

## 6

# Stimulants

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## OVERVIEW

Stimulants are the class of drugs that include ‘uppers’ such as: MDMA (known as *ecstasy*), methamphetamine powder (known as *speed*), crystalline methamphetamine (known as *ice*, *crystal*, *shabu* or *crystal meth*) and cocaine (also known as *coke*). When methamphetamine is discussed in this handbook it includes amphetamine, as almost all amphetamine sold in Australia is actually methamphetamine.

All stimulant drugs cause an increase in mood, stamina, energy and concentration; and a reduction in appetite and the need for sleep. The more you take, the stronger the effect and the more likely you are to experience physical and mental health problems.

People can become dependent on stimulants. When they stop using they can feel depressed, but do not experience a dangerous physical withdrawal. The main treatment is counselling.

### How common is stimulant use?

Stimulants are the second most commonly used type of illegal drug after cannabis in Australia. Around one in 40 Australians currently use stimulants. Most people do not use often and do not have problems with their use.

Ecstasy is most commonly used (around 1 in 25 Australians have used in the past 12 months), followed by methamphetamine (around 1 in 50 Australians). New stimulants regularly emerge, often legal at first and sold on the internet, before authorities catch on and prohibit their use. For example, mephedrone (also known by the street names *meow meow* and MCAT) has begun to be used in recent years.

### History of stimulant use

Naturally occurring plant-based stimulants have been used by many cultures for thousands of years. Often used for their healing effects, stimulants were typically used for specific purposes at specific times. Examples include coca leaves and areca nut (also known as betel nut). Areca nut was chewed in a similar way to how some Aboriginal people chew pituri.

Problems were uncommon because stimulants were usually swallowed or chewed, so the effect came on slowly. Also, the amount of stimulant absorbed into the body from the plant was quite small (i.e. not enough of the drug could get into the body to cause a 'high').

About 100 years ago things changed. Cocaine was made from coca leaf and scientists first made amphetamine and methamphetamine. All of these are much stronger than natural stimulants. At first these drugs were used as medicines: cocaine was used for toothache; and amphetamines were used to stop blocked noses, to help people lose weight and to help with tiredness and sleepiness.

As these new stimulant drugs were much stronger than naturally occurring plant-based stimulants, only small amounts were needed to get a big effect. Made into crystals and powders, these drugs could be smoked, snorted and injected, meaning that big amounts could get into the body very quickly. Instead of feeling a bit brighter, having a bit more energy and not needing as much sleep, these drugs were taken in doses that meant you felt 'on top of the world' and could go without sleep for days.

## WHAT ARE SOME COMMONLY USED STIMULANTS?

All illegally made stimulants can be ‘cut’ or diluted with various other substances, such as sugar, baking soda, or cheaper drugs. This is done to maximise profit. The following list shows the usual characteristics of the main stimulants sold in Australia.

- *Ecstasy (MDMA)*: usually comes as tablets but also in capsules or powder. The colour of the powder ranges from white to yellow to brown. Ecstasy tablets are made illegally and come in different sizes and colours. They often include a symbol stamped on the tablet (e.g. star, love heart) or a brand name logo (e.g. Mitsubishi, Calvin Klein). The main ingredient in Ecstasy is meant to be MDMA but the amount of MDMA in each tablet varies and some tablets contain none at all. In addition to MDMA, ecstasy tablets may contain methamphetamine, caffeine, ephedrine or hallucinogens. Ecstasy is usually swallowed, but is sometimes snorted. Some people inject ecstasy, or insert it into their vagina (known as shelving) or anus (known as shafting).
- *‘Amphetamine’ powder (speed)*: is usually white or yellow in colour and is usually not very pure (around 5% methamphetamine). It is the most common form of methamphetamine in Australia, and is usually snorted but can also be swallowed or injected.
- *Crystalline methamphetamine (ice, crystal, crystal meth)*: looks like slivers of glass or crystal-like white, beige or yellow powder and can be very pure (up to 80%). However, more commonly it is heavily ‘cut’ (i.e. mixed with other things) so this purity is often much lower (10–20%). It is usually smoked or injected.
- *Base methamphetamine (paste)*: is an oily, waxy product made during the process of making crystal methamphetamine. It is usually white, yellow or brown. Base is less pure (40–50%) than crystal. It is usually injected but can be swallowed.
- *Dexamphetamine (Ritalin) tablets*: are intended for the treatment of ADHD (Attention Deficit Hyperactivity Disorder) but are sometimes misused for the high they produce.
- *Cocaine (‘coke’)*: usually comes as a white powder (cocaine hydrochloride). It is mostly snorted, but it is sometimes injected or swallowed. Cocaine powder cannot be smoked because its melting point is too high so it does not turn into vapours (fumes).
- *Freebase*: is another form of powder cocaine (that has had the hydrochloride removed). It is more pure than regular cocaine, and can be smoked.
- *Crack cocaine*: is a crystalline form of cocaine that is usually smoked. It is more pure than cocaine powder or freebase powder. It usually looks like small yellowish-white crystal rocks. It is rarely used in Australia. Crack cocaine can be smoked because it has a lower melting point than cocaine powder.

