

ALCOHOL AND DRUG WITHDRAWAL GUIDELINES





ALCOHOL AND OTHER DRUG WITHDRAWAL GUIDELINES

THIRD EDITION

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ACRONYMS AND ABBREVIATIONS

AA	Alcoholics Anonymous
ABI	Acquired Brain Injury
AIHW	Australian Institute of Health and Welfare
ALO	Aboriginal Liaison Officer
AoD	Alcohol and Other Drug
APGAR	Score Appearance, Pulse, Grimace, Activity, and Respiration
ATS	Amphetamine-Type Stimulants
ATSI	Aboriginal and Torres Strait Islander
AUDIT	Alcohol Use Disorder Identification Test
AWD	Alcohol Withdrawal Delirium
AWQ	Amphetamine Withdrawal Questionnaire
BAC	Blood Alcohol Concentration
BD	Twice daily
BI	Brief Interventions
CALD	Culturally and Linguistically Diverse
CAM	Complementary and Alternative Medicine
CANSAS-P	Camberwell Assessment of Need Short Appraisal Schedule – Patient Version
CBT	Cognitive Behavioural Therapy
CEAG	Clinical Expert Advisory Group
CIWA-B	Clinical Institute Withdrawal Assessment Scale – Benzodiazepines
CM	Contingency Management
CNS	Central Nervous System
CPR	Cardiopulmonary Resuscitation
CRW	Community Residential Withdrawal

CWAS	Cannabis Withdrawal Assessment Scale
DACAS	Drug and Alcohol Clinical Advisory Services
DAMEC	Drug and Alcohol Multicultural Education Centre
DHS	Department of Human Services
DSM	Diagnostic and Statistical Manual
ENDS	Electronic Nicotine Delivery System
FAS	Foetal Alcohol Syndrome
GCS	Glasgow Coma Scale
GHB	Gamma-Hydroxybutyric Acid
GP	General Practitioner
HADS	Hospital Anxiety and Depression Scale
HIV	Human Immunodeficiency Virus
ICD-10	International Classification of Diseases and Health Problems
ITP	Individual Treatment Plan
LGBTIQ	Lesbian, Gay, Bisexual, Transgender, Queer, Intersex or Asexual
LSD	Lysergic acid diethylamide
Mane	Morning
MAOIs	Monoamine Oxidase Inhibitors
MB-RP	Mindfulness-Based Relapse Prevention
MDMA	Methylenedioxymethamphetamine
MI	Motivational Interviewing
MIMS	Monthly Index of Medical Specialities
NA	Narcotics Anonymous
NADA	Working with Diversity in Alcohol & other Drug Settings
NCETA	National Centre for Education and Training on Addiction
NDSHS	National Drug Strategy Household Survey

Nocte	Morning
NPS	Novel Psychoactive Substances
NRT	Nicotine Replacement Therapy
NSAIDS	Non-steroidal anti-inflammatory drugs
PBS	Pharmaceutical Benefits Scheme
PCP	Phencyclidine
PRN	As Necessary
QID	Four times a day
SMART	Recovery Self-Management and Recovery Training
SOWS	Short Opiate Withdrawal Scale
SSRIs	Selective Serotonin Receptor Inhibitors
TCAs	Tricyclic antidepressants
TTFC	Time to First Cigarette
TDS	Three times a day
UEC	Urea Electrolytes Creatinine
VADDA	Victoria's Alcohol and Drug Association
VDDI	Victorian Dual Diagnosis Initiative
YODAA	Youth Drug and Alcohol Advice Service
YSAS	Youth Substance Abuse Service
WADS	Women's Alcohol and Drug Service
WHO	World Health Organization
WKS	Wernicke-Korsakoff syndrome

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1 INTRODUCTION

1.1 Background

Best practice in Alcohol and Other Drug (AoD) care is supported by access to clinical expertise and up-to-date, evidence-based resources. It is imperative that essential clinical resources (such as clinical guidelines and tools) reflect changing patterns of AoD use and advances in our understanding of drug withdrawal syndromes, assessment and how care can be tailored to special populations including those with complex needs. In 2009, the Victorian Department of Health and Human Services (2017) funded a review of the AoD clinical guidelines for withdrawal that informed the development of the AoD withdrawal practice guidelines, later updated in 2012. However, shifts in drug use patterns in recent years, including the increase in misuse of prescription opioids and novel synthetic psychoactive drugs, the emergence of new pharmacotherapies, and substantive changes to the diagnosis and classification of substance use disorders, have necessitated a revision and update of the previous withdrawal guidelines.

1.2 Purpose

These revised guidelines provide the most up-to-date knowledge and best practice for the management of withdrawal from alcohol, nicotine, and illicit psychoactive substances such as heroin, methamphetamines, cannabis, etc. Clinical guidelines seek to direct clinical practice by outlining recognised, conventional, evidence-based treatment interventions, drawing on current scientific and grey literature, as well as clinical practice expertise. As such, they provide guidance for clinical decision-making in the context of individual client requirements, withdrawal settings, treatment availability, and individual service protocols. These Guidelines are consistent with the World Health Organization (WHO) United Nations Principles of Drug Dependence Treatment, the National Guidelines for Medication-Assisted Treatment of Opioid Dependence (Gowing et al, 2014), and the Guidelines for the Treatment of Alcohol Problems (Haber et al, 2009).

The Guidelines are suitable for use by clinicians in two settings:

- 1) Residential settings, e.g., residential withdrawal units which provide a safe and supportive environment where specialist medical care is not needed, and inpatient (i.e., hospital) and other acute facilities where patients experience an unplanned withdrawal during treatment for another medical or psychiatric condition.
- 2) Non-residential (outpatient) settings, e.g., outpatient AoD withdrawal services for people with stable living arrangements and/or without major medical or psychiatric conditions and primary care clinics such as those where general practitioners (GPs) practice.

