
METHAMPHETAMINE TREATMENT GUIDELINES



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PRACTICE GUIDELINES FOR HEALTH PROFESSIONALS

SECOND EDITION

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OVERVIEW

The Methamphetamine Treatment Guidelines have been developed by Turning Point to assist Victorian health professionals in the clinical management of methamphetamine use disorder and related presentations. These guidelines also aim to improve understanding of methamphetamine use disorder in health services and the community.

The first edition of these guidelines was published in 2007, and outlined acute and longer-term interventions for methamphetamine use problems available at the time. Recent changes in methamphetamine use patterns, from lower-purity powder to high-purity/potency crystal methamphetamine, has been accompanied by increases in methamphetamine-related harms and complex presentations. This shift, along with substantive changes to the diagnosis and classification of substance use disorders, has necessitated the revision of these guidelines.

The 2018 updated guidelines provide recommendations based on current evidence and best practice for the management of methamphetamine use disorder (chronic use and withdrawal). These guidelines include the management of acute and complex presentations, including behavioural disturbances, polydrug use, injecting methamphetamine use, cognitive impairment and comorbid mental health symptoms, as well as recommendations for reducing harm, working with specific populations, and supporting families and carers.

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INTRODUCTION

In 2018, methamphetamine use remains a significant public health concern due to its high propensity for addiction, neurotoxic and neurocognitive effects, and the associated range of complex presentations that include acute mental health symptoms and behavioural disturbances. Methamphetamine use is an important contributor to the global burden of disease, and is associated with severe public health and social consequences including mortality, morbidity and criminality^[1].

In Australia, methamphetamine is the second most commonly used illicit drug after cannabis^[2]. Methamphetamine use occurs across the spectrum of society, though some groups (e.g. people who identify as LGBTIQ+, some occupational groups) have higher than average rates of use. While use of methamphetamine has remained relatively stable over the last decade and even declined in recent years, there has been a sharp increase in the proportion of those who are using high-potency crystal methamphetamine, or ice. Ice is now the main form of methamphetamine used, with a near three-fold increase from 22% in 2010 to 57% in 2016. In the same period, the purity of crystal methamphetamine has increased from less than 10% to more than 70%, and the proportion of individuals using weekly or more often has more than doubled from 9.3% in 2010, to 20% in 2016^[2].

These trends in use of high-purity/potency methamphetamine use have been accompanied by a visible pattern of more severe physical and psychological harms, which is having a significant impact on health service utilisation nationally, particularly emergency and psychiatric services^[3]. At present, clinicians and health services are faced with a range of complex presentations of chronic methamphetamine use (dependence) and withdrawal. These cases are often complicated by polydrug use, mental health symptoms including psychosis, cognitive impairment, and acute behavioural disturbances.



WHAT IS AMPHETAMINE, AND METHAMPHETAMINE?

Amphetamines are a class of chemical compounds, mostly synthetic, that exert powerful central nervous system (CNS) and sympathomimetic effects. Amphetamines include substances that can be legally prescribed (e.g. methylphenidate for attention deficit hyperactivity disorder) and those manufactured illegally e.g. 3,4-Methylenedioxymethamphetamine (MDMA) sold as 'ecstasy'.

Methamphetamine is a particularly potent compound in the amphetamine group, and is produced in powder ('speed'), paste-like ('base') and crystalline ('ice') forms. The crystalline form, commonly referred to as "ice" or "crystal meth" (**Table 1**), can be smoked, hastening the brain's absorption of the substance ^[4], and also typically exhibits higher levels of purity ^[5]. Consequently, crystalline methamphetamine is associated with higher rates of dependence and problematic use ^[5].

Table 1. Forms of methamphetamine

	METHAMPHETAMINE		
	POWDER (SPEED)	BASE	CRYSTAL METHAMPHETAMINE
Street names	goey, whiz	paste, point, pure, wax	ice, meth, shard, glass, rock, gear, crystal meth
Appearance	Fine or coarse powder	Sticky, waxy or oily form of damp powder, paste	Crystal or coarse crystalline powder
Colour	Usually white, can be pink, yellow, orange, brown	Often has a yellow or brown tinge, strong odour	Usually translucent or white, may have green, blue or pink tinge
Route of administration	Usually snorted, ingested or injected	Usually injected or swallowed, but can be smoked or snorted	Usually smoked or injected but can be snorted or swallowed

PREVALENCE AND PATTERNS OF METHAMPHETAMINE USE IN AUSTRALIA

Methamphetamine is the second most frequently used illicit drug in Australia after cannabis. Data from national wastewater drug monitoring programs, which measure drug use within populations, show that of the 18 European countries with comparable reported data, Australia has the second highest consumption of methamphetamine ^[6]. The recent National Drug Strategy Household Survey indicates that of those aged 14 and

above, 1.3 million (6.3%) have used methamphetamine in their lifetime, and 280,000 (1.4%) report use in the past year ^[2]. It was estimated that in 2013-14 there were 268 000 people using methamphetamine regularly in Australia, and 160 000 people aged 15-54 years with dependent use ^[7].

Among those with recent use of methamphetamine (i.e. during the last 12 months), the proportion of those who primarily use the crystalline form has increased from 22% in 2010 to 57% in 2016 ^[2].

Frequency of use has also increased in this group: the proportion of those using weekly or more often nearly tripled from 12.4% to 32% between 2010 and 2016. Rates of smoking methamphetamine approximately doubled from 2010 to 2013 (to ~40%), and intravenous use remained at similar levels (~10%), while other forms of administration (e.g. snorting) reduced from approximately 70% to 50% in the same period.

While less than 1% of people with any recent illicit drug use reported an overdose requiring medical attention in 2016, this rate was higher (2.9%) among those with recent use of methamphetamine [2].

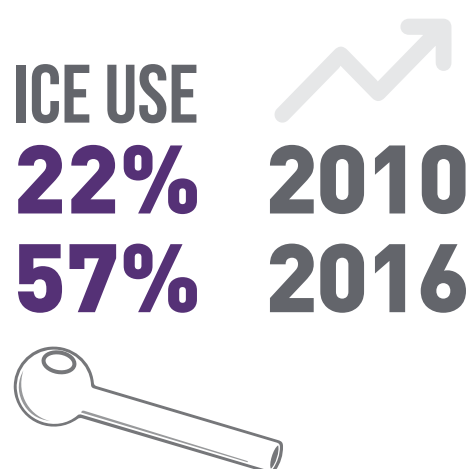
Polydrug use is very common amongst people who use methamphetamine. In Australia, among people who report recent use of methamphetamine, 73% also engage in risky drinking, 74% use cannabis, and 52% report daily tobacco smoking [2]. Other substances that are most commonly used in conjunction with methamphetamines include those that are consistent in their stimulant effects (e.g. ecstasy, cocaine), prescription drugs (e.g. benzodiazepines) and, to a lesser extent, dexamphetamine ('dexies'), GHB (gamma hydroxybutyrate, or 'liquid ecstasy'), ketamine and LSD (lysergic acid diethylamide, or 'acid') [2, 8]. Polydrug use is associated with greater psychopathology, higher levels of risky health behaviours, decreased cognitive functioning, poorer treatment engagement, withdrawal complications, poorer treatment outcomes, and increased non-fatal overdoses and drug-related deaths [9].

Among those receiving treatment for methamphetamine as a principal drug of concern in 2015-16, the majority were between 20 and 39 years of age (74%), most were male (69%), and 14% identified as being of Aboriginal or Torres Strait Islander descent [10].

1.3 MILLION AUSTRALIANS HAVE USED METHAMPHETAMINE IN THEIR LIFETIME

PROPERTIES AND EFFECTS OF METHAMPHETAMINE

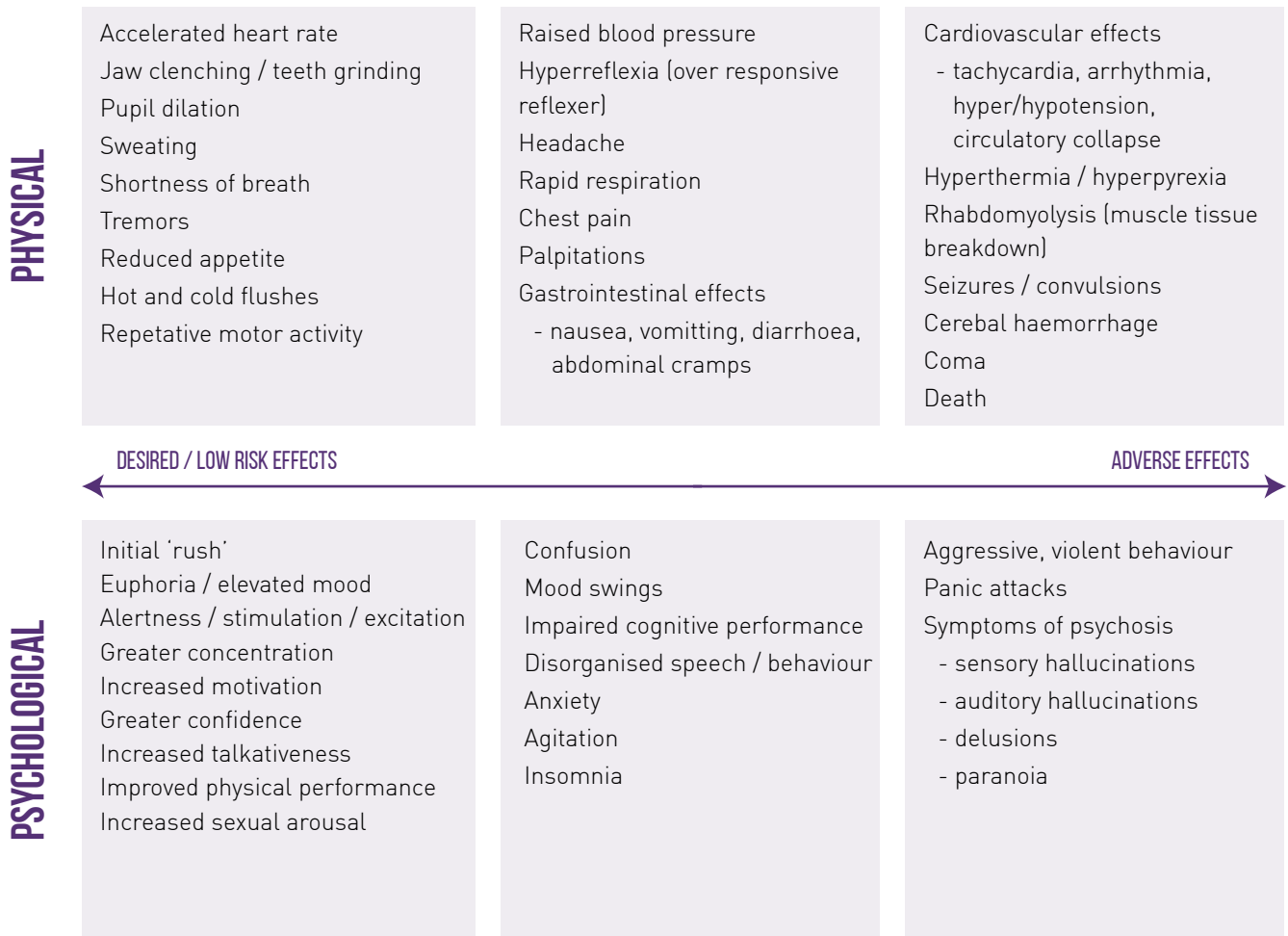
Methamphetamine is a potent CNS stimulant. Use of methamphetamine triggers a cascading release of noradrenaline, dopamine and serotonin [11]. To a lesser extent methamphetamine acts as a dopaminergic and adrenergic reuptake inhibitor and in high concentrations as a monoamine oxidase inhibitor (MAOI) [11]. This leads to an increase in synaptic concentration of these neurotransmitters and results in increased stimulation of postsynaptic receptors [12].



Methamphetamine affects neurochemical mechanisms responsible for regulating heart rate, body temperature, blood pressure, appetite, attention, mood and responses associated with alertness or alarm conditions [11]. The acute effects of the drug closely resemble the physiological and psychological effects of an adrenaline-provoked fight-or-flight response, including increased heart rate and blood pressure, vasoconstriction (constriction of the arterial walls), bronchodilation (expansion of air passages) and hyperglycaemia (increased blood sugar) [11]. People who use methamphetamine experience an increase in focus, increased mental alertness, and the elimination of fatigue, as well as a decrease in appetite [11].

Acute methamphetamine use can enhance mood, reduce levels of fatigue and is associated with a sense of power, euphoria and control [13]. The acute effects of methamphetamine can last for 8-24 hours (depending on dose/route of administration), with a plasma half-life of 11-13 hours, and a recovery period of several days following use. **Figure 1** shows the typical desired/low risk and adverse/high risk physiological and psychological effects of methamphetamine.

Figure 1. Physical and psychological effects of methamphetamine



IMPACT OF METHAMPHETAMINE ON THE BRAIN'S REWARD SYSTEM

When people use methamphetamine, the release of neurotransmitters, particularly dopamine, results in a feeling of intense euphoria and other desirable effects (e.g. increased alertness, stimulation, excitation) while the drug is active. However, this neurotransmitter excess leads to an imbalance of the equilibrium of these systems.

Dopamine has many physiological functions, including the regulation of the brain's psychological reward and motivation pathway. Dopamine release induces pleasurable feelings in response to rewards (e.g. food, sex, drugs), which is reinforcing and drives behaviour toward seeking these rewards.

The dopamine activity evoked by methamphetamine use can lead the brain to learn that methamphetamine is particularly rewarding. This can lead to an increased prioritisation of methamphetamine over natural rewards, and a reduction in the pleasure induced from these other rewards. Frequent use of methamphetamine makes it harder for the brain to maintain adequate dopamine levels^[14, 15], and diminished dopamine results in "the intense craving associated with withdrawal in drug dependent humans"^[16].

METHAMPHETAMINE DEPENDENCE

Because of its high potency, methamphetamine is a particularly addictive type of amphetamine.

Repeated use leads to the often rapid development (over weeks or months) of tolerance and dependent use.

People who use methamphetamine at least weekly are likely to manifest at least some symptoms of dependence. Methamphetamine dependence is associated with poor nutrition, poor sleep and susceptibility to illness, including mental health problems such as delusions, paranoia, depression and anxiety^[17, 18]. See page 46 for the **Management of Methamphetamine Dependence**.

Two key classification systems guide diagnosis of methamphetamine use disorder. Both of these diagnostic systems are recognised to be appropriate for use in the diagnosis of substance use disorders.

DSM-5: The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, 5th Edition^[19]:

Tolerance is defined in the DSM-5 as the need for increasing doses of the drug over time to gain the effect achieved at previously lower doses, or a need for markedly increased amounts to achieve the desired effect. Tolerance will often lead to escalation of dose.

Stimulant use disorder as it is applied to methamphetamine use in the DSM-5 is characterised by a pattern of use leading to clinically significant impairment or distress, escalation of the dose used, unsuccessful efforts to cut down, cravings, social or occupational problems, and physical or psychological problems.

Stimulant withdrawal is defined in the DSM-5 as symptoms that develop within a few hours to several days after cessation of, or reduction in, prolonged and usually heavy use, which include dysphoric mood along with physiological changes that may include fatigue, vivid and unpleasant dreams, insomnia or hypersomnia, increased appetite, and psychomotor retardation or agitation. These symptoms cause clinically significant distress or functional problems (i.e. social, occupational). Anhedonia and craving are often present.

ICD-11: The 11th revision of the International Classification of Diseases^[20], released in June 2018, provides substantial changes to the definition and diagnostic criteria of substance-induced disorders. The ICD-11 defines psychoactive substances and subgroups more specifically than in the preceding ICD-10 (i.e. 'cocaine' or 'other stimulants including caffeine')^[21], including the new classification of "disorders due to use of stimulants including amphetamines, methamphetamine or methcathinone"^[20]. Diverging from the DSM-5, the ICD-11 retains substance dependence as the central diagnosis, which features a strong internal drive to use the substance.

Harmful pattern of use is referred to in the ICD-11 as a pattern of use of stimulants including amphetamines, methamphetamine and methcathinone that has caused damage to a person's physical or mental health, or has resulted in behaviour leading to harm of the health of others.

In the 11th iteration of the ICD, the concept of harm has been expanded to include harm to the individual caused by behaviour related to intoxication, direct or secondary toxic effects on body organs and systems, or route of administration. Harm now also encapsulates the physical or psychological harm to the health of others that is directly attributable to the behaviour of an individual with stimulant intoxication.

Stimulant dependence is defined in the ICD-11 as a disorder of regulation of stimulant use, arising from repeated or continuous use, and characterised by a strong internal desire to use (i.e. impaired ability to control use, prioritised over other activities, persistent use despite harm or negative consequences) and subjective urges/cravings to use. Physiological features of dependence (i.e. tolerance, withdrawal symptoms following cessation or reduction in use, repeated use of pharmacologically similar substances to prevent or alleviate withdrawal) may be present. Features of dependence are usually evident over a period of at least 12 months, or if stimulant use is continuous (i.e. daily or almost daily use) for at least one month.

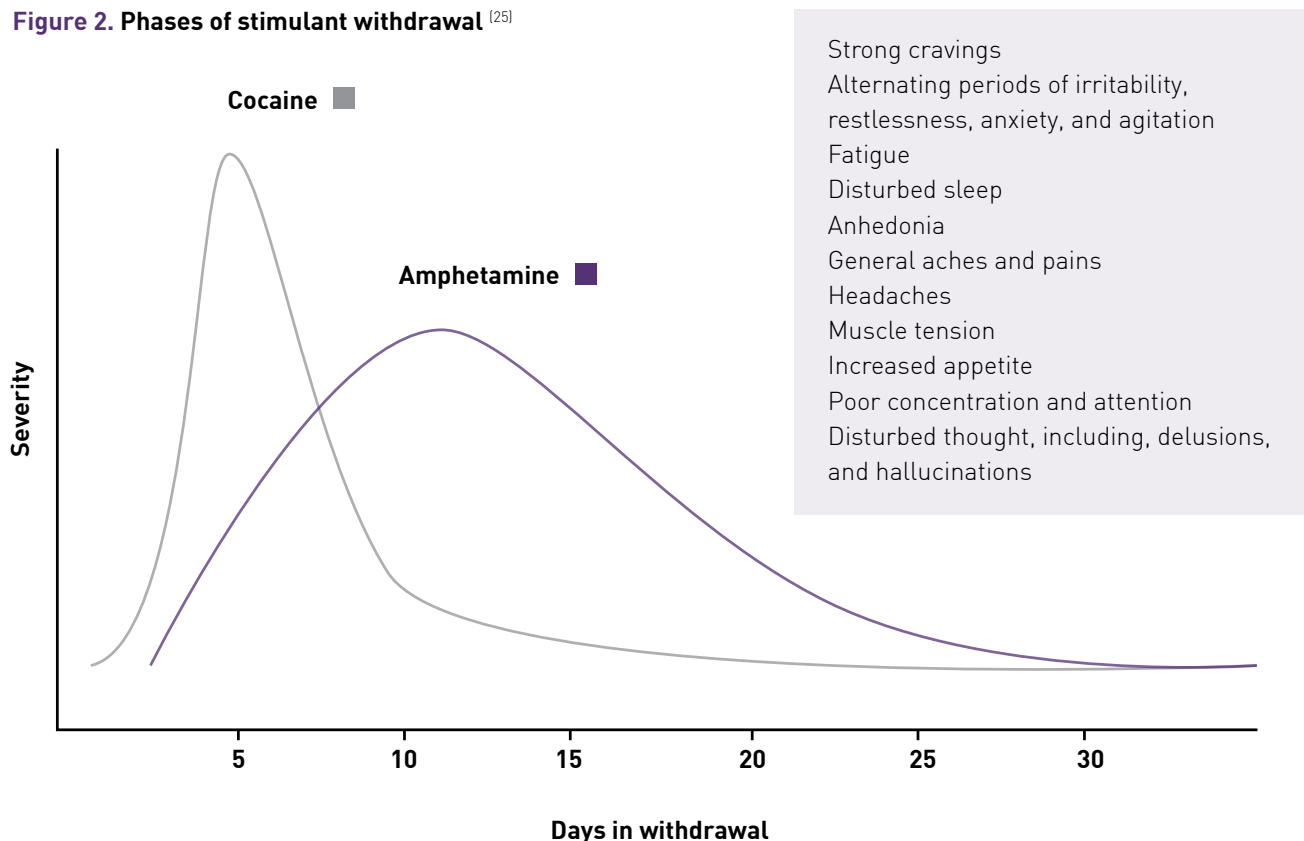
Stimulant withdrawal is defined in the ICD-11 as a cluster of symptoms and behaviours that vary in degree of severity and duration. These occur upon cessation or reduction in dependent, prolonged and/or heavy use of the stimulant. Features of withdrawal may include dysphoric mood, irritability, fatigue, insomnia or (more commonly) hypersomnia, increased appetite, psychomotor agitation or retardation, and craving.

METHAMPHETAMINE WITHDRAWAL

Withdrawal from methamphetamine is generally more protracted than the withdrawal period for other drugs. The initial period of methamphetamine abstinence is characterised by depression, difficulty concentrating, poor memory, fatigue, cravings and paranoia ^[17, 22]. Other symptoms commonly associated with methamphetamine withdrawal include anhedonia, lassitude, vivid and unpleasant dreams, and psychomotor retardation or agitation ^[19]. These symptoms typically last longer for people who use methamphetamine (approximately 10-15 days) than those withdrawing from other substances, including other CNS stimulants such as cocaine (approximately 3-5 days; **Figure 2**) ^[22-24].

METHAMPHETAMINE
WITHDRAWAL IS MORE
PROTRACTED THAN
WITHDRAWAL FROM OTHER
DRUGS LASTING APPROX
10-15 DAYS

Figure 2. Phases of stimulant withdrawal ^[25]



Methamphetamine withdrawal has been categorised into two phases ^[26]:

Phase 1: an acute phase lasting 7-10 days characterised by increased sleeping and eating and a cluster of depression-related symptoms.

Phase 2: a subacute phase during which most withdrawal symptoms remain stable, and which lasts for at least two weeks.

A '**crash**' or '**comedown**' (acute withdrawal symptoms) is often experienced after periods of repetitive high-dose use, and manifests as intense and unpleasant feelings of depression, irritability, paranoia, amotivation, low energy, sleep difficulties/increased sleep and increased appetite, and suicidal ideation or behaviour can occur ^[19, 23].

Depression is prevalent amongst methamphetamine dependent individuals. Depression and anxiety decrease significantly over a 2-3 week period, with the most dramatic reduction seen within the first week of abstinence ^[24, 26, 27].

Sleep quality may not stabilise as rapidly. Refreshed sleep has been shown to initially improve over the first week of treatment before worsening during the second week ^[24].

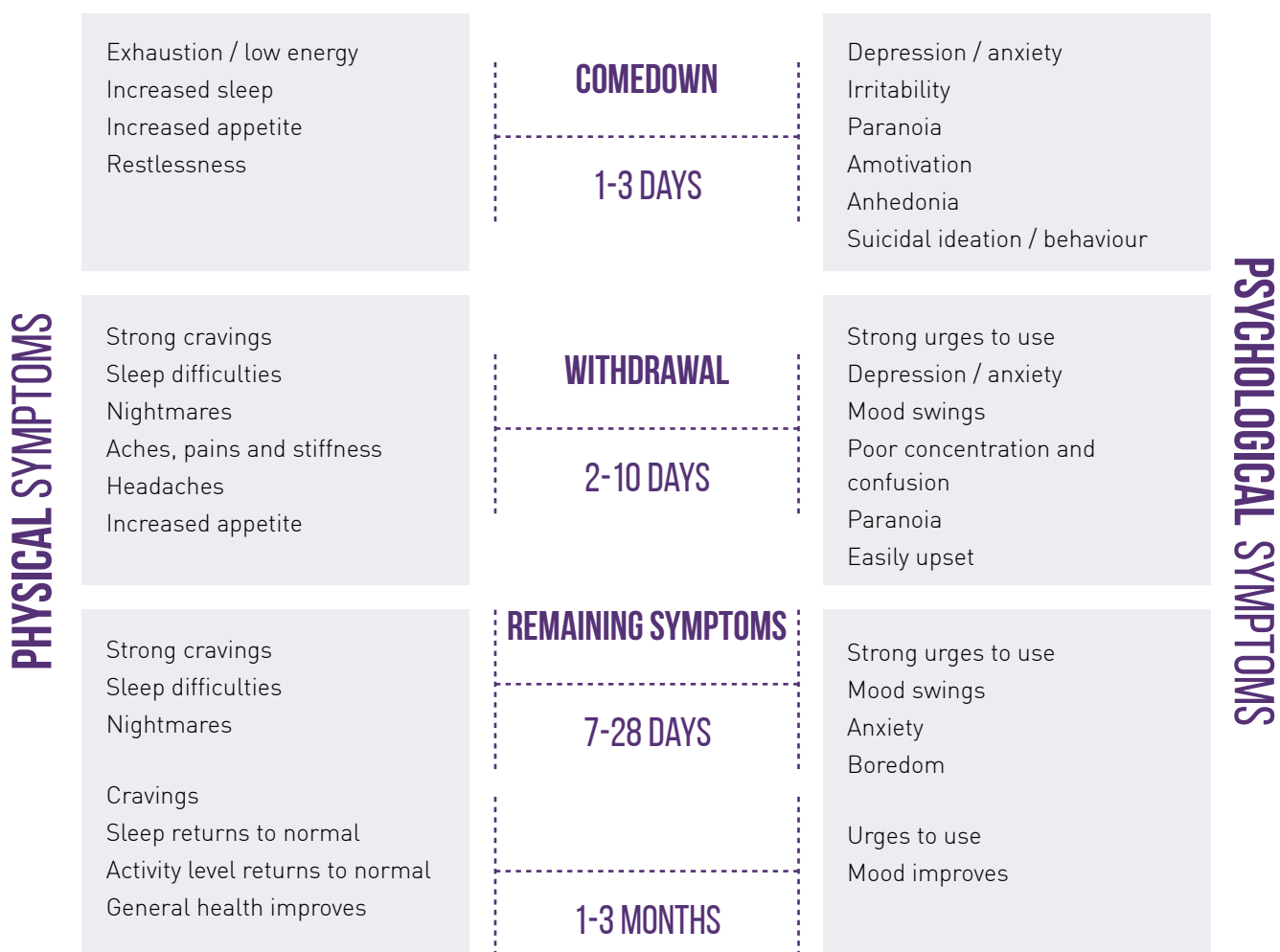
Many methamphetamine-dependent individuals may have difficulty maintaining abstinence for longer than a week due to **continuous and intense cravings** for methamphetamine during this period, with days 7-14 the most vulnerable time for relapse ^[23]. However, methamphetamine craving may persist for a longer period of time, for at least 5 weeks into abstinence ^[23] and there is some evidence to suggest that craving can persist for up to 3 months following cessation of methamphetamine use ^[28], increasing the risk of relapse during this period (**Figure 3**).

People with dependent use are likely to undergo withdrawal many times, and self-detoxification is common. Use may fluctuate between regular use, heavy use, and periods of intermittent or binge use. Withdrawal from methamphetamine is relatively safe, provided there are no additional factors involved such as polydrug use or co-existing mental or medical health conditions ^[23, 29]. See page 40 of these guidelines for **Withdrawal Management**, and also page 23 for **Treatment Modalities and Settings**.

Polydrug use is common among people withdrawing from methamphetamine. In a recent study, the use of CNS depressants including cannabis, benzodiazepines, opioids and alcohol was most frequently reported among patients admitted for methamphetamine detoxification with polydrug use^[30]. These individual substances are known to cause the greatest discomfort and most complications during the withdrawal process. Polydrug use can complicate withdrawal and necessitate referral to inpatient residential or hospital-based withdrawal care. See page 68 of these guidelines for information on the management of **Polydrug Use** of people who are using methamphetamine.

CRAVINGS FOR METHAMPHETAMINE CAN PERSIST FOR **5 WEEKS TO 3 MONTHS** AFTER ABSTINENCE

Figure 3. Methamphetamine withdrawal symptoms ^[31]



HARMS ASSOCIATED WITH METHAMPHETAMINE USE

There are a number of short-term and longer-term physical, psychological and social harms associated with the use of methamphetamine (Figure 4). Chronic use is associated with multiple deleterious medical consequences that can result from direct pharmacological effects (e.g. long-term systemic hypertension, which is a major risk factor for stroke) [32] or non-pharmacological factors related to use (e.g. severe tooth decay resulting from poor dental hygiene/dietary factors).

Figure 4. Methamphetamine-related harms [33]



METHAMPHETAMINE AND MENTAL HEALTH

MOOD AND ANXIETY SYMPTOMS

Mood and anxiety symptoms are common in people who use methamphetamine regularly, and it can be difficult to distinguish whether these symptoms are primary or secondary to drug use.

According to diagnostic criteria for methamphetamine-induced mood and anxiety disorders:

- A disturbance in affect (in excess of the symptoms usually associated with use of the drug) can occur with methamphetamine use, which is of sufficient severity to warrant clinical attention ^[19]
- Methamphetamine-induced depressive disorder is characterised by a prominent and persistent disturbance in mood or diminished interest in activities. This develops during or soon after intoxication or withdrawal, and predominates the clinical picture causing significant distress and functional impairment ^[19]
- Methamphetamine-induced anxiety disorder, similarly, is characterised by prominent anxiety and panic attacks. These symptoms develop during or soon after intoxication or withdrawal, and are of sufficient severity to cause significant distress and impaired functioning ^[19]

It is important to ascertain whether:

- The individual has a pre-existing mood or anxiety disorder which has influenced their methamphetamine use (e.g. an individual who uses ice after they experience a major depressive episode), or
- The mood or anxiety disorder occurs as a result of methamphetamine use (e.g. an individual who suffers from a manic episode after a methamphetamine binge)

These two diagnostic pictures differ from the case where both the methamphetamine use and mood/anxiety disorder coexist and are chronic, and interact in a cyclical fashion to sustain both disorders. The assessment of the potential interactions between methamphetamine use and mood or anxiety disorders is essential in treatment planning and relapse prevention.