## EFFECTS ON THE BODY

The length of time that a user will feel 'high' after taking a single dose of stimulants depends on:

- Tolerance (when more of the drug is needed to get the same effect)
- Amount used
- Purity of the drug
- How it is used (e.g. swallow, snort, inject)
- How often it is used
- What other drugs are used at the same time.

Infrequent users may take one or two doses over a session lasting 8–12 hours; heavier dependent users may use every couple of hours for 3–4 days continuously.

### Some of the physical effects common to all stimulants

- Increased movement, restlessness, muscle twitching, tremors – i.e. shaky hands
- Increased body temperature, sweating and dry mouth
- Big pupils (dilated), wide-open eyes, blurred vision
- Breathing faster
- Have more energy, strength and reflexes
- Do not need to eat as much
- Do not need to sleep as much
- Enhanced awareness of the senses, e.g. sounds seem louder and lights and colours look brighter
- Increased pulse and blood pressure.

### Some psychological effects common to all stimulants

- Having more energy
- A strong sense of happiness (euphoria)
- Being more alert and able to concentrate, heightened awareness
- Being more confident, impulsive behaviour (disinhibition)
- Excitable and very talkative, talking loudly and quickly.

### Some effects specific to ecstasy

- Ecstasy enhances the user's interactions with others. They become more understanding of others (empathy) and are less likely to be hostile, argumentative or aggressive than people using cocaine or methamphetamine.

**Some effects specific to methamphetamine**

- Methamphetamine use is associated with aggression or violence more often than other stimulants.

**Some effects specific to cocaine**

- People describe feelings of a greater sense of confidence and elation when using cocaine than for other stimulants.

**How do stimulants work?**

- All stimulant drugs increase the amount of chemical messengers in the brain (called monoamines). The most common monoamines are dopamine, noradrenaline and serotonin. These chemicals are important in the reward centre of the brain, i.e. the part of the brain that makes you feel good. The brain works best when it has the right balance of monoamines. Too many monoamines makes you overexcited, restless and agitated and can lead to feeling very agitated and paranoid. This is because too many monoamines cause the sympathetic nervous system to overwork.
- The sympathetic nervous system is a primitive system in the body that works to get you out of trouble when threatened, excited, frightened or anxious. However, stimulant drugs switch on the sympathetic nervous system chemically. They make you feel high (euphoric), with increased alertness and energy, and you feel like moving around quickly. You feel more confident because the body is in overdrive and the brain is very alert and working quickly.
- While too many monoamines make you over-excited, too few monoamines make you feel depressed, tired and low in energy. After using stimulants for many days in a row (binge), the brain has no monoamines left to release. This is why after taking stimulants for more than two or three days, people complain of hardly getting any effect. This is also why many users binge for a few days and then stop and sleep before bingeing again after their brain has refilled its supply of monoamines.

### The ‘come down’ or ‘crash’ after stimulant use

After being ‘high’ from stimulants, the user can experience a ‘come down’ or ‘crash’ where they can feel down and need a lot of sleep.

The more stimulants a person uses each time and the longer each session is, the worse and longer lasting the ‘come down’ or ‘crash’ will be. Without food or sleep for 2–3 days, the person will collapse and go to sleep (i.e. they will ‘crash’). After sleeping for 24 hours or more, the person will be very hungry when they wake up. The crash and come down period can last for between 2–7 days, when the person feels tired, moody and unable to concentrate.