Staff should be provided with appropriate workplace training and resources to enable the appropriate application of these guidelines. It is important to emphasise that these guidelines should be read in conjunction with workplace policies, and should not replace the application of sound clinical judgment.

The guidelines outline the areas of withdrawal care relevant to the following substances/drug categories:

- » Alcohol
- » Nicotine
- » Cannabis
- » Opioids
- » Benzodiazepines
- » Stimulants
- » Other Drugs (Ketamine, GHB, Novel Psychoactive Substances (NPS), Nitrous Oxide)

1.3 Allied resources and web access

Telephone services such as the Drug and Alcohol Clinical Advisory Service (DACAS) provide expert clinical advice to doctors, nurses, and other health and welfare professionals managing clients with AoD issues. Clinicians are encouraged to seek support from DACAS as required. In Victoria, DACAS can be contacted on **1800 812 804**.

A list of Victorian AoD and welfare information services is provided in Appendix 1.

These Clinical Withdrawal Practice Guidelines are also available online at <http://www.turningpoint.org.au>

2 DEFINITIONS OF SUBSTANCE USE DISORDER & WITHDRAWAL

There are two key classification systems that guide diagnosis of substance use disorders:

- » *The Tenth Revision of the International Classification of Diseases and Health Problems (ICD-10 (World Health Organization, 2004)**
- » *The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-V; American Psychiatric Association, 2013)*

Both of these diagnostic systems are recognised to be appropriate for use in the diagnosis of substance use disorders.

2.1 ICD-10

The International Classification of Diseases (ICD-10; WHO, 2004) defines dependence as:

A cluster of physiological, behavioural, and cognitive phenomena that develop after repeated substance use in which the use of a substance or a class of substances becomes a priority at the expense of other pursuits. A central descriptive characteristic of dependence syndrome is the desire (often strong, sometimes overpowering) to take the psychoactive drugs (which may or may not have been medically prescribed), alcohol, or tobacco. There may be evidence that return to substance use after a period of abstinence leads to a more rapid reappearance of other features of the syndrome than occurs with nondependent individuals.

The ICD-10 defines a withdrawal state as:

A group of symptoms of variable clustering and severity occurring on absolute or relative withdrawal of a psychoactive substance after persistent use of that substance. The onset and course of the withdrawal state are time-limited and are related to the type of psychoactive substance and dose being used immediately before cessation or reduction of use.

**ICD-11 is due for release later in 2018*

2.2 DSM-5

The Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-V; APA, 2013) defines the essential features of a substance use disorder as:

A cluster of cognitive, behavioural, and physiological symptoms indicating that the individual continues using the substance despite significant substance-related problems.

There are 11 criteria in total which are used to diagnose a substance use disorder. The number of criteria displayed by an individual can be used to place them into one of three disorder categories: *mild* (2-3 criteria), *moderate* (4-5) or *severe* (6-11).

The first set of criteria relates to the overall theme of impaired control:

- » The individual may take the substance in larger amounts or over a longer period than was originally intended (criterion 1)
- » The individual may express a persistent desire to cut down or regulate substance use and may report multiple unsuccessful efforts to decrease or discontinue use (criterion 2)
- » The individual may spend a great deal of time obtaining the substance, using the substance, or recovering from its effect (criterion 3)
- » **Craving** as manifested by an intense desire or urge for the drug (criterion 4)

The second set relates to social impairment:

- » **Recurrent** substance use may result in a failure to fulfil major role obligations at work, school or home (criterion 5)
- » The individual may continue substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance (criterion 6)
- » Important social, occupational, or recreational activities may be given up or reduced because of substance use (criterion 7)

The third set relates to risky use of the substance:

- » Recurrent substance use in situations in which it is physically hazardous (criterion 8)

- » The individual may continue substance use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance (criterion 9)

The final set relates to pharmacological criteria:

- » **Tolerance** (criterion 10), as defined by either of the following:
 - a. Requiring a markedly increased amount of the substance to achieve the desired effect;
 - b. A markedly reduced effect when the usual dose is consumed.
- » **Withdrawal** as manifested blood or tissue concentrations of a substance decline in an individual who had maintained prolonged heavy use of the substance, leading to the development of withdrawal symptoms that alleviate when the substance is consumed (criterion 11).

Diagnostic criteria for withdrawal

The essential feature of withdrawal is the development of a range of substance-specific problematic behavioural, physiological and cognitive changes due to the cessation of, or reduction in, heavy and prolonged substance use. Specifically, the *four* withdrawal criteria are:

- » Cessation of (or reduction) in use that has been heavy and prolonged (criterion A)
- » Two (or more) of the following, developing within several hours to a few days after the cessation (or reduction) of the substance (criterion B):
 - Autonomic hyperactivity (e.g., sweating or racing heart; pulse greater than 100 bpm)
 - Insomnia (trouble sleeping)
 - Increased hand tremors
 - Nausea and/or vomiting
 - Psychomotor agitation
 - Anxiety
 - Seizures (usually generalized tonic-clonic type – rhythmic jerking movement, especially of the limbs)
 - Transient visual, tactile or auditory hallucinations or illusions

- » The signs or symptoms in Criterion B cause clinically significant distress or impairment in social, occupational, or other important areas of functioning (criterion C)
- » These symptoms are not attributable to another medical condition and are not better explained by another mental disorder including intoxication or withdrawal from another substance (criterion D).

Source: DSM-V (APA, 2013)

Withdrawal is usually, but not always, associated with the presence of a diagnosed substance use disorder.

The definition of a substance use disorder can be applied to all the substances listed in these guidelines, however for certain substances, (such as hallucinogens and inhalants) withdrawal symptoms are less salient and not all symptoms may apply.

