Importing and exporting

It is an offence to import, or try to import, prohibited drugs.

The prosecution must prove that the accused intended to import the substance. In other words, a person will be acquitted if they did not realise that they were carrying drugs.

It is also an offence under the Commonwealth Criminal Code to assist or be knowingly concerned in any illegal importation of drugs. The prosecution must prove that the accused was fully aware of what was going on and performed some act such as providing money. Mere knowledge or inaction does not establish the offence.

Alcohol, drugs and driving in NSW

The *Road Transport Act 2013* (NSW) Part 5.1 deals with road offences that involve alcohol and/or drugs. The procedures for testing for alcohol or other drug use by drivers and other road users are covered in Schedule 3 to the *Road Transport Act 2013*.

Driving under the influence

It is an offence under section 12 of the *Road Transport Act 2013*, to drive or attempt to drive 'under the influence' of a drug or alcohol. A full list of drugs can be found in Schedule 1 of the *Drug Misuse and Trafficking Act 1985* (NSW). Proof of this offence requires proof beyond reasonable doubt that the driver was intoxicated to some degree by the drug or alcohol.

If the police reasonably suspect that a person is driving under the influence of a drug, they have the power to take them to a hospital for a blood or urine test for the presence of drugs, under the supervision of a doctor. The sample is divided into two. One half is sent to government laboratories and the other half is given to the person for independent analysis.

It is an offence to refuse to submit to a blood test or a urine test in these circumstances. It is likewise an offence to wilfully alter the amount of drug in your blood or urine before having the test, unless it is more than two hours since you were driving.

Prescribed content of alcohol

Since the introduction of breathalysers and random breath testing (RBT) for alcohol, drink-driving offences are now much more commonly charged as driving with the relevant 'prescribed concentration of alcohol' (PCA).

This in effect bypasses any need to prove intoxication — the presence of alcohol in a person's system is sufficient evidence for the offence to be proved.

Blood alcohol concentration is measured in grams per 100 mL (g/100 mL). For most fully licensed drivers, the prescribed limit is 0.05. For drivers with a learners or provisional licence — L or P-plate drivers—the limit is zero. For people driving heavy vehicles or public passenger vehicles — trucks or buses — and people driving vehicles containing dangerous goods, the limit is 0.02.

The amount of alcohol that can be consumed before a person reaches the legal limit varies considerably from one person to another, and for the same person in different circumstances.

There is also a range of offences relating to refusal or failure to submit to a roadside breath testing, providing blood samples and for interfering with samples, set out in Schedule 3 to the *Road Transport Act*.

Presence of certain drugs

It is an offence under the *Road Transport Act 2013* (NSW) to drive with THC (the psychoactive ingredient of cannabis), methamphetamine or ecstasy 'present' in the driver's saliva, blood or urine (although only saliva is usually tested).

It is also an offence to drive with morphine or cocaine present, but these substances will not be detected by saliva swab.

The police have the powers to test drivers for the presence of these drugs. Mobile drug testing (MDT) involves a saliva test using drug screening equipment. If the initial saliva test indicates positive, then the driver must undertake a second saliva swab at a mobile drug bus or police station.

If the second swab shows positive, the police issue the driver with a direction not to drive for 24 hours. If the second swab is negative, the driver is free to go. But the second sample is sent to the laboratory for analysis, whether it is positive or negative. If the laboratory analysis confirms the presence of THC, methamphetamine or ecstasy, the driver is issued with a court attendance notice for the offence. It is the analysis by the laboratory, not the roadside test results, which the police rely on as evidence in court.

The offence requires only proof of the presence of one of the three drugs in the saliva sample. It is not necessary for the police to prove any impairment of driving ability. It is a defence to this charge if the driver had an honestly held and reasonably based belief that they did not have any relevant drug present in their saliva at the time of the driving.

As with Random Breath Testing, there are offences for failing or refusing to submit to a saliva test or provide a blood sample in Schedule 3 to the *Road Transport Act*.

Penalties

On conviction for a first offence under section 110, for 'prescribed content of alcohol' or under section 111, 'presence of certain drugs (other than alcohol) in oral fluid, blood or urine', the driver must be disqualified from holding a driver's licence for a minimum of three months (with six months the 'automatic' period of disqualification). For a second offence, the minimum disqualification period is six months, with a 12-month 'automatic' period. Fines also apply.