Although people can use stimulants for days and days, eventually the chemical transmitters in the brain cells are unable to keep making the person feel high. In order to get high again, the brain needs time to recharge.

## HOW TO RECOGNISE HARMS FROM STIMULANTS

### Who gets harms from stimulants?

- The more you take and the longer you take it for, the more likely you are to run into physical or mental health problems. People can become stimulant dependent when larger amounts are used over longer periods of time.
- Problems are also more likely when stimulants are taken with other drugs (polydrug use), especially alcohol, and the risk of physical problems and risk behaviours (such as violence) goes up.
- Mental health problems are commonly seen from stimulant use, and stimulant use can make most mental health problems worse.
- Stimulant use is particularly risky for people with heart problems, or a history of fits (seizures).
- For methamphetamine users, smoking (rather than injecting) does not protect you from trouble – people can still become dependent, and become psychotic and depressed.
- Smoking methamphetamine is also bad for your lungs. Tobacco smokers can be more at risk of lung problems.

#### *Clients with a mental illness who use stimulants*

- Are more likely to experience hallucinations, violence, suicide attempts, and be admitted to hospital
- May find that their psychiatric medicine does not work as well
- May become more violent or aggressive if they have a history of violence or aggression.

### What are some of the physical harms of stimulants?

- Chest pain, abnormal heart rhythms, heart attack (especially for cocaine users)
- Risk of stroke
- Feeling unpleasantly agitated and restless
- Fits (seizures)
- Dangerously increased body temperature and dehydration – that can lead to collapse
- Jaw clenching, teeth grinding
- Dental problems – as a result of teeth grinding, as well as poor diet and not looking after teeth
- Weight loss
- Feeling tired with no energy (fatigue)
- Staggering (ataxia)
- Feeling like you want to vomit (nausea), vomiting, and ulcers
- For people who inject – becoming infected with blood-borne viruses (hepatitis C, hepatitis B, HIV), developing abscesses, and inflammation inside the heart (endocarditis).

### What are some of the psychological harms of stimulants?

- Depression
- Anxiety
- Panic
- Paranoia
- Seeing or hearing things that are not there (hallucinations).

### Stimulant-induced psychosis

Using large amounts of methamphetamine or cocaine can lead to temporary psychosis that may look the same as paranoid schizophrenia. People with stimulant-induced psychosis usually feel suspicious about other people, have unusual thoughts, and can experience delusions and hallucinations. With these delusions and hallucinations, people can hear things that are not there but can also see things or feel things that are not there (e.g. bugs crawling under the skin).

Stimulant-induced psychosis typically goes away within a few days, or at most a few weeks. People who have experienced stimulant-induced psychosis are more likely than other people to experience it again.

Stimulant-induced psychosis occurs in up to 1 in 7 users (10–15%), and is more common in dependent users, men, people who inject or smoke methamphetamine, polydrug users, and following a binge when the person has had no sleep.

### **What are some of the social harms of stimulants?**

- Aggression and violence can lead to arguments and community disruption.
- As with all illegal drugs, users can get into trouble with the law.
- People who are dependent on stimulants can spend large amounts of money on them. This takes away from money that the family could use. Some people turn to crime or sex work to pay for their drugs.

### **HOW TO RECOGNISE STIMULANT DEPENDENCE**

People who are dependent on stimulants often use for 3–4 days followed by a break (although some people may have longer periods of daily use). Because cocaine is a short acting drug (the effects drop to half in four hours), people may use many times a day, and, if they inject, their arms can be covered in track marks.

As with any substance, people who are dependent on stimulants can show:

- Strong desire (craving) or need to use (compulsion)
- Hard to control use (wanting to stop or having trouble stopping)
- Some may experience withdrawal symptoms
- Needing more of the drug to feel its effects (tolerance)
- Stimulant use starts taking over their life and becomes more important than everything else
- Continued use in the face of clear harms.

Your client may be at particular risk of stimulant dependence if they:

- Use methamphetamine. People can become addicted to methamphetamine more quickly than cocaine. People are less likely to become dependent on ecstasy.
- Have a family history of dependence
- Have used other drugs from a young age
- Have a mental illness or behavioural disorder
- Are male and use heavily
- Smoke or inject rather than those who snort or swallow the drug
- Were brought up in a disadvantaged neighbourhood or had a traumatic upbringing
- Had Attention Deficit Hyperactivity Disorder (ADHD) as a child.