2.3 Substance Intoxication

To constitute substance intoxication, the following *four* criteria must be met:

- » Recent ingestion of a substance (criterion A)
- » Clinically significant problematic behavioural and psychological changes (e.g., inappropriate sexual or aggressive behaviour, exaggerated changes in mood, or impaired judgment) that developed during or shortly after ingestion (criterion B)
- » One or more of the following signs or symptoms developing during or shortly after ingestion (criterion C):
 - Slurred speech
 - Incoordination
 - Unsteady gait
 - Nystagmus
 - Impairment in attention or memory
 - Stupor or coma
- » The above signs or symptoms are not attributable to another medical condition and are not better explained by another mental disorder or intoxication from another substance (criterion D).

3 PRINCIPLES OF AOD WITHDRAWAL

3.1 Objectives of withdrawal

Although the traditional focus of withdrawal care has been to achieve neuroadaptation reversal, there is increasing recognition of other treatment goals addressing physical, psychological and social needs. Withdrawal care is the period wherein a client is assisted in ceasing AoD use (with certain exceptions i.e., tobacco). However, the client's long-term goal may not be abstinence, instead they may intend to reduce their AoD use, or seek stabilisation and respite. The key objectives of supported withdrawal include:

- » Preventing or managing severe medical complications (e.g., seizures or delirium)
- » Preventing or managing severe psychiatric complications (e.g., psychosis or agitation)
- » Reducing psychological and physical distress
- » Interrupting periods of heavy or dependent use
- » Providing linkages to ongoing treatment including specialist AoD (e.g., counselling, case management, and rehabilitation), mental health and primary care services
- » Providing linkages to psychosocial support: including, financial, health and welfare services
- » Pharmacotherapy reduction or maintenance

The following principles of withdrawal care reflect current best practice in the AoD field:

- » The primary function of withdrawal care is to safely achieve a client's goals, whether that is complete abstinence, a switch to maintenance therapy, or reductions in AoD use. This is supported by a thorough assessment of potential risks at presentation to AoD treatment.
- » Withdrawal presents an opportunity to promote harm reduction via the provision of information and education about safer AoD use practices. This may include a reduction in drug consumption, safer means of drug

administration, and lifestyle improvements. Substance reduction and maintenance goals other than the goal of long term abstinence should not be disregarded.

- » Withdrawal services present a gateway to further treatment and are the first step towards long-term change. Treatment during withdrawal should aim to encourage acceptance of, and link people with, longer-term post-withdrawal therapeutic programs.
- » Appropriate and recognised screening, assessment, planning processes, and protocols are essential to withdrawal care.
- » Psychosocial factors play a significant part in an individual's withdrawal experience and can provide a focus for supportive care, which is fundamental to ensuring a holistic approach.
- » Intake and assessment processes should capture important information that can inform the withdrawal management plan when working with clients from special populations or with complex needs (e.g., clients from rural or regional areas or pregnant women). Adapting processes to meet the unique needs of clients will increase retention in withdrawal and, likely, engagement in post-withdrawal treatment to improve longer term outcomes. These processes should be considerate of the needs of clients from metropolitan, rural, and regional areas, women, pregnant or parenting clients, and clients from Indigenous, CALD, and LGBTIQ communities (see section 9).
- » Linkage with significant others and positive social groups during withdrawal is an important aspect of post-withdrawal care (YSAS, 2016).

These guidelines are based on current evidence on best practice. However, it is recognized that in some situations, standard approaches may not align with a client's wishes or preferences. While client-centred care should be prioritized, clinicians and AoD services should aim to adhere to established guidelines for safe and effective practice wherever possible. For instance, in cases where a proposed withdrawal plan deviates from standard practice and/or elevates the risk of relapse, complications or mortality, it is important that the client is appropriately informed of these risks. In these situations, a clinician/ AoD service needs to be aware that they are operating outside of conventional clinical guidelines.

3.2 Continuity of care

Withdrawal helps an individual to cease their substance use, but maintaining abstinence requires a more comprehensive long-term treatment plan. Withdrawal achieves neuro-adaptation reversal, but rarely produces long-term behaviour change without continuing care. Input from a range of individuals and organisations may be necessary to facilitate long-term recovery, including health care professionals, psychosocial support services and peer workers.

Continuity of care incorporates pre-admission planning, withdrawal, planning for post-withdrawal, follow-up support, and linkages with relevant services (Raistrick et al, 2006). Strategies that support continuity of care should commence at pre-admission with discussion of the client's goals, strategies for preparing for withdrawal, and identification of post-withdrawal linkages to community AoD services, residential, or day-program rehabilitation programs. The co-ordination of care and recovery can be performed by specialist AoD workers (e.g., through care and recovery co-ordination and counselling) or driven by other health care workers, with the input of the client and their support people.

3.3 Therapeutic alliance

A strong therapeutic alliance has been shown to be an essential element and strong predictor of treatment engagement, retention and efficacy in multiple AoD settings (Meier et al, 2005). A strong therapeutic alliance/relationship between client and clinician is therefore critical during withdrawal management. This relationship is built upon respect, understanding, warmth and acceptance as both parties work to help the client achieve their goals. In delivering interventions clinicians should attempt to foster and sustain a solid therapeutic alliance.

4 FEATURES OF AOD WITHDRAWAL

The features of AoD withdrawal - including its severity and duration – are affected by a range of factors, including:

- » Primary drug(s) of concern
- » Level of AoD dependence (including duration of use and recent patterns of use)
- » Poly-drug use
- » The existence of a co-occurring physical illness or mental health disorder
- » Psychosocial factors (e.g., environment, relationships, accommodation)

The half-life of a drug also plays a significant role in the severity of an individual's neuro-adaptation reversal. The half-life of a drug is the length of time needed for half the amount of the drug consumed to be broken down by the body.