The risk of developing co-morbid mood or anxiety disorders has been examined in the literature. Clients are more likely to require management of co-occurring mental health problems where there is heavier use of methamphetamine, injecting use, pre-existing psychological symptoms, or a family history of mood or anxiety disorders ^[34, 35].

PSYCHOTIC SYMPTOMS

Psychotic symptoms are a known psychiatric consequence of methamphetamine use, irrespective of any prior history of psychosis. Methamphetamine use is having a substantial impact on patient demand in Australian psychiatric hospitals. In 2013 it was estimated that methamphetamine use in Australia resulted in between 28,400 and 80,900 additional psychiatric admissions, predominantly due to methamphetamine-induced psychosis ^[3]. Methamphetamine-related psychiatric presentations can be particularly resource intensive due to their complex and acute nature ^[36], or when management of patient agitation is required ^[3].

Methamphetamine-associated psychosis is typically transient; however, use of methamphetamine among those with genetic vulnerability to psychosis or pre-existing psychotic disorders can lead to the onset or exacerbation of chronic conditions ^[37].

Research suggests that:

- Transient psychotic symptoms are observed in up to 40% of those using methamphetamine, and are associated with poorer treatment outcomes ^[37]
- Prominent symptoms of transient methamphetamine-associated psychosis include auditory and tactile hallucinations, ideas of reference and paranoid delusions ^[37]
- The frequency of methamphetamine use and severity of methamphetamine dependence are the strongest risk factors for development of psychotic symptoms ^[38]
- People with methamphetamine dependence are five times more likely to develop psychotic symptoms during periods of drug use compared to periods of abstinence ^[39]
- Rates of psychosis linked to smoking methamphetamine are comparable to rates of psychosis among those who inject methamphetamine ^[38]

For some individuals, psychotic symptoms may worsen immediately after cessation of methamphetamine use (during withdrawal) but usually settle over a relatively short period of time – a matter of days or weeks. If symptoms resolve within a month of ceasing methamphetamine use, it is likely to have been a drug-induced psychosis.

For others, psychotic symptoms may persist for a month or more, which may be suggestive of a more enduring psychiatric condition^[19]. It is estimated that about one in three people who go to hospital for methamphetamine psychosis go on to develop schizophrenia or bipolar disorder^[40].

For people with a history of pre-existing psychotic illness, like schizophrenia, methamphetamine is likely to worsen symptoms and reduce the effectiveness of antipsychotic medication. Furthermore, methamphetamine use may contribute to other factors, which influence the risk of psychotic relapse, such as medication non-compliance, conflict with family and friends, and general loss of psychological resilience to stress.

RISK OF SUICIDE

There is an elevated risk of suicide in people who use methamphetamine regularly. A review of 300 cases of methamphetamine-related suicide from Australian coronial data (2009-2015) found that suicide comprised 18.2% of all methamphetamine-related deaths, with high-lethality methods (e.g. hanging) being prevalent^[41]. The risk factors for suicide include injecting use history and depressive and psychotic symptoms (particularly visual hallucinations)^[42-44].

People entering treatment for methamphetamine use with identified suicide risk factors could therefore benefit from ongoing suicide risk assessment and targeted interventions. It is important to be thorough in collecting information about identified risk and protective factors, and prevention strategies should aim to reduce risk factors and enhance protective factors.

METHAMPHETAMINE AND COGNITIVE FUNCTIONING

People who engage in long-term chronic substance use or with severe substance use disorders often exhibit impaired cognitive functioning across multiple domains^[45-47]. Deficits in cognitive functioning may precede the onset of substance use and contribute to the development of substance use disorders, or may exist due to overdose and reduced brain oxygenation, nutritional deficits, or head injury occurring during intoxication (e.g. falls). Additionally, it is increasingly recognised that methamphetamine is neurotoxic, and that chronic use can lead to brain damage and resulting cognitive deficits^[48-54].

Among people who engage in heavy use of methamphetamine, a broad range of cognitive deficits are observed^[48, 55-57]. Increasing evidence from meta-analyses reveals chronic methamphetamine use to have an adverse impact on attention, executive functions, episodic memory, information processing speed, language, motor skills, verbal learning and memory, visual memory, and working memory^[48, 58]. These cognitive deficits are in the same range as those observed in individuals with chronic alcohol use, which is understood to produce neurotoxic effects and major cognitive disorders in the long-term (e.g. alcohol-related dementia)^[59]. However many are reversible when methamphetamine use is ceased (see page 67 of these guidelines).

Methamphetamine use has a particularly adverse impact on behavioural control, increasing impulsivity and reducing mental flexibility, resulting in impaired emotional decision-making (e.g. preference of small, immediate rewards over large, delayed rewards), action without forethought. In addition methamphetamine is associated with poor emotional regulation and poor cognitive control^[48, 55]. These cognitive functions are critical for recovery from methamphetamine use disorder as they enable individuals to monitor and inhibit behaviours and facilitate planning and healthy decision-making^[48]. Deficits in these reward- and impulse-related domains diminish the individual's ability to resist impulses to use substances.

Methamphetamine also impairs social cognition which makes it harder to discern the subtle emotional cues of others^[48, 60]. This could potentially lead to the misinterpretation of others' thoughts and intentions as threatening, which can trigger defensive, argumentative or hostile behaviour^[61, 62].

CURRENT EVIDENCE ON STROKE, CARDIOPATHOLOGY AND PARKINSON'S DISEASE

METHAMPHETAMINE AND STROKE

A recent review identifies amphetamines as a cause of stroke in 6-13% of haemorrhagic and 2-6% of ischemic stroke ^[32]. The link between methamphetamine use and haemorrhagic stroke is particularly notable ^[63]. Methamphetamine use is associated with a five times, greater risk of haemorrhagic stroke, which is more than twice the risk associated with cocaine or tobacco use ^[64]. Methamphetamine use is associated with a significantly increased risk of stroke in younger people aged less than 45 years ^[32].

Headache is a prominent early clinical feature of methamphetamine-related stroke, along with vomiting, one-sided weakness and seizures. Methamphetamine-related stroke is associated with poorer health outcomes including higher mortality ^[32]. One third of haemorrhagic strokes result in death, and 40% of cases experience residual symptoms and disability of varying extent ^[64].

METHAMPHETAMINE AND CARDIOPATHOLOGY

Long-term methamphetamine use is significantly associated with increased risk of a number of acute cardiac events, including acute coronary syndrome, acute myocardial infarction, acute aortic dissection and sudden cardiac death ^[65]. Chronic features include: coronary artery disease, cardiomyopathy, hypertension ^[65-67], and heart failure ^[68].

METHAMPHETAMINE AND PARKINSON'S DISEASE

Limited findings suggest an increased risk of developing Parkinson's disease (PD) in persons using methamphetamine: specifically, enduring psychomotor deficits and dopaminergic dysfunction due to long-term use are associated with a higher rate of PD ^[69]. A small number of epidemiological studies have also identified a significantly younger age of PD onset in methamphetamine-using individuals when compared with population norms ^[70, 71].

BARRIERS TO ACCESSING TREATMENT

Relative to the number of people who use methamphetamine, the rate at which those with methamphetamine use disorder present for treatment at specialist services remains low. A lack of confidence in what services can offer is cited as a major barrier to accessing treatment for this group. People who use methamphetamine face challenges due to severe craving, protracted dysphoria, and episodes of psychosis, which influence poor engagement in treatment and high dropout rates ^[3, 72].

There are a number of additional barriers that impact on the uptake of treatment by people with problem AOD use, including those who use methamphetamine (Figure 5) ^[73]. It is important to assess and address the clients' particular circumstances which may affect their

engagement in treatment, for example addressing basic needs that may include transportation, housing, and financial assistance ^[73].

At the level of service provision, long wait times to access services, and transition between assessment, detoxification and rehabilitation, are major barriers faced by this population. The opportunity for immediate detoxification is often unavailable, which can lead to individuals becoming despondent and giving up on the wait. Detoxification is brief and currently not commensurate with the needs of people who use methamphetamine. These factors affect engagement in treatment and also contribute to the large proportion of clients who relapse after detoxification ^[74].

Figure 5. Barriers to accessing AOD treatment

PSYCHOSOCIAL BARRIERS



- Lack of motivation or desire to change
- Thinking level of use isn't serious enough for treatment, or that it will get better on its own
- Lack of confidence in / knowledge of treatment options
- Confidentiality / privacy concerns
- Legal implications (e.g. fear of child custody)
- Issues with transportation
- Experience of stigma
- Additional complexities (e.g. housing, financial)

BARRIERS AT SERVICE PROVISION LEVEL



- Wait times / insufficient places in treatment
- Treatment not suited to individual's situation (e.g. polydrug dependence, women with children, individuals from CALD backgrounds)
- Negative staff attitudes
- Accessibility (location of treatment)
- Inconsistent service supports (e.g. not returning calls)

PRINCIPLES OF TREATMENT

WORKING EFFECTIVELY WITH CLIENTS WHO USE METHAMPHETAMINE

Working with clients who use methamphetamine has its unique challenges. It is acknowledged that methamphetamine abuse is a cyclical and relapsing condition, and interventions may need to be applied repeatedly before significant change is achieved. It is important to respect and embrace a clients' personal treatment goal/s whether that is abstinence, a reduction in use, stabilisation or respite. Positive experiences of treatment are vital to continued client engagement. As a starting point, empowering clients in treatment, including them in decision-making, identifying sources of support, and tailoring the approach to the individual are essential aspects of working effectively with this client group (**Figure 6**).

Figure 6. Best-practice approaches to working with clients who use methamphetamine



APPROACH

- Calming, non-judgemental, patient, respectful, open
- Avoid patronising language
- Appropriate humour and language
- Include client in conversation (don't use third person)
- Provide clear and concise information
- Use neutral/non-discriminatory language
- Don't make assumptions (family/gender/sexuality/cultural practices)



COLLABORATE

- Explain client rights and responsibilities, and confidentiality
- Explain available treatment options
- Balance client goals and clinical judgement
- Develop a comprehensive treatment plan
- Seek consent and client involvement in decision making



SUPPORT

- Build a therapeutic alliance
- Identify family and/or other supports
- Provide avenues for support (especially if not inpatient/residential)
- Be supportive if relapse/re-presentation occurs
- Continuity of care with same staff member where possible



TAILOR

Consider:

- pattern and extent of use, and current withdrawal status
- use of other drugs
- mental health and other complexity factors
- risk of harm to self and others
- stage of change

Provide alternatives to group/intensive activities in acute withdrawal

Provide a comfortable environment with:

- minimal noise, clutter and objects that could be used as weapons
- controlled temperature and ventilation
- comfortable furniture
- subdued lighting and colours
- in a convenient location

STEPPED CARE

Stepped care is an approach to treatment that responds to changing client needs and risk by modifying the intensity of care. The stepped care model begins with implementing the least intrusive treatment option, then increasing the intensity or adding treatments if the former approach is ineffective. Treatment options are scaled up or scaled down, depending on level of need or client preference ^[75]. Stepped care has been identified as a useful approach to treating methamphetamine dependence ^[75-77]. This graded approach to treatment can:

- Allow for client heterogeneity, different severity of use, and different stages of readiness to change
- Allow for flexibility in intervention and match the treatment to the client's needs and preferences
- Optimise service provision by reducing unnecessarily intensive interventions

A stepped care approach is recommended for people who use methamphetamine, which can involve access to care in hospital/psychiatric settings, community residential or non-residential AOD settings, based on each client's needs ^[78]. Any model of stepped care for this group requires consideration of the significance of withdrawal symptoms in the acute and subacute phases, (see page 12, **Methamphetamine Withdrawal**) and the high rates of relapse and prolonged methamphetamine-related harm that may necessitate transition to post-withdrawal support.

HARM REDUCTION APPROACH

Harm reduction underpins most AOD treatment in Australia. This approach recognises the individual's choice to continue their drug use, whilst providing information and education to minimise the physical, psychological and social harms that may be a consequence of continued use, including the harms associated with long-term use (e.g. cognitive impairment, stroke, cardiac events). This may include a reduction in drug consumption (e.g. quantity and frequency), safer means of drug administration, and lifestyle improvements.

Being familiar with the specific harms and risks associated with methamphetamine abuse and dependence (e.g. polydrug use, behavioural and psychological disturbances) is essential in order to provide targeted and relevant interventions. See page 29 (**Part I: Assessment**) of these practice guidelines for information on assessing risk of harm, and page 40 (**Part III: Management of Methamphetamine Use Disorder**) for information on reducing methamphetamine-related harms.

It is important to recognise that physical and psychological harm to others may arise as a result of the behaviour of a person using methamphetamine (e.g. family violence, harm to dependents). The concept of harm due to stimulant use has been expanded in the recently released ICD-11 ^[20]. The ICD-11 now explicitly recognises harm to the health of others, which can include any form of physical harm, trauma or mental disorder that is directly attributable to an individual's behaviour related to stimulant intoxication. See page 34 of these guidelines for information on **Assessing risk of harm to others**.

**HARM REDUCTION
CAN INCLUDE REDUCED
DRUG CONSUMPTION,
SAFER ROUTES OF
ADMINISTRATION, AND
LIFESTYLE IMPROVEMENTS**

TREATMENT MODALITIES AND SETTINGS

Data from 836 publicly-funded alcohol and other drug (AOD) treatment services in Australia show that, in 2015-16, methamphetamine was the second most common primary drug of concern, accounting for 34% of presentations for treatment^[10].

There are multiple treatment modalities and settings through which people with methamphetamine-use problems can be supported, which vary in level of structure and support provided. A substantial proportion of clients with methamphetamine use problems do respond positively to treatment provided across multiple service types and settings, with substantial gains made in terms of reductions in longer-term drug-related harms, reduced methamphetamine use and, to a lesser degree, continuous abstinence^[79, 80]. For currently available programs specifically designed for people who use methamphetamine, visit <https://www2.health.vic.gov.au/alcohol-and-drugs/aod-treatment-services>.

CARE AND RECOVERY COORDINATION (CASE MANAGEMENT)

The definition of coordinated care can vary between services, including case management as well as integrated, shared or multidisciplinary care. Core elements of care include continuity, coordination and a person-centred approach^[81]. This usually involves a comprehensive assessment of client needs, the development of a care plan in collaboration with the client, assertive linkage to treatment and care across health and welfare services, and supporting engagement in training, education and/or employment as well as social participation.

In Victoria, care and recovery coordination provides additional, individualised, flexible and longer-term support. It is available to people who are assessed to have the highest need or who are at the greatest risk (i.e. drug and/or alcohol dependence with more than one complexity issue, who are identified as requiring longer-term support)^[82]. Care and recovery coordination supplements other AOD treatment services over a longer period (i.e. 12 months after

commencement of treatment), and can also include pre-care support to clients on waiting lists (e.g. telephone, face-to-face or online).

Care and recovery coordination can be achieved through case management, which has a long and relatively successful history for the treatment and support of several mental health conditions in the United States, Canada, Europe and Australia^[83]. Case management is a client-centred strategy that includes assessment, planning, linking, monitoring and advocacy as part of the enhancement of coordination and continuity of services, and is particularly suited to AOD clients with multiple and complex needs. A recent systematic review of AOD service delivery found case management to be particularly appropriate for clients with multiple and complex needs that cannot be met by a single provider, and was associated with improved participation and retention in AOD treatment^[84]. While case management is intensive, often requiring a large time investment from case managers, this can be overcome by adopting a strengths-based approach and expanding sources of support (e.g. including informal help networks)^[84].

People with methamphetamine use disorder typically have multiple complexities in addition to problematic drug use. High levels of complexity were observed among participants of the largest Australian methamphetamine treatment evaluation study (MATES)^[79]. Among those with methamphetamine dependence attending detoxification units and residential rehabilitation facilities, respectively: 74% and 89% were unemployed; 46% and 38% had been incarcerated; 40% and 29% had incomplete schooling; 13% and 5% experienced housing instability (i.e. no fixed address); and, 12% and 15% had immigrant status. Additionally, there was a high prevalence of psychiatric comorbidity (i.e. 38% and 40% with major depression; 21% and 23% with social phobia; 15% and 29% with panic disorder; 8% and 13% with schizophrenia or mania, 71% and 80% with conduct disorder).

The Patient Pathways study ^[85], which examined outcomes relative to the treatment trajectory of AOD clients in Australia, identified a considerable need for support around system navigation and multiple service involvement with emphasis on care coordination in meeting this need. For those who had not received care coordination, service systems were seen as complex and difficult to navigate, despite most participants having significant previous treatment experience.

A key component of an effective treatment model is coordination of care, underpinned by a strong and ongoing therapeutic alliance ^[85], which can more efficiently respond to clients' multiple and complex needs. Methamphetamine use disorder is associated with high levels of psychosocial disadvantage and complexity, compounded by greater challenges with treatment engagement, higher dropout rates, more severe craving, protracted dysphoria and psychiatric sequelae. This suggests that many people entering treatment will require assistance in accessing (and remaining engaged in) withdrawal and post-withdrawal care, and in navigating the broader health and welfare system, if they are to achieve their treatment goals.

WITHDRAWAL TREATMENT SETTINGS

There is currently limited evidence to recommend one setting over another for methamphetamine withdrawal ^[86]. Clients who seek support for methamphetamine withdrawal can do so in a residential (i.e. a community residential withdrawal unit - 'detox' - or a hospital inpatient setting) or non-residential (i.e. home or community-based) outpatient withdrawal setting. Clinical decision making regarding the appropriate setting for a client to withdraw depends on ^[86, 87]:

- Client preference
- Social factors – whether the client has stable accommodation, social support, and social commitments or dependents (i.e. work, children, pets) that influence the choice of non-residential/residential withdrawal
- Substance use factors – dependence on other substances additional to methamphetamine, history of complicated withdrawal
- Comorbidity factors – psychiatric or medical comorbidities, risk of self-harm/suicide, or pregnancy

HOSPITAL INPATIENT WITHDRAWAL

Hospital inpatient detoxification/withdrawal, when feasible, provides a high level of medical care for patients experiencing withdrawal from methamphetamine. This may be the preferred treatment setting when there is a risk of complex withdrawal due to substance use factors or due to another condition.

Inpatient detoxification typically involves a brief (e.g. 1 week) inpatient stay with medical support to manage withdrawal symptoms.

COMMUNITY RESIDENTIAL WITHDRAWAL

Specialist AOD residential detoxification/withdrawal services typically provide 24-hour, medium-level supportive care to clients withdrawing from methamphetamine. Residential withdrawal settings have capacity to manage complex withdrawal and stepped care approaches. While medical support is often provided, it is at a lower intensity than in hospital inpatient settings^[87]. The duration of stay is generally short-term (7-10 days).

Detoxification/withdrawal should not be used as a standalone treatment for methamphetamine use disorder. The evidence suggests that the benefits of detoxification alone are short-lived. In the MATES study^[79], detoxification alone did not change methamphetamine use at any follow-up, relative to a non-treatment comparison group, and whilst 42% of participants with detoxification as their index treatment in the Patient Pathways study^[80] reported past-month abstinence 12 months later, it was noted that many had engaged in subsequent AOD treatment.

NON-RESIDENTIAL (HOME-BASED) WITHDRAWAL

Home-based withdrawal may be suitable for clients experiencing mild-to-moderate methamphetamine withdrawal symptoms, usually assessed to be at low risk of complex withdrawal (or for clients who refuse inpatient treatment).

Home-based withdrawal involves collaboration with a supervising GP or nurse prescriber as well as other AOD services. Medication to support withdrawal can be dispensed daily or every few days depending on abuse potential or supervision requirements. A home environment that is conducive to a period of withdrawal (i.e. drug free) and an appropriate support network are critical elements of home-based withdrawal.

RURAL AND REGIONAL WITHDRAWAL SUPPORT

When geographical factors (i.e. rurality, transport difficulties) preclude access to community residential withdrawal, rural withdrawal support may involve a short hospital stay (when necessary and if available), followed by home-based withdrawal. Rural and regional withdrawal support services employ specialist withdrawal nurses to provide home-based medical advice and care, supported by local medical services if required. Further support from a family member or friend is recommended between visits from specialist/medical support staff.

Clients undergoing non-residential outpatient withdrawal in rural or regional areas in Victoria may benefit from engaging in distance-based support in the form of telehealth or e-health counselling, such as DirectLine on **1800 888 236** or Counselling Online via **www.counsellingonline.org.au**. For health professionals, access to specialist addiction medicine support is available via the **Drug and Alcohol Clinical Advisory Service (DACAS)** on **1800 812 804** or visit: **www.dacas.org.au**

POST-WITHDRAWAL TREATMENT SETTINGS

RESIDENTIAL REHABILITATION

Residential rehabilitation typically involves a stay of several weeks to months in a residential setting that provides an intensive programme of integrated services and therapeutic activities (e.g. behavioural treatment approaches, recreational activities, social and community living skills, group work and relapse prevention ^[79]).

To varying degrees, residential programs incorporate elements of recovery group philosophies such as 12-step based approaches, or therapeutic communities where participants live in a community with other people wanting to address their substance use.

There is evidence that clients with methamphetamine dependence do particularly well with residential rehabilitation. In the MATES study ^[79], residential rehabilitation was associated with a greater likelihood of continuous abstinence from methamphetamine one year after treatment compared to those who received no treatment or detoxification only. Similarly in the Patient Pathways study ^[80], the abstinence rate for methamphetamine use at 1 year post-treatment was 81% for those with rehabilitation as their primary index treatment.

During residential rehabilitation, the provision of individual counselling, maintaining good rapport with clients, and longer duration of stay are all associated with a greater probability of abstinence from methamphetamine use ^[88]. However, these gains are balanced against a low probability of prolonged abstinence overall - for those with methamphetamine use disorder who stay in residential treatment for a median of 8 weeks, only 23% remain abstinent one year after treatment ^[88].

Although people who inject methamphetamine have a lower probability of abstinence overall, these clients still show greater probability of abstinence with longer treatment duration and individual counselling ^[88].

NON-RESIDENTIAL REHABILITATION

As an alternative to residential rehabilitation, or for clients who do not want to participate in rehabilitation within a residential setting, several models that provide non-residential or 'day' rehabilitation have been developed. An example of this is the Torque program run by UnitingCare ReGen in Victoria, which offers a 6-week structured non-residential program for people engaged in the criminal justice system, offering intensive post-withdrawal support, group work and one-to-one sessions including cognitive behavioural therapy (CBT) and motivational interviewing (MI), recreational and social activities, linkages to services, and family involvement. While there is some preliminary evidence that non-residential rehabilitation models are associated with improved outcomes (e.g. reduced frequency of methamphetamine use) ^[324], at this stage more rigorous evaluation is needed.

LONGER AND
CONTINUOUS
ENGAGEMENT IN
TREATMENT
LEADS TO BETTER
CLIENT OUTCOMES



ADDITIONAL RESOURCES: TREATMENT SETTINGS

Alcohol and Drug Withdrawal Guidelines	Best practice guidelines for clinicians working with clients in withdrawal, outlining evidence-based treatment interventions.	www.turningpoint.org.au/treatment/clinicians/withdrawal-guidelines
Health.vic: AOD Treatment Services	Information about alcohol and other drug treatment services in Victoria. Includes overview of AOD treatment system, intake and referral information, and types of services available.	https://www2.health.vic.gov.au/alcohol-and-drugs/aod-treatment-services
Health.vic: Residential Treatment Services	Information about residential treatment services in Victoria. Includes downloadable file – Residential rehabilitation alcohol and other drug treatment: Information about residential rehabilitation and how to access this treatment.	www2.health.vic.gov.au/alcohol-and-drugs/aod-treatment-services/aod-residential-treatment
Health.vic: Catchment-based Intake Services	List of service providers offering intake services for people seeking to access the state-funded alcohol and other drug treatment system in Victoria.	www2.health.vic.gov.au/alcohol-and-drugs/aod-treatment-services/pathways-into-aod-treatment/intake-assessment-providers-aod-treatment
YSAS Adolescent Withdrawal Guidelines	A resource for clinicians and other health professionals to support adolescents in the community seeking to undergo AOD withdrawal.	www.ysas.org.au/sites/default/files/YSAS0106_WithdrawalGuidelines_2016_v14_FA_WEB.pdf *case sensitive
YSAS Youth Withdrawal Support	YSAS can provide access to Home Based Withdrawal or Residential Withdrawal for young people in metropolitan and regional Victoria.	www.ysas.org.au/program-services

PRACTICE GUIDELINES

In recent years, there has been increasing research into the development of effective psychosocial and pharmacological interventions for people with methamphetamine use problems. However, there remains a scarcity of evidence-based treatment options. Despite the effectiveness of psychosocial approaches, attrition and relapse rates remain high. Meanwhile, research into pharmacotherapy approaches has so far failed to find medication with adequate benefit to justify routine widespread use.

People who use methamphetamine are particularly difficult to engage and retain in treatment. Many individuals attempt to withdraw from methamphetamine without specialist support, use other illicit drugs to self-manage withdrawal symptoms, and tend to seek formal treatment only when the consequences of continued methamphetamine use are severe. Changing methamphetamine use patterns along with increases in complex presentations further challenge treatment approaches.

Based on the available evidence and current best practice, these guidelines provide recommendations for the management of methamphetamine use disorder (chronic use and withdrawal). These guidelines include the management of acute and complex presentations, including behavioural disturbances, comorbid mental health symptoms, cognitive impairment, polydrug use and injecting methamphetamine use, as well as recommendations for reducing harm, working with specific populations, and supporting families/carers. We know that, for people who use methamphetamine, addiction continues beyond formal treatment and after services close for the day. Continuity of care is key to an effective and efficient healthcare system, and is one of the biggest predictors of successful recovery from addiction. These guidelines provide recommendations for aftercare and the support of longer-term treatment goals, which may be critical to sustaining positive behaviour change.

In order to respond effectively, clinicians and services need to provide (and facilitate) referral to a broad range of treatment options that include acute and longer-term interventions, effective interventions for complex presentations, and interventions which are responsive to fluctuating readiness for change and other barriers to treatment engagement and retention.

PART I: ASSESSMENT

Comprehensive screening and assessment performed upon presentation to treatment services is essential for determining the most appropriate and potentially effective treatment intervention for the client. The goals of assessment are to:

- Obtain information about the client
- Establish rapport with the client, to set the foundations for continuing a supportive relationship
- Identify potential risks during withdrawal care
- Clarify individual requirements and goals
- Provide information about withdrawal care and treatment options

Accurate information should be gathered through clinical interview about the characteristics of methamphetamine use (e.g. quantity, frequency, mode of administration), other drug use, and complexity factors (see **Drug Use Assessment** on page 30).

Assessment informs the level of intervention required and the presence of complexity factors (e.g. unemployment, unstable housing, family violence, legal and financial issues). Importantly, assessment should identify cases of polydrug use and dependence, co-occurring mental health symptoms, and other risk factors that may impact on the individual's experience of methamphetamine dependence, withdrawal and treatment.

Conducting a comprehensive assessment is an essential requirement of determining the most appropriate and potentially effective treatment intervention for the client. It provides a baseline of information from which clinically relevant support can be provided. Assessment is not a single event, but rather an evolving process that identifies problems as they emerge. Therefore, assessment commences treatment, and should be reviewed throughout the treatment process. Comprehensive screening and assessment processes are enhanced through clear communication. Good clinical practice entails a non-judgemental, empathic, and respectful approach that seeks to engage with clients. It aims to provide all clients with a positive early treatment experience, commencing at first contact, and continuing throughout treatment.

The majority of people who use methamphetamine do so in conjunction with other drug use, so a thorough clinical assessment of all drug use is essential. Comorbid mental illness is common, and all individuals who present with methamphetamine use problems should be screened for mental health symptoms. Engagement is often cited as a barrier to treatment for methamphetamine use, therefore assessing readiness for treatment and monitoring engagement is important.

These practice guidelines recommend the use of the Victorian Department of Health and Human Services AOD Specialist Intake and Comprehensive Assessment Tools, available online: www2.health.vic.gov.au/alcohol-and-drugs/aod-treatment-services/pathways-into-aod-treatment/intake-assessment-for-aod-treatment

**COMPREHENSIVE
ASSESSMENT HELPS
TO IDENTIFY THE MOST
APPROPRIATE TREATMENT**

DRUG USE ASSESSMENT

Core elements of the drug use component of client assessment include:


- Accurate information about all aspects of methamphetamine use
- Indicators of severity of dependence, withdrawal symptoms and significant periods of abstinence
- Evidence of dependence on or withdrawal from other drugs
- Risk behaviour associated with mixing drugs, including overdose or toxicity
- Psychosocial factors
- Treatment goals

Accurate information should be gathered through clinical interview about:

- Type/s of methamphetamine being used
- The quantity and frequency of use
- The route of administration
- Duration of use
- Other drug use

Information about other drug use should be gathered in the same way, with a particular emphasis on the pattern of drug use in relation to methamphetamine use, such as mixing other drugs with methamphetamines and using other drugs (particularly CNS depressants) to alleviate the comedown effects of methamphetamine.

POLYDRUG USE
IS COMMON IN PEOPLE
WHO USE METHAMPHETAMINE
AND MUST BE ASSESSED



ASSESSING DEPENDENCE

Information should be gathered about significant symptoms of methamphetamine dependence as defined in DSM-5 or ICD-11 diagnostic criteria (see page 11 for information on **Methamphetamine dependence**).