The licence disqualification periods are mandatory, but only on conviction. They can only be avoided if the magistrate deals with the case under section 10 of the *Crimes (Sentencing Procedure) Act 1999* (NSW) to impose no conviction for the offence. A person cannot receive the benefit of two section 10 dismissals without conviction in a five-year period, and any subsequent offence will mean mandatory disqualifications apply.

For prescribed content of alcohol offences, the penalties increase with a higher blood alcohol readings. The offences are in 'ranges', measured in grams per 100 millilitres of blood or in 210 litres of breath:

- novice range: zero - 0.02
- special range: 0.02 – 0.05
- low range: 0.05 – 0.08
- middle range: 0.08 – 0.15
- high range: over 0.15.

These prescribed limits are set out in section 108 of the *Road Transport Act 2013* (NSW). For serious and repeat offences imprisonment is an option.

Penalties for driving 'under the influence' include imprisonment as an option and are equivalent to a second offence or middle range offence under section 110.

Fatal accidents

Police can obtain blood or urine samples from drivers involved in fatal road accidents. A person convicted of driving under the influence of a drug and causing death is liable for a maximum penalty of 10 years' jail (or 14 years if there are circumstances of aggravation such as speeding).

Drugs in sport

Sporting associations have a general right to make rules for the conduct of organised sporting competitions. Those rules are binding, on the basis of a contract, on players who want to participate in those organised competitions.

At elite levels, the rules always include the right of sporting bodies to require players to have a drug test for performance enhancing drugs like anabolic steroids, in and out of competition. Some sports also test for recreational drugs.

The general principle is that if an athlete refuses or fails a drug test, the sporting bodies are entitled, subject to their own constitutions and rules of procedural fairness, to suspend or ban the player.

Police powers

Police have powers to search people and property, and seize articles such as drugs for evidence, but their powers are not unlimited.

There are different rules for personal searches and searches of houses or land.

Personal searches

The police can search a person without arresting them under the NSW *Law Enforcement (Powers and Responsibilities) Act 2002*, section 21. This gives police the power to 'stop, search and detain' anyone who they 'reasonably suspect' might be in possession of drugs. Police can search a vehicle if they have a similar reasonable suspicion.

Search after arrest

The police have the right to search a person after an arrest and they generally do.

A police officer above the rank of sergeant can request that a doctor examine a person in custody (if such an examination is relevant to the charge) without the person's consent.

Women should only be searched by a female police officer. If no female constable is available, however, the police can request 'any female' to conduct the search under their direction.

Sniffer dogs

Police use specially trained dogs to detect the presence of prohibited drugs.

Police can use sniffer dogs without a warrant to detect illegal drugs (under the *NSW Law Enforcement (Powers and Responsibilities) Act 2002*) but only for 'general drug detection', defined to mean using a dog to detect the potential presence of drugs by smell, before the police conduct any actual search of the person or their belongings.

Police can use a dog to assist with general drug detection without a warrant in relation to a person who is:

- at, entering or leaving premises licensed for the consumption of liquor sold there (not including a restaurant or dining room)
- at, entering or leaving a public place being used for 'a sporting event, concert or other artistic performance, dance party, parade or other entertainment'
- at, entering or leaving a train, bus or light rail vehicle, on a prescribed route, or a station, platform or stop
- at, entering or leaving any premises licensed to perform body art tattooing, or any other premises that the police officer reasonably suspects are being used to perform body art tattooing procedures for fee or reward
- at any public place in the Kings Cross precinct (being the area including and bounded by the parts of streets specified in Schedule 2 to the *Liquor Act 2007* (NSW)).

In other circumstances—for example, in a public street (other than the Kings Cross precinct)—police can only use drug detection dogs to search people or vehicles with a warrant.

Personal searches by customs officers

People coming into Australia are obliged to answer questions from a customs officer about prohibited drugs. Luggage can be inspected even where there is no reason to suspect that it might contain drugs.

Types of search

There are two types of personal searches available under the *Customs Act 1901* (Commonwealth) in relation to a person suspected of carrying border controlled drugs: frisk searches and external searches.

A frisk search is a quick feel of a person's outer garments, including any clothing voluntarily removed. An external search involves a search of a person's body (but not body cavities) and any of their clothing.

If a person refuses a frisk or an external search, the customs or police officer may apply to a specially authorised customs officer or a magistrate for an order that an external search be made.