While the level of AoD dependence and the likely severity of expected withdrawal symptoms are influenced by duration and pattern of use, a clear-cut threshold for dependence is difficult to estimate as several different factors may influence the likelihood and severity of withdrawal complications, particularly in clients with poly-drug use, or multiple co-occurring disorders. As such, it is strongly recommended that consultation or support from medical practitioners and/or addiction specialists be sought when it is unclear whether a client is at risk of a more severe or complicated withdrawal syndrome.

Table 1, outlines common features of the withdrawal syndrome for each substance addressed in these guidelines. These features apply specifically to clients not yet medicated to prevent the onset of withdrawal symptoms. Note that low-grade symptoms such as dysphoria may persist for a number of weeks or months beyond the withdrawal phase.

Table 1: Features of AoD withdrawal

Drug	Onset	Duration	Clinical features
Alcohol¹	Within 24 hours and up to 48 hours (depending on Blood Alcohol Concentration (BAC), hours after last drink, and level of neuro-adaptation)	3–7 days (up to 14 in severe withdrawal)	Anxiety, agitation, sweating, tremors, nausea, vomiting, abdominal cramps, diarrhoea, craving, insomnia, elevated blood pressure, heart rate and temperature, headache, seizures, confusion, perceptual distortions, disorientation, hallucinations, seizures, delirium tremens, arrhythmias, and Wernicke's encephalopathy
Nicotine²	4-12 hours	Peaks days 2-7 and continues in attenuated form for 2-4 weeks	Irritability, anger, anxiety, sadness, restlessness, sleep disturbance, increased hunger, sore throat, headache, and difficulty concentrating
Cannabis²	1–2 days of last use	Acute phase: 2–6 days, subsiding after 2–3 weeks. May persist for some months	Anger, aggression, irritability, anxiety, nervousness, decreased appetite or weight loss, restlessness, sleep disturbances, chills, depressed mood, shakiness, and sweating
Benzodiazepines²	1–10 days (depending on half-life of drug)	3–6 weeks (or longer)	Anxiety, headache, insomnia, muscle aching twitching and cramping, nausea, vomiting, diarrhoea, perceptual changes, feelings of unreality, depersonalisation, seizures, agitation, confusion/psychosis

Drug	Onset	Duration	Clinical features
Opioids²	Withdrawal from heroin and morphine can begin within 24 hours, while methadone and buprenorphine typically commences later (days 3-5)	Heroin withdrawal typically peaks quickly (day 3), with more severe symptoms, subsiding fully within a week. Methadone and buprenorphine withdrawal result in a more protracted withdrawal, with a less abrupt peak and longer duration of symptoms	Runny eyes and nose, sneezing and sweating, agitation, irritability, loss of appetite, craving, abdominal cramps, diarrhoea, anxiety, irritability, disturbed sleep, fatigue, joint and muscle aches, nausea and vomiting, moodiness
Stimulants (amphetamine-type substances, cocaine and MDMA) ²	Crash phase: within hours of last use. Withdrawal: 1–4 days after last use	2–4 days Acute phase: 7–10 days. Subacute phase: a further 2–4 weeks	Cravings, dysphoria, anhedonia, increased appetite, fatigue, agitation, anxiety, increased sleep, vivid, unpleasant dreams and slowing of movement
Ketamine³	Within 24 hours of last use	4-6 days	Cravings, decreased appetite or weight loss, fatigue, chills, sweating, restlessness, tremors, disturbed sleep, anxiety, depression, irregular or rapid heartbeat
GHB³	Within 12 hours of last use	Up to 15 days	Confusion, agitation, anxiety, depression, paranoia, hallucinations, disturbed sleep, cramps, tremors, sweating, and rapid heartbeat

Sources: ¹ Mirijello et al, (2015) ² Queensland Health (2012) ³ Abdulrahim & Bowden-Jones (2015)

4.1 Withdrawal complications

Occasionally, withdrawal may precipitate serious and potentially life threatening complications. Such complications may be associated with:

- » The substance of dependence
- » High levels of AoD use
- » Concurrent medical or psychiatric conditions
- » Poly-substance use

Complex withdrawal is associated with a range of substances and manifests in a variety of ways, as shown in Table 2.

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.

Table 2: Some features of complex withdrawal

Withdrawal Complication	Substance	Features of complication
Seizures	Alcohol Benzodiazepines GHB	Involuntary muscle movement, sensory disturbances, and loss of consciousness
Psychotic symptoms, e.g., hallucinations and delusions	Alcohol Benzodiazepines Stimulants	Transient hallucinations (visual, auditory or tactile), paranoia, psychological disturbances, abnormal affect, delusions, and thought disorder
Delirium	Alcohol Benzodiazepines GHB	Agitation, hyperactivity, tremor, confusion, and disorientation
Anger and agitation	Alcohol Benzodiazepines Amphetamine-type substances Cannabis Nicotine	Anger, aggression, irritability, and violent outbursts
Wernicke-Korsakoff syndrome (WKS)	Alcohol	Condition associated with thiamine deficiency affecting gait, eye movement and mental state in acute form (Wernicke) with chronic (Korsakoff) form causing memory and other cognitive deficits
Dehydration	Alcohol Opioids	Increasing thirst, dry mouth, weakness, and light-headedness

5 SYMPTOMATIC AND COMPLEMENTARY MEDICATION USE IN WITHDRAWAL

5.1 Symptomatic medications

Table 3 provides a general guide to symptomatic medications for AoD withdrawal. These medications may be used in accordance with the relevant guidelines and in conjunction with pharmacotherapies and supportive care. Alcohol and drug-specific symptomatic medication tables with detailed dosing regimens are provided within each AoD section of the guidelines. In general, dosing regimens provide a guide to prescribing for AoD withdrawal. Dosing regimens are based on the dependence of only the specified drug, and should not replace clinical judgement.