Indicators of dependence can include:

- Escalation of the dose used
- Persistent desire or unsuccessful efforts to cut down
- Cravings
- Continued use, despite social or occupational problems caused or exacerbated by use
- Continued use, despite physical or psychological problems caused or exacerbated by use
- Tolerance
- Withdrawal symptoms following cessation or reduction in use

The **Severity of (Methamphetamine) Dependence Scale (SDS) (Work sheet 1)** ^[89] can be used to

measure the client's degree of dependence. This scale has been validated with an amphetamine-using population and includes cut-offs that have been identified for dependence. **The Craving Experience Questionnaire (CEQ) (Work sheet 2)** ^[90] can be used as a brief psychometrically sound tool to measure methamphetamine cravings.

Dependence can be affected by the type and purity/potency of methamphetamine used, and the mode of administration. A high level of dependence, or rapid dependence, may be also associated with:

- Injecting methamphetamine
- Use of crystal methamphetamine
- Heavy use

PSYCHOSOCIAL FACTORS IMPACTING ON DRUG USE

Assessment of clients with methamphetamine use problems should also include the standard information that would be gathered for any AOD client. Assessing the general health and psychosocial characteristics of the client (e.g. legal, financial, employment, relationships, supports) is important, not only in being able to offer comprehensive and integrated treatment (including referrals to other relevant services) but also to help identify potential barriers to change (e.g. partner's continued drug use).

GOALS OF TREATMENT

Given the prevalence of polydrug use among people with methamphetamine use problems, it is important to be clear about what the treatment goals are for each drug type. Some individuals may choose to abstain from methamphetamine altogether, while continuing to use other drugs on either a dependent or recreational basis. Others may feel that a goal to control their use of methamphetamine is more realistic and achievable. Approximately half of those with methamphetamine use problems presenting to treatment are wanting to reduce their use rather than abstain completely.

Treatment goals should not be limited to drug use only. Other goals may include monitoring of mental health and assisting the client to develop a greater awareness about the relationship between methamphetamine use and psychiatric symptoms; as well as goals of remaining engaged in treatment (particularly given the low rates of retention in treatment for this group).

ASSESSING READINESS FOR CHANGE

It is particularly important to explore readiness for change and other factors that may impact on engagement:

- Avoid making assumptions about the client's ambivalence about change.
- The **Stages of Change (Work sheet 3)** can be used to discuss readiness to change with the client.
- Monitor engagement closely throughout treatment and adapt interventions accordingly.
- Motivational enhancement and assessment techniques may be useful. Potential strategies for single session MI can be found on page 100 of these guidelines (**Appendix A: Brief Psychological Intervention – Session 1**).

ASSESSING RISK OF HARM

It is important to identify potential harms associated with methamphetamine use, including harms when methamphetamine is combined with other drugs.

Drug-Related Harm Identification (Work sheet 4) is a tool that can assist in identifying harms associated with methamphetamine use, which can precede the setting of some goals to manage and reduce harms. In addition, as transition to injecting is a significant risk for people who don't inject, the client's thoughts about injecting should be assessed.



GOALS OF TREATMENT CAN INCLUDE MONITORING MENTAL HEALTH, AND REMAINING ENGAGED IN TREATMENT

MENTAL HEALTH ASSESSMENT

Given the high incidence of mental health problems among people with methamphetamine use disorder, it is highly recommended that clinicians develop the skills to effectively assess and manage comorbidity. Addressing only the drug use disorder may increase the risk of relapse and disengagement with treatment. A comprehensive mental health assessment should focus on:

- Identifying symptoms of depression, anxiety and psychosis (the most common psychiatric symptoms associated with methamphetamine use)
- Duration of symptoms
- Whether symptoms are present only during use or persist after methamphetamine use has ceased
- Previous treatment for mental health problems

Conduct an assessment of the comorbidity of substance use disorder and psychiatric illness, using the following prompts:

- Consider the range of symptoms caused by each identified substance
- Determine whether substance use preceded the psychiatric symptoms, using questions such as:
 - *How old were you when you first experienced (symptoms)?*
 - *How old were you when you started using (substance) regularly (at least weekly)?*
- Determine duration and patterns of use and effect on psychiatric symptoms, using questions such as:
 - *Has there been a time when you have not used (substance)?*
 - *If yes, how long was this for and how did this affect your symptoms?*
- Determine duration and patterns of psychiatric symptoms and effect on substance use, using questions such as:
 - *Has there been a time when you have not experienced (symptoms)?*
 - *If yes, how did this affect your use of (substance)?*

The **Kessler Psychological Distress Scale (K10) (Worksheet 5)** ^[91] is a brief measure that can be used to assess level of mental health symptoms and psychological distress.

Alternatively, the **PsyCheck Screening Tool** is an alternative mental health screening tool for mental health symptoms that are often seen within specialist AOD treatment services. It is not designed to be a diagnostic assessment and will not yield information about specific disorders.

The PsyCheck Screening Tool is a resource available as an optional module ('Optional Module 4') of the Victorian AOD Intake Process and Tools, and can be downloaded from: www2.health.vic.gov.au/alcohol-and-drugs/aod-treatment-services/pathways-into-aod-treatment/intake-assessment-for-aod-treatment

Both instruments have been designed to detect potential mental health problems that may be missed if not specifically assessed by the clinician or raised by the client. For this reason, it is important that a screening instrument is administered to all clients, even if they do not appear to have a mental health problem.

If required, see page 65 for more information on **When and how to refer to a mental health service.**

SUICIDE AND SELF-HARM RISK ASSESSMENT

The Victorian AOD Comprehensive Assessment’s **Suicide and Self-Harm Risk Assessment (Work sheet 6)** is based upon the SAFE-T approach ^[92]. Suicide assessments should be conducted at first contact, and when there is any pertinent clinical change.

Suicide inquiry should include specific questioning about ^[92]:

- **Ideation:** frequency, intensity, duration – in last 48 hours, past month and worst ever

- **Plan:** timing, location, lethality, availability, preparatory acts
- **Behaviours:** past attempts, aborted attempts, rehearsals (e.g. tying noose), non-suicidal self-injurious actions
- **Intent:** extent to which the patient a) expects to carry out the plan, and b) believes the plan/act to be lethal vs. self-injurious
- **Explore ambivalence:** reasons to die vs. reasons to live

Clinicians should follow organisational protocols if high risk of suicide is identified; however, **Table 2** outlines potential responses to levels of risk.

Table 2. Risk levels and response to suicidality

LEVEL OF RISK	ACTION
No or minimal risk	- Monitor as required
Low risk: some thoughts but minimal risk factors, no previous attempts, no specific plan, intention or means, evidence of minor self-harm, protective factors (e.g. available supports)	- Monitor closely and agree on a verbal or written contingency plan with client - Provide support numbers - Obtain commitment to follow the contingency plan should feelings escalate
Moderate risk: thoughts, some risk factors, plan has some specific detail, means are available, intention to act in near future but not immediately, some protective factors (e.g. inconsistent supports)	- Offer or refer for further assessment/contact with mental health or other appropriate service - Agree on a written contingency plan with client, clearly outlining relevant supports to be contacted if feelings escalate - Request permission to inform emergency mental health team and/or family - Consult with supervisor as necessary
High risk: thoughts, previous attempts, risk factors, clear and detailed plan, immediate intent to act, means are available (and lethal), social isolation	- Immediately refer to hospital mental health services or emergency mental health team - Call the Emergency Call Service 000 if necessary - Obtain support from supervisor if required

If required, see page 65 for more information on **When and how to refer to a mental health service.**

SCREENING FOR PSYCHOSIS

Florid psychotic symptoms are usually easy to identify, however, people with methamphetamine use problems may present with a range of low grade psychotic symptoms that are unusual but more difficult to pinpoint. These include:

- **Paranoia:** suspiciousness about treatment, friends or acquaintances, such as other people plotting to harm them
- **Delusions:** extreme beliefs that are unsupported by evidence (i.e. the client believes they are invincible or that someone is trying to contact them through the television)
- **Hallucinations:** seeing, hearing, smelling or feeling things that other people cannot. People who use methamphetamine often report tactile hallucinations like bugs crawling under their skin and sometimes hearing voices or seeing things out of the corner of their eye

Clinical interview is the most effective way to uncover these symptoms. Allow the client to feel comfortable enough to disclose symptoms. Ask about details in a way that indicates that you understand the symptoms and reflect feelings back appropriately without reinforcing these symptoms (for example: 'that must make you feel scared').

An instrument designed to measure psychotic symptoms is the **Psychosis Screen (Work sheet 7)** and may be a helpful adjunct to the clinical interview. If you are unsure about how to assess for psychotic symptoms, consult with a mental health professional.

Individuals presenting with psychotic symptoms in the context of methamphetamine use should be referred to mental health services or reviewed by a psychiatrist or psychologist.

If required, see page 65 for more information on **When and how to refer to a mental health service.**

ASSESSING RISK OF HARM TO OTHERS

Methamphetamine-associated risk of harm, beyond those for the individual using methamphetamine, can occur. Methamphetamine is sometimes associated with violence in the general community. There is evidence from longitudinal research that violent behaviour can increase during periods of methamphetamine use, compared to when the individual is not using the drug^[93]. The risk of violent behaviour can be further increased when psychotic symptoms are experienced, or when there has been heavy alcohol consumption^[93].

Methamphetamine use is a significant public health risk, particularly for children and other family members of the person using the drug, who may be exposed to physical aggression and/or maltreatment^[94].

In assessing risk of harm to others, the aim is to establish:

- Risk of aggression/violent behaviour toward family members – being alert to family violence
- Risk of harm to dependents in the person's care

Prolonged wakefulness, inadequate food intake, and the binge/crash cycle associated with methamphetamine use can result in harm to dependents in the person's care (i.e. children, older people)^[94]. Potential risks may involve the neglect of a child's need for regular sleep/wake and dietary requirements, or otherwise loss of ability to care for their children appropriately (e.g. during periods of fatigue/sleep during 'comedown' and withdrawal periods).

A 2014 systematic review from the United States found that children from methamphetamine-affected homes experience family contexts that are similar to the experiences of substance-affected children in general. This can include traumatic experiences including neglect, physical and sexual abuse, exposure to violence, parental antisocial behaviour [95]. In methamphetamine-affected homes the presence of trauma symptomatology in children is clinically and

statistically elevated [compared with children from non-methamphetamine-affected homes] [95].

In establishing risk of harm to dependents in the context of a client's methamphetamine use, secondary consultations with Child FIRST or notifications to Child Protection may be appropriate (See **Additional Resources** below).

ADDITIONAL RESOURCES: RISK OF HARM TO OTHERS

1800 RESPECT

A 24/7 national sexual assault and domestic and family violence counselling service that provides support for people experiencing, or at risk of, domestic or family violence, or sexual assault (friends, family, and health professionals supporting an individual can also call this service).

Phone: 1800 737 732

<https://www.1800respect.org.au/>

Child FIRST

Child FIRST is a State Government Initiative to help vulnerable families, children and babies. The primary purpose of Child FIRST is to ensure that children, young people and their families are linked effectively into all relevant services.

Information on making a referral to Child FIRST:

<https://providers.dhhs.vic.gov.au/making-referral-child-first>

Child FIRST referral numbers, by area:

<https://services.dhhs.vic.gov.au/referral-and-support-teams>

Child Protection

The Victorian Child Protection Service is specifically targeted to those children and young people at risk of harm or where families are unable or unwilling to protect them.

Information on reporting to Child Protection:

<https://services.dhhs.vic.gov.au/child-protection>

Child Protection phone contacts, by area:

<https://services.dhhs.vic.gov.au/child-protection-contacts>

PART II: MANAGEMENT OF ACUTE PRESENTATIONS

Recognising and responding to acute methamphetamine-related presentations can be challenging. Some individuals with methamphetamine use problems experience an increase in agitation and aggressive behaviour as a consequence of use. The aim is to minimise risk of harm, while upholding the rights of the client by using the least restrictive means to de-escalate behaviour^[96]. It is essential that clinicians and services are clear about their local safety procedures and appropriate responses to managing clients who present in an agitated or aggressive state. Regular training can help clinicians to feel adequately prepared to effectively respond to these situations and ensure the safety of the patient, staff and others in the vicinity. Acute presentations related to methamphetamine use are outlined in **Table 3**.

Table 3. Characteristics of acute presentations

ACUTE METHAMPHETAMINE PRESENTATIONS	Toxicity, serotonin syndrome, overdose symptoms may include chest pain, headache, rapid respiration, hypertension, tachycardia, diaphoresis, hyperthermia/hyperpyrexia, seizures/convulsions, gastrointestinal effects
	May be accompanied by behavioural disturbances and/or psychosis
	Psychosis symptoms may include sensory/auditory hallucinations, persecutory delusions, ideas of reference May be accompanied by behavioural disturbances
	Behavioural disturbances symptoms may include agitation, panic attack, distress, fear, hypervigilance, paranoia/suspiciousness, hostility, aggression, violence May indicate the presence of psychosis

MANAGING ACUTE TOXICITY

Methamphetamine overdose (toxicity) is a medical emergency. If untreated, overdose can lead to heart attack, stroke, rhabdomyolysis (breakdown of muscle tissue), hyperthermia, kidney failure and possibly death [32, 63, 65, 97-99].

Steps 1 to 4 can be used to guide the assessment and management of acute methamphetamine toxicity.

STEP 1: OBSERVE FOR CLINICAL SIGNS OF TOXICITY

In management of acute methamphetamine presentations, clinical assessment focussing on signs of toxicity will be of more value than attempts to determine the ingested dose [100, 101]. Symptoms that may alert clinicians to potential toxicity include [102, 103]:

- Sympathomimetic effects (e.g. hyperthermia, hypertension, tachycardia, diaphoresis and increased respiratory rate)
- Severe headache
- Chest pain
- Gastrointestinal symptoms (e.g. abdominal pain, vomiting and diarrhoea)
- Akathisia (inner restlessness)
- Delirium
- Sudden cardiovascular collapse
- Seizures

STEP 2: MANAGEMENT OF ASSOCIATED BEHAVIOURAL DISTURBANCE

Toxic presentations may be accompanied by disturbances in behaviour (e.g. extreme agitation, pacing, aggressive and violent outbursts). For advice on managing behavioural disturbance please refer to **Managing aggressive or agitated behaviour** on the next page.

STEP 3: MANAGEMENT OF ASSOCIATED PSYCHOLOGICAL SYMPTOMS

Methamphetamine toxicity is frequently associated with severe agitation, panic, fearfulness or hypervigilance, as well as psychotic symptoms (e.g. hallucinations, paranoia or delusions). For advice on managing psychological disturbance please refer to **Managing acute psychotic symptoms** on the next page.

STEP 4: SUPPORTIVE CARE AND MEDICAL MANAGEMENT

The intensity of management depends upon the severity of illness. Control of agitation and hyperthermia are core aspects of management. Uncontrolled agitation results in hyperthermia, acidosis, rhabdomyolysis, and sudden cardiovascular collapse. Hyperthermia is strongly associated with mortality and morbidity if not rapidly corrected. Rhabdomyolysis is a frequent complication of acute methamphetamine toxicity, and contributes to renal failure and hyperkalemia.

Where there is marked derangement of vital signs, intervention such as intravenous fluid resuscitation and cardiac monitoring may be indicated. This will be guided by medical and/or critical care teams involved in the patient's care in a medical inpatient setting.

For mild severity serotonin toxicity, supportive care, regular observation and consideration of sedation with a benzodiazepine or antipsychotic may be required. For more marked serotonin toxicity, supportive care in a critical care setting with specialist input is indicated [104, 105].

Gastric decontamination ('stomach pumping') for acute intoxication has been associated with risks and harms, including potential neurological and cardiovascular complications, and there is no evidence of benefit from its use [100, 106].

MANAGING ACUTE PSYCHOTIC SYMPTOMS

Psychotic symptoms are frequently experienced among individuals who use methamphetamine. Acute symptoms can include agitation, delusions, hallucinations, and violence, and may require management in an inpatient psychiatric or other crisis intervention setting.

Sedatives and antipsychotics have also been shown to be effective in managing the acute symptoms of methamphetamine-induced psychosis. The level of sedation attained will be based on clinical setting, but should not exceed mild drowsiness, and is aimed at controlling agitated behaviour, to allow assessment and further management [101, 104].

MANAGING AGGRESSIVE OR AGITATED BEHAVIOUR

People who use methamphetamine can experience increased sensitivity to perceived threats. Agitation and aggression can be triggered by intoxication, withdrawal, or co-occurring alcohol/other substance use, or may occur in response to the experience of fear, paranoia, psychosis or an environmental situation (e.g. long service wait time).

Behaviours associated with agitation and aggression that may become a concern include:

- Pacing
- Being unsettled
- Paranoia/suspiciousness
- Delusions (persecutory or grandiose)
- Argumentative with little or no provocation
- Easily upset over trivial things
- Threatening others
- Feeling dissatisfied with everyone
- Offering unwarranted criticism
- Criticising surroundings
- Condemning staff of inadequate sensitivity, training or qualifications
- Claiming that everyone is out to make things difficult for them
- Feeling unsupported

When responding to difficult behaviours such as those listed above, it is important to remain aware that the patient's judgement might be impaired and that they may not be experiencing the situation the same way you are. This may be an indicator of the presence of psychotic phenomena caused by methamphetamine use, which may make the patient a risk to themselves or others.

Most current guidelines recommend a stepped or tapered response to agitated methamphetamine presentations, usually commencing with oral benzodiazepines with the addition of antipsychotics in some cases, and parenteral therapy if toxicity is not manageable with oral medications.

Steps 1 and 2 on the following page can be used to guide response to methamphetamine-related aggressive or agitated behaviour.



STEP 1: ATTEMPT VERBAL DE-ESCALATION AND MAXIMISE CLIENT/STAFF SAFETY

In situations where a patient demonstrates signs of escalating verbal aggression, all reasonable steps should be taken to seek resolution without physical contact ^[107]. A common initial approach is to provide calm reassurance and “talk down” the individual in a quiet environment to minimise stimulation ^[37].

Staff should consider wearing a personal duress alarm and be aware of where their nearest emergency duress button is located during these encounters. Having another staff member or security present should be considered to maximise safety. Other staff in the vicinity of the area should also be made aware that a high risk situation is being entered, and that further back-up support may be requested. A low stimulus interviewing space where there are no distractions or potential weapons, and easy access to exit points should be utilised.

Clinicians should also be mindful of maintaining a safe distance from the client. In dealing with the client who is verbally aggressive, staff should remain calm and use effective communication skills to de-escalate the situation. De-escalation techniques include validating a client’s concerns in a non-judgemental manner, listening to the client, adopting a steady, calm, tone, offering choices and optimism and avoiding provocation.

In the case of extreme agitation or aggression and/or escalating threat of physical injury to the client, yourself or others, clear other clients from the area and escalate management. Staff should seek help and back-up support (if not already present) to ensure the appropriate clinical management of any aggressive behaviour and the safety of those involved. This may include calling for support from other staff, initiating a duress response, activating the local emergency response (e.g. Code Grey) or calling for police or emergency service attendance if appropriate.

STEP 2: PHARMACOLOGICAL MANAGEMENT IF NECESSARY

In the case that pharmacological management is necessary to manage behavioural disturbance, the goal should be mild sedation to manage agitated behaviour to allow assessment and further management ^[101, 104]. In the event pharmacological management is required clinicians should refer to their local clinical processes, procedures and guidelines where possible.

Most current guidelines recommend a stepped or tapered response to agitated methamphetamine presentations, usually commencing with oral benzodiazepines (e.g. lorazepam, diazepam) with the addition of antipsychotics (e.g. olanzapine) in some cases ^[108].

The following general principles ^[108] apply in the management of acute methamphetamine-related agitation:

- Avoid polypharmacy, and medication combinations that may cause excessive respiratory depression or that may be pro-arrhythmic
- Avoid benzodiazepines in patients who have a delirium or head injury
- Acute behavioural disturbance suspected to be due to psychosis should be treated with an antipsychotic (for antipsychotic-naïve individuals, use of a benzodiazepine plus low-dose antipsychotic may be indicated)

PART III: MANAGEMENT OF METHAMPHETAMINE USE DISORDER

WITHDRAWAL MANAGEMENT

Methamphetamine withdrawal is relatively safe, though is generally more protracted than withdrawal from other drugs. With cessation of use, particularly after multiple consecutive days of heavy (binge) use, it is common for those with dependence to need extended withdrawal care. Planning is key to the success of withdrawal from methamphetamine. Information obtained during assessment, and during discussions with the client, informs the withdrawal care plan. Planning for post-withdrawal should also commence at the assessment phase. The **Amphetamine Withdrawal Questionnaire (AWQ) (Work sheet 8)** ^[109] can be used as a short, reliable and valid measure for assessing methamphetamine withdrawal symptoms.

Figure 7 can be used to guide the management of methamphetamine withdrawal. Comprehensive withdrawal guidelines are available in the Alcohol and Drug Withdrawal Guidelines www.turningpoint.org.au/treatment/clinicians/withdrawal-guidelines

ASSESSMENT OF WITHDRAWAL

SHOULD EXPLORE...

- Methamphetamine dependence (DSM-5 & ICD-11)
- Characteristics of use (quantity, form, frequency, route of administration)
- Polydrug use or dependence
- Physical health issues associated with methamphetamine use (e.g. respiratory, neurological, and cardiovascular conditions)
- Physical health issues associated with injecting use (if appropriate)
- Mental health issues (e.g. depression, anxiety and/or psychotic symptoms)
- Pregnancy
- Severity of any previous withdrawal episode

PREPARE THE CLIENT

BY DISCUSSING...

- Previous withdrawal attempts - what was/wasn't helpful?
- Likely course of withdrawal/recovery (symptoms, duration, severity), and relevant support/assistance
- Dependence on other drugs
- Withdrawal environment (home or supervised detoxification)
- Avenues of support (friends/family) who may provide assistance
- Ways of maintaining motivation
- The role of withdrawal medication and referral to relevant doctor (if appropriate)
- Potential treatment options following withdrawal (reduce relapse, encourage ongoing treatment)
- Any additional factors for consideration

CREATE WITHDRAWAL CARE PLAN

DOCUMENTING AND ADDRESSING...

- Likely severity of withdrawal based on previous history of complex withdrawal
- Risks associated with substance use, such as overdose history
- The client's motivation for withdrawal care, where this is a planned withdrawal presentation
- The client's goals during withdrawal care (i.e. withdrawal, maintenance, reduction, or substitution)
- Potential barriers that may impact on achieving the client's withdrawal goals
- Available support to enhance the likelihood of success
- Inclusion of family and significant others where appropriate

POST-WITHDRAWAL PLANNING

SHOULD...

- Support the client's goals which may pertain to accommodation, child protection, domestic violence, and legal support
- Support client access to post-withdrawal services that provide ongoing support and advocacy
- Involve family and significant others in postwithdrawal care, as appropriate, to help implement the client's post-withdrawal plan

Clients undergoing methamphetamine withdrawal require ongoing assessment and monitoring. Given the time course of withdrawal, clients may not display signs of withdrawal during the 'crash' phase, but more complex withdrawal symptoms or complications may occur several days later - this is when another assessment should be undertaken.

Once a withdrawal plan has been agreed, clinicians should regularly monitor the progress of their client's withdrawal. Providing a withdrawal scale (such as the Amphetamine Withdrawal Questionnaire) so clients can monitor and review their progress may be a useful adjunct to psychosocial supports.

Figure 7. Steps in the management of methamphetamine withdrawal [87]

WITHDRAWAL COMPLICATIONS

In general, methamphetamine withdrawal symptoms are well tolerated [23]. Occasionally, withdrawal from methamphetamine may precipitate serious complications. Such complications may be associated with:

- High levels of methamphetamine use
- Concurrent medical or psychiatric conditions
- Polysubstance use

Complex withdrawal associated with methamphetamine is most associated with aggression, agitation and violent outbursts.

The safety of clients and staff is integral to effective withdrawal care. This is particularly important when withdrawal complications arise. Ongoing monitoring and review are essential elements of managing a complex withdrawal. In some circumstances, specialist medical advice, care or transfer to the emergency department may be warranted. All AOD clinical service staff should be trained in First Aid, including cardiopulmonary resuscitation (CPR) procedures. Clear accident

and emergency policies and procedures should be integrated into staff induction and orientation processes, with regular updates/reviews for all staff in clinical environments [87].

SUPPORTIVE CARE

Since withdrawal from methamphetamine can be more protracted than withdrawal from other drugs (such as alcohol and opioids), the environment and support play key roles in the client's ability to maintain motivation for change and complete withdrawal. Frequent monitoring, reassurance, information and a suitable environment can help to reduce withdrawal symptom severity (Table 4).

Regular monitoring should occur throughout withdrawal care in order to respond to client needs as they arise. The frequency of monitoring should be dependent on symptom severity and the withdrawal care setting.

Table 4. Actions to support methamphetamine withdrawal [87]

SUPPORTIVE CARE FACTORS	SUPPORTIVE CARE ACTIONS
Check withdrawal severity	Using an appropriate withdrawal assessment tool (e.g. the Amphetamine Withdrawal Questionnaire, Work Sheet 8)
Physical check	Consciousness and vital signs (blood pressure, pulse, temperature, and respiratory rate)
Hydration	Offer fluids
Check environment	Calm, quiet, low lighting, private and safe, with supportive person(s) available. Environment that supports sleep.
Check level of anxiety	Reassure, allay concerns and fears, offer positive encouragement, provide relevant information
Check physical comfort	Pillows, blankets, heat packs/bags

PSYCHOSOCIAL APPROACHES DURING METHAMPHETAMINE WITHDRAWAL

Complex comorbidity and social factors may further contribute to distress in this group, highlighting the potential utility of psychosocial approaches during methamphetamine withdrawal.

Withdrawal programs typically incorporate a range of psychosocial activities, including individual and/or group counselling, CBT and relapse prevention, contingency management (CM, not widely used in Australia) and MI. The severity and duration of the withdrawal syndrome, and the distinct phases of withdrawal, need to be considered when offering psychological interventions.

- **Phase 1: Acute phase of withdrawal lasting 7-10 days** – Methamphetamine withdrawal-related issues during the acute phase of withdrawal (e.g. fatigue, increased/disturbed sleep, craving, depression, anxiety, hostility, psychotic symptoms and cognitive impairment) may be likely to interfere with participation in psychological treatment [26]. During the acute phase, rest, reassurance, supportive withdrawal, symptom management and psychoeducation are more appropriate than psychological therapies, which may have limited effectiveness at this stage. During this acute phase of withdrawal, behavioural strategies can be employed to address specific issues such as anxiety, or to enhance motivation to deal with cravings and remain in treatment.
- **Phase 2: Subacute phase of withdrawal lasting a further 2+ weeks** – The subacute phase of withdrawal (or when severe symptoms have resolved) may be a more suitable time for the introduction of psychological interventions. It is important to consider that withdrawal symptoms may continue to be severe during this subacute phase, and may interfere with therapies offered during this time. During the subacute phase of withdrawal, CBT, CM and MI currently represent best practice for increasing abstinence rates and reducing anxiety, depression and social

dysfunction [110]. There is recent research to suggest the benefit of regular exercise in reducing cravings, depression and anxiety during early abstinence [111,112]. Sleep quality can worsen during this phase of withdrawal; behavioural strategies to manage sleep difficulties can be employed. The fact sheet, **Why Sleep is Important**, can be provided to clients to enhance their knowledge about and strategies for sleep: www.turningpoint.org.au/spotlights/why-does-sleep-matter

PHARMACOTHERAPY FOR METHAMPHETAMINE WITHDRAWAL

To date, there is no standard (approved) pharmacotherapy for the management of acute methamphetamine withdrawal [113]. Despite two decades of research, no candidate medication has shown adequate benefit to justify routine use. Importantly, the safety of medications used as part of withdrawal or treatment protocols has not yet been demonstrated in any Phase III clinical trials. In the absence of evidence to support clinical recommendations, any use of medication treatment needs to be carefully considered, weighing up the risks and benefits for the individual.

IN ACUTE WITHDRAWAL, REST, REASSURANCE AND SYMPTOM MANAGEMENT CAN BE COMPLEMENTED WITH BEHAVIORAL STRATEGIES TO ADDRESS ANXIETY, CRAVINGS AND INCREASE TREATMENT RETENTION.

Managing withdrawal from methamphetamine consists primarily of supportive and psychosocial interventions, which may be assisted with the use of symptomatic medications. Most commonly, benzodiazepines are used to manage symptoms of irritability, sleep disturbance and anxiety that are characteristic of methamphetamine use. A benzodiazepine such as diazepam may be prescribed with other symptomatic agents (such as simple analgesics and antiemetics) to reduce symptoms that occur in the first few days after cessation of a period of chronic methamphetamine use. The use of symptomatic sedative medication for methamphetamine withdrawal should not continue beyond one week, given the addictive potential of benzodiazepines and similar sedative drugs. Clients withdrawing from methamphetamine may need to be supported through the several weeks to months over which symptoms of

sleep disturbance and anxiety may persist. The Alcohol and Drug Withdrawal Guidelines ^[87] can be referred to for additional information on withdrawal care, available via: www.turningpoint.org.au/treatment/clinicians/withdrawal-guidelines

While there have been several classes of medications trialled for the pharmacological management of methamphetamine withdrawal in randomised clinical trial settings, there remains limited evidence to support use of these agents in the routine management of withdrawal. **Table 5** summarises the outcomes of existing trials in this area.