## HOW TO RECOGNISE STIMULANT WITHDRAWAL

If stimulant use is stopped for more than a few days (abstinence) and not started up again, then the body starts to adjust to life without stimulants and 'withdrawal' may be experienced. This withdrawal is not life threatening and the types of severe physical problems typically seen with alcohol or heroin withdrawal are not seen with stimulant withdrawal.

- Stimulant withdrawal can last for several weeks, and includes symptoms of depression.
- Over 3–4 weeks, there should be a gradual improvement in mood and functioning. However, low mood, irritability and craving typically last for up to 10 weeks.
- As with other drug withdrawals, withdrawal will be worse in heavier users, polydrug users and people with physical and mental health problems.

### How to tell stimulant withdrawal and depression apart

#### *Stimulant withdrawal*

Lasts for weeks  
 Low mood, tearful, irritable  
 Sleep a lot  
 Increased appetite/weight increases  
 No energy, fatigued, moody  
 Craving for drugs

#### *Depression*

Lasts for months and years  
 Low mood, tearful, irritable  
 Sleep less  
 Reduced appetite/weight decreases  
 No energy, fatigued, moody  
 Low libido

## HOW TO ASSESS A CLIENT WHO USES STIMULANTS

In order to manage any drug problem you need to know what someone has taken. You can ask the client what they have used and also look at them for signs of intoxication (e.g. sweaty, tremor, big pupils, teeth grinding). You can also do a urine drug screen. People will usually give a positive urine test for stimulant drugs for up to two to three days after their last use.

People may come and ask for support with their stimulant use. However, just as commonly, stimulant use will be identified as part of an assessment for another problem, often another drug-related problem. Any of the complications already discussed may be the primary concern of the person. Most often people want help to reduce or stop their use because of the problems it has caused them. Those problems may be related to:

- Mental health and the effect stimulants have had on their mood (e.g. depression, suicidal thoughts, psychotic episodes)
- Problems with relationships
- Physical problems with their heart or loss of weight
- Unable to cope with things
- Behaviours such as violence and high-risk sexual practices that place vulnerable people at even more risk.

Whatever the presenting problem, it is likely that after an assessment you will find a lot more problems. What is important is that you make sure the person knows you are focused on helping them deal with what they consider to be the biggest problem.

### **What you observe**

- The client's behaviour may show that they are intoxicated
- Or they may be down and appear to be in withdrawal
- You may see track marks if they inject
- You may see poor self-care, particularly if they are dependent on stimulants.

### **Stimulants and ADHD**

Most people say taking stimulants speeds them up, makes them talk a lot and do lots of things. But, in people with ADHD, stimulants may make them feel calmer and able to focus and settle – remember the treatment for ADHD is with stimulant medicine such as Ritalin (methylphenidate) or dexamphetamine. People with ADHD may have been fidgety, restless, and impulsive as a child. If you are worried about ADHD or other mental health problems in your client, they may benefit from an assessment by a psychiatrist.

## **HOW TO HELP A PERSON WHO USES STIMULANTS**

Often your client will have many social and health issues when they first come for help. Dealing with all of these at once can be overwhelming for the client. In most cases, using drugs less often or stopping use altogether will reduce their problems.

### **Counselling**

Psychosocial interventions (e.g. counselling) are the best available treatment for stimulant abuse and dependence. Cognitive behavioural therapy (CBT) and motivational interviewing can help people to stop or reduce stimulant use. A CBT manual has been developed specifically for use with stimulant users (see Further reading, p. 172). These treatments can be delivered in both outpatient and residential services.

### **Rewarding people for stopping stimulants**

Contingency management (CM) is when vouchers, tokens or other incentives are used to help people stay on treatment or complete their treatment program. In practice, ways to use CM can be found everywhere, especially if there is local support from shops, sports clubs, cinemas and sports centres. Write to these places in your area and ask for some free passes or vouchers for a project you are running (for example: to help mums and kids stay off drugs). The two important aspects of CM are:

- Immediate reward for good progress
- Bigger rewards for more time off drugs.