Table 3: Symptomatic medication for common withdrawal symptoms

Symptom	Symptomatic medication
Nausea and vomiting	Antiemetics such as metoclopramide, prochlorperazine, or ondansetron
Diarrhoea	Loperamide (i.e., Imodium)
Abdominal cramps	Hyoscine Butylbromide (i.e., Buscopan)
Headaches and muscle aches	Paracetamol (note that Aspirin or ibuprofen should be avoided if a peptic ulcer is suspected)

Source: NSW Department of Health (2008a,b)

5.2 Complementary therapy and supplements

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 treatment settings. A recent review of randomised trials examining acupuncture as a complementary intervention in opioid use disorder concluded that, while not effective in reducing cravings or withdrawal, acupuncture is adjunctive treatment to increase treatment retention and completion ((Baker & Chang, 2016).

Despite the lack of evidence supporting the efficacy of CAM approaches for cravings and withdrawal, many CAM users report 'feeling better', and experience feelings of 'wellness'. 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 may be unsuitable or even harmful, with potentially harmful interactions between pharmacotherapies and certain herbal remedies often prescribed during AoD withdrawal. For a comprehensive overview of common CAM preparations, contraindications and evidence for potential interactions, see Appendix 2.

6 WITHDRAWAL SETTINGS

Clients looking to undertake AoD withdrawal can do so in **residential** (i.e., a community residential withdrawal unit ('detox') or hospital inpatient setting) or **non-residential** (i.e., home-based) outpatient withdrawal settings. In the absence of strong client preference regarding a particular setting, clinical decision making regarding appropriate setting should be informed by the factors listed in the table below. If a particular setting is favoured by a client but may be unsafe and result in adverse outcomes, service providers should urge the client to consider alternative, more appropriate options.

Table 4: Planning Withdrawal Settings

	Non-residential	Residential
Client factors	Client choice should be the first priority in planning the setting for a withdrawal episode	
Social factors	Stable accommodation Client is well supported e.g. by family or friends Client has social commitments or dependents e.g. work, children, pets	Unstable accommodation Client has limited social support, does not have a support person who can help monitor symptoms or medication
Substance use factors	Dependence on one substance* No history of complicated withdrawal	Dependence on multiple substances* History of complicated withdrawals, including history of seizures, confusion, or agitation during previous withdrawal episodes
Co-morbidity factors	No stable psychiatric or medical co-morbidities**	Unstable psychiatric or medical co-morbidities** Pregnancy Risk of self-harm or suicide

See table notes on next page.

Notes for Table 4.

***Note:** It is substance dependence, not use, which predicts whether the client is likely to experience withdrawal symptoms. An individual may report using many substances but may only be dependent on one drug class and will only require withdrawal treatment for a single drug class and may not need residential withdrawal.

****Note:** Client may have other mental health or medical disorders, but if these are stable and well-managed, the person is unlikely to require a residential withdrawal. Mental health symptoms can get worse in the context of withdrawal; stability of the disorder should be clarified with the treating general practitioner or specialist.

6.1 Residential and inpatient withdrawal

6.1.1 Hospital inpatient withdrawal

Hospital inpatient withdrawal settings, when feasible, provide a high level of medical care for patients experiencing withdrawal. In many cases these admissions are unplanned and may be the result of complications of AoD use or due to an unrelated condition.

Hospital inpatient withdrawal may be the preferred treatment setting where there is a risk of complex withdrawal, given:

- » A history of seizures or delirium
- » Significant medical comorbidity
- » Medical frailty
- » Unstable mental illness or history of psychosis
- » Comorbid chronic pain alongside opioid dependence
- » The management of withdrawal in hospital settings is enhanced when hospital-based specialist AoD units are available to support inpatient management and ensure that community-based care is accessed on discharge

6.1.2 Community residential withdrawal

Specialist AoD residential withdrawal services typically provide 24-hour, medium-level supportive care to AoD clients, including supervised provision of medications. While medical support is often provided, it is at a lower intensity than in hospital inpatient settings. The duration of stay is generally short-term (7-10 days).

Residential withdrawal settings, in conjunction with the support of AoD specialists and emergency care, also have capacity to manage complex withdrawal. This type of collaborative approach facilitates a timely response (i.e., step-up to hospital inpatient withdrawal) to high level needs that may arise during withdrawal (Frank & Pead, 1995; Victorian Department of Human Services, 1997).

In Victoria and some other jurisdictions, youth-specific residential withdrawal units have been established to provide withdrawal care to young people (YSAS, 2016).

6.2 Non-residential withdrawal settings (home-based withdrawal)

Home-based withdrawal may be suitable for adults and young people experiencing mild-to-moderate withdrawal symptoms. Home-based withdrawal is usually conducted in the home, in conjunction with regular visits to a supervising GP as well as other AoD services (i.e., regular home visits from an AoD nurse). Clients typically attend a series of medical appointments that involve assessment and management of withdrawal, with linkages between the client and community-based services to support the withdrawal process. Collaboration with a supervising GP or nurse prescriber is necessary within the context of shared care. GPs commonly prescribe for home-based withdrawal, with clients' medications dispensed daily or every few days depending on factors such as abuse potential or supervision requirements.

Clients with dependence on only one substance, no history of complex withdrawal, and no significant medical or psychiatric comorbidities are most suited to home-based withdrawal. However, clients with complex presentations who would benefit from residential withdrawal may for various reasons refuse such treatment. Such clients will require more intensive monitoring and support (e.g., more regular home visits and/or more frequent attendance at health care centres). Irrespective of complexity level, it is ideal if the client's home environment is conducive to a period of withdrawal (i.e., drug free) and appropriate family members or friends/peers are available to provide necessary support (Victorian Department of Health and Human Services, 2017).

Medical care and support is provided via regular home visits by health professionals, such as AoD nurses, and medical staff are also available to provide on-call advice. Access to 24-hour support is recommended, ideally through the physical presence and availability of a support person, or contact with telephone support services (Victorian Department of Health and Human Services, 2017).