Table 5. Pharmacological management of methamphetamine withdrawal

MEDICATION	NUMBER OF TRIALS	DOSE RANGE	DURATION	OUTCOMES	REFERENCES
Mirtazapine	4	15-60mg	Up to 14 days	No evidence of change in withdrawal symptom severity or craving, compared to placebo. Some evidence for reduction in anxiety, hyperarousal ^[114] .	[114-117]
Modafinil	4	200mg	Up to 10 days	Some evidence of a milder withdrawal syndrome ^[117] and reduced craving ^[118] .	[117-120]
Dexamphetamine sustained release	2	20mg up to max 110mg	Up to 90 days (trials of withdrawal and dependence) 110mg	Some evidence of significant reductions in withdrawal symptoms and craving, compared to placebo ^[121] . Well tolerated in both trials under supervised daily dosing protocols ^[121, 122] .	[121, 122]

POST-WITHDRAWAL SUPPORT

PLANNING FOR POST-WITHDRAWAL SUPPORT

A large proportion of clients relapse to methamphetamine use after AOD treatment. Research from the United States shows that 61% relapse within the first year following treatment (36% in the first month following treatment), and that only 13% achieve continuing abstinence after five years^[74]. These low long-term abstinence rates were mirrored in an Australian study, with only 14% continuing abstinence after three years^[79]. Linking AOD clients into post-withdrawal services is associated with reduced relapse rates and improved treatment outcomes^[80]. Clients should be involved in post-withdrawal planning and made aware of available support services (i.e. outpatient counselling services, residential or non-residential rehabilitation, or peer support services). Clinicians should make contact with services on the client's behalf and actively assist the referral process (warm referral) to facilitate client engagement in post-withdrawal support.

CONTINUITY OF SPECIALIST AOD CARE

It is well-recognised that AOD treatment outcomes are improved when continuity of care is provided, which may involve case management, ongoing monitoring, ongoing specialist AOD support, and active referral and coordination between different services^[123].

The chronic relapsing nature of methamphetamine dependence denotes the need for intervention with a more sustained impact. Although residential rehabilitation facilities provide a structured environment to support abstinence, factors that are likely to trigger relapse once clients re-enter the community (e.g. cravings for the drug, socialising and living with others who use drugs, conflict and stress) need to be addressed^[79]. In the Pathways Study^[80], continuity of specialist AOD care was shown to be a significant predictor of positive treatment outcomes in the longer-term (i.e. a substantial reduction in methamphetamine use, or abstinence), compared to those who received fragmented AOD specialist treatment.

**CONTINUITY OF CARE
PREDICTS POSITIVE
LONG TERM TREATMENT
OUTCOMES**

MANAGEMENT OF CHRONIC USE (DEPENDENCE)

PSYCHOLOGICAL AND PSYCHOSOCIAL INTERVENTIONS FOR CHRONIC USE

The evidence to date shows psychological interventions, and particularly multicomponent psychosocial interventions, to be effective in addressing chronic methamphetamine use (dependence) ^[15, 124, 125]. Compared to no intervention, any psychosocial intervention increases retention in treatment and duration of abstinence while in treatment. However, there is no certain effect on craving and long-term abstinence ^[124]. A meta-analysis of psychosocial interventions for psychostimulant misuse (including methamphetamine) ^[124], which included CBT, CM and MI intervention studies, was unable to identify which of the psychological treatments are most effective. Increasingly, integrated approaches that combine multiple psychological interventions are being demonstrated to provide a stronger treatment effect ^[125, 126].

It is important to note that assessment and assertive follow-up (i.e. taking the initiative to contact the client, such as a routine telephone follow-up call four weeks after completing a treatment episode) alone may have a substantial impact on methamphetamine use, and are therefore part of good routine clinical practice.

Psychological interventions may have to be adapted to better meet the needs of individuals with methamphetamine-related deficits in cognitive function. Current evidence suggests that multicomponent models of intervention yield better treatment outcomes; therefore, accommodating potential cognitive deficits when delivering these longer interventions can serve to maximise engagement, retention and effectiveness.

COGNITIVE BEHAVIOURAL THERAPY

Cognitive behavioural therapy (CBT) is a structured psychological intervention that can be used to target cognitive, affective and situational triggers for methamphetamine use, with emphasis on skills training around coping alternatives ^[124]. CBT for methamphetamine dependence often includes recognising and challenging dysfunctional thoughts about use, identifying triggers for relapse, cue exposure, relaxation training, substance-refusal skills training, and promotion of non-drug related activities ^[127, 128]. Other important elements of CBT can include behaviour modification techniques such as coping skills training/ relapse prevention, contracting, negotiating and goal setting ^[124].

Treatment with CBT is associated with significant reductions in methamphetamine use and other positive changes (e.g. self-rated health), even with short durations of treatment (e.g. two to four sessions) ^[129, 130]. There is some further evidence that combining CBT with other modalities of psychosocial treatment (e.g. CM or MI, see below) may result in better treatment outcomes ^[129, 131].

Acceptance and Commitment Therapy (ACT), a type of CBT that emphasises the client's observation of the thinking process and the reduction of experiential avoidance by increasing distress tolerance and acceptance, is becoming more widely used in AOD treatment settings. To date however, only one study ^[132] has examined ACT for methamphetamine dependence. Compared to CBT, similar treatment benefits were found for ACT – both treatments resulted in lower levels of methamphetamine use, dependence severity and negative consequences (e.g. sleep problems, infection, loss of friendship).

CONTINGENCY MANAGEMENT

Although not widely used in Australia, contingency management (CM, 'voucher-based therapy') is an evidence-based intervention based on principles of behaviour modification ^[128]. CM uses positive reinforcement to reward the achievement of treatment goals, to make abstinence more attractive than continued drug use ^[124, 128, 129]. The incentives often includes vouchers, privileges or financial incentives that are of value to the patient, provided for behaviour that may include attendance at treatment sessions or abstinence demonstrated by drug-negative urine samples ^[129].

Treatment of methamphetamine dependence with CM is associated with significant reductions of methamphetamine use during the intervention phase ^[124], although the magnitude of treatment gains may decline post-treatment, or once the contingencies have been removed ^[129, 133]. The duration of CM interventions typically range from 8-24 weeks, and longer treatment durations have been associated with longer methamphetamine abstinence ^[134]. It is acknowledged that treatment with CM may also help clients to engage more productively in other psychosocial approaches to recovery and continuing care ^[133].

Despite the demonstrated effectiveness of CM for the treatment of methamphetamine dependence, this form of intervention is not widely used in Australia.

MOTIVATIONAL INTERVIEWING

When treating clients with methamphetamine use disorder, it is important to build and sustain motivation to engage in treatment, and to reach and maintain treatment goals. Motivational interviewing (MI) is a directive, client-centred counselling style that aims to strengthen personal motivation for change by targeting and resolving ambivalence, using empathy and principles of developing discrepancy, rolling with resistance and supporting self-efficacy ^[135, 136]. In MI, lack of motivation and resistance to change are acknowledged to be factors that are open to change.

MI has received wide support for effectiveness in treating substance dependence, however has been shown to have inconsistent effects for methamphetamine dependence ^[137]. Single-session MI is comparable to more intensive, nine-session MI in reducing methamphetamine use, however MI of longer duration may also help to alleviate psychological problems that cannot be adequately addressed in a single session ^[138].

Incorporating MI in a client's treatment plan may improve treatment outcomes. MI has been shown to increase attendance to treatment using the Matrix Model (see next page) ^[139] and, as an adjunct to CBT, appears to be useful in increasing abstinence and self-efficacy to quit ^[129].

MI may be helpful with clients who are methamphetamine dependent but who are not motivated for change. Clients with methamphetamine dependence, and who are ambivalent about change, appear to respond well to brief MI, which may increase the uptake of further treatment and ultimately lead to reduced drug use ^[128].

MULTICOMPONENT PSYCHOSOCIAL INTERVENTIONS

Multifaceted treatment strategies may better target the multiple components of methamphetamine addiction^[140]. The Matrix Model is a structured community-based intensive treatment program that combines evidence-based approaches in a manualised program for people with stimulant use disorder (methamphetamine and cocaine), including CBT, MI, harm reduction, relapse prevention, CM, family education, community engagement, social support, random weekly drug screening and lived experience mentors^[141]. This manualised therapy aims to educate the client about addiction and relapse, provide direction and support, and encourage self-help participation, goal setting, relaxation and other practical skills training to build a life without methamphetamine^[142]. The Matrix Model has been found to be effective in reducing methamphetamine use and increasing treatment engagement during the 16-week course of treatment^[125]. Compared to treatment-as-usual, the Matrix Model is associated with:

- Higher proportions of clean urine samples and longer periods of abstinence
- Treatment retention rates that are 38% higher
- Statistically significant completion rates

Relapse, treatment retention and treatment completion are persistent hurdles to recovery from methamphetamine addiction; therefore, the superiority of the Matrix Model across these measures of treatment effectiveness is an important finding. Additionally, there has been strong support for a Matrix Model dose-response, in that those who receive longer treatment episodes demonstrate significantly better abstinence outcomes^[143].

As another example of multicomponent psychosocial treatment for methamphetamine use, gay men attending a LGBTIQ-specific service in Sydney were provided with 12 sessions of individual client-centred treatment incorporating a range of therapeutic modalities (including ACT, CBT and MI), delivered within a harm reduction framework and tailored to the needs of the client^[144]. This multicomponent intervention was associated with a significant reduction in methamphetamine use and psychological distress, and improvement in quality of life.

As such, there may be a substantial benefit from extending outpatient treatment for this complex group. Integrated approaches that combine multiple psychological interventions are increasingly recognised to yield an enduring additive, synergistic effect^[126]. Using combinations of evidence-based psychotherapeutic approaches may overcome the challenge of a 'one size fits all' single treatment^[145].

The first Australian Matrix Model is currently being trialled in South Australia. We await the reporting of outcomes from this program to see if they are consistent with those reported in overseas trials^[146].

Service delivery needs to be grounded in knowledge of the unique characteristics and needs of clients who use methamphetamine, and empirical evidence of best practice for effective treatment. Evidence currently available to guide practice highlights a service delivery system that is not fit for purpose. As such, new initiatives in service delivery should seek to provide longer, more intensive, multicomponent psychosocial intervention to yield better and enduring treatment. If these early, promising findings from South Australia are replicated in scientifically rigorous evaluations, the Matrix Model could potentially be offered in other jurisdictions.

PHARMACOTHERAPY FOR CHRONIC USE

In recent years, research into pharmacological treatments for methamphetamine dependence has escalated, with goals of treatment including reduced consumption, abstinence, and treatment retention. So far, no medications have demonstrated a substantive and consistent effect [33], and there is currently no standard (approved) pharmacotherapy for the management of methamphetamine dependence or the prevention of relapse (akin to opioid substitution therapy for heroin dependence) [147].

Psychosocial treatments remain the mainstay of longer-term management of methamphetamine dependence, and medication should be reserved for particularly complex presentations where psychological therapy has failed. Trials to date have primarily investigated the use of antidepressant, antipsychotic and stimulant medication (Table 6). The majority of trials have been short-term (up to 14 weeks' duration), and it is noted that in some trials adherence to treatment has been low (e.g. 45-50%) [115, 148], and compliance with medication remains a significant challenge.

A range of emerging treatments are being researched as potential options, including baclofen, supplements such as N-acetylcysteine (NAC) [149, 150], combination medication treatments (such as bupropion SR/ naltrexone) clinicaltrials.gov/ct2/show/NCT03078075, long-acting stimulant medications (e.g. lisdexamfetamine) [151] and other 'substitution' approaches (e.g. methylphenidate, dexamphetamine) [152, 153]. There is currently minimal evidence to support substitution treatment, and this form of treatment carries a risk of diversion, misuse and interaction, and should not be offered beyond acute withdrawal unless as part of a registered clinical trial [154]. Due to the risk of misuse and dependence, benzodiazepines are not a suitable treatment for methamphetamine use beyond acute withdrawal [154].

Some new emerging agents with novel therapeutic targets hold promise. Several Cochrane [155-157] and other reviews [147, 154, 158] summarise the evidence in this area, and can be referred to for more in depth information regarding specific medication trials.

LONGER-TERM RISKS OF PHARMACOTHERAPY FOR CHRONIC USE

Pharmacological treatments for methamphetamine use disorder are not without their own risks. Drugs that aim to reduce or eliminate craving can have adverse effects on client affect and motivation. For example, while there have been mixed findings, long-term naltrexone may produce dysphoria and depressive symptoms [182], and attenuate the rewarding effects of everyday activities such as eating and sex [183, 184]. Substitution therapies that offer a controlled supply of what is otherwise a proscribed substance may then also pose similar long-term health risks to the illicit drug being substituted [182]. For example, methylphenidate increases heart rate and blood pressure, and longer-term use is associated with blood-pressure changes that are of a magnitude known to increase morbidity and mortality [185]. Pharmacotherapy with amphetamine (e.g. dexamphetamine) is associated with long-term adverse effects including dopaminergic neurotoxicity [186]. Moreover, in the context of polydrug use, pharmacological treatment for methamphetamine use may pose additional risk, including adverse drug interaction effects.

Advances in pharmacotherapy have the potential to provide new and effective treatment approaches for methamphetamine use disorder and related harms. However, pharmacological intervention alone may always fall short of delivering the benefits that can be achieved with well-run and well-resourced treatment programs that provide the necessary psychological and social support to individuals seeking help for methamphetamine use disorder.

Table 6. Pharmacological management of methamphetamine dependence

MEDICATION		OUTCOMES					COMMENTS	REFERENCES
	NUMBER OF TRIALS	DOSE RANGE	ABSTINENCE	REDUCED USE	CRAVING	TREATMENT RETENTION		
ANTIDEPRESSANTS								
Bupropion	5	150mg twice daily	?	✗	✗	✗	Low treatment adherence; significantly higher abstinence in adherent versus non-adherent participants, particularly in people using methamphetamine less frequently.	[148, 159-162]
Mirtazapine	1	30mg	✗	✓	✗	✗	Reduction in use, and lower sexual risk behaviours found in a group of men who have sex with men.	[115]
Sertraline	2	–	✗	✗	✗	✗	May increase use, worsen craving.	[163, 164]
Imipramine	1	150mg	✗	✗	✗	✓	No placebo controlled trials; the only trial compared 150mg versus 10mg dose. Retention in treatment was significantly longer for subjects who were treated with 150mg compared to 10mg dose.	[163, 164]
STIMULANTS								
Dexamphetamine sustained release	2	60-110mg	✗	✗	✓	✓	Limited evidence for reducing severity of dependence, craving, and improving retention; but not for reducing use.	[121, 122]
Methylphenidate sustained release	3	18-54mg	✗	✓	✓	✓	Limited but conflicting evidence for reducing use and reducing craving.	[153, 166, 167]
Modafinil	5	200-400mg	✗	?	✗	✗	One trial suggested lower methamphetamine use with higher (400mg) compared to lower (200mg) dose modafinil, in those who had higher medication adherence.	[118, 168-171]
ANTIPSYCHOTICS								
Aripiprazole	3	5-20mg	✗	✗	✗	✓	Two trials found a non-significant effect on abstinence. Some evidence of improved treatment retention.	[166, 172, 173]
Risperidone	4	1mg, up to a max of 6mg	✗	?	?	✗	Two (open) trials found injectable risperidone reduced use and had a positive effect on verbal memory. One trial found decreased drug cravings in patients with comorbid bipolar disorder.	[174-176]
OTHER MEDICATIONS								
Topiramate	2	Initiation dose 25-50mg; maintenance dose 200mg	✗	✓	✓	✗	Some evidence of significant reductions in use and craving	[177, 178]
Naltrexone	3	50mg, up to maintenance dose of 200mg	✗	?	✓	✓	May improve retention and decrease craving.	[179-181]

COMPLEMENTARY AND ALTERNATIVE MEDICINES

Complementary and alternative medicines (CAM), including traditional/alternative medicines, herbal treatments, acupuncture (and related techniques), massage, hypnotherapy, meditation, music therapy, spirituality, and yoga are increasingly used as adjunctive therapies in a variety of AOD treatment settings.

Currently, there is little scientific evidence to suggest that the use of complementary therapies are of benefit to the management of methamphetamine dependence or withdrawal. Although the efficacy of complementary therapies may not be established, many people who use CAM report feelings of relaxation and wellbeing ^[322]. Still, the evidence base for these treatments is limited and clients should be informed of this as well as individual risks and benefits before accepting treatment. It is important to note that some forms of CAM (e.g. St John's Wort) may be unsuitable or even harmful, with potentially harmful interactions between certain herbal remedies and pharmacotherapies often prescribed during AOD withdrawal ^[323].

REDUCING HARMS

It is important to remember that the client using methamphetamine may not share the clinician's ideas about what is considered potentially harmful. It is therefore important for the clinician to find the balance between offering information and education regarding methamphetamine-related harm, whilst also working with the client's identified goals.

Clinicians are encouraged to develop a harm reduction plan with the client and monitor progress regularly.

Steps to assess and reduce harm related to clients' methamphetamine use are outlined in **Table 7**.

Table 7. Steps to assess and reduce client harm

ASSESSING AND INTERVENING TO REDUCE HARM	Be familiar with potential harms
	Assess harm and risks associated with the client's use
	Provide information and personalised feedback about potential harms
	Have the client identify goals to reduce harm
	Use a collaborative approach to develop a harm reduction plan
	Monitor behaviour, reinforce positive change, address difficulties

1/4 TO 1/2 OF
METHAMPHETAMINE
TREATMENT SEEKERS WANT
TO REDUCE USE RATHER
THAN ABSTAIN

WORKING WITH THE CLIENT TO DEVELOP TREATMENT GOALS THAT ARE ACHIEVABLE AND SUSTAINABLE

Substance reduction and maintenance goals should not be disregarded. Some individuals choose to abstain from methamphetamine altogether, while continuing to use other drugs on either a dependent or recreational basis. Others may feel that a goal to control their use of methamphetamine is more realistic and achievable. Previous studies suggest that between one quarter to one half of all people presenting to treatment for methamphetamine use are wanting to reduce their use rather than abstain completely ^[187, 188].

PREVENTING THE TRANSITION TO INJECTING

Preventing the transition to injecting should also be an important goal of educational and/or harm reduction efforts. Lower levels of dependence among smokers suggests that strategies to reduce their transition to injecting may circumvent a progression to more severe dependence and related blood borne virus risk ^[191].

REDUCING HARM FROM POLYDRUG USE

Since polydrug use is common amongst those using methamphetamine, harm reduction approaches should aim to reduce harms associated with any drug use, not only the primary drug of choice.

REDUCING HARM MORE BROADLY

Harm reduction goals should not be limited to drug use only. There are also harms related to drug acquisition (e.g. avoiding dealers who are untrustworthy, understanding one's legal rights if arrested). Other harm reduction goals may include monitoring of physical and mental health, and assisting the client to develop greater awareness about the relationship between methamphetamine use and physical ill health and psychiatric symptoms.

Methamphetamine-associated harm, beyond those for the individual using methamphetamine, can occur. In particular, children and other family members may be exposed to physical and/or psychological harm resulting from the behaviour of the person using methamphetamine ^[94]. See page 34 of these guidelines

for information and resources on **Assessing risk of harm to others**.

REMAINING ENGAGED IN TREATMENT

Supporting a goal of remaining engaged in treatment is important, as individuals with methamphetamine use problems often drop out of treatment prematurely ^[72, 189, 190].

INTERVENTIONS TO REDUCE HARMS

There are two main methods outlined here to address harms and risks for clients using methamphetamine: advice and feedback, and brief motivational approaches.

ADVICE AND FEEDBACK

People using methamphetamine can be unaware about some of the risks and harms associated with methamphetamine use. Assessing harms can be used as a basis for addressing any specific gaps in knowledge by providing further information and advice. Clients should be given advice about potential risks using factual but not sensationalised information. Feedback from formal assessment, such as risk of dependence, may help the client understand the potential consequences of use.

MOTIVATIONAL APPROACHES

Strategies for reducing the harms associated with methamphetamine use include limiting use to specified amounts or times of day, or using only on specific occasions (e.g. at a party, on weekends). If a client is not ready to stop using methamphetamine altogether, discussing ways of reducing potential harms is appropriate. Brief MI may be helpful in assisting the client to make changes to their behaviour to reduce harms. MI should be directed at the risk behaviour. Potential strategies for single session MI can be found on page 100 of these guidelines (**Appendix A: Brief Psychological Intervention – Session 1**).

Examples of intervention strategies for specific drug-related harms are outlined in **Table 8**.

Table 8. Examples of drug-related harm and intervention strategies

DRUG-RELATED BEHAVIOUR	DRUG-RELATED HARM	INTERVENTION
Obtain drugs	Legal problems resulting from being caught possessing or purchasing illicit drugs, assaults from others who use drugs, not attending to regular activities when obtaining drugs.	<ul style="list-style-type: none"> - avoid unfamiliar drug dealers and locations - know about legal rights and access to legal assistance
Finance drug use	Financial debt, income-generating crime.	<ul style="list-style-type: none"> - develop financial planning strategies - avoid purchasing drugs on credit - avoid drug dealing and other criminal activity
Mode of administration	Transmission of blood borne viruses (e.g. HIV, hepatitis B, hepatitis C), infection of injecting sites, or systemic infection.	<ul style="list-style-type: none"> - use needle exchange programs - obtain information on safe-injecting techniques - inhale or ingest ice instead of injecting
Intoxication	Overdose, physiological or psychological effects of the drug.	<ul style="list-style-type: none"> - avoid severe intoxication - obtain information on how to prevent overdose and other adverse effects of intoxication
Intoxicated behaviour	Poor performance or absenteeism at work, or in relation to study or home duties, aggression or violence, participation in high-risk activities such as unsafe sex, needle sharing, drug-driving and crime.	<ul style="list-style-type: none"> - avoid severe intoxication - plan drug use or other drug-related activities in such a way as to allow obligations to be met - change environmental conditions (e.g. avoid over-crowded nightclubs, raves or other events) - reduce polydrug use - carry condoms - leave car at home
Hangover/crash	Poor performance or absenteeism at work, or in relation to study or home duties.	<ul style="list-style-type: none"> - plan drug use or other drug-related activities in such a way as to allow obligations to be met - attend to nutritional and sleep requirements
Withdrawal	Withdrawal complications such as seizures and hallucinations, discomfort or distress arising from withdrawal.	<ul style="list-style-type: none"> - use withdrawal interventions/ support to alleviate withdrawal severity and prevent complications - plan withdrawal

EMERGING RISKS: THE DARKNET

Darknet markets, also known as cryptomarkets, are online markets which allow individuals to make anonymous purchases with 'cryptocurrencies' (i.e. digital currencies such as Bitcoin). Through Darknet markets illicit drugs are available for online purchase and delivery, in a format similar to regular online marketplaces. Given the rapid change in the landscape of Darknet markets since their formation in 2011, there are few clear implications regarding risks and harms for the individual.

Approximately 17% of Australians who had recently used illicit drugs reported purchasing illicit drugs through the Darknet in 2018 – a steep increase from 8.2% in 2017^[326]. 25.3% of international respondents reported purchasing methamphetamine, up from 14.3% in 2017^[326]. Australia is responsible for 27% of global Darknet methamphetamine transactions - the second highest amount of these transactions globally^[327].

Purchasing methamphetamine via the Darknet allows the user to bypass risks associated with 'street' purchases (e.g. violence, coercion and involvement with crime groups)^[327]. Given that the methamphetamine market in Australia is particularly dangerous at the street level^[328], it is possible that use of the Darknet could mitigate traditional purchasing risks. Conversely, purchasing through Darknet markets also carries unique arrest and scam risks. Accessing and navigating the Darknet requires a high degree of digital literacy, and those without such literacy may be more susceptible to having their purchases linked to identifying information, negating the protections of anonymity. Additionally, the unregulated nature of the Darknet creates financial risks for its users, in fraudulent markets and 'exit scams'. Individuals should be aware of risks regarding privacy, arrest and other legal implications.

HARM REDUCTION TIPS FOR CLIENTS

The following information can be provided to clients to help to reduce the health risks associated with methamphetamine use (Figure 8) [192, 193].

Figure 8. Harm reduction tips for clients

	Adequate sleep and nutrition will not only benefit your general health, but will also lessen the intensity of your comedown, and increase the positive experiences of your use.
	Eat nutritious food before using, and every 4-5 hours, even if you are not hungry. Consider taking vitamins. Make sure to drink enough water (but not more than 1 litre of fluids per hour).
	Give your body a chance to recover by taking breaks from using methamphetamine. Being well-rested before use will make for a less abrupt comedown.
	Do not take methamphetamine after mid-afternoon (around 3pm) if wanting to sleep that night.
	Avoid combining drugs to prevent unpredictable / undesirable side effects.
	Brush and floss teeth regularly, especially after food and sweet drinks, to prevent dental disease.
	Avoid dry mouth, clenching, chapped lips, sores and infections by using sugar-free gum, sugar-free throat lozenges and lip balm, and staying hydrated.
	Practice safe sex to protect against STIs and HIV. Always use condoms, and get regular sexual health checks.
	Don't drive after using. Even though it may make you feel more alert / confident, driving under the influence of methamphetamine impairs driving ability and is both dangerous and illegal.
	To deal with agitation and anxiety, get enough rest, use a less intense mode of administration, use in a quiet / safe setting, and talk to a 'safe' person when needed.
	Applying something cool (like an ice pack, cold wet towel or pack of frozen peas) to the forehead, neck, underarms, or backs of knees can help to calm agitation.
	Oral (swallowing) or rectal administration (plugging / shafting / shelving) are much safer than smoking or injecting, and produce a smoother, less intense and longer-lasting high.
	Use a Pyrex pipe to minimise risk of your pipe shattering under heat. Avoid using a broken or cracked pipe. Clean the inside to avoid inhaling burnt residue.
	If injecting, don't share fits (needles / syringes). Use sterile equipment and filter drugs. Free sterile equipment is available from the Victorian Needle and Syringe Program (NSP).
	Be patient if repeating injections - methamphetamine restricts blood vessels which may make this more difficult.
	Some people experience significant agitation, paranoia, or see / hear things that aren't really there. Seek professional help if you are experiencing any of these symptoms.
	An untreated overdose can have severe consequences, including heart attack or even death. If you suspect you or someone else has overdosed, call the Emergency Call Service 000.

ADDITIONAL RESOURCES: REDUCING HARM

Harm Reduction Victoria	Harm Reduction Victoria (HRVic) is a peer based, community organisation. Its website provides peer developed and designed health promotion resources.	https://www.hrvic.org.au/resources
Australian Drug Foundation (ADF) – Breaking the Ice	A fact sheet about harm reduction specific to methamphetamine use. The ADF is Australia’s leading organisation committed to preventing alcohol and other drug harms in our communities.	https://adf.org.au/wp-content/uploads/2016/10/nswiceharmreduction.pdf
Australian Injecting & Illicit Drug Users League (AIVL) - The Law and Your Rights	AIVL’s Legal Guide provides an easy to understand listing of different laws which affect drug users in each Australian state.	http://aivl.org.au/law/
Victoria Legal Aid	A service that provides free legal information and education to all Victorians, with a focus on prevention and early resolution of legal problems.	Phone: 1300 792 387 www.legalaid.vic.gov.au
National Debt Helpline	A not-for-profit service providing free, independent and confidential financial counselling to help Australians tackle debt problems.	Phone: 1800 007 007 www.ndh.org.au

PART IV: MANAGEMENT OF COMORBID/ COMPLEX PRESENTATIONS

While it is acknowledged that mental health problems may precede drug use, or drug use may precede mental health problems, it is clear from Australian population data that methamphetamine use is associated with high levels of mental health symptoms, including depression, anxiety and psychosis. These problems can occur when using the drug regularly, during withdrawal, or in the initial stages of recovery. In contrast, some people use methamphetamine to cope with pre-existing mental health problems. This underscores the need for comprehensive, integrated drug use and mental health assessment in both AOD and mental health treatment settings.

In 2016, data from the National Drug Strategy Household Survey revealed that, among those who had used methamphetamine in the previous 12 months, over one-third (37%) experienced high or very high levels of psychological distress – which is three times as high as those who had not recently used methamphetamine^[2]. Of individuals who had used methamphetamine in the previous 12 months, 42% reported being diagnosed with and/or treated for a mental illness – which is three times as high as the non-illicit drug use population (13.9%)^[2]. Similarly, among treatment seekers in the MATES study, 16% and 6% of those in detoxification and 34% and 5% of those in residential rehabilitation had major depression, and schizophrenia or mania, respectively^[79]. An audit of 175 attendees at a Melbourne stimulant clinic between 2008 and 2014 found that 52% had a history of mental health issues, 33% reported previous suicide attempts, and that just under half (48%) reported previous methamphetamine-related psychosis^[194].

Depression, anxiety and psychotic symptoms are three of the most common mental health symptoms experienced by people who use methamphetamine regularly^[191, 195, 196]. Understanding the timeline and the interaction between drug use and mental health symptoms is critical to formulating the most appropriate diagnosis and treatment plan for the individual.

For instance, individuals with a depressive illness may use methamphetamine to counter symptoms such as lack of motivation and drive, associated with

depressed mood, but they risk exacerbating their depressive illness when the stimulant effect wears off. Methamphetamine use has the potential to increase many symptoms associated with depression, such as low mood, agitation, sleep difficulties and appetite disturbances. It can be difficult to distinguish between non-substance induced mood disorder and substance-induced depressive symptoms. Differential diagnoses relies on client insight into the temporal relationship between their mood symptoms and methamphetamine use, and abstinence that is long enough to evaluate symptoms that are not associated with intoxication and acute drug effects, or withdrawal^[197].

Currently, there is little information available to guide the treatment of co-occurring methamphetamine use and personality disorder including borderline personality disorder (BPD). Personality disorders are difficult to diagnose in the context of active methamphetamine use. Regular methamphetamine use is associated with features of personality disorders^[198, 199], such as an increase in impulsivity and risk-taking behaviours, emotional dysregulation, or anti-social behaviours. Recent research suggests that there is a significant association between methamphetamine use disorder and BPD^[200], which parallels the well-documented association between BPD and substance use more generally^[201-203]. An increased severity of risk (e.g. suicidal behaviour) related to comorbid BPD and substance use has also been documented^[204]. Evidence suggests that individuals with BPD and substance use problems do benefit from tailored, structured, behaviourally-oriented treatment approaches, but may be at greater risk of early relapse^[205]. There is increasing evidence to suggest that structured psychological therapies such as dialectical behavioural therapy (DBT)^[199, 206, 207], with focus on the substance use (e.g. substance use prioritised as the primary behaviour interfering with quality of life^[208]), are effective for people with comorbid BPD and substance use. Detailed assessment can serve to improve the therapeutic alliance, tailor the intervention approach, and may improve retention in treatment^[205].