Detention and search

If a customs or police officer suspects on reasonable grounds that a person is carrying prohibited imports, they may be detained and searched. The search must be conducted as soon as practicable by an officer of the same sex, and appropriate arrangements made for privacy.

If internal concealment is suspected

People reasonably suspected of internally concealing a suspicious substance may be detained by a customs officer or police officer. The chief executive officer of Customs or a police officer must then seek a detention order (up to 48 hours, but renewable) from a judge or magistrate.

If the person detained does not consent to an internal search, the customs or police officer must apply to a judge for an order for a medical practitioner to carry out the search.

Searches of property

To enter a person's home or any other private property without the invitation or consent of an occupier, the police must have a search warrant (except in emergency situations such as chasing an escaping suspect, or where there is apparently an assault occurring on the premises). To obtain a search warrant, the police must swear on oath to an authorised officer, that they have reasonable suspicion of a crime being committed on those premises, and the basis of that suspicion.

When police are at the premises

When police go to premises with a search warrant they must produce an occupier's notice, otherwise they do not have the right to enter the premises.

It is an offence to obstruct or delay police entry, or give an alarm. It is an offence for a person to resist a police officer who appears at their door with a search warrant.

Police powers with a warrant

The police can use as much force as is reasonably necessary to conduct the search, which can mean pulling out drawers and ceilings.

Search warrants also give police the right to search a person found in or on the premises if they have a reasonable suspicion that the person has the thing mentioned in the warrant.

In the case where police have a warrant to search a property reasonably suspected of being drug premises, police can cross property owned by others, break open doors and windows, and do other 'necessary' acts to gain entry.

Evidence from illegal searches

Evidence obtained through illegal police searches (or otherwise illegally or improperly obtained) is admissible, but only if the judge or magistrate uses their discretion to allow it. The prosecution must establish the desirability of admitting the evidence.

Detection by helicopter

Where a police helicopter detects cannabis plants from the air, police still must obtain a search warrant to enter the property. Without a warrant, any evidence would be unlawfully obtained and so inadmissible (unless the judge or magistrate used their discretion).

Seeking the proceeds of crime

Search warrants can also be issued under the legislation dealing with the confiscation of proceeds of crime. They can, for example, cover documents that can assist in tracking down property that is drug-derived or which belongs to those who are reasonably suspected of drug-related activities.

Undercover police

Police investigations into drug offences commonly involve the use of undercover officers who either offer a degree of encouragement to people to commit an offence, or participate in criminal activity, or both. There is no substantive defence of entrapment in Australian law.

The fact that drugs are supplied to an undercover police officer who encourages the supplier to break the law is not a mitigating circumstance in sentencing.

Under NSW and federal legislation, otherwise unlawful conduct by police (such as the supply of prohibited drugs) is made legal, provided it is authorised as part of a controlled operation.

Police directions in public places

Police can legally give a 'reasonable direction' to a person in a public place who they believe, on reasonable grounds, is supplying, or soliciting supply of, or purchasing prohibited drugs. The direction must be 'reasonable in the circumstances for the purpose of stopping' the supply or purchase. It is an offence to fail to comply with the direction without reasonable excuse.

Youth drug and alcohol issues

Drugs in state schools

State school principals have wide legal powers to make rules about the conduct of the students at their school and to suspend students who break the rules in a serious way. Most schools have rules against possessing or using drugs at school.

If a student is found possessing or using drugs, they will probably be suspended for at least several days. If a student is caught dealing drugs at school they will probably be expelled, or at least suspended for a lengthy period of time.

The school may also report the student to the police, in which case they may be dealt with by a warning or caution; or charged and brought before the court (the Children's Court if they under 18 years of age) unless they are dealt with by a caution or warning.

Teachers' powers

Teachers do not have the same powers as the police have. Teachers do not have the right to:

- search a student, their clothing or their bag (unless the student agrees being searched)
- hold a student or lock them in a room.

However, teachers can:

- search school property, like a desk or a locker (if the student has not paid to use it)
- confiscate any drugs they find.

The school may call the police, who do have the right to search the student.

Suspension and expulsion

State school principals have the power to suspend students for a limited period of time, but principals don't have the power to expel. A decision to expel a student can only be made by the Department of Education (NSW). The principal must write to the student and their parents or carers if they are considering recommending expulsion to give the student a chance to dispute the reasons or make any other comment. If the principal then decides to recommend expulsion, the student must receive a copy of the principal's submission to the department. The student has 14 days to make any comment.