6.3 Rural and regional withdrawal support

Rural withdrawal support may involve a short hospital stay (when necessary and available) followed by continued home-based withdrawal. This treatment setting suits clients whose withdrawal is of mild-to-moderate severity and who cannot access a community residential withdrawal unit due to geographical factors (i.e., physical isolation, transport difficulties, etc.).

Rural and regional withdrawal support services employ specialist withdrawal nurses to provide home-based medical advice and care. Their work is supported by local medical services which provide additional care if required. Further support from a family member or friend to care for the client between visits from local nursing/medical staff or AoD specialists will likely be necessary (Victorian Department of Health and Human Services, 2017).

Clients undergoing non-residential outpatient withdrawal in rural or regional areas may benefit from engaging in distance-based support in the form of telephone counselling (e.g., Directline) or counselling online (www.counsellingonline.org.au). Access to specialist addiction medicine consultants is available via Drug and Alcohol Clinical Advisory Service (DACAS) on 1800 812 804.

6.4 Stepped care

Stepped care is a term describing the transfer of withdrawal clients between home-based or community residential settings to hospital inpatient settings or psychiatric facilities. There is recognition that a stepped care model of service provision has significant benefits, including:

- » Responding to changing client needs and risk by modifying intensity of care (i.e., increasing level of care through “step up” transfer to hospital)
- » Reducing cost through shorter acute bed stays, where hospitals “step-down” patients to lower levels of care such as community residential withdrawal settings

- » Enhancing a framework for collaborative approaches between community-based AoD services, inpatient psychiatric units and hospitals (De Crespigny et al 2015)

Ideally, stepped care arrangements are supported by dedicated AoD hospital beds. When hospital AoD beds are not available, community based AoD services can develop formalised Memoranda of Understanding with hospitals.

6.5 Supportive care

Supportive care is a key component of drug withdrawal care for all classes of drugs. Frequent monitoring, reassurance, information and a suitable environment can help to reduce withdrawal symptom severity.

Table 5: Supportive Care

Supportive care factors	Supportive care actions
Check withdrawal severity	Using an appropriate withdrawal assessment tool
Physical check	Consciousness Vital signs (blood pressure, pulse, temperature, and respiratory rate)
Hydration	Offer fluids
Check environment	Calm, quiet, low lighting, privacy, safe, with supportive person(s) available
Check level of anxiety	Reassure, allay concerns and fears, offer positive encouragement, provide relevant information
Check physical comfort	Pillows, blankets, heat packs/bags

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.

7 ASSESSMENT

On presentation to treatment services clients undergo AoD screening and assessment. The goals of screening and assessment are to:

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

Assessment informs the level of withdrawal care required and the likely complexity of withdrawal. This is particularly relevant for cases involving poly-drug dependence or the incidence of co-occurring disorders that may have a significant impact on an individual's experience of withdrawal.

These Guidelines recommend the use of the **Victorian Department of Health and Human Services AoD Specialist Intake and Comprehensive Assessment Tools (available online)**.

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 withdrawal care. Although structured and validated screening and assessment tools have been developed for specific use in the AoD sector, there is some support for a narrative approach (i.e., one that is embedded in conversation and occurs over time) to collect client information at assessment, and it may be beneficial to involve family members or significant others in the assessment process. Assessment tools should guide the conversation and information can be recorded during or following the session.

Clients require adequate time to reflect on the proposed withdrawal option and pose questions. They should feel comfortable and supported in participating in decision-making processes regarding their AoD withdrawal care. The provision of information and education, reassurance and counselling may help to reduce client discomfort and anxiety at pre-admission.

Assessment is essential to treatment planning and implementation. Key factors for consideration at assessment include:

- » Communication
 - A clear information exchange between the client and clinician, respecting client choice as well as clinical judgement
 - A detailed description of client rights, responsibilities, and grievance procedures
 - A clear explanation of client confidentiality protocols, including concerns regarding harm to themselves and others and the need to liaise with other relevant professionals, such as GPs
- » Establishing a therapeutic alliance between client and clinician
- » Risk factors (bio-psychosocial)
 - A consumption history (daily quantity and frequency of use and the client's account of potency)
 - Identifying poly-drug use
 - Current withdrawal status
- » Underlying co-occurring physical and mental health conditions
 - Risk assessment (including suicide and harm to self and others)
 - Client goal/s of withdrawal
 - Service setting matching
- » Pre-admission planning to identify opportunities for support and intervention, where withdrawal care is not immediately available
 - Establishing an appropriate withdrawal plan
 - Identifying existing service linkages that could offer post-withdrawal support
- » Identifying psychosocial factors that may present barriers to achieving client goals
 - Family violence
 - Parenting and child protection issues
 - Geographic isolation
 - Legal and financial issues
 - Appropriate accommodation
 - Support network (family, friends, workers, etc.)

7.1 Pre-admission interventions

A brief intervention is an effective pre-admission strategy that offers adjunct support for clients who continue drug use prior to treatment entry. Harm reduction strategies, motivational interviewing, self-care, anxiety-management, and relaxation techniques may be considered at this time, and can be drawn upon pre-, during, and post-withdrawal (see Appendix 5 for coping and relaxation techniques).

Pre-admission planning may also explore and implement strategies that seek to reduce client drop-out between first service contact and treatment commencement. Wait-list support, linkage with support services, and regular clinician follow-up should be explored as part of pre-admission planning.

7.2 Intoxication at assessment

Accurate assessment is dependent on the capacity of clients to provide relevant information, understand the treatment options available, and willingly consent to treatment. Client intoxication may limit comprehension, and assessment information should be revisited when acute intoxication has passed to ensure that consent to treatment is understood. See Appendix 3 for advice on how to identify signs of intoxication and potential overdose and guidance in managing intoxication.