It is acknowledged that methamphetamine use is more frequent among individuals with eating disorders^[325],

who may use the drug to reduce appetite and/or assist with excessive exercise. As with other psychiatric comorbidities, assessment and intervention for this group needs to address both the substance use and the eating disorder using a comprehensive, integrated approach.

MANAGEMENT OF MOOD AND ANXIETY SYMPTOMS

It is essential that routine screening and comprehensive assessment for mental health problems occur when treating people for methamphetamine use disorders.

While a subset of people may have a cluster of symptoms serious enough to meet criteria for a depressive or anxiety disorder, those with lower level symptoms may also be experiencing significant distress. It is important to address these mental health symptoms to reduce the likelihood of methamphetamine relapse, and to optimise treatment outcomes for this population.

Engagement and retention in treatment for methamphetamine use disorder is often the most effective approach for co-occurring depression, and depressive symptoms generally abate in most individuals with abstinence and early recovery^[209]. Psychological treatment of depressive symptoms has also been shown to be effective, with as little as four sessions of CBT demonstrated to improve depression outcomes in methamphetamine-dependent individuals^[210].

Recently, it has been suggested that traditional pharmacological strategies – such as medications used to treat depression – cannot simply be transferred for use in individuals with methamphetamine-related disorders, due to possible drug interaction effects and current limited proof of efficacy^[154]. To date, studies do not support the efficacy of antidepressants for comorbid depression in people with methamphetamine-related disorder^[154]. Clients with a history of depression, or a strong family history of depression, should be assessed by an addiction psychiatrist to determine the potential benefit of trialling an antidepressant.

Interventions for clients with co-occurring methamphetamine use and mental health problems should ideally be provided within an integrated model of treatment – where both conditions are being treated within the one service or treatment plan. This has been shown to be more effective than either sequential (treating one disorder and then the other) or parallel treatment (treating both disorders at the same time, but by separate services)^[111, 211].

Exercise has been shown to reduce depression and anxiety among people abstaining from methamphetamine^[112]. Moreover, given that depression and anxiety are linked to relapse and early treatment termination, helping clients to address mood symptoms by establishing an exercise routine may improve treatment outcomes.

In cases of pre-existing mental health problems, close monitoring and education about the link between methamphetamine use and mental health symptoms is important. Motivational enhancement techniques are useful to maintain engagement in treatment. Clinicians should provide the advice that any methamphetamine use is high risk for those with a pre-existing mental health problem, and follow interventions to reduce harm.

CO-OCCURRING METHAMPHETAMINE USE AND MENTAL HEALTH PROBLEMS SHOULD BOTH BE ADDRESSED IN AN INTEGRATED MODEL OF TREATMENT

MANAGEMENT OF PSYCHOTIC SYMPTOMS

Clients presenting with methamphetamine use disorder should be routinely screened for psychotic symptoms. The **Psychosis Screen (Work sheet 7)** ^[212]

is a brief four-question instrument that identifies the potential presence of significant psychotic symptoms in the past 12 months; a score of 3 or more on this instrument suggests the need for assessment by a mental health professional (e.g. addiction psychiatrist).

For clients, the experience of psychotic symptoms can be stressful and frightening. Similarly, family/support people may also be concerned about their loved ones' experience of psychosis, especially if it is associated with changes in behaviour, including increased hostility or aggression. Clinicians should provide reassurance and education that a period of rest from methamphetamine and improved self-care is likely to alleviate many unwanted symptoms without psychiatric intervention.

There is debate about the appropriate management of methamphetamine-induced psychosis, particularly in the presence of continued methamphetamine use. Even transient psychotic symptoms may require pharmacological management when accompanied by acute agitation, violent behaviour or severe distress ^[37]. Treatment is similar to that of acute schizophrenia ^[104], and acute symptoms should be managed as a priority ^[36]. Since antipsychotics, due to their antidopaminergic effect, may increase anhedonia which can promote methamphetamine craving and relapses, continuation of antipsychotic therapy should be reviewed within six months of treatment in individuals presenting with methamphetamine-associated psychosis ^[154].

TRANSIENT PSYCHOSIS

For an individual who experiences acute and transient psychosis in the context of methamphetamine use, the intervention approach should focus on ^[37]:

- Psychological treatment for the substance use disorder, towards achievement of abstinence from methamphetamine use
- Preventing relapse and recurrence of psychotic symptoms
- Psychoeducation concerning the methamphetamine-psychosis relationship

For individuals presenting with transient psychotic symptoms, close monitoring for the development of persistent or recurrent psychosis is required, as this is a group at high risk of developing a persistent psychotic disorder. Appropriate referral to an addiction psychiatrist or psychologist is recommended. Psychological interventions for the treatment of substance use disorder, such as CBT, should be offered once the symptoms of psychosis have resolved, with the aim of achieving and maintaining abstinence from methamphetamine.

ACCURATE AND EARLY DIAGNOSIS
OF PSYCHOTIC SYMPTOMS
**IMPROVES TREATMENT
OUTCOMES**
AND REDUCES MISMANAGEMENT

PERSISTENT PSYCHOTIC SYMPTOMS

Methamphetamine use has been associated with longer-term, recurrent or persistent psychosis ^[37]. It can be difficult to distinguish methamphetamine-associated psychotic states from new onset or relapsing psychotic illness. **Differential diagnosis of primary versus substance-induced psychotic disorder among those who use methamphetamine is challenging, and close monitoring and referral to a specialist for assessment is recommended** ^[37, 213]. Accurate diagnosis, particularly during the early stages of symptom onset, can have a profound impact on treatment outcome and minimises the risk of medical mismanagement ^[37].

For an individual with primary psychotic disorder who uses methamphetamine, core components of treatment will include ^[37]:

- Longer-term antipsychotic medication
- Comprehensive case management and other psychosocial services to stabilise and optimise functioning (e.g. vocational rehabilitation, psychotherapy, housing)

PHARMACOTHERAPY FOR COMORBID PRESENTATIONS

There is limited evidence to guide the management of mental health co-morbidity in the context of methamphetamine use disorder.

Pharmacological management of comorbid presentations needs to take into consideration the risks of methamphetamine/prescribed drug interaction adverse effects, as well as potential interactions with any other drug use (i.e. polydrug use). For example, there may be an elevated risk of serotonin syndrome when selective serotonin reuptake inhibitor (SSRI) antidepressants are used concurrently with amphetamine-type stimulants [214].

A helpful resource for clients and clinicians on the interactions between stimulants and prescribed psychotropic medication is available via the Queensland Network of Alcohol and Other Drug Agencies (QNADA): https://qnada.org.au/research-clearing-house/?fwp_type=client-harm-reduction-resource-stimulants

PSYCHOSIS

To date there have been six trials (N = 262 participants) of antipsychotic medications for acute psychotic symptoms in methamphetamine-dependent populations, investigating the use of haloperidol, quetiapine, olanzapine, risperidone and aripiprazole (see **Table 9**). Trials have lasted between 3-8 weeks, only one of which had a placebo-control condition.

Symptom reduction has been reported across trials, with relatively rapid treatment response and high remission rates. Studies suggest possible improvements in treatment retention and craving with risperidone and aripiprazole. Overall, however, there is limited evidence for any one antipsychotic over another. Second generation antipsychotics (SGAs) are preferred; while first generation antipsychotics (FGAs) may be used, they are associated with more adverse effects. Treatment with SGAs should be reviewed within six months as the dopamine-blocking effects of antipsychotic medication may promote methamphetamine craving and relapses [154].

Table 9. Pharmacological management of psychosis comorbidity

REFERENCE	STUDY PARAMETERS	INTERVENTION	OUTCOME
[215]	Design: Double blind RCT Participants: Individuals with amphetamine-induced psychosis (n=58) Study Duration: 4 weeks	Haloperidol vs Olanzapine 5-10 mg/day of haloperidol OR olanzapine; after each 7-day period, the study drug could be adjusted in 5-mg increments or decrements within the allowed dose range of 5-20 mg/day	Clinical improvement but not statistically significant (p=0.25).
[216]	Design: Double blind RCT Participants: Individuals with methamphetamine-induced psychosis (n=80) Study Duration: 4 weeks	Haloperidol vs Quetiapine Up to 6mg of haloperidol OR up to 300mg of quetiapine daily	High remission rates, even at low doses (haloperidol 2.3mg +/- 0.8mg; quetiapine 112.2mg +/- 34mg). No significant differences in antipsychotic effects between drugs.
[217]	Design: RCT Participants: Patients with amphetamine-induced psychotic disorder (n=45) Study Duration: 6 weeks	Aripiprazole vs Risperidone 15mg of aripiprazole OR 4mg of risperidone daily	Risperidone was found to have a greater effect in managing positive psychotic symptoms. No significant effect on negative symptoms.
[218]	Design: RCT Participants: Individuals with methamphetamine-associated psychotic symptoms (n=42) Study Duration: 3 weeks (day 3 to 25 of inpatient hospital stay)	Aripiprazole vs Risperidone Initial dose of 5-10mg of aripiprazole daily followed by 5-15mg per day OR initial dose of 2-4mg of risperidone followed by 4-6mg per day	Significant reduction in psychotic symptoms, with no significant differences between the two groups. Risperidone was noted to be more effective in reducing craving.
[219]	Design: Double blind RCT Participants: Methamphetamine dependent patients with a history of psychosis (n=37) Study Duration: 8 weeks	Aripiprazole vs Placebo Aripiprazole 5-10mg daily	Nil difference in proportion of participants abstinent from methamphetamine use during each study visit. Some reduction in craving and psychotic symptom severity for aripiprazole. Retention in treatment and Clinical Global Impression were also higher for aripiprazole.
[220]	Design: Single arm open label trial Participants: Individuals with methamphetamine dependence (with or without psychiatric symptomology) (n=34) Study Duration: 8 weeks treatment (follow up at week 12)	Risperidone Long-acting injectable risperidone 25 mg with subsequent fortnightly injections to a total of 4 injections. 91% of participants also attended at least one counselling session	Seventy-three per cent of participants had at least one methamphetamine free week, confirmed by urine testing. Craving was reduced. Significant reductions in addiction severity and psychiatric symptoms were noted.

RCT = randomised controlled trial

MOOD

To date, four trials have examined pharmacological treatments for comorbid depressive symptoms in the context of methamphetamine use, and one study evaluated comorbid manic symptoms ^[176] (Table 10). There is limited evidence for methylphenidate SR (sustained release) in reducing depressive symptom scores ^[153], and no evidence to date for use of

bupropion SR ^[156, 159, 160]. A trial comparing quetiapine to risperidone found that both interventions reduced manic symptoms ^[176]. The concomitant use of SSRIs and methamphetamine can theoretically increase the risk of serotonin syndrome and should be used with caution ^[101, 214].

Table 10. Pharmacological management of mood comorbidity

REFERENCE	STUDY PARAMETERS	INTERVENTION	OUTCOME
^[153]	Design: Double blind RCT Participants: Individuals with methamphetamine dependence (n=56) Study Duration: 10 weeks	Methylphenidate SR vs Placebo Methylphenidate SR 18-54mg daily OR placebo	Reduction in methamphetamine craving and depressive symptoms, compared to placebo. Only 34 individuals completed the study with 39% of participants dropping out before week 6.
^[160]	Design: Double blind RCT Participants: Methamphetamine-dependent patients (n=72) Study Duration: 12 weeks plus 30 day follow up period	Bupropion SR vs Placebo Bupropion SR 150mg twice daily OR placebo	No significant difference in craving, addiction severity, risk behaviours for blood borne viruses (i.e. HIV) or methamphetamine use. Also no difference in other substance use or depressive symptoms. A change in the proportion of participants having a methamphetamine-free week was observed, though this was not significantly higher in the bupropion group.
^[161]	Design: Double blind RCT Participants: Treatment seeking methamphetamine dependent participants (n=73) Study Duration: 12 weeks	Bupropion SR vs Placebo Bupropion SR 150mg twice daily	No significant difference in methamphetamine use. No significant difference in treatment retention, depressive symptoms or methamphetamine craving.
^[159]	Design: Double blind RCT Participants: Individuals with methamphetamine dependence (n=20) Study Duration: 22 days (follow-up at 30 days)	Bupropion SR vs Placebo Bupropion SR 150mg twice daily OR placebo	Bupropion reduced cue-induced craving and drug-related subjective effects following administration of intravenous methamphetamine, compared to placebo, but not for subjective 'depression' or 'anxious' effects.
^[176]	Design: RCT Participants: Individuals with co-occurring bipolar disorder and cocaine dependence (62.5% of cohort) or methamphetamine dependence (37.5% of cohort) (n=94) Study Duration: 20 weeks	Quetiapine vs Risperidone Quetiapine 50mg daily during week 1, 100mg daily during week 2, titrated up to 600mg daily in week 12 OR Risperidone 0.5mg daily in week 1, 1mg daily in week 2, titrated up to 6mg daily in week 12	Both interventions improved mood, and reduced drug craving and drug use. However, there was a high co-medication rate (50%) and high drop-out rate.

RCT = randomised controlled trial SR = sustained release

ANXIETY

There is a paucity of research examining the safety and efficacy of pharmacological treatments for comorbid anxiety symptoms in the context of methamphetamine use disorder ^[221]. Benzodiazepines are not indicated in the medium to long-term management of anxiety symptoms and are associated with a significant risk of dependence in this population ^[101].

ATTENTION-DEFICIT/ HYPERACTIVITY DISORDER

There is limited evidence to guide the assessment and treatment of attention-deficit/hyperactivity disorder (ADHD) in adults in the context of methamphetamine or other stimulant use disorder ^[222]. Among those with methamphetamine use problems, the assessment of newly diagnosed adult ADHD is complex as symptoms of methamphetamine intoxication and withdrawal can resemble symptoms of ADHD.

If the use of stimulant medication for the treatment of ADHD is considered, frequent monitoring and limited dispensing (e.g. daily supervised medication or limited pick-up) of long-acting stimulant preparations such as sustained release methylphenidate or lisdexamfetamine will serve to minimise the risks of misuse or diversion. Existing studies suggest that stimulant-dependent individuals may require higher treatment doses ^[222]. Notably, a number of medication treatments for ADHD can be associated with cardiovascular adverse effects ^[185], including elevated heart rate and blood pressure; a risk which is also related to methamphetamine use ^[65]. As such, cardiovascular assessment at baseline, and ongoing monitoring, may be required for individuals with methamphetamine use disorder who are prescribed stimulants for co-occurring ADHD.

WHEN AND HOW TO REFER TO A MENTAL HEALTH SERVICE

Referral to a mental health service may be needed when a client presents with methamphetamine dependence or is withdrawing, and co-occurring mental health symptoms are evident. The following scenarios can indicate the need for referral to a mental health service (**Table 11**):

Table 11. Indicators to refer to a mental health service ^[223]

WHEN TO REFER TO A MENTAL HEALTH SERVICE	Presence of psychotic symptoms, especially if these symptoms persist after a period of detoxification and stabilisation
	Presence of symptoms that may indicate an undiagnosed or untreated mental disorder
	Reason to believe there is risk of significant harm (to self or others) occurring as a result of a mental disorder, or suspected mental disorder
	Level of cognitive functioning places the client at immediate risk of harm to self or others
	Support network not coping, or loss of support network resulting in risk to the client
	Client has not responded to intervention or treatment provided for a presenting mental health issue

The **Psychosis Screen (Work sheet 7)** can be used to assess the presence of psychotic symptoms.

It is important to remember that a client in crisis will not usually have the resources necessary to access other services. When a referral to a mental health service is required, actively assist the client to access this support rather than providing a 'passive' referral.

Before you make contact with a mental health professional, explain to the client the reasons for the contact and ask the client's permission to do so.

When referring a client for a mental health assessment, assess level of risk and communicate whether the case requires urgent assessment ^[223]. Additionally, communicate the ongoing role your service can play in the client's treatment.

See **Table 12** for information on how to refer a client to a mental health service in Victoria.

Table 12. How to refer to a mental health service in Victoria

HOW TO REFER TO A MENTAL HEALTH SERVICE IN VICTORIA	<p>Find the client's nearest mental health service via the State Government of Victoria's health information website: www.health.vic.gov.au/mentalhealthservices</p>
	<p>Refer to an addiction psychiatrist for a specialist assessment and treatment plan. This can be accessed:</p> <ul style="list-style-type: none">- via a GP referral to Turning Point Statewide Specialist Clinical Services www.turningpoint.org.au (including telehealth assessments for clients in rural or remote regions).- via consultation with a Dual Diagnosis Service. Use the quick guide to Victorian Dual Diagnosis (VDDI) services and contacts to find a service in your region: www.dualdiagnosis.org.au or phone VDDI enquiries: (03) 9231 2083
	<p>Contact a local psychiatrist, clinical psychologist or other mental health professional</p>
	<p>When mental health services are not easy to access (e.g. in a rural or remote area), or for telephone advice on the clinical management of clients with psychiatric complications associated with methamphetamine use, contact the Victorian Drug and Alcohol Clinical Advisory Service (DACAS), a 24/7 specialist telephone consultancy service available to health professionals in Victoria. Phone: 1800 812 804 or visit: www.dacas.org.au</p>

MANAGEMENT OF COGNITIVE IMPAIRMENT

RECOVERY OF IMPAIRED COGNITIVE FUNCTIONING

There is growing evidence that recovery of some cognitive deficits occurs after both short-term (5-7 days) ^[119] and longer-term (9 months) ^[224] periods of abstinence from methamphetamine use. Significant improvement has been observed across domains including inhibitory control, verbal memory and fluency, executive functioning, attention and working memory ^[119, 224-227]. It can be helpful to explain to clients the adverse effects of methamphetamine on the brain and how that affects mood and thinking skills, emphasising that gradual improvements in cognitive functioning are observed with extended periods of abstinence from methamphetamine.

ACCOMMODATING DEFICITS IN COGNITIVE FUNCTION

Individuals may present with difficulties functioning in the workplace, difficulty with inhibition, and interpersonal conflict ^[228, 229]. Clients experiencing cognitive deficits are often more likely to miss appointments, have difficulty retaining and recalling new information, and may struggle to keep up with conversations switching from one topic to the next due to reduced mental flexibility. Some of these deficits can be accommodated by adapting how psychological interventions are delivered (e.g. regular breaks to consolidate learning, regular reviews of important content), using different methods to convey key concepts (e.g. use of diagrams, videos, written information), and encouraging the use of digital reminders and diaries to aid planning and organisation.

The following outlines clinical presentations that may reflect difficulties in the cognitive domains most frequently impacted in this population, with practical strategies that may assist in the delivery of treatment to maximise engagement, retention and effectiveness.

Executive functioning ^[230-233]: Clients may have difficulties with abstract concepts and open-ended questions. Content may need to be delivered in a structured style, with important pieces of information recorded on paper for the client's future reference. Therefore, a directive and assistive therapeutic style may be most appropriate.

- Use simple language and real-life examples
- Subdivide goals into smaller tasks
- Use simplified self-monitoring strategies (e.g. "stop, think, check")
- Use role play to practise strategies for coping with triggers/relapse
- Use concrete problem-solving strategies:
 - 1 Identify the problem
 - 2 Set measurable and realistic goals
 - 3 Generate solutions
 - 4 Monitor attempts/success

Impulsivity ^[234]: Highly impulsive clients are likely to experience difficulties with self-reflection and monitoring. As a result, such clients may be less likely to consider the long-term consequences of their behaviour and have a lower level of insight into the impact of their drug use.

- Set clear boundaries in the therapeutic relationship and the consequences of a breach of boundaries
- Establish consistent self-monitoring throughout treatment
- Develop concrete skills in planning (i.e. recording the short and long-term consequences of a particular behaviour)

Verbal memory ^[231, 232, 235]: Clients with methamphetamine-related memory deficits may have difficulty in accessing stored information rather than encoding. Problems with verbal memory may be a particular concern in psychological therapy, which is underpinned by the client's ability to engage with and retain verbal content.

- Ensure key messages and strategies are presented on multiple occasions, encourage the client to rehearse
- Simplify written instructions
- Provide information adapted to the form of mnemonics, chunking and imagery

Social cognition ^[236-238]: Clients may present with some difficulties in conversational turn-taking, misinterpretation of the actions of others and may find it challenging to identify and regulate their own emotions.

- Provide a clear agreement on the structure of therapy sessions at treatment commencement (e.g. indicating that it might be necessary to interrupt the client at times in order for treatment to progress)
- Be aware that clients may be sensitive to criticism or misinterpret suggestions from the therapist as criticism. Openness to discussing the therapist-client dynamic can be flagged in the first session, and close monitoring of the therapeutic relationship and process matters is essential
- Use behavioural relaxation techniques to reduce high levels of arousal (e.g. anger)

Cognitive remediation is another approach used to address cognitive impairments in this population. This intervention typically involves training of executive functions and can take place in group or individual settings, in direct contact with a clinician or using a computer-based program ^[239]. Preliminary findings (three studies) show some support for cognitive remediation in this population. Specifically, working memory training has been significantly associated with improvements in self-control and diminished impulsivity ^[240, 241], while one study (50% individuals with methamphetamine use disorder) found cognitive training on executive functions was associated with improved performance-based assessment of inhibition, executive functioning, impulsivity and self-control and significant improvements in quality of life ^[242].

POLYDRUG USE

Polydrug use is very common amongst people who use methamphetamine. In Australia, substances that are most commonly used in conjunction with methamphetamines include those that are consistent in stimulant effects (e.g. ecstasy, cocaine) as well as cannabis, alcohol, tobacco and prescription drugs (e.g. benzodiazepines) and, to a lesser extent, dexamphetamine ('dexies'), GHB (gamma hydroxybutyrate, or 'liquid ecstasy'), ketamine and LSD (lysergic acid diethylamide, or 'acid') ^[2, 8]. Reasons for the

concomitant use of drugs include availability, to enhance the effect of one particular drug, to extend the duration of positive drug effects, to reduce comedown effects or withdrawal symptoms, or to obtain multiple concurrent drug effects ^[243].

Polydrug use is associated with greater psychopathology, higher levels of risky health behaviours, decreased cognitive functioning, poorer treatment engagement and treatment outcomes, and increased non-fatal overdoses and drug-related deaths ^[9].

Careful consideration needs to be given to drug interaction risks of medications prescribed for the treatment of methamphetamine dependence, withdrawal and acute presentations, as well as those prescribed for co-occurring mental health symptoms.

DRUG INTERACTIONS WITH OTHER SUBSTANCES

The risks associated with using one or more substances can be difficult to predict, and can vary depending on factors such as substance quality, individual factors, and setting. Methamphetamine taken in combination with other substances can potentiate or attenuate effects, increase risk of adverse effects, produce drug toxicity, and interfere with the therapeutic activity of some prescribed medications. Despite the potentially serious consequences, there remains a lack of scientific research on the effects of illicit drug interactions, and drug interactions between illicit and prescribed agents.

Table 13 provides a general overview of the possible interaction effects when methamphetamine is taken with other substances. Information is based on clinical evidence and case studies where possible, as well as theoretical/probable interactions based on drug pharmacokinetic properties ^[244].

Table 13. Possible drug interactions with methamphetamine

SUBSTANCE	POSSIBLE INTERACTION EFFECTS
<p>Alcohol</p>	<ul style="list-style-type: none"> - may inhibit metabolism, and increase absorption and distribution, of methamphetamine, with resulting increase in methamphetamine's stimulating effects on brain and heart ^[245] - increases cardiac work, e.g. elevated heart rate, decreased systolic blood pressure, increased myocardial oxygen consumption ^[246, 247], with potential for greater adverse cardiovascular adverse effects - diminishes subjective effects of alcohol, and may lead to riskier drinking levels and alcohol toxicity ^[245]
<p>Cannabis</p>	<ul style="list-style-type: none"> - increased likelihood of self-reported mental health problems ^[248] - increased paranoia ^[248]
<p>Other amphetamine-type stimulants e.g. MDMA/ecstasy, diet pills</p>	<ul style="list-style-type: none"> - severity of adverse effects can be increased when combined with other amphetamine-type stimulants ^[11] - risk of acute amphetamine toxicity ^[249] - risk of serotonin syndrome from combined use with MDMA ^[250]
<p>Opioids e.g. heroin, codeine, oxycodone, morphine, fentanyl, methadone, buprenorphine</p>	<ul style="list-style-type: none"> - methamphetamine taken with an opiate produces stimulation of behaviour that may be dramatically higher than either drug alone ^[251] - methamphetamine may increase the analgesic effects of some opioids ^[11] - metabolism of methamphetamine may be decreased when combined with methadone ^[11] increased risk of fatal overdose, particularly when used in combination with injected heroin ^[252]
<p>Cocaine</p>	<ul style="list-style-type: none"> - metabolism of methamphetamine may be decreased ^[11] - cocaine may have an additive stimulant effect ^[253], with increased risk of adverse/serious adverse effects
<p>Hallucinogens e.g. LSD, acid, mushrooms, PCP, ketamine</p>	<ul style="list-style-type: none"> - increased sedation and increased hallucinatory experiences when taken with ketamine ^[244]
<p>GHB (gamma hydroxybutyrate)</p>	<ul style="list-style-type: none"> - may be cardiotoxic ^[254] - may increase the risk of seizures from GHB ^[254, 255]
<p>Amyl nitrite</p>	<ul style="list-style-type: none"> - may increase behavioural disinhibition and high-risk sexual activity, with a 3-fold increased risk of HIV seroconversion ^[256]
<p>Novel psychoactive substances (NPS) e.g. synthetic cannabinoids ('Kronic', 'Spice'), synthetic cathinones ('bath salts', 'Meow Meow'), phenethylamines ('Trypstasy', N-Bomb')</p>	<ul style="list-style-type: none"> - severity of adverse effects can be increased when combined with NPS, depending on the NPS used ^[257] - risk of serotonin syndrome depending on the NPS used ^[257]

DRUG INTERACTIONS WITH PRESCRIBED PSYCHOTROPIC MEDICATIONS

Methamphetamine use is prevalent among persons with mental health problems, who may be prescribed psychotropic agents. While psychotic symptoms feature in methamphetamine use, depression is also very common^[197], and clinicians need to consider the potential interactions between prescribed psychotropic medications and methamphetamine.

Acute elevations in blood pressure have been identified to occur when methamphetamine is used when taking monoamine oxidase inhibitors (MAOIs), tricyclic antidepressants, and other antidepressants that enhance noradrenergic activity such as selective serotonin and norepinephrine reuptake inhibitors (SNRIs)^[258]. Fluoxetine and paroxetine are selective serotonin reuptake inhibitors (SSRIs) that may decrease metabolism of methamphetamine and increase serum concentrations and increase risk of adverse effects, including toxicity^[11, 258, 259]. There is evidence that concurrent intoxication with methamphetamine and benzodiazepine potentiate their effects on cardiac tissue and coronary arteries, resulting in increased myocardial injury^[260].

Additionally, clinicians need to consider the potential interactions between prescribed psychotropic medications and the range of illicit drugs that are concomitantly consumed by clients whose primary drug of concern is methamphetamine^[197]. A useful resource for clients and clinicians on interactions between stimulants and prescribed psychotropic medication is available via the Queensland Network of Alcohol and Other Drug Agencies (QNADA): https://qnada.org.au/research-clearing-house/?fwp_type=client-harm-reduction-resource-stimulants

DRUG INTERACTIONS WITH OTHER PRESCRIBED MEDICATIONS

A full list of drugs that may interact with methamphetamine, and possible interaction effects, is found on the DrugBank website:

www.drugbank.ca/drugs/DB01577

RECOMMENDATIONS FOR MANAGEMENT OF POLYDRUG USE

There is currently minimal information available on targeted treatment approaches for polydrug use. Polydrug use compromises effective treatment for methamphetamine use disorder^[9] and results in poorer treatment retention. The development of effective treatment for people with polydrug use is impeded by the wide variability of substance combinations, the different psychological and physiological effects of different substances, and diverse patterns of use^[261]. Screening for multiple substance use among individuals who initiate treatment for methamphetamine use disorder is recommended.

INJECTING METHAMPHETAMINE USE

In Australia, among people who use methamphetamine aged 14 years or older in 2016, 11.9% injected methamphetamine in the previous 12 months. Among individuals who mainly use ice, the proportion of those injecting has doubled from 9.4% in 2013 to 19.2% in 2016 [2]. In the MATES study [79], among the cohort entering treatment for methamphetamine dependence at detoxification units and residential rehabilitation facilities respectively, 73% and 67% had a history of injecting methamphetamine.

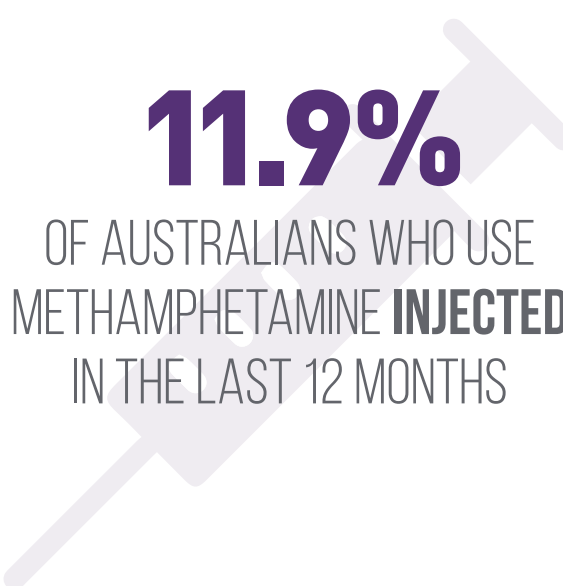
Among people who inject methamphetamine, 41% inject twice a week or more often [2]. People who smoke methamphetamine and those who inject methamphetamine present to treatment with similar levels of poor physical and mental health, psychosis and legal system involvement [191]. However, compared to those who smoke methamphetamine, people who inject tend to have higher levels of dependence, a longer drug-using career, greater psychosocial complexities, and worse treatment outcomes [191].