If a student is suspended or expelled because of drugs and they are not guilty or they think the penalty is too severe, they can appeal to the Secretary of the Department or the Minister for Education and ask that the decision be reconsidered.

Drugs in private schools

Private schools each have different rules. Private school principals usually have more independent authority than their public school system equivalents.

Generally private schools and state schools could be expected to have a similar approach in cases of possession or supply at school. Expulsion or suspension are likely, depending on the circumstances.

Alcohol and young people

There is no general law that absolutely prohibits young people drinking alcohol. It is illegal in some circumstances, but not in others.

It is illegal for a person under 18 to possess or drink alcohol in a public place, if they are not under the supervision of a responsible adult. The young person can be fined and the alcohol confiscated.

It is also illegal for a person under 18 years to drink alcohol on licensed premises, such as pubs, clubs and licensed restaurants. It is illegal for a person under 18 years to even be in some parts of some licensed premises.

But it is *not* illegal for a person under 18 years to consume alcohol in a private place—for example, at home or at a private barbecue or party. A person under 18 can also legally drink in a public place (provided it is not in a declared alcohol-free zone) or in an unlicensed (BYO) restaurant, with the permission of and in the company of their parent or guardian).

It is an offence for anyone except the parent or guardian of the young person to supply alcohol to a person under 18 years old, or to obtain alcohol on behalf of someone under 18. Similarly, it is an offence for the licensee of licenced premises to allow alcohol to be supplied to a person under 18.

It is an offence for a young person to obtain or attempt to obtain alcohol from licensed premises, including a bottle shop. It is also an offence for a young person to use false evidence of age to obtain alcohol.

It is legal to supply (but not sell) alcohol to a person under 18 provided the supply is done by the young person's parent or guardian (or with their authorisation) and provided it is 'consistent with the responsible supervision' of the young person. Factors taken into account on that issue include the age of the young person, whether the person supplying the alcohol is intoxicated and the quantity and type of alcohol. It is illegal to supply alcohol to a person under 18 who is intoxicated, because that is not consistent 'in any circumstances' with responsible supervision.

The exception allowing a parent or guardian to supply alcohol to a young person does not apply to licensed premises. Parents and guardians are not allowed to supply their under 18-year-old children with alcohol in pubs, clubs and licensed restaurants.

Tobacco and young people

It is not an offence for a person under 18 to possess or use tobacco cigarettes. However, police have the power to confiscate tobacco (and e-cigarettes) from a person under 18 in a public place.

It is an offence to sell tobacco or 'non-tobacco smoking products' (for example, herbal cigarettes) to a person under 18 or to purchase tobacco products (or herbal cigarettes) for a person under 18, under the *Public Health (Tobacco) Act 2008* (NSW).

ADVICE AND SUPPORT

Drug and alcohol related emergency

If you can't wake someone up or you are concerned that they may have sustained a head injury from a drug or alcohol related fall – call an ambulance immediately – dial Triple Zero (000).

If the person has been mixing drugs with alcohol or other drugs, tell the NSW Ambulance paramedic exactly what they have taken.

Paramedics are there to help. Generally paramedics don't involve the police unless there is danger to themselves or other people/children, someone dies, or a crime (such as violence or theft) has been committed.

Support and information

Alcohol and Drug Information Service (ADIS) NSW operates 24 hours, 7 days a week to provide education, information, crisis counselling and support. Call (02) 9361 8000 (Sydney) or free call 1800 422 599 (for NSW regional and rural callers) or visit yourroom.health.nsw.gov.au

Call ADIS for the nearest needle and syringe program (NSP) outlet.

Contact ADIS for specialist pregnancy services in NSW.

The **ADIS Stimulant Treatment Line** provides 24/7 advice, support, referral and counselling for people concerned about stimulants or for information on the Stimulant Treatment Program. Call (02) 9361 8088 or 1800 101 188.

The **Opioid Treatment Line** (OTL) is a helpline providing opiate pharmacotherapy information (including methadone and buprenorphine), referrals, and advice. Call 1800 642 428.