7.3 Physical health

Assessment should include a thorough medical examination to identify the presence of a concurrent physical condition or illness. Injecting drug use in particular is associated with blood borne viral infections and compromised physical and mental health. Engagement in AoD treatment offers an opportunity for screening, and if necessary, appropriate counselling for hepatitis and HIV infection. All clients who screen positive for hepatitis C should be assertively linked into care, given that treatment is now widely available, accessible, and well-tolerated.

Individuals with physical illnesses need to be reviewed by a medical practitioner to clarify the likely impact of withdrawal, and the need for any changes to their usual medication regimen. This is especially important for physical illnesses which may be affected by changes in nutrition and diet brought on by admission to residential

withdrawal (where regular food consumption will likely increase). For example, people with diabetes may require adjustment to their usual medication regimen whilst in residential withdrawal treatment.

While not routinely indicated, baseline pathology investigations (such as a urea and electrolytes, calcium and magnesium levels, iron studies or vitamin levels) may be of benefit in people with very poor food intake prior to admission for residential withdrawal, as they are likely to be at increased risk of experiencing complications such as re-feeding syndrome on restoration of a regular diet. A residential withdrawal admission may also offer the opportunity to screen for other complications of chronic substance use disorders in cases where a medical practitioner is available to interpret the results and consider recommendations for treatment e.g. liver function tests in people with alcohol use disorders.

It is important to keep in mind the 'kindling' phenomenon, in which the likelihood of certain withdrawal symptoms and complications e.g. the risk of seizures increases with repeated withdrawal episodes. Service workers should therefore document and pay particular attention to documentation of past withdrawal symptoms and complications (Duka et al, 2004).

7.4 Mental health

It is critical to identify and respond to mental health issues as they arise during withdrawal. However due to the overlapping symptoms of substance use withdrawal and mental health disorders it may not always be possible to ascertain an accurate picture of a persons' mental state during withdrawal. Nonetheless the use of appropriate mental health screening tools such as PsyCheck or K10 (see Appendix 4) during assessment can assist with identifying mental health needs that may require further diagnostic assessment and treatment. These can be undertaken during assessment to inform the withdrawal care plan.

In the event that screening alerts clinicians to a potential mental health issue, further risk assessment should be undertaken to ascertain potential self-harm or suicide risk or the need for referral/transfer of the client to a mental health service.

Section 9.2 provides an overview of appropriate approaches for clients with co-occurring disorders in AoD withdrawal.

- » Changes in sleep quality and quantity are common during AOD withdrawal. Disrupted sleep can negatively impact on treatment engagement and outcomes (see appendix 7 for a checklist of strategies to achieve better sleep). Or visit <https://www.turningpoint.org.au/spotlights/why-does-sleep-matter> to learn more about how AOD use effects sleep or visit www.sleep.org.au/ for more information

Useful Resources:

- » Victorian Department of Health and Human Services AoD Specialist Intake and Comprehensive Assessment Tools: <https://www2.health.vic.gov.au/alcohol-and-drugs/aod-treatment-services/pathways-into-aod-treatment/intake-assessment-for-aod-treatment>

8 AFTERCARE

8.1 Planning for post-withdrawal support

Linking AoD clients into post-withdrawal services is associated with reduced relapse rates and improved treatment outcomes (Lee & Jenner, 2013; Manning et al, 2017). Since 50-80% of clients relapse shortly after discharge, post-withdrawal planning should begin as early as the assessment stage (Bowen et al, 2014; Garbusow et al, 2014; Miller & Kavanagh, 2011; Sanghani et al, 2015). Regardless of whether a client intends to remain abstinent, reduce, or even continue drug use, increasing awareness of available support services is an important element of the withdrawal process. Clients should be involved in planning and made aware of their options. If post-discharge services are selected, clinicians should make contact and facilitate the referral process (warm referral). Clients with low levels of social support hoping to maintain abstinence may benefit from engaging in mutual aid peer-recovery groups such as Alcoholics Anonymous (AA), Narcotics Anonymous (NA), or SMART Recovery, which are free and widely available in most jurisdictions and available online (see Resources at the end of this section). There is strong evidence that some people benefit from attending peer-support. In the Patient Pathways study of 800 clients attending over 21 different AoD treatment services in two Australian states, the odds of achieving abstinence or a reliable reduction in alcohol use were 2-3 times higher if clients had subsequently engaged in mutual aid (Manning et al, 2017). Withdrawal may be an opportune time in which the client can be introduced or referred to various forms of mutual aid support available.

It may be helpful to inform clients of their eligibility for Government concession benefits, namely the low income Health Care Card. Eligibility for this card depends on level of yearly income. The card entitles card holders to a range of benefits, including discounted medication and free clinically necessary ambulance coverage (ambulance call outs) throughout Australia, which could assist with the transition between withdrawal and other medical settings for some physically or mentally unwell clients.

8.2 Planning discharge

When facilitating discharge from withdrawal, service providers should:

- » Schedule follow-up appointments
- » Assign a case-worker
- » Create linkages with further treatment and service providers (clients should not be sent to services without first contacting those services)
- » Provide resources and emergency assistance numbers

8.3 Selecting appropriate services

Choosing appropriate post-withdrawal services depends on a number of factors such as clients:

- » Support system (e.g., family, friends, GP, or sponsor)
- » Accommodation and transport
- » Service use history
- » Relapse risk
- » Preferences
- » Existing links with services and professionals

8.3.1 Rehabilitation programs

Government funded and 'private' rehabilitation programs are usually inpatient residential programs or occasionally outpatient day programs that vary in length from one to twelve months. The effectiveness, cost, philosophy, procedures, and target groups of rehabilitation services vary considerably. Agencies will usually conduct their own assessment and intake procedures before offering a place. There are usually long wait lists in the public sector (typically in the order of a few months) for services, so service providers should place clients on these lists as soon as possible. Clinicians should also warn clients of the cost, lack of efficacy and questionable philosophies/practices of some **private** rehabilitation programs.