While there has been a reduction in sharing needles in Australia over recent years, 29% of those with recent injecting drug use still report they have engaged in needle sharing [2]. Needle and syringe sharing among people who inject drugs is a major risk factor for transmitting blood borne viruses, including HIV, hepatitis B and hepatitis C.

RECOMMENDATIONS FOR MANAGEMENT OF INJECTING METHAMPHETAMINE USE

In working with clients who inject methamphetamine, management should involve psychoeducation to promote safe injecting.

For those living with HIV/AIDS, methamphetamine-related adverse effects and morbidity may be worsened, and methamphetamine use may lead to decreased medication adherence. When working with clients who inject methamphetamine and who are living with HIV/AIDS, provide psychoeducation to promote safe injecting, HIV medication adherence, and the reduction of risky sexual behaviour [262].



The additional complexities associated with injecting of methamphetamine highlights the need for treatment responses that address the range of needs among treatment entrants.

Harms associated with injecting methamphetamine need to be addressed and information about risk of dependence offered.

By providing individual harm reduction advice, health professionals can help their client to remain safe and well informed if they continue to inject methamphetamine ^[263].

- Ask open-ended questions to gauge current practices
- Reassure the patient that they can discuss injecting with you and reinforce confidentiality
- Explain that your intention is to ensure the client is safe and well informed
- Discuss the risks associated with sharing needles with every client. These include transmission of blood borne viruses (e.g. HIV, hepatitis B and hepatitis C)
- Encourage clients to ALWAYS use their own equipment and don't allow another person to inject them
- Inform clients that all equipment should be clean and sterile and hands should be washed before injecting
- Reuse of the same equipment should be strongly discouraged
- Discuss the possibility of injecting in the company of familiar and trusted others (when/if possible) to increase safety of themselves and others
- When choosing needles, the smallest bore possible (i.e. 1ml syringe) should be used. Rotating the use of veins should also be encouraged. This minimises the risk of vein trauma

More harm reduction tips for clients can be found on page 56 (**Figure 8. Harm reduction tips for clients**).

When required, health professionals who work with clients who inject methamphetamine should seek additional training on safer injecting techniques ^[263], and put clients in contact with needle and syringe programs, which are a key avenue for educating individuals who inject methamphetamine about drug-related harm ^[191].

See **Additional resources**, on the next page, for harm reduction resources specific to injecting methamphetamine use.

REDUCING TRANSITION TO INJECTING

There is a high risk of transition to injecting among people who regularly smoke methamphetamine, but there is limited work in this area to guide interventions. Cognitive behavioural techniques of identifying and managing unhelpful thought patterns which address beliefs about injecting have been shown to be helpful. These strategies should focus on common misconceptions, such as injecting is a clean method of using and that it comes with few risks, and be tailored to the client's own perceptions about routes of administration.

Other strategies may focus on providing advice to those who do inject to encourage them not to pass on information or to glamourise injecting to those who don't inject. This may be particularly important for partners where both use methamphetamines but only one partner injects.

ADDITIONAL RESOURCES: INJECTING USE

Needle and Syringe Program (NSP)

The Victorian NSP is a public health initiative to minimise the spread of blood-borne viruses among people who inject drugs and into the wider community.

www2.health.vic.gov.au/alcohol-and-drugs/aod-treatment-services/aod-prevention-harm-reduction/needle-and-syringe-program

Safer Injecting

This guide is aimed at people who inject drugs, to help reduce harm associated with injecting.

www.drugs.ie/resourcesfiles/guides/mqi_safer_injecting_guide.pdf

Australian Injecting & Illicit Drug Users League (AIVL)

The AIVL is the national peer-based organisation representing people who use/have used illicit drugs, and aims to promote the health and human rights of these individuals.

<http://aivl.org.au/>

The AIVL Safer Injecting Guide was developed for the Australian context.

<http://aivl.org.au/resource/safer-injecting-guide/>

AIVL's online NSP Directory provides an Australia wide listing of NSPs and other related services – with links to Google Maps – to enable people to locate services more easily.

<http://aivl.org.au/nsp/>

PART V: CONSIDERATIONS FOR SPECIAL POPULATIONS

Members of special populations often face greater stigma, socioeconomic disadvantage, social isolation, psychological distress, and unique challenges in treatment. Some general considerations when working with special populations are:

- Compounding factors complicate/exacerbate difficulties in treatment. For example, a pregnant woman may also face CALD language barriers, and living remotely may limit the availability of specialist and integrated services
- Do not make assumptions about the individual. Account for individual differences and heterogeneity within these populations
- Provide holistic treatment and link in with relevant services where available. Seek out and refer clients to population/community specific support services (see **Additional resources**, at the end of each special population group)
- Tailor information to the individual's circumstances, educational level and cognitive capacity. This may include considering cultural relevance, avoiding jargon, health requirements, developmental stage, social circumstances, and providing information in an appropriate format (digital, print, etc.)
- Cultural competency and cultural safety involves the client feeling spiritually, socially, physically and emotionally safe. This involves acceptance of their identity and needs, shared respect, and the experience of learning together ^[264, 265]
- To facilitate engagement, referrals should be immediate and coordinated, and involve clear communication with the client

ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE

Aboriginal and Torres Strait Islander (ATSI) people are 2.2 times as likely to use methamphetamine as non-Indigenous Australians (3.1% vs 1.4%) ^[2], and are at greater risk of drug-related harms than non-Indigenous Australians ^[266].

SPECIAL CONSIDERATIONS WHEN WORKING WITH ATSI CLIENTS

- Intergenerational experiences of trauma, displacement, and dispossession ^[267]
- Higher rates of homelessness, incarceration, and family, sexual and physical violence form complicating risk factors ^[268]
- Emphasis on a holistic view of health, involving the integration of physical, spiritual, cultural, emotional and social health, and consideration of the individual, family and community ^[267, 269]
- Shame in seeking treatment, concern around legal issues and children being taken into care
- While, in general, it is common for people who use methamphetamine to concurrently use alcohol, methamphetamine use in combination with heavy alcohol use and alcohol binges may be more likely among ATSI clients ^[8]

RECOMMENDATIONS

Treatment services should be sensitive to the need for cultural literacy and consideration of additional complicating factors in providing treatment for these populations.

- Consult local ATSI community members and additional resources to improve cultural competency and provide culturally sensitive services and information
- Prioritise diversion from the justice system and into treatment, using a strengths-based and capacity-building approach ^[36]
- In collaboration with the client, consider the role of family and community in a holistic approach to treatment
- Offer trauma-informed care where appropriate if trained healthcare professionals are available
- Link to Aboriginal Liaison Officer (ALO) if appropriate/possible
- Consider the presence of polydrug use, particularly heavy alcohol use, which may significantly complicate withdrawal

ADDITIONAL RESOURCES: ATSI

<p>Australian Indigenous Alcohol and Other Drugs Knowledge Centre</p>	<p>Fact sheet for clients: Facts about Ice.</p>	<p>https://aodknowledgecentre.ecu.edu.au/healthinonet/getContent.php?linkid=593734&title=Facts+about+ice</p>
<p>Australian Indigenous Alcohol and Other Drugs Knowledge Centre</p>	<p>Comprehensive, up-to-date information to reduce harmful AOD use in Aboriginal and Torres Strait Islander communities.</p>	<p>www.aodknowledgecentre.net.au</p>
<p>Victorian Aboriginal Community Controlled Health Organisation (VACCHO)</p>	<p>VACCHO is the leading advocate and peak body for the health and wellbeing of Aboriginal people.</p>	<p>www.vaccho.org.au</p>
<p>Ngwala Willumbong</p>	<p>Service provider offering specialist alcohol and drug rehabilitation and outreach support services to the Aboriginal communities of Victoria.</p>	<p>www.ngwala.org</p>
<p>Alcohol and other drug treatment for Aboriginal and Torres Strait Islander peoples</p>	<p>A paper by the National Indigenous Drug and Alcohol Committee (NIDAC) outlining key principles and evidence-based treatment for Aboriginal and Torres Strait Islander people.</p>	<p>https://healthinonet.ecu.edu.au/uploads/resources/27794_27794.pdf</p>

PEOPLE FROM CULTURALLY AND LINGUISTICALLY DIVERSE BACKGROUNDS

Culturally and linguistically diverse (CALD) populations experience greater AOD-related harm risk factors than the general population [270]. Despite 26% of the Victorian population being born overseas, overseas-born clients made up only 5% of closed treatment episodes in 2013-2014 [271]. Although illicit drug use (including methamphetamine) is generally lower among people from CALD backgrounds compared to the general population, some CALD communities experience multiple risk factors (e.g. socio-economic disadvantage, pre- and post-migration stressors, low health literacy) that place them at increased risk of AOD-related harms [272]. Although little direct prevalence data exists, methamphetamine is an emerging problem across a number of communities that include new and established CALD groups. Still, clients from CALD communities remain notably underrepresented in AOD treatment systems [272].

SPECIAL CONSIDERATIONS WHEN WORKING WITH CALD CLIENTS

- The unique experiences of CALD communities including dislocation, isolation and grief, socioeconomic disadvantage, and low health literacy are risk factors for AOD use and increased AOD-related harms.
- While men are more likely to present with AOD issues (including methamphetamine), AOD use among women from CALD communities is more hidden

- Individuals and families from CALD communities who are affected by methamphetamine use face complex barriers to help-seeking, which may be influenced by [273]:
 - socio-cultural/religious norms and expectations
 - fear of legal/social consequences
 - lack of trust
 - lack of awareness of available services
 - low health literacy

RECOMMENDATIONS

The Victorian Alcohol and Drug Association (VAADA) provides comprehensive guidelines for best practice in working with cultural diversity in AOD counselling, such as:

- Consider the clients' migration experience (e.g. asylum-seeker/refugee status)
- Offer an interpreter
- Emphasise client confidentiality
- Match the gender or age of worker to the client
- Offer linkages to CALD services
- Deliver culturally safe and responsive treatment services

Additionally, in residential settings, it is important that the environment reflects cultural diversity, where clients are able to practice their cultural/religious rituals in the treatment environment, and uphold any dietary requirements. For more information see:

<https://s3-ap-southeast-2.amazonaws.com/arc-vaada/wp-content/uploads/2018/03/29051948/CALD-AOD-Project-final-report.pdf>

ADDITIONAL RESOURCES: CALD

Health Translations	Translated information about health and wellbeing.	www.healthtranslations.vic.gov.au
Victorian Multicultural Commission Community Directory	Online guide to local community associations and organisations in Victoria.	www.multicultural.vic.gov.au/resources/community-directory
Centre for Culture, Ethnicity and Health (CEH)	Information and resources on cultural competency and multicultural health and support services.	www.ceh.org.au

PEOPLE WHO ARE HOMELESS

While it is difficult to determine prevalence of methamphetamine use among people who are homeless, this group is disproportionately affected by poverty, social exclusion and marginalisation, which are all key contributors to methamphetamine use and related problems.

Prevalence studies from the United States have found 60% of urban homeless people report a history of use of methamphetamine, with one in 10 reporting current use ^[274]. Among a cohort of 255 regular methamphetamine users in Melbourne in 2010, over one-third had been homeless at least once in the previous 12 months ^[5]. In a cross-examination of four Australian data sources conducted by the Australian Institute of Criminology (AIC) and the Australian Institute of Health and Welfare (AIHW), Australians who use methamphetamine were found to be more likely to be homeless or to be living in unconventional/unstable housing than those using other drugs or not using drugs ^[275]. In disadvantaged young people in Melbourne, including those engaged in the homeless service system, methamphetamine use has been identified in clients as young as 12 years of age ^[276]. Additionally, 70% of young people 14-15 years of age accessing early intervention and crisis services have used methamphetamine, and 16% of young people accessing a youth refuge in Melbourne's western suburbs use methamphetamine regularly ^[276].

When compared with the national prevalence rate for recent methamphetamine use among the general population of 1.4% ^[2], these figures indicate that methamphetamine use is disproportionately high in people who are homeless.

SPECIAL CONSIDERATIONS WHEN WORKING WITH PEOPLE WHO ARE HOMELESS

- Homelessness and poverty are barriers to accessing treatment
- A difficult or hostile living environment may hinder further treatment-seeking, even when initial intervention or withdrawal support has been sought
- There are high rates of methamphetamine use in accommodation services, where peer use may motivate relapse or continued use
- Among people who are homeless and who use methamphetamine, polydrug use and binge drinking is common ^[274]
- Homelessness services report unique reasons for use, including staying awake on the streets to avoid attacks, self-medication, and as a form of establishing connections with methamphetamine-using peers ^[276, 277]
- People who are homeless are more likely to have a trauma history, and mental and physical health comorbidities

PEOPLE WHO ARE HOMELESS ARE DISPROPORTIONATELY AFFECTED BY POVERTY, SOCIAL EXCLUSION AND MARGINALISATION - KEY CONTRIBUTORS TO METHAMPHETAMINE PROBLEMS.



RECOMMENDATIONS

- Pre-empt and address situational and environmental factors which may impact withdrawal or increased use (such as peer use and hostile environments)
- Free and accessible services such as DirectLine provide counselling and crisis support, as well as information for families and referral to other appropriate services (e.g. welfare services)
- Referrals to professional medical services may help to mitigate risks associated with self-detoxification and withdrawal ^[188]

ADDITIONAL RESOURCES: HOMELESSNESS

DirectLine	Free 24/7 information, counselling and support for alcohol and drug use in Victoria, including crisis intervention. Provides referrals for intake and assessment and other drug services, as well as information for families.	Phone: 1800 888 236
Youth Support and Advocacy Service (YSAS)	YSAS provides a range of programs and services for young people aged 12 to 21 years who are experiencing significant problems related to their alcohol or drug use. These services are free, confidential and voluntary.	Phone: 1800 458 685 www.ysas.org.au
Housing crisis support	Housing and support workers available 24 hours, Statewide (VIC). For those who are homeless, at risk of homelessness or escaping family violence.	Phone: 1800 825 955
Homelessness Australia	List of services available for people at risk, or experiencing homelessness, in all areas of Australia.	www.homelessnessaustralia.org.au/are-you-experiencing-homelessness

PEOPLE WHO IDENTIFY AS LGBTIQ+

Seven percent of Australians identifying as homosexual/bisexual reported using methamphetamine in 2016, which is 5.8 times higher than the 1.2% of heterosexual Australians [2]. Methamphetamine use is particularly high among men who have sex with men, with 10.5% reporting methamphetamine use in the last 6 months in the 2016 Sydney Gay Community Periodic Survey [278].

SPECIAL CONSIDERATIONS WHEN WORKING WITH CLIENTS WHO IDENTIFY AS LGBTIQ+

- Methamphetamine use in LGBTIQ+ communities may be associated with social and sexual activities; methamphetamine may also be used to cope with stresses of societal discrimination and stigma
- Use is prevalent among persons with HIV infection and persons at risk for HIV, particularly among men who have sex with men [279]
- Discrimination within the LGBTIQ+ community may influence individual experiences. Older adults, people from different cultural backgrounds, transgender and bisexual people report greater feelings of alienation within these communities [280]
- Clients who identify as LGBTIQ+ face barriers to being open and honest about gender and sexuality during treatment, which may be detrimental to treatment engagement and outcomes [281]

RECOMMENDATIONS

- A client may not have disclosed their LGBTIQ+ status. Fostering a strong therapeutic alliance is important in encouraging honest and open discussion
- Be mindful of unintentional prejudices [282]. The online training module, "Building sensitivity to LGBT clients accessing alcohol and drug care" (see **Additional resources**, on the next page) may be useful in increasing competency and awareness
- Encourage open, frank and honest discussion about gender and sexuality as potentially important issues in treatment, for both clients who have and have not initiated discussion [283]
- Men who have sex with men in particular may be at risk of transitioning to injecting drug use. HIV-positive men are more likely to use methamphetamine and injecting routes of administration [278]. Interventions aimed at preventing the transition to injecting may be useful

- For those living with HIV/AIDS, methamphetamine-related adverse effects and morbidity may be worsened, and methamphetamine use may lead to decreased medication adherence
- For those living with HIV/AIDS, provide psychoeducation to promote safe injecting, HIV medication adherence, and the reduction of risky sexual behaviour. Intensive behavioural interventions may be valuable in reducing methamphetamine use but may not be more effective than lower-intensity interventions in reducing sexual risk behaviours [262]

10.5%
OF MEN WHO HAVE
SEX WITH MEN REPORTED
RECENT USE OF
METHAMPHETAMINE
IN 2016



ADDITIONAL RESOURCES: LGBTIQ+

<p>National LGBTI Health Alliance</p>	<p>Health-related programs, services and research focused on sexuality, gender, and bodily diverse people and communities.</p>	<p>www.lgbtihealth.org.au</p>
<p>QLife</p>	<p>National LGBTIQ+ counselling and referral service.</p>	<p>Phone: 1800 184 527 www qlife.org.au</p>
<p>Online training module for healthcare providers: “Building sensitivity to LGBT clients accessing alcohol and drug care”</p>	<p>A module for any healthcare worker who would like to increase their skills and knowledge regarding lesbian, gay, bisexual and transgender clients in order to become more sensitive to their specific needs.</p>	<p>https://edtech.le.unimelb.edu.au/login/lgbt/</p>
<p>Policy and Practice Recommendations for Alcohol and Other Drugs Service Providers supporting the Trans and Gender Diverse (TGD) Community</p>	<p>VAC in partnership with VAADA: guidelines for AOD service providers supporting Trans and Gender Diverse people.</p>	<p>https://thorneharbour.org/news-events/news/vac-launches-trans-and-gender-diverse-aod-reference-guide/</p>
<p>Living Positive Victoria: Living with HIV and Crystal Methamphetamine</p>	<p>Living Positive Victoria is a not for profit, community organisation representing all people living with HIV in Victoria. They also provide information on living with HIV and injecting methamphetamine.</p>	<p>https://livingpositivevictoria.org.au/living-with-hiv/drugs-and-alcohol/crystal-meth-and-methamphetamines/</p>
<p>Turning Tina</p>	<p>A harm reduction resource developed by Living Positive Victoria and The Institute of Many (TIM), has taken the voices and experiences of people living with HIV to help others who are trying to get on top of their crystal meth use.</p>	<p>https://vimeo.com/146645732</p>

WOMEN WHO ARE PREGNANT OR BREASTFEEDING

In 2016, 3.1% of pregnant women consumed illicit drugs before knowledge of their pregnancy, and 1.8% consumed illicit drugs after learning of their pregnancy^[2]. Data extrapolated from hospital and AOD service records indicates 1.4% of total public hospital births in New South Wales and the Australian Capital Territory were affected by drug dependence in 2004, with amphetamine composing 23% of these drug exposures^[284].

SPECIAL CONSIDERATIONS WHEN WORKING WITH WOMEN WHO ARE PREGNANT OR BREASTFEEDING

- Pregnant women may be reluctant to disclose use or seek treatment due to substantial stigma and fear of punitive consequences^[285]. Health care professionals can make a substantial difference to the health of women and their babies by identifying and supporting women who use substances (including methamphetamine) during pregnancy
- Engagement in antenatal care is critical to improving pregnancy outcomes for both the mother and baby
- Early intervention provides better opportunity for more effective antenatal care and harm minimisation^[286]
- Methamphetamine use during pregnancy is associated with complications in foetal development, course of pregnancy, and infant and maternal health^[287]
- Infant methamphetamine consumption via breast milk may manifest in behavioural problems including irritability, poor sleeping patterns, agitation, and crying^[285, 288]
- Pregnancy may be a window of opportunity to motivate change and improve outcomes with the appropriate support and treatment

RECOMMENDATIONS

A safe and non-judgemental approach can encourage disclosure and enable appropriate support to be provided. Building rapport is especially important to gain trust and work effectively with a client whose circumstances are highly stigmatised.

- If methamphetamine use has been reported during, or prior to pregnancy, refer the client to an obstetric service with AOD support
- Recognise pregnancy as a potential motivator for change, and consider employing a motivational approach
- Encourage the client to avoid using other substances such as tobacco, cannabis and alcohol. Where other substance use is reported, the effects of these substances should also be taken into consideration when planning management approaches. Alcohol and tobacco use, in particular, are associated with significant impacts on maternal and neonatal outcomes
- Provide education about methamphetamine use in pregnancy and breastfeeding
- Women should always be supported to breastfeed if it is safe and they are able to do so. Breastfeeding advice should take into consideration the frequency and pattern of methamphetamine use, the level of engagement of the mother with antenatal services prior to delivery and engagement with AOD treatment and supports. Each woman should be assessed individually to develop and plan infant feeding and other perinatal supports. Expert advice, for instance from the Women's Alcohol and Drug Service (www.thewomens.org.au) may need to be sought to inform a breastfeeding and perinatal plan
- An integrated team is needed to address complicated factors
- In addition to withdrawal and pregnancy, factors to be addressed may include: poor nutrition, mental health, domestic violence, and unstable housing^[290]
- For women who are pregnant, or with infant children, a specialised mother-and-baby withdrawal unit will be able to provide individualised supports and care (see **Additional resources**, on the next page).

The Royal Women's Hospital provides comprehensive guidelines for treatment of pregnant women with methamphetamine dependence^[289] (see **Additional resources**, on the next page).

ADDITIONAL RESOURCES: PREGNANCY & BREASTFEEDING

Women's Alcohol & Drug Service (WADS) Victoria	Medical care, counselling and support to women with complex substance use and dependence, and assessment and care of infants exposed to drugs and alcohol during pregnancy.	GP (only) phone: (03) 8345 2058 Direct phone: (03) 8345 3931 Fax (referrals): (03) 8345 2996 www.thewomens.org.au/health-professionals/maternity/womens-alcohol-and-drug-service
The Royal Women's Hospital 'Management of Methamphetamine Dependence in Pregnancy' (Clinical Guideline)	Clinical guideline from the Royal Women's Hospital on the management of methamphetamine dependence in pregnancy.	Accessed via: www.thewomens.org.au/health-professionals/clinical-resources/clinical-guidelines-gps
1800 My Options Advisory Service	Information about contraception, pregnancy options and sexual health services across Victoria.	Phone: 1800 696 784 1800myoptions.org.au/contact
Mother and Baby Residential Withdrawal Unit at Uniting Re-Gen	A purpose-built facility to improve the accessibility and effectiveness of treatment services for mothers who are alcohol and other drug dependent, increase the safety and wellbeing of mothers and their children during the early stages of treatment, strengthen parenting skills and reduce risk to children, and provide links to other targeted services to provide longer-term supports for affected families.	www.regen.org.au/treatment-support/withdrawal/mother-and-baby

PEOPLE FROM REMOTE POPULATIONS

People living in remote or very remote areas of Australia are 2.5 times as likely to report recent (last 12 months) use of methamphetamine as those living in major cities (1.4% compared with 3.5%) [2]. People living in remote areas are also more likely to consume the more potent crystal/ice forms (rather than powder/speed forms), making up 22% of those using crystal/ice in Australia, and 6% of those using powder/speed [2].

SPECIAL CONSIDERATIONS WHEN WORKING WITH PEOPLE FROM REMOTE POPULATIONS:

- People living in remote areas have higher rates of unemployment, lower school engagement, and less access to recreational activities [277]
- Limited peer group options may make it more difficult to move away from methamphetamine-using social groups [277]
- In smaller communities, maintaining anonymity in accessing specialist AOD services may be difficult
- AOD services and expertise may be limited. Smaller healthcare networks may limit the efficiency of intake and assessment, and the ability to link treatment services

RECOMMENDATIONS

- Health professionals in communities with limited AOD expertise can utilise telephone consultation support from addiction medicine specialists (see DACAS and Turning Point in **Additional resources**, on the next page)
- Peer support services and social skill building may help to address limited alternative non-drug using peer group options
- Telephone/video/online support, outreach services, or face-to-face services at multiple locations can overcome transport or geography-related treatment barriers
- Providing specialist AOD treatment in less conspicuous locations may provide anonymity and reduce anxieties over public knowledge
- If there is unavoidable delay in treatment, alternative intermediary support should be provided in an integrated way to facilitate engagement (see **Additional resources**, on the next page)

ADDITIONAL RESOURCES: REMOTE POPULATIONS

Drug and Alcohol Clinical Advisory Service (DACAS)	The Drug and Alcohol Clinical Advisory Service (DACAS) is a specialist telephone consultancy service that assists health and welfare professionals throughout Victoria to respond effectively to individuals with alcohol or other drug use problems.	Phone: 1800 812 804 http://www.dacas.org.au
Turning Point Statewide Addiction Medicine & Psychiatry Consultation Clinic	Turning Point Statewide Addiction Medicine & Psychiatry Consultation Clinic provides telehealth consultations with addiction medicine specialists and/or addiction psychiatrists, for assessment and formulation of a treatment plan.	Can be accessed via a GP referral: See www.turningpoint.org.au/treatment/clinicians
DirectLine	Free 24/7 information, counselling and support for alcohol and drug use in Victoria, including crisis intervention. Provides referrals for intake and assessment and other drug services, as well as information for families.	Phone: 1800 888 236 www.directline.org.au
Counselling Online	Free online text-based counselling for people concerned about their own drinking or drug use, or that of a family member, relative or friend.	www.counsellingonline.org.au

YOUNG PEOPLE

Approximately 0.4% of young people in Australia aged 12-17, and 2.3% aged 18-24, reported recent methamphetamine use in 2016, compared with 1.4% of all people in Australia aged 12 years and over [2]. Methamphetamine dependence has increased markedly among young people, with the rate of dependent use in Australian 15-24 year olds estimated to be 1.14% in 2013 [7].

In disadvantaged young people accessing Melbourne City Mission's early intervention and crisis services, methamphetamine use has been identified in clients as young as 12 years of age, and it is estimated that 70% of young people between 14-15 years of age who access these services have used methamphetamine [276].

SPECIAL CONSIDERATIONS WHEN WORKING WITH YOUNG PEOPLE

- Young people may not disclose methamphetamine use to their healthcare provider. Asking all patients/clients about drug use provides the opportunity to intervene earlier than when drug use is not disclosed
- Peers have a strong influence on young peoples' decisions to use drugs [291]. The desire for social involvement, or fear of alienation, may also motivate drug use
- Several family variables contribute to the drug use of young people. Tolerant parental drug attitudes,

and siblings' use of drugs, have a strong influence on young peoples' decisions to use drugs. Parental monitoring, and attachment to parents, also influences drug use [291]

- Additional risk factors for methamphetamine use among young people include living in foster care, homelessness, antisocial behaviours, including recent criminal involvement, binge drinking, use of other drugs, high psychological distress, sensation seeking, and (for females) having a partner who uses methamphetamine [292, 293]

RECOMMENDATIONS

- Match the intensity of treatment to the nature and severity of use (see **Stepped Care** on page 22)
- Be aware of the client's attitudes toward and reasons for drug use, and use this as context for approaching treatment (e.g. perceived normality, partying)
- Provide youth-friendly and accessible services (e.g. accessible by public transport, allow drop-ins, provide assertive follow-up and reminders)
- With the client's consent, family therapy can be extremely beneficial for treatment
- Develop strategies for dealing with peer-related motivators for use
- Clearly discuss confidentiality and the role of parents and the family and other services (if any) in treatment
- Link the client in with youth services and support networks, such as the Youth Support and Advocacy Service (YSAS) (see **Additional resources** below).

ADDITIONAL RESOURCES: YOUNG PEOPLE

Youth Support and Advocacy Service (YSAS)	YSAS provides services for young people aged between 12 and 21 who are experiencing problems related to alcohol and other drugs.	Phone: 1800 458 685 www.ysas.org.au
Youth Drugs and Alcohol Advice (YoDAA)	Information, support and advice for young people, family, carers, and schools experiencing AOD-related issues. Advice for workers supporting young people with AOD-related issues. Consultation service available, including intervention advice, secondary consultation for care planning, case review and service navigation.	Phone: 1800 458 685 www.yodaa.org.au www.yodaa.org.au/workers

OLDER PEOPLE

While the percentage of Australians aged 55 or older reporting recent methamphetamine use is relatively low (0.2% in 2016, compared with 1.4% of all Australians aged 14 and over) ^[2], older people with AOD-related problems are considered a 'hidden community' and at risk of more unrecognised and complex harms ^[294]. Additionally, the issue of methamphetamine use in older people is likely to increase as the current cohort of those who use becomes older.

SPECIAL CONSIDERATIONS WHEN WORKING WITH OLDER PEOPLE

- Characteristics associated with illicit drug use (including methamphetamine) in older people include male gender, unmarried status, early onset of drug use, low education, unemployment due to disability, recent alcohol or tobacco use, and depression ^[295]
- Methamphetamine use may go unrecognised because of:
 - lack of awareness that drug problems are experienced by older people
 - symptoms of use masked by age-related physical and/or cognitive changes
- Age-related physiological changes to the brain, drug metabolism, and pharmacokinetics (i.e. the process by which a drug is absorbed, metabolised and eliminated from the body) can increase sensitivity to methamphetamine's effects, and increase the risk of adverse effects ^[296, 297]
- Risk of adverse effects may be further augmented for older people who suffer from chronic conditions
- Prescription medications that are more commonly taken by older people may interact with methamphetamine, reducing medication effectiveness or causing adverse drug effects ^[244]
- The client may not feel comfortable engaging in treatment programs targeted at younger age groups.
- Unique motivators for use may include boredom (retirement, more free time), loss of identity, bereavement, grief, loneliness, social isolation, feelings that it is 'too late' to change

RECOMMENDATIONS

- Educate the client on the harms of potential drug/medication interactions. With the client's permission, work with their doctor/prescriber to reduce potential interactions and associated risk of harm
- Malnutrition increases adverse effects and may be more marked in older adults. Encourage nutrition consumption through:
 - education
 - food services (such as Meals on Wheels) or meal plans
 - budgeting for food before methamphetamine
- Seek and identify support networks and outreach services to improve positive social connections. Talk to the client about deciding whether to involve family members
- Clinicians/services working with older adults can contact DACAS for advice on the clinical management of AOD problems in older clients
- Transport and mobility problems may limit treatment accessibility. Offer home visits or accessible locations for treatment where possible. Implement an appointment reminder service if appropriate for the individual
- Tailor treatment programs to the needs of the older individual
- A strong therapeutic alliance is important for trust and engagement, especially where the client may feel embarrassed about experiencing drug problems at an older age

ADDITIONAL RESOURCES: OLDER PEOPLE

Drug and Alcohol Clinical Advisory Service (DACAS)

The Drug and Alcohol Clinical Advisory Service (DACAS) is a specialist telephone consultancy service that assists health and welfare professionals throughout Victoria to respond effectively to individuals with alcohol or other drug use problems.