As soon as the client has shown that they have not used that day or week (for example: a clean urine result or no injecting sites) they are given a voucher or cinema pass. The more weeks they show they are not using, the bigger the reward gets.

### **Managing or preventing stimulant withdrawal**

Management of withdrawal is largely supportive and usually the client can be managed at home. The client should be in quiet surroundings for several days and allowed to sleep and eat as much as is needed. Benzos (e.g. diazepam) may be prescribed on a short-term basis to reduce agitation. If the client is very depressed, a suicide assessment may be needed.

Symptoms of depression are highest during the withdrawal period. Therefore, it is useful to wait until after they have stopped using for four weeks to reassess depressive symptoms. The advantages of waiting are so a more accurate diagnosis can be made and to prevent unnecessary medicines from being prescribed.

However, depressive symptoms that last more than four weeks after stopping stimulant use may mean that there is underlying depression, which should be treated. There is a high risk of relapse if lasting depression is left untreated. So, severe and persistent depression will require anti-depressants. Remember that these medicines will not reduce stimulant use itself, but can help to manage major depressive episodes linked with their use.

### **How to help a person going through stimulant-induced psychosis**

The best approach to managing stimulant-induced psychosis is stopping the drug and providing sedation. However, clients are often hostile and violent because of delusions or hallucinations where the person thinks they are being persecuted (made to suffer or harassed). Because of this, safely containing and managing the client can be difficult.

They may need to be physically restrained and given medicine. Benzodiazepines (e.g. diazepam) are usually the first-line medicine, with anti-psychotics (e.g. Zyprexa) used only if additional sedation is needed. The doctor should not make a final diagnosis until the person is in a drug-free state.

### **Medicines to prevent relapse**

There are no routinely used medicines to help treat stimulant dependence. Many have been trialled, but none have been shown to be effective enough for widespread use.

## **STIMULANT OVERDOSE**

### **Recognising stimulant overdose**

People who have overdosed on stimulants:

- Are usually very agitated, restless and over-aroused
- Can also be unpredictable, and likely to lash out, often because they are frightened
- May have collapsed because they are dehydrated and are overheated
- Can have chest pain and what looks like a heart attack
- Can have fits (seizures).

Overdose on stimulants can be frightening and places the stimulant user as well as other people at risk, mainly because of violence.

### **What to do about stimulant overdose**

The most important thing is to keep the client and other people safe.

Call an ambulance if:

- You are worried someone is unable to control themselves if they are threatening or not able to move without risk of injury. While you wait, remember to stay a safe distance from the person and talk slowly and calmly. Reassure them by saying something like: “You are safe, we are getting help, no one wants to hurt you”. Try not to shout, make rapid movements or shine lights in their eyes, as this can be frightening.
- A person has collapsed from stimulant overdose: while you wait, move them into the shade, take off any heavy clothes, try and get them to drink some cold water, pour water over them and try to keep them from moving too much.
- The person has seizures or chest pain.
- Remember that there are other life-threatening medical conditions (e.g. head injury, infection) that can look like drug intoxication. If you are not sure, call an ambulance.

## REDUCING THE HARMS IF A PERSON CANNOT OR WILL NOT STOP

Tips for your client:

- Avoid drinking lots of alcohol when you use stimulants
- Avoid taking too much at a time and avoid regular use with the build-up of tolerance
- Avoid injecting
- Remember to drink water to stay hydrated.

People who are on medicines for psychiatric conditions, heart conditions or epilepsy are best to avoid taking stimulants. People who have recently had a bad experience when using a particular stimulant should avoid taking that drug.

## PREVENTING STIMULANT USE FROM EVER STARTING

- Working with communities to make young people and whole communities more resilient should help protect young people from ever starting stimulants (see Young people, p. 332).
- It is not clear if school education about stimulants helps young people avoid using. There have been some studies from overseas where students just got more interested in drugs when they heard about them.
- Practical advice for young people to help keep them safe could be to let them know that a pill sold as ecstasy may not always contain ecstasy, and drugs can affect people differently.

## FURTHER READING

Baker A, Kay-Lambkin F, Lee NK, Claire M & Jenner L (2003). *A brief cognitive behavioural intervention for regular amphetamine users*. Canberra: Australian Government Department of Health and Ageing.

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