Counselling Online is a free online alcohol and drug counselling service with email support for alcohol and other drug users, and others affected by alcohol and drug use in the community, including family members, relatives and friends. www.counsellingonline.org.au

Counselling services in other states & territories:

Australian Capital Territory: Alcohol and Drug Information Service (ADIS) (02) 6207 9977

Queensland: Alcohol and Drug Information Service (ADIS) 1800 177 833

Victoria: Directline 1800 888 236; Family Drug Helpline 1300 660 068

Western Australia: Alcohol and Drug Information Service (ADIS) (08) 9442 5000 or 1800 198 024 (rural WA only) and for parents (08) 9442 5050 or 1800 653 203 (rural WA only); meth helpline 1800 874 878

South Australia: Alcohol and Drug Information Service (ADIS) (08) 363 8618 or 1300 131 340 (South Australian callers only, local call fee) or for interstate callers (08) 7087 1743

Northern Territory: Alcohol and Drug Information Service (ADIS) 1800 131 350 (NT only) withdrawal services (08) 8949 0087

Tasmania: Alcohol and Drug Information Service (ADIS) 1800 811 994

Family Drug Support provides 24/7 telephone support to families in crisis due to drug and alcohol issues. Call the helpline on 1300 368 186 or visit www.fds.org.au

Lifeline operates 24 hours, 7 days a week and provides counselling and information, suicide prevention, crisis support and mental health services. Call 13 11 14

Quitline 13 QUIT (13 7848) is a confidential telephone based service designed to help smokers quit smoking, funded by the Cancer Institute NSW. Staff can also provide assistance to the family and friends of smokers and others requesting information about smoking.

Kids Helpline is a free, 24 hour counselling service for young people aged 5 to 25 years. Counselling is offered via the Kids Helpline website www.kidshelp.com.au or email or call 1800 55 1800

Parent Line is a telephone counselling, information and referral service for parents and carers of children ages 0 to 18 in NSW. Call 1300 130 052 or visit www.parentline.org.au

Australian Drug Information Network (ADIN) provides a listing of support services, including private services and local services at www.adin.com.au/help-support-services.

Specialist services

Aboriginal Health and Medical Research Council provides links to Aboriginal community controlled health services across NSW. Visit www.ahmrc.org.au for information about AHMRC members including a regional map, information and links to members' websites.

Drug and Alcohol Multicultural Education Centre (DAMEC) provides services for people from culturally and linguistically diverse communities. Contact DAMEC on (02) 8113 1301 or for counselling and support services for CALD communities call (02) 8706 0150.

Treatment and support

NSW Health Drug and Alcohol Services – to access a local public drug and alcohol service in NSW, contact your local area health service.

Cannabis clinics provide assessment and counselling for individuals about their cannabis use, offer education, support and brief counselling to concerned family members and provide specialised treatment for people with co-existing cannabis and mental health issues. Contact ADIS (02) 9361 8000 (Sydney metro) or 1800 422 599 (regional NSW) for your local clinic.

The **Stimulant Treatment Program** provides treatment for stimulant users. The clinics offer outpatient services to people 16 years and older seeking to stop or reduce their use of amphetamines, methamphetamines, cocaine or ecstasy. Contact the Stimulant Treatment Line (02) 9361 8088 (Sydney) or 1800 101 188 (regional NSW) for information about the program.

Eheadspace provides mental and health wellbeing support, information and services to young people (aged 12 to 25) and their families and friends. Visit eheadspace.com.au

Self-help organisations

Smart Recovery is a voluntary self-help group that assists people in recovering from alcohol, drug use and other addictive behaviours. Visit www.smartrecoveryaustralia.com.au

Alcoholics Anonymous (AA) is a self-help organisation for people with alcohol problems. Phone the national helpline number 1300 22 22 22 and your call will be connected to your nearest local AA in your state or visit www.aa.org.au

Narcotics Anonymous Australia, is a non-profit fellowship or society of recovering addicts who meet regularly to help each other stay clean via a program of complete abstinence from all drugs. Call the national phoneline 1300 652 820 or visit www.na.org.au

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30. The *Drug Misuse and Trafficking Act 1985* (NSW), see www.legislation.nsw.gov.au ; go to Browse, under the top heading Acts, click on 'D' and select the Act from the list.
31. The Commonwealth Criminal Code is a schedule to the *Criminal Code Act 1995* (Commonwealth) Chapter 9.
32. See http://www.nsw.gov.au/tics