Phone: 1800 812 804
www.dacas.org.au

The Australian Government's My Aged Care

A "one-stop-shop" phone line and website that can help older adults access services and find information for themselves, a family member/friend, or someone they're caring for.

Phone: 1800 200 422:
Monday to Friday 8am - 8pm
Saturdays 10am - 2pm
Sundays and national public holidays
CLOSED
Translating and Interpreting Service:
call 131 450 and ask for 1800 200 422
<https://www.myagedcare.gov.au/>

Meals On Wheels Victoria

Assists the elderly and those with disabilities who are unable to cook for themselves.

www.mealsonwheelsvictoria.org.au/index.htm

NSW Ministry of Health's Older People's Drug and Alcohol Project

The Older People's Drug and Alcohol Project seeks to identify the key issues relevant to older people with substance use issues, comorbid mental health issues, existing services, and good practice responses for this population.

www.health.nsw.gov.au/aod/professionals/Publications/opdap-fullreport.pdf

Peninsula Health Guide

Preventing and Reducing Alcohol- and Other Drug-Related Harm Among Older People: A practical guide for health and welfare professionals.

www.atdc.org.au/wp-content/uploads/2015/12/Absolute-final-version.pdf

OCCUPATIONAL GROUPS

Recent data show 9.9% of Australians who use drugs report going to work while under the influence of the consumed substance, and 66.1% of those with recent methamphetamine use are currently employed ^[2].

DRIVERS

Drivers (such as long-haul truck drivers and taxi drivers) may use methamphetamine to stay alert and improve motor skills during long driving shifts. Epidemiological evidence and driving simulator studies indicate that driving is impaired under the influence of methamphetamine ^[277, 298]. When not acutely intoxicated, people with heavy methamphetamine use display more risky driving behaviours than those who don't use ^[299]. It is important to educate clients that, in line with current drug driving laws in Victoria, the detection of methamphetamine in roadside saliva tests will result in fines, driving bans and loss of demerit points, along with other penalties. Positive readings can occur even several days after methamphetamine was last used.

SEX WORKERS

In an earlier study, 40% of a sample of 72 female street-based sex workers in Sydney reported methamphetamine use in the last 12 months ^[300]. Sex workers may use methamphetamine for feelings of disinhibition ^[6]. A concern in this population is the risk of blood borne viruses (e.g. HIV, hepatitis B and hepatitis C) via needle-sharing ^[301, 302] and risky sexual practices ^[300].

OTHER INDUSTRIES

Other industries cited as having more prevalent methamphetamine use include ^[303]:

- Wholesale trade
- Construction
- Tradespeople
- Mining
- Hospitality
- Shift workers (e.g. nurses)

SPECIAL CONSIDERATIONS WHEN WORKING WITH CLIENTS WHO BELONG TO AT-RISK OCCUPATIONAL GROUPS

Reasons for use include:

- Ease of access
- Peer use/normalisation of use in the workplace
- Fatigue (from long hours, travel or laborious work)
- Tight deadlines or unrealistic performance targets
- Irregular working hours
- Increased work performance
- Increased confidence
- To alleviate boredom

Additional risks involved in workplace use include:

- Impaired operation of heavy machinery
- Difficulty sleeping and consequent fatigue
- Drug-driving, including to and from work
- Being drug-affected in high-risk work environments (e.g. commercial kitchens)

RECOMMENDATIONS

- Discuss the availability of support from an Employee Assistance Program (EAP) or other industry-specific support if available (e.g. RhED for people working in the sex industry; NM Support for nurses and midwives)
- Provide information about the harms of methamphetamine use in the context of work
- Identify and address workplace issues which may contribute to methamphetamine use

ADDITIONAL RESOURCES: OCCUPATIONAL GROUPS

Fair Work Ombudsman	Information and advice about your workplace rights and obligations.	www.fairwork.gov.au
Resourcing health & Education (RhED)	Specialist service for the sex industry in Victoria that provides sex worker friendly services/referrals.	Phone: 1800 458 752 www.sexworker.org.au/sex-workers/sex-worker-friendly-services
Vixen Collective	Peer only sex worker organisation, providing community and peer support and supporting sex worker rights.	Phone: 0414 275 959 www.vixencollective.net
Nurse & Midwife Support (NM Support)	A free 24/7 national support service for nurses & midwives providing access to confidential advice and referral.	Phone: 1800 667 877 www.nmsupport.org.au/
DirectLine	Free 24/7 information, counselling and support for alcohol and drug use in Victoria, including crisis intervention. Provides referrals for intake and assessment and other drug services, as well as information for families.	Phone: 1800 888 236 www.directline.org.au

PART VI: AFTERCARE AND SUPPORTING LONGER-TERM TREATMENT GOALS

Aftercare refers to ongoing follow-up and support post-specialist AOD treatment. This could include low-cost stepped-down distance-based support (e.g. telephone or online counselling) engagement with the health, social and welfare system to achieve broader long-term goals or linkage with a peer support group. The high rates of relapse after treatment, and the prolonged cognitive and/or functional impairment that can occur emphasises the potential benefits of aftercare and longer-term support for this client group.

THE ROLE OF PEER SUPPORT

Recognising the value of lived experience, peer support is increasingly utilised as a valuable community resource. Mutual aid and peer support groups such as Alcoholics Anonymous (AA) and Narcotics Anonymous (NA) are among the most commonly accessed forms of support for substance use disorders worldwide^[304], with research showing that they can extend treatment gains following specialist AOD treatment^[305,306] as well as help people who are not seeking to access formal treatment^[307]. Indeed, from data still to be published from the Patient Pathways study, clients seeking treatment for methamphetamine use were twice as likely to have abstained from, or significantly reduced the frequency of, methamphetamine use 12 months after initiating treatment if they had subsequently attended mutual aid/peer support.

12-step groups are heavily abstinence focused and underpinned by the disease model of addiction. These models of care assist and support others through disclosure of personal stories at meetings and personal sponsorship of others who are in recovery from addiction, with an emphasis on spirituality or a 'higher power'. Most of the research to date on mutual aid/peer support has been on 12-step groups, with limited focus on people with methamphetamine problems specifically. A specific group exists for people with methamphetamine use problems known as Crystal

Meth Anonymous, however, there are currently only two weekly meetings in Victoria (both in Wangaratta): <https://crystalmeth.org/cma-meetings/cma-meetings-directory/3140-victoria.html>. Nonetheless, people with methamphetamine as their primary drug of concern can attend any NA meetings held regularly throughout Victoria: www.navic.net.au/meetings/.

An alternative mutual aid group to 12-step programs, which has seen substantial expansion throughout Australia in recent years, is Self-Management and Recovery Training (SMART) Recovery – a non-government organisation that supports the training and dissemination of SMART Recovery groups throughout Australia. SMART Recovery groups are strengths based, and utilise evidence-based principles and strategies (e.g. MI, CBT). The four key elements of SMART Recovery include motivational enhancement, coping with cravings, problem solving, and developing a balanced lifestyle. SMART Recovery does not have a spiritual foundation but adopts an evidence-based approach to self-help. The number of SMART Recovery meetings in Australia has grown considerably in the past two years, with open and closed groups now held weekly in Melbourne, Bendigo, Castlemaine, Dandenong, Frankston, Sale, Shepparton, Sunbury, Wangaratta, Werribee and Wodonga. In-person meetings can be found via: <https://smartrecoveryaustralia.com.au/find-meetings/> Online meetings are also held and can be accessed via: <https://smartrecoveryaustralia.com.au/online-meetings/>.

ADDITIONAL RESOURCES: PEER SUPPORT

Crystal Meth Anonymous	A place where people share their experience, strength and hope with one another on their common addiction to crystal meth.	http://www.crystalmeth.org.au
Narcotics Anonymous	A fellowship of men and women for whom drugs have become a major problem. They believe in therapeutic value of one person with addiction helping another.	https://www.na.org.au/multi
SMART (Self-Management and Recovery Training) Recovery Australia	A self-help program guided by peers and professionals, designed to assist people with any problematic behaviours (including drug use).	https://smartrecoveryaustralia.com.au

THE ROLE OF PEER EDUCATION

There is evidence to suggest that peer education/support has a positive influence on people who use methamphetamine^[308]. Peer educators (i.e. individuals with lived experience who are employed as educators) can be instrumental in transferring risk reduction knowledge to those who currently use^[308]. Peer educators provide an opportunity for non-judgmental conversations about methamphetamine-related problems to take place, and there is some evidence for their role in reducing depressive symptoms in those with methamphetamine use problems^[309].

THE ROLE OF SUPPORT PEOPLE

One goal of treatment for methamphetamine use is to engage key family members or friends in the ongoing support of the client, if the client is agreeable to this.

In AOD treatment, family interventions can be broadly grouped into three types:

- Working with family members to promote entry to, and retention in, treatment
- Joint involvement with family members and the individual with substance use disorder in treatment
- Interventions that respond to the needs of family members specifically

The involvement of support people is now well-recognised to have a positive impact on treatment engagement, retention and outcomes as well as the longer-term recovery of individuals with methamphetamine use disorder^[310, 311]. Identifying and utilising the support of key family or friends who can provide care and support beyond formal treatment, and after services close for the day, maximises the chances of positive change. Support people are also a useful resource for monitoring signs of depression or other mental health or behavioural disturbances such as symptoms of psychosis and aggressive behaviour. It is often the friends and family who are alerted to changes in behaviour before the individual becomes aware of this themselves.

FAMILY/SUPPORT PEOPLE INVOLVEMENT IN TREATMENT

A review by Copello et al.^[312] provides evidence for the effectiveness of family involvement in treatment, and as a catalyst for treatment entry and engagement. One family intervention used in the AOD field is systemic MI^[313], which incorporates MI with a family systems approach, where the family as a whole is targeted for intervention. This approach draws on principles inherent in family systems theory:

- One's identity is achieved in relation to others
- Problems are linked to families, communities, and societies rather than individuals
- Families need to renegotiate identities and roles in the context of their interactions, so that change occurs in multiple people, not just the individual with substance use problems

INVOLVING
SUPPORT PEOPLE
POSITIVELY
IMPACTS TREATMENT
OUTCOMES AND
LONGER-TERM RECOVERY



PART VII: MANAGING THE NEEDS OF FAMILY/SUPPORT PEOPLE

Clinicians need to be aware that methamphetamine use not only impacts on those taking the drug, but also takes a heavy toll on families and other support people ^[310].

These relationships are often complex, are associated with significant distress and disharmony, and can involve violent, hostile interactions that support people may struggle with, and/or be at risk of harm from ^[310].

The following suggestions are made for health professionals who work with families and carers of people who use methamphetamine ^[314]:

- Explore the family dynamic and gauge surrounding support. Encourage the carer/s to reach out to those with whom they are comfortable. There are also a range of external supports available that they may want to use (as listed below)
- Discuss the stigma around drug use and how this may be preventing them from seeking support due to shame or embarrassment of being associated with methamphetamine use
- Educate the carer/s on the effects of methamphetamine use, and encourage them to widen their knowledge (see **Additional resources**, page 96 and 97). The more education they seek on methamphetamine use, the better they can understand the behaviour of the individual
- Explain the stages of change and how the road toward recovery is often a complex and lengthy process which the individual using methamphetamine may struggle with
- Remind the carer/s that in order to support their loved one, they need to maintain their own health as best they can by eating regular meals, getting enough exercise and continuing their daily routine
- Discuss a plan for the carer/s around what they would do in the event of a crisis, including a plan for their own safety
- If the person using methamphetamine is your primary client, obtain consent or provide as much information to support the carer/s without breaching confidentiality

For family/support people, starting a conversation with someone about their use of methamphetamine can be difficult. Some tips on how to approach the situation include gathering information, choosing the appropriate time and not making assumptions. More information can be found at: www.counsellingonline.org.au/how-we-can-help/methamphetamines/concerned-about-someone

BreakThrough: Ice Education for Families is a free community education program that addresses issues faced by people whose loved ones are affected by methamphetamine. It is an initiative developed by Turning Point, Self Help Addiction Resource Centre (SHARC) and the Bouverie Centre, and is funded by the State Government Victoria under the Ice Action Plan. Since 2016, BreakThrough has provided education to over 3,300 families of individuals with methamphetamine use problems in Victoria. The program covers facts about ice, its effects on the brain and body, as well as strategies families can use for discussing drug use with loved ones, understanding family dynamics, developing boundaries, responding to challenging situations, and accessing support for the whole family. Family members who attend BreakThrough report that the program provides a sense of hope, and increases confidence when dealing with a loved one's methamphetamine use. More information can be found at: www.breakthroughforfamilies.com

The **Sibling Support** program, an initiative of SHARC, recognises that impact of a young individual's substance use on other siblings in the family (e.g. stress, parental availability, family stability) and acknowledges that brothers and sisters are often overlooked by families and AOD services. Sibling Support aims to address the mental health and wellbeing of siblings by providing them with a wide range of interactive online support, including fact sheets, stories, emails, videos and Facebook. More information can be found at: www.sharc.org.au/sibling-support

INTERVENTIONS THAT RESPOND TO THE NEEDS OF FAMILY/ SUPPORT PEOPLE

There is increasing recognition that services need to engage family members as valid help-seekers in their own right, regardless of whether the individual with methamphetamine use problems seeks help. Interventions that respond to the needs of family members have been found to reduce symptoms of stress and ill-health in those who provide support to the individual with substance use problems^[312].

SELF HELP ADDICTION RECOVERY CENTRE (SHARC) AND FAMILY DRUG HELP (FDH)

The Self Help Addiction Recovery Centre (SHARC) is a community-based, not-for-profit organisation in Victoria that provides a range of peer-led mutual aid services to individuals with AOD problems, and also families affected by AOD-related issues. The Family Drug Help (FDH) services provided by SHARC fill an important community need by providing access to professional support for the families of those with AOD use problems. Four of the programs offered for families are:

- **InFocus Education Program (formerly the Action for Recovery Course)** - The InFocus Education Program is a facilitated education course for family and friends on how to best cope with a family member's addiction. ARC is a brief, six-session program (i.e. held one evening a week for six weeks). Facilitators are trained professionals with a lived experience of addiction, informed by research evidence and good practice for family support programs
- **Family Drug Help (FDH) Support Groups** - Family Drug Help (FDH) Support Groups are fortnightly or monthly mutual aid groups that encourage participant support through the sharing of experiences and strategies for coping in a supportive, non-judgmental environment facilitated by trained volunteers and supported by FDH staff
- **Family Counselling Service** - SHARC's Family Counselling Service provides face-to-face counselling for individuals and family groups, and is offered in brief format as a single session (with up to eight sessions), delivered by a qualified family counsellor

- **Family Drug Helpline** - The Family Drug Helpline is a 24-hour service, although during business hours is staffed primarily by trained volunteers who have a personal experience of family AOD use (Turning Point provides telephone counselling support after hours). Quality control is implemented by way of call monitoring, ongoing supervision, regular debriefing, and access to professional development and training

SUPPORT PROGRAMS IMPROVE MENTAL HEALTH AND WELLBEING OF FAMILY MEMBERS

A recent evaluation of these programs using pragmatic, mixed-methods research found that these programs are beneficial in improving the wellbeing of the family members who engage their support. Participants reported improved mental health, physical health and well-being over time, with a common theme being that these programs enabled family members to disentangle their own wellbeing from the wellbeing of their AOD-using relative^[315]. In addition, these services can facilitate access to AOD treatment for the individual affected by substance use themselves by providing education and advice to families, and increasing family members' skills in motivational encouragement.

These services can be accessed by calling Family Drug Help on **1300 660 068** or visiting their website: www.sharc.org.au/family-drug-help

5-STEP METHOD

The 5-Step Method is based on the stress-strain-coping-support (SSCS) model emphasising the stress and ill health that can occur in the family of a person with addiction problems ^[316]. Rather than targeting the individual with substance use problems, the 5-Step Method targets family members and focuses on their experiences in attempts to cope with an external stressor. A range of strategies are used to help family members identify sources of stress, provide

relevant information about substances, explore coping behaviours, and consider and attempt to enhance available social support ^[317] (**Table 14**). The 5-step method has been consistently shown to have a positive effect on family members' physical and psychological stress symptoms, and coping behaviours, when provided in both five-session and single session formats ^[317, 318].

Table 14. Five steps to support family members affected by AOD use problems ^[316]

STEP 1. LISTEN, REASSURE AND EXPLORE CONCERNS

- Allow family members to describe the situation and context
- Identify relevant stressors
- Identify areas where knowledge can be improved
- Communicate realistic optimism
- Identify needs for future contacts

STEP 2. PROVIDE RELEVANT, SPECIFIC AND TARGETED INFORMATION

- Provide information with the goal of reducing stress that has arisen from lack of knowledge or misinformation

STEP 3. EXPLORE COPING RESPONSES

- Identify current coping strategies and explore the advantages and disadvantages of these
- Explore alternative strategies

STEP 4. DISCUSS SOCIAL SUPPORT

- Map out a social network diagram on paper
- Discuss strategies for improving family communication aim for a unified and coherent response to the individual's substance use problem
- Explore potential sources of additional support

STEP 5. DISCUSS AND EXPLORE FURTHER NEEDS

- Determine whether there is a need for further help and discuss options (see **Additional resources**, on the next page)
- Facilitate contact between family members and specialist help

ADDITIONAL RESOURCES: SUPPORT FOR FAMILIES

Family Drug Help (FDH)	<p>Family Drug Help provides practical help, information and support to families and friends impacted by drug and alcohol use.</p> <p>Contact the 24/7 helpline for confidential telephone support, information, strategies and referrals for families. Contact the helpline or visit the website for information on FDH Support Group dates and locations, family counselling, and dates for InFocus Education Program for families.</p>	<p>www.sharc.org.au/family-drug-help Phone: 1300 660 068</p>
BreakThrough: Ice Education for Families	<p>A free community education program that addresses issues faced by people whose loved ones are affected by methamphetamine. The program covers facts about ice, its effects on the brain and body, as well as strategies families can use for discussing drug use with loved ones, understanding family dynamics, developing boundaries, responding to challenging situations, and accessing support for the whole family.</p>	<p>www.breakthroughforfamilies.com</p>
Family Drug Help (FDH) Sibling Support	<p>FDH's Sibling Support program aims to address the mental health and wellbeing of all siblings affected by addiction in the family by providing them with a wide range of interactive online support, including fact sheets, stories, emails, videos and Facebook.</p>	<p>www.sharc.org.au/sibling-support</p>
Family Drug Support Australia	<p>Assisting families throughout Australia experiencing alcohol and drug issues.</p>	<p>Phone: 1300 368 186 www.fds.org.au</p>

<p>Carers Australia</p>	<p>Working to improve the health, wellbeing, resilience and financial security of carers (including alcohol and drug issues).</p>	<p>Phone: 1800 242 636 www.carersaustralia.com.au/home</p>
<p>Counselling Online</p>	<p>Free online drug & alcohol counselling for people with AOD problems or loved ones.</p>	<p>www.counsellingonline.org.au Methamphetamine specific advice for carers: www.counsellingonline.org.au/how-we-can-help/methamphetamines/concerned-about-someone</p>
<p>1800 ICE ADVICE</p>	<p>Facts, links, online support and stories by consumers and families affected by ice use.</p>	<p>Phone: 1800 423 238 https://ice.vic.gov.au/</p>
<p>Cracks in the Ice</p>	<p>Cracks in the Ice is an online toolkit providing evidence-based, up-to-date information and resources about crystal methamphetamine (ice) for the Australian community.</p>	<p>https://cracksintheice.org.au/</p>
<p>Lifeline</p>	<p>Lifeline is a national charity providing all Australians experiencing a personal crisis with access to 24 hour crisis support and suicide prevention services.</p>	<p>Phone: 13 11 14 www.lifeline.org.au</p>

FUTURE DIRECTIONS AND CONCLUSION

These guidelines provide recommendations based on current evidence and best practice for the management of methamphetamine use disorder.

The little evidence currently available to guide pharmacotherapy for methamphetamine use disorder highlights the need for significant investment in drug development, and investment in the rigorous evaluation of existing medications. However, pharmacological therapies may always fall short of treating the cognitive aspects of addiction, including positive (e.g. seeking a drug high) and negative (e.g. seeking relief from stress or negative mood states) reinforcement processes, and environmental and internal cues, which are behaviourally engrained, resistant to change, and linked to powerful motivational craving states. Furthermore, pharmacological treatments for methamphetamine use disorder are not without their own risks, including cardiovascular adverse effects and neurotoxic potential. In the context of polydrug use, pharmacological treatment may pose additional risk.

Therefore, greater efforts are required to implement and build upon existing psychosocial treatments that we know work. The evidence base for psychosocial interventions is particularly strong for multicomponent, structured models that are shown to reduce cravings and relapse, and promote abstinence. There is a critical need to increase the availability of these interventions and invest in additional robust clinical trials to evaluate the (cost-)effectiveness of variations of these multicomponent models, delivered in the Australian context.

Methamphetamine use disorder is an incredibly complex issue, and usually occurs in the context of polydrug use and mental health comorbidity, occurring within a complex interaction of individual, contextual and social factors. The existence of multiple etiological pathways means that addressing methamphetamine use must involve addressing the whole person and their circumstance, including mental health symptoms and other life complexities. This is likely why multicomponent psychosocial interventions are having a far more convincing and consistent impact on abstinence rates and other positive outcomes, relative to pharmacotherapy. Empowering individuals to cope, rebuild positive social connections, and lead fulfilling lives could make a real difference to their capacity to sustain positive behaviour change.

A greater emphasis on improving client engagement in treatment is needed. People who use methamphetamine typically have low engagement with services, and low rates of prolonged abstinence after treatment are rare. Engagement in treatment may be improved through continued efforts to understand the needs of this complex group, and increasing responsiveness to fluctuating readiness for change and other barriers to treatment engagement and retention.

Greater efforts are required to improve existing service infrastructure to respond to people dependent on methamphetamine. A major obstacle to successful intervention that must be highlighted is the disjointed transition between assessment, withdrawal and treatment, which likely contributes to poor retention and outcomes, and generates despondency rather than a sense of hope. Given that key characteristics of this cohort include mental health comorbidity and other significant complexities as well as fluctuating motivation to change, quality coordination of care with a focus on motivation, a strength-based approach to change, while providing advocacy and assertive linkages to after care – underpinned by a strong and ongoing therapeutic alliance – will help clients to remain engaged in treatment and the recovery journey. Services need to be responsive, accessible and flexible in meeting the complex and disparate needs of clients with methamphetamine use problems.

The use of technology and other novel, low-cost and scalable approaches to treatment, aftercare and relapse prevention requires further evaluation moving forward, but it is important that technological innovations do not replace the obligation to provide the social and financial resources needed to best address complex AOD problems.

These guidelines provide recommendations based on the most up to date knowledge and best practice approaches for the management of methamphetamine use disorder. They also highlight how far we have to go. As new knowledge emerges over time, we aim to progressively update these guidelines to continue to support clinical decision-making and enhance the capacity of clinicians and health services to effectively care for clients with methamphetamine use disorder and related problems.



APPENDICES

APPENDIX A: BRIEF PSYCHOLOGICAL INTERVENTION

The following section provides information about a 4 session intervention specifically developed and evaluated for people who use methamphetamine ^[210]. The intervention is based on MI and CBT. Results of the trial of this intervention suggested that two or four sessions are effective in increasing abstinence and other positive outcomes (e.g. depression, reduced methamphetamine use) among people with regular use of methamphetamine ^[210].

The 4-session intervention should be offered with stepped care principles in mind. The full treatment manual for this intervention can be downloaded from: http://www.health.gov.au/internet/main/publishing.nsf/content/health-publth-publicat-document-cognitive_intervention-cnt.htm

This intervention can be commenced after comprehensive screening and assessment has been performed, when assessment has deemed brief intervention to be appropriate.

SESSION 1: MOTIVATIONAL INTERVIEWING (MI)

STEP 1: BUILDING MOTIVATION TO CHANGE

There are a number of strategies that can be used to build motivation to change that have been developed around the MI process. Details of MI approaches are outlined in Miller and Rollnick ^[319].

Strategies for pre-contemplators

- Present the rationale for treatment, emphasising that change is in the client's hands.
- Personal feedback from assessment, checking with the client whether they feel this is an accurate reflection.

Strategies for contemplators

- Impact on lifestyle.
- Pros and cons of using.

Strategies for preparation, action and maintenance stage

- Explore concerns about the cons, negatives or less good things about using.
- Explore physical and psychological health risks.
- Explore financial costs of using.
- Looking back/looking forward, describing what life was like before using and what the future looks like in terms of using.
- Self vs 'user', creating discrepancy between qualities as a father/husband/wife/son/sister etc. and qualities as a 'methamphetamine user'.

The **Decisional Balance Exercise (Work sheet 9)** is a useful tool for revisiting underlying motivation to change and eliciting further potential barriers to successful behaviour change. Re-visiting the pros and cons of making changes to substance use as well as eliciting the pros and cons of maintaining the status quo can clarify other barriers to change, as well as potentially helpful beliefs. Open-ended questions are helpful to allow clients to advocate for each positive and negative aspect of their substance use. Clinicians may be tempted to pay less attention to the positive aspects of substance use in order to 'weight' the negatives during a session, although this can potentially damage engagement if the client feels 'led' towards a goal.

Furthermore, eliciting the positive aspects of substance use is generally helpful in identifying which positives are based on distorted cognitions (e.g. methamphetamine makes my problems go away), as well as identifying needs which may be met via non-using means (e.g. I just like to feel a bit of excitement in my life).

STEP 2: STRENGTHENING COMMITMENT

The next step in MI is to draw together all the motivational elements touched on in the first step. This is best undertaken in the preparation stage of change. Ambivalence may still be present and a return to earlier strategies may be required. This is achieved by:

- Setting up the conditions that allow the client to state the need for change (e.g. 'where do we go from here?').
- Communicating free choice about goals and strategies.
- Exploring and addressing fears about change.
- Assisting the client in setting some realistic goals for change.

STEP 3: SELF-MONITORING

Self-monitoring is important to assist the client in becoming aware of their behaviours, thoughts and feelings and to identify patterns of use, high risk situations and triggers for using. There are a number of ways and means for self-monitoring. It is recommended for this brief intervention that monitoring urges and triggers is most useful.

SESSION 1 HOMEWORK

Complete **Monitoring Pattern of Use (Work sheet 10)** and **Understanding Triggers (Work sheet 11)**

SESSION 2: COPING WITH CRAVINGS AND LAPSES

STEP 1: INFORMATION ABOUT CRAVINGS

- The **Craving Experience Questionnaire (CEQ) (Work sheet 2)** ^[90] can be used as a brief, conceptually grounded and psychometrically sound tool to measure methamphetamine cravings.
- Go through **Monitoring Cravings (Work sheet 12)** completed during the week. If it is not completed, complete it retrospectively at the beginning of the session. Use **My Cravings (Work sheet 13)** to help the client describe what their experience of craving is like. Remind the client that cravings are a normal part of withdrawal from methamphetamine, are expected and can be protracted, but can be managed. Emphasise that coping strategies need to address each of these elements of craving.
- Go through **Facts about Cravings (Work sheet 14)** with the client. The important point to emphasise is that craving is a normal part of using methamphetamine, that cravings will eventually go away if not reinforced by using.

STEP 2: STRATEGIES TO COPE WITH CRAVINGS

- Use **Strategies to Cope with Cravings (Work sheet 15)** to discuss how to cope with cravings using the 3Ds (delay, distract, decide; see page 120), positive self-talk and relaxation and imagery techniques.
- **Use Cravings Coping Plan (Work sheet 16)** to discuss how the client will put the strategies from **Strategies to Cope with Cravings (Work sheet 15)** into practice during high risk situations.

Urge surfing – going through the experience of craving without ‘fighting’ the experience

- Imagery such as allowing a wave to pass over may assist clients to accept craving experiences.
- Focusing attention on the present feelings and sensations and recording the intensity of cravings before and after the peak may assist with giving clients a sense of control over their experience.
- Use **Monitoring Cravings (Work sheet 12)** to record these experiences.

STEP 3: DEALING WITH A LAPSE

- Explain the ‘all or nothing’ effect to the client. The ‘all or nothing’ effect can happen if a client breaks their own rules (e.g. I won’t use), has a slip and then thinks, “I’ve blown it, I’ve used now, I might as well keep using”.
- Help the client understand the thinking errors in ‘all or nothing’ and work out more helpful ways of thinking in those situations (e.g. “I’ve been able to make a change, I’ve just had a slip and I can get back on track”).

SESSION 2 HOMEWORK

- Continue to monitor cravings.
- Implement craving coping plan and use strategies.

SESSION 3: CONTROLLING THOUGHTS ABOUT USING

STEP 1: IDENTIFYING UNHELPFUL THINKING

- Describe the CBT model and the thoughts » feelings » behaviours cycle. Use a general example that is easy to understand and then use an example from the client.
- Use **Identifying Unhelpful Thoughts (Work sheet 17)** to help your client to become more aware of unhelpful thought patterns: when these occur » what the thoughts are » what the co-occurring feelings are » behaviour outcome.

STEP 2: CHALLENGING UNHELPFUL THINKING

- Use **Challenging Unhelpful Thoughts (Work sheet 18)** to help the client think through alternatives to the unhelpful thoughts. The focus is to reflect on the thought that has been identified, to understand the pitfalls of thinking that way, and to generate alternative thoughts.

STEP 3: SEEMINGLY IRRELEVANT DECISIONS

- Use **Seemingly Irrelevant Decisions (Work sheet 19)** to practice identifying these decisions.

STEP 4: PLEASANT ACTIVITIES

- Methamphetamine use is often associated with depression or anxiety. In addition, longer term people who use methamphetamine have often neglected other activities in favour of accessing, using or recovering from the drug. Planning pleasant activities can assist in relieving boredom during withdrawal, ease some symptoms of anxiety and depression and help the individual to find regular activities that are enjoyable without methamphetamine. Explain these ideas to the client and emphasise the importance of formally structuring these activities.
- Assist the client to identify activities that they find enjoyable and that they can feasibly implement regularly, and encourage the active scheduling of these activities.
- Emphasise that it is impossible to plan every minute of every day in advance and there will be unpredictable times. It is important to try to maintain pleasant activities, but not to feel guilty if activities are sometimes not possible. The plan should be reviewed by the client regularly to make sure the activities are still motivating.

SESSION 3 HOMEWORK

- Self-monitoring using **Identifying Unhelpful Thoughts (Work sheet 17)** and **Challenging Unhelpful Thoughts (Work sheet 18)**
- Practice identifying seemingly irrelevant decisions as they occur using **Seemingly Irrelevant Decisions (Work sheet 19)**.

SESSION 4: RELAPSE PREVENTION

STEP 1: METHAMPHETAMINE REFUSAL SKILLS

Use **Refusal skills (Work sheet 20)** to help the client identify high risk people and how they might respond effectively to not using.

- It is important to practice these skills during the session using role play. The client might find it helpful to play the 'high risk' person first, while the clinician models the refusal skills. Go through what they might say before the practice, then ask them how it felt. Identify any areas of uncertainty and practice these during the session.

STEP 2: RELAPSE PREVENTION

- Use **Relapse Prevention Plan (Work sheet 21)** to identify early warning signs of relapse. These can be based on an analysis of previous relapses.
- Use the same work sheet to help the client identify situations that are high risk for relapse.
- Help the client to think about the coping skills they have acquired and how they would use them to prevent relapse.
- Ask the client to identify a set of rewards for not using, especially in high risk situations.
- Remind the client that not all situations can be anticipated in advance and on the same work sheet, help them to identify some general coping skills that they can quickly put into action in an emergency. These will be the skills they are best at and that are most effective for them.
- Identify with the client any additional skills required to help prevent relapse and offer suggestions about how to acquire these.
- To consolidate the use of the plan, discuss with the client when to use the plan and how to monitor early warning signs.

STEP 3: TERMINATION

- Reconfirm commitment to change from **Session 1** by revisiting motivational factors and eliciting self-motivational statements.
- Summarise and affirm commitments and changes so far.
- Explore other potential areas of change that may have been identified during treatment and offer and discuss suggestions about addressing these.
- Deal with any specific requirements, such as referral.
- Identify ongoing supports.

SESSION 4 HOMEWORK

- Encourage the client to continue to monitor cravings and thoughts as required, either using the work sheets or, as they get more practice, in their head.
- Encourage the client to return for 'booster sessions' if required.
- Make an appointment for follow-up, by telephone if not in person.

CLINICAL RESOURCES

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Ask even if no methamphetamine use since last interview

The following questions are about how you felt about your methamphetamine use in the past week, including all the various forms, like speed or powder, ice and base.

1. Did you think your methamphetamine use was out of control in the past week?

- 0 never or almost never
- 1 sometimes
- 2 often
- 3 always or nearly always

2. During the past week, did the prospect of missing a hit/dose of methamphetamine make you anxious or worried?

- 0 never or almost never
- 1 sometimes
- 2 often
- 3 always or nearly always

3. Did you worry about your use of methamphetamine in the past week?

- 0 not at all
- 1 a little
- 2 quite a lot
- 3 a great deal

4. Did you wish you could stop using methamphetamine in the past week?

- 0 never or almost never
- 1 sometimes
- 2 often
- 3 always or nearly always

5. How difficult did you find it to stop, or to go without methamphetamine in the past week?

- 0 not difficult
- 1 quite difficult
- 2 very difficult
- 3 impossible

Scoring: The total score is obtained through the addition of the 5-item rankings. The higher the score, the higher the level of dependence. Range is 0-15. Suggested cut-off for identifying dependence is 4 ^[329].

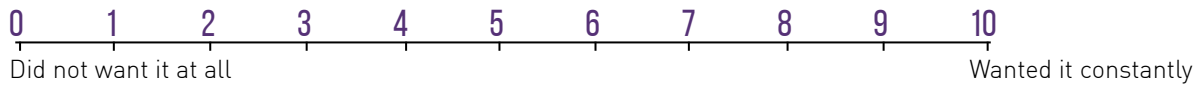
Source: Gossop et al. ^[89]

CRAVING EXPERIENCE QUESTIONNAIRE (CEQ)

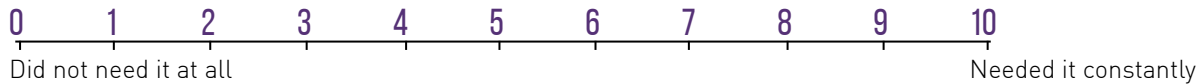
WORK SHEET 2

Instructions: Circle along the scale.

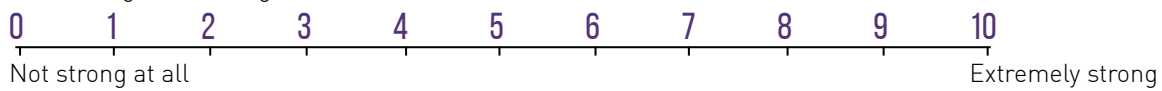
Over the past week, how much did you want meth?



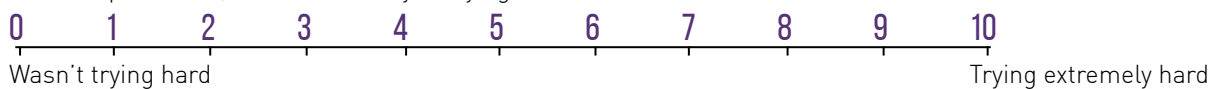
How much did you need it?



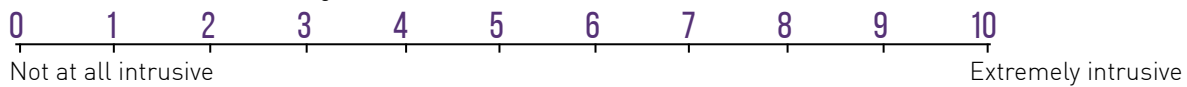
How strong was the urge to have it?



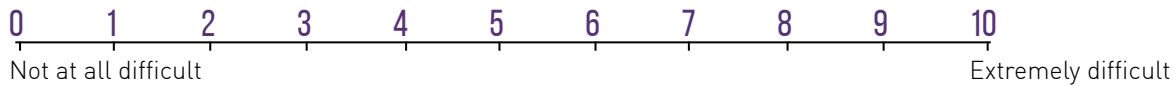
Over the past week, how hard were you trying not to think about meth?



How intrusive were the thoughts?



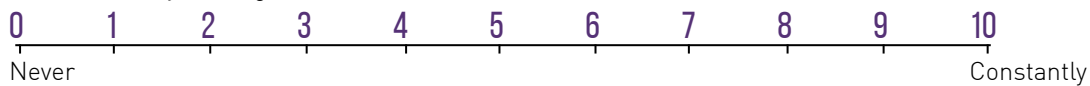
How hard was it to think about anything else?



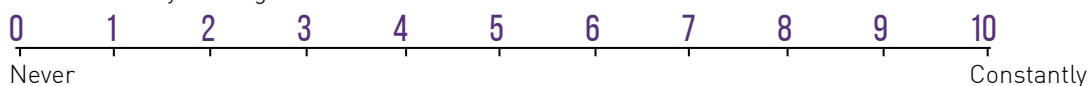
Over the past week, how often did you picture meth?



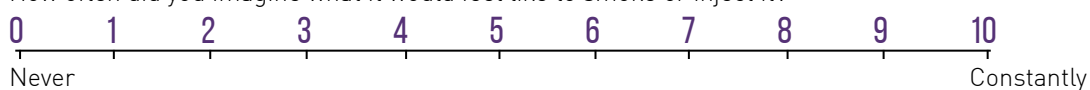
How often did you imagine its taste?



How often did you imagine its smell?



How often did you imagine what it would feel like to smoke or inject it?

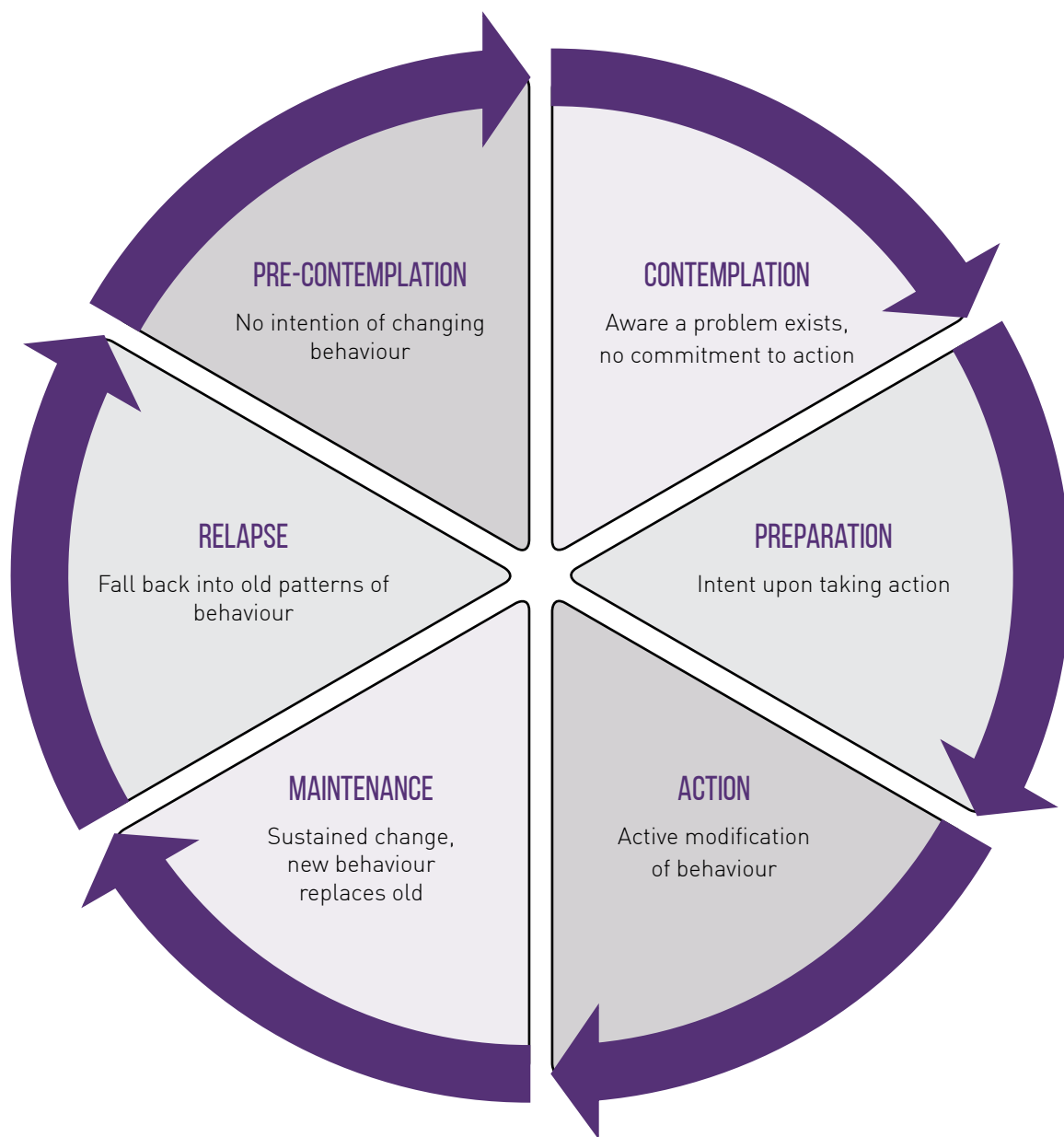


Scoring: Total score summarises the frequency/strength of craving at that point in time. Range is 0-100.

Source: May et al. ^[90]

The sections of the Stages of Change ^[320] wheel can be used to represent where you are now in regard to your use

Which section best represents where you are right now?



DRUG-RELATED HARM IDENTIFICATION

WORK SHEET 4

Use this table to explore possible harms that result from your drug use. List the harms under each heading.

Production/acquisition (making/getting the drug)	Administration (using the drug)	Intoxication (physical effects)	Intoxicated behaviour	Crash or withdrawal
Eg. legal problems as a result of being caught buying or in possession of ice; exposure to toxic chemical vapours during production	Eg. increased risk of vein damage, transmission of blood borne viruses (HIV, hepatitis B, hepatitis C) due to injection	Eg. seizures	Eg. aggression, violence	Eg. unable to work, poor sleep, bad dreams, seizures or hallucinations

KESSLER PSYCHOLOGICAL DISTRESS SCALE (K10)

WORK SHEET 5

The following questions ask about how you have been feeling during the **past 30 days**. It's important to understand how you are feeling and where you are at. For each question, tick the box that best describes how often you had this feeling.

	1	2	3	4	5
During the past 30 days, how often did you feel...	None of the time	A little of the time	Some of the time	Most of the time	All of the time
1...tired for no good reason?					
2...nervous?					
3...so nervous that nothing could calm you down?					
4...hopeless?					
5...restless or fidgety?					
6...so restless that you could not sit still?					
7...depressed?					
8...so depressed that nothing could cheer you up?					
9...that everything was an effort?					
10...worthless?					

SCORING

The numbers attached to the client's 10 responses are added up for a total score. Scores will range from 10 to 50. Clients with a score:

- **10-19** may currently not be experiencing significant feelings of distress
- **20-24** may be experiencing mild levels of distress consistent with a diagnosis of a mild depression and/or anxiety disorder
- **25-29** may be experiencing moderate levels of distress consistent with a diagnosis of a moderate depression and/or anxiety disorder
- **30-50** may be experiencing severe levels of distress consistent with a diagnosis of a severe depression and/or anxiety disorder

Source: Kessler et al. ^[91]

SUICIDE AND SELF-HARM RISK ASSESSMENT

WORK SHEET 6

Clinician Administered

Risk

- Sense of hopelessness/worthlessness
- Current/past psychiatric diagnoses
- Ongoing medical illness
- History of abuse/neglect trauma
- Intoxication
- Stressful or triggering events
- Previous attempts of suicide or self-harm

Suicidal inquiry

- Ideation (Do you ever think about killing/harming yourself)
- Intent (Do you want to kill/harm yourself)
- Plan (How would you do it)
- Lethality (Is the method likely to be lethal)
- Accessibility to means
- Suicide/attempted-suicide of significant other or family

Protective factors

- Internal (coping ability, resilience, spirituality, work etc.)
- External (responsibility to children or pets, social support, therapeutic relationships, meaningful activities etc.)

High risk? Yes No

Reason/s:

If YES, action taken (e.g. referral)

Comments

Comments

Comments

The Psychosis Screen is clinician administered. Only ask the supplementary questions (1a, 2a and 3a) if the client answers YES to the main question.

1. In the past 12 months, have you felt that your thoughts were being directly interfered with or controlled by another person?

Yes (go to 1a) No (go to 2)

1a. Did it come about in a way that many people would find hard to believe, for instance, through telepathy?

Yes No

2. In the past 12 months, have you had a feeling that people were too interested in you?

Yes (go to 2a) No (go to 3)

2a. In the past 12 months, have you had a feeling that things were arranged so as to have a special meaning for you, or even that harm might come to you?

Yes No

3. Do you have any special powers that most people lack?

Yes (go to 3a) No (go to 4)

3a. Do you belong to a group of people who also have these special powers?

Yes (-1 point) No

4. Has a doctor ever told you that you may have schizophrenia?

Yes No

Scoring: Each question answered 'yes' is scored 1 point, except question 3a which is scored -1 if answered 'yes'. Add each score. A cumulative score of 3 or more indicates potential presence of significant psychotic symptoms.

Source: Degenhardt et al. ^[212]

AMPHETAMINE WITHDRAWAL QUESTIONNAIRE (AWQ)

WORK SHEET 8

Over the past week...

	0	1	2	3	4
Have you been craving methamphetamine?	Not at all	Very little	A little	Quite a lot	Very much
Have you felt sad?	Not at all	Very little	A little	Quite a lot	Very much
Have you lost interest in things or no longer take pleasure in them?	Not at all	Very little	A little	Quite a lot	Very much
Have you felt anxious?	Not at all	Very little	A little	Quite a lot	Very much
Have you felt as if your movements were slow?	Not at all	Very little	A little	Quite a lot	Very much
Have you felt agitated?	Not at all	Very little	A little	Quite a lot	Very much
Have you felt tired?	Not at all	Very little	A little	Quite a lot	Very much
Has your appetite increased or are you eating too much?	Not at all	Very little	A little	Quite a lot	Very much
Have you had any vivid or unpleasant dreams?	Not at all	Very little	A little	Quite a lot	Very much
Have you been craving for sleep or sleeping too much?	Not at all	Very little	A little	Quite a lot	Very much

Scoring: Possible score range is 0-40 with higher score indicating greater severity of withdrawal.

Source: Srisurapanont et al. ^[109]

DECISIONAL BALANCE EXERCISE

WORK SHEET 9

The following is an example of a decisional balance exercise filled in with numbers to indicate the relative weight of each item. This approach is useful for calculating an overall 'for change' and 'against change' weighting, and the relative weights can be revisited and re-weighted even if the items on the decisional balance exercise themselves do not change with time. The most significant item for each box is circled in purple to indicate it is the primary factor.

<p>Good things about using methamphetamine</p>	<p>Less good things about using methamphetamine</p>
<ul style="list-style-type: none"> - Stops me worrying about problems 6/10 - <u>Enjoy the feeling 8/10</u> - Helps me stay awake 4/10 	<ul style="list-style-type: none"> - Expensive 5/10 - Hate coming down 2/10 - <u>Get angry/paranoid and fight people 10/10</u>
<p>Good things about stopping using methamphetamine</p>	<p>Less good things about stopping using methamphetamine</p>
<ul style="list-style-type: none"> - More money for other things 5/10 - <u>Less fights (especially with family) 10/10</u> 	<ul style="list-style-type: none"> - Get bored 6/10

<p>Good things about using methamphetamine</p>	<p>Less good things about using methamphetamine</p>
<p>Good things about stopping using methamphetamine</p>	<p>Less good things about stopping using methamphetamine</p>

MONITORING PATTERN OF USE

WORK SHEET 10

Use this diary to monitor your drug use. Commit to self-monitoring and fill out this diary every day.

Day of the week	Situation Where, who, what?	What was I thinking? What was I feeling?	How much I used	How much I spent	What were the consequences?
Eg	Eg. Went to my mates place	Eg. Excited, start of the weekend	Eg. 4 or 5 pipes, 3 beers	Eg. my mate shouted	Eg. Slept all Saturday
MONDAY					
TUESDAY					
WEDNESDAY					
THURSDAY					
FRIDAY					
SATURDAY					
SUNDAY					

Source: Hall, Simpson & Best ^[31]

UNDERSTANDING TRIGGERS

WORK SHEET 11

Fill in the following sections, considering your triggers for substance use.

Triggers can be external, like people, places or situations that can lead to urges to use. They can also be internal, like feelings and thoughts that you have before using.

When is my substance use worse?
E.g. when I'm bored

When is my substance use better?
E.g. when I feel in control of myself

External triggers
E.g. being at home, by myself

Internal triggers
What am I feeling? E.g. boredom

What am I thinking? E.g. "why not?"

Consequences
Relationships? Health? Mood? Finances? Work?
E.g. can't be bothered looking for work

Source: Hall, Simpson & Best ^[31]

Where were you?						
Who were you with?						
Did any significant events happen?						
What were you thinking?						
What were you feeling?						
What did you actually do?						

MY CRAVINGS

WORK SHEET 13

Write down behaviours, physical feelings and thoughts about the experience of craving below.

BEHAVIOURS + FEELINGS + THOUGHTS = CRAVING

Behaviours	Physical Feelings	Thoughts
E.g. feeling restless, smoking a lot of cigarettes	E.g. hot and cold flushes	E.g. I will call my dealer

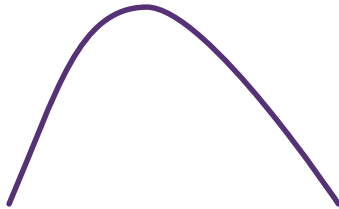
SOME FACTS ABOUT CRAVINGS:

Cravings/urges to use are a natural part of modifying methamphetamine use. This means that you are no more likely to have any more difficulty in altering your meth use than anybody else does. Understanding cravings helps people to overcome them.

Cravings are the result of long-term methamphetamine use and can continue long after quitting. So, people with a history of heavier use will experience stronger urges.

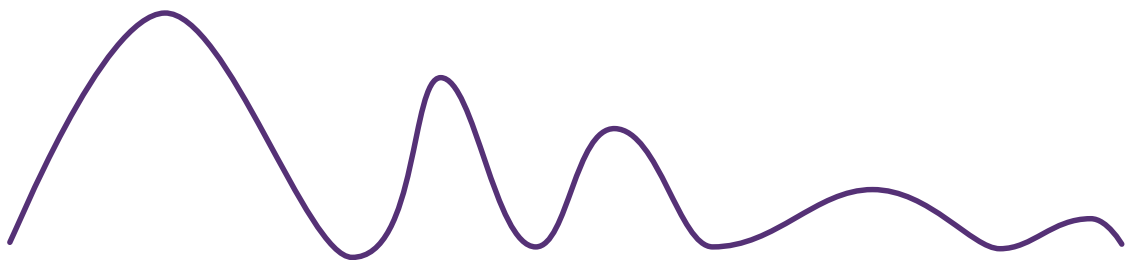
Cravings can be triggered by: people, places, things, feelings, situations or anything else that has been associated with using in the past.

Think of a craving in terms of a wave at the beach. Every wave/craving starts off small, and builds up to its highest point, and then it will break and flow away. Each individual craving rarely lasts beyond a few minutes.



Cravings will only lose their power if they are NOT strengthened (reinforced) by using. Using occasionally will only serve to keep cravings alive. That is, cravings are like a stray cat – if you keep feeding it, it will keep coming back.

Each time a person does something rather than use in response to a craving, the craving will lose its power. The peak of the craving wave will become smaller, and the waves will be further apart. This process is known as extinction.



Abstinence from methamphetamine is the best way to ensure the most rapid and complete extinction of cravings.

Cravings are most intense in the early parts of quitting/cutting down, but people may continue to experience cravings for the first few months and sometimes even years after quitting.

Each craving will not always be less intense than the previous one. Be aware that sometimes, particularly in response to stress and certain triggers, the peak can return to the maximum strength but will decline when the stress subsides.

Source: Baker et al. [321]

BEHAVIOURAL

Discuss the “3Ds” of coping with cravings:

- **Delay** – encourage the client to avoid situational triggers, particularly during the early phase of modifying their use: however, this will not stop cravings from coming altogether. When a craving does hit, delay the decision to use for a minute at a time or longer if the client can manage. During this time, ask the client to say to themselves: “I will not act on this craving right away. I’ll DELAY my decision to act on this craving for...minutes”. This will help the client to break the habit of immediately reaching for ice when a craving hits. Refer back to assessment (precipitation factors/triggers) to discuss real-life examples with your client.
- **Distract** – once the decision to use is delayed, the client needs to distract themselves from thoughts about using. Generate some ideas for strategies to use as a distraction technique such as going for a brisk walk, calling a support person, listening to music etc. Write these down for the client and ask him/her to keep this list handy and accessible for ease of reference when the craving begins. Explain to the client that once they are interested in, or actively doing, something else, they will find the urges will reduce in intensity until they have gone altogether.
- **Decide** – after the craving has passed, revisit all the reasons why the client wanted to stop using ice in the first place. Decide then and there not to use again and ask the client to congratulate himself or herself on not giving in to something that is, after all, only a THOUGHT or a FEELING.

COGNITIVE

- **Positive talk** – by asking the client to remind themselves about the short-term nature of cravings (e.g. “this feeling will pass”, “I can cope with this”, “I don’t have to act on this because it will go away on its own”), the urges themselves will be easier to deal with. It is important to “de-catastrophise” the experience of cravings – acknowledge that they are uncomfortable/unpleasant but also that they WILL pass.

RELAXATION AND IMAGERY

- **Relaxation/deep breathing** – if cravings develop in response to stressful situations, relaxation techniques and deep breathing exercises can be useful (if a person is relaxed then they cannot be stressed).

The urges that some clients experience can often be in the form of images or even dreams. For example, a particular client (Sophie) found that after a period of four months abstinence from ice she started to have images flash into her mind that involved her walking past a house where she knew ice was available. These images had started to increase her cravings to use.

Some strategies Sophie found to be helpful in managing/transforming such images are listed below. Talk through each of these strategies with your client and then rehearse and practice in the session.

These strategies can be adapted to suit each individual client’s images or dreams as they arise.

Mastery (imagine not using in the given situation). For example, Sophie was asked to conjure up the image of the house in which ice was available. She was then asked to imagine herself walking past the house instead of going in and buying ice. She was then asked to imagine how good she would feel about her achievement.

Alternative (replace the image with an alternative “healthy” image). For example, Sophie was asked to conjure up the house image and then to replace it with an alternative image, such as walking along the beach on her last holiday when she was not using ice and was feeling relaxed and happy.

“Fast forward” (unfreeze the image and move it on in time, a few minutes, hours, days etc. to enable the client to see that he/she is looking at only a part of the picture which may in fact be a distortion of the whole picture). For example, Sophie was asked to conjure up the house image and then to unfreeze it and fast forward (almost as if pressing a fast forward button on a remote control) and imagine in detail the usual consequences that follow scoring ice from this house. She was asked to describe the immediate, short and long-term consequences in detail. Having done this, Sophie found that the negative consequences of scoring and using outweighed the short-term benefits and she was able to apply this realisation to future positive self-talk when cravings emerged.

“Surfing the urge” (the craving is a wave that can be surfed until it passes). Sophie was asked to see her craving to use ice as a wave. She was then asked to imagine herself surfing the wave (craving) in the way in which a surfer would surf a wave, and to see herself successfully riding the wave (and managing her craving) until it finally broke on the beach (reduced in intensity and passed away without being reinforced).

High-risk situations (for cravings or a lapse) vary from person to person, but are typically associated with:

- Places you used/scored (at home or friend's house)
- People you used to use with/score from
- Places/things you consciously/unconsciously associate with using (nightclubs/bars/pubs)
- Times of day/night
- Certain emotions/events (things from your past, fighting with family or friends)

Have a plan ready in case you are faced with a high-risk situation (someone to call, how you will remove yourself from that situation). Remember your coping strategies. You may also like to engage in counselling or other help to get you through. Telehealth or e-health counselling is available from DirectLine on **1800 888 236** or Counselling Online via: www.counsellingonline.org.au.

High-risk situations	Coping plan

IDENTIFYING UNHELPFUL THOUGHTS

WORK SHEET 17

Day of the week	Situation Where, who, what?	Thoughts What was I thinking?	Feelings What was I feeling?	Behaviours What did I do/use?
E.g. Friday	At a gathering, I only knew a couple of people. Two guys near me were laughing	They are laughing at me, they don't like me, I'm a loser	Anxious, embarrassed, worthless, lonely	Got really drunk, went home and used ice
MONDAY				
TUESDAY				
WEDNESDAY				
THURSDAY				
FRIDAY				
SATURDAY				
SUNDAY				

Situation	Thoughts	Feelings	This is just a thought	Which unhelpful thought is this?	Does it fit the facts?	What is another explanation?	Feelings now
E.g. At a gathering, I only knew a couple of people. Two guys near me were laughing	They are laughing at me, they don't like me, I'm a loser	Anxious, embarrassed, worthless, lonely	This is just a thought	Jumping to negative conclusions, catastrophising, personalising, black/white thinking	Not really they weren't even looking my way when they laughed	They could have been laughing at anything, I'm being hard on myself	A bit less anxious, a bit more in control
			This is just a thought				
			This is just a thought				
			This is just a thought				
			This is just a thought				
			This is just a thought				
			This is just a thought				

Think back to your (re)lapse to methamphetamine use and describe the situation/events that preceded the lapse.

What led to the lapse?

What decisions led to the lapse?

What stopped me from recognising these signs?

What would have been a lower risk option?

Write a plan to manage your seemingly irrelevant decisions and high-risk situations:

People who might offer me drugs	What I'll say to them

Tips for refusing methamphetamine:

- Say NO first and assertively (not aggressively)
- Make direct eye contact
- Tell the person you are no longer using
- Ask the person to stop offering methamphetamine
- Don't leave the door open for future offers (e.g. 'not right now thanks' or 'I'll think about it')

Early warning signs for relapse

Anticipated high risk situations (people, places situations)	Coping strategies	Reward

General coping strategies in an emergency

Additional skills required	Coping strategies

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