Longer duration of treatment and provision of structured continuing care has long been associated with better treatment outcomes (Eastwood et al, 2018). Inpatient

rehabilitation offers structured continuing care and as a result it is usually a preferred option. However, there are many reasons why clients may wish to return to the community, in which case they should be offered linkages with appropriate community support services.

8.3.2 Psychosocial interventions

Psychosocial interventions, particularly brief interventions (BI), motivational interviewing (MI), mindfulness-based relapse prevention (MB-RP), cognitive behavioural therapy (CBT), and contingency management (CM), have shown efficacy in reducing relapse, craving and improving other outcomes post-withdrawal (Black, 2014; Jhanjee, 2014).

Useful adjuncts to these structures therapies include skills training (e.g., problem solving, social and vocational skills training, or meditation) and group-based social support services (e.g., self-help groups). Distance-based support such as www.counsellingonline.org.au offers a range of supports to people experiencing AoD problems through self-strategies, online forums, online counselling, motivational, self-assessment and monitoring resources and stories of recovery. Similarly, DirectLine offers 24/7 free and confidential counselling, information support and referral from qualified counsellors for clients and their carers/family members.

8.3.3 General post-withdrawal support

Planning for post-withdrawal support should be revisited throughout withdrawal care, and an individually tailored recovery plan should aim to address not only AoD issues, but precipitants to treatment presentation and post-withdrawal relapse risks. These may include mental health and physical comorbidities, unstable housing, isolation and loneliness, domestic violence, child protection, or criminal justice system involvement. The recovery care plan may need to be altered based on special population group membership. Such planning may also contribute to a reduction in clients' anxiety about the post-withdrawal period and play an integral part in relapse prevention.

The inclusion of family and significant others should be considered throughout withdrawal care. With client consent, family members can be involved in assessment, withdrawal care, and planning for post-withdrawal. Family and significant others may also require support through referrals and linkages to community support services.

Examples include;

- » Family Drug Help (run by SHARC) which provides practical help, information and support to families and friends impacted by someone's drug and alcohol use as well as professional and peer-based services across Victoria.
- » The Youth Support and Advocacy Service (YSAS), a youth health not-for-profit agency that enables young people and their families experiencing disadvantage to access the resources and support needed (e.g. residential and counselling treatment programs) to lead healthy and fulfilling lives.

Other post-withdrawal support services include:

- » General practitioners/Health and medical services
- » Outreach and special population group support
- » Dieticians/Nutritionists/Gym membership
- » Approved pharmacotherapy dispensers
- » Healthy liver clinics
- » Midwifery and childcare services
- » Centrelink and other income support services
- » Accommodation services
- » Advocacy services
- » Legal services
- » Child protection agencies
- » Negotiating with employers and/or the provision of medical certificate for period of withdrawal care
- » Vocational services
- » Employment, education, and training

8.3.4 Mobile technology support

There is mounting evidence that relaxation and mindfulness practice are associated with improved wellbeing. There are now several hundred mobile applications (apps) available for managing AoD use, reducing craving, maintaining consumption diaries, and monitoring mental health-related symptoms (Cohn et al, 2011). There are also applications that use established psychological approaches to addiction treatment, such as CBT and meditation to reduce daily stress and anxiety. A recent review of mindfulness-based applications rated them on their level of engagement, functionality, visual aesthetics, information quality, and subjective quality subscales (Mani et al, 2015). Applications with high scores included 'Headspace', 'Smiling Mind', 'iMindfulness' and 'Mindfulness Daily'. For further suggested applications, see Appendix 6.

Useful Resources:

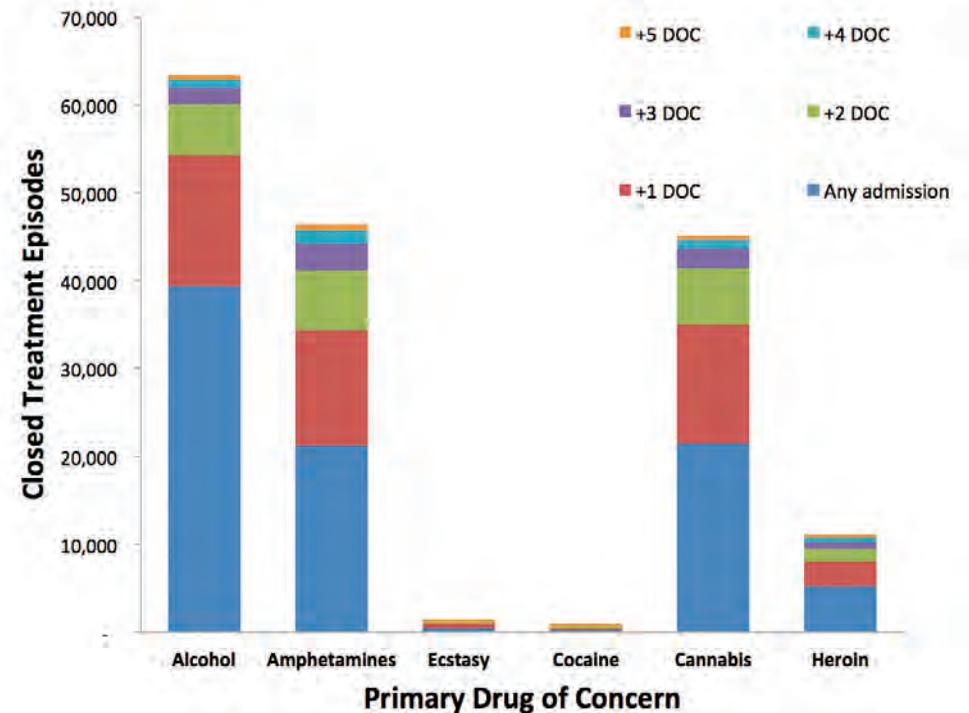
- » Alcoholics Anonymous: <http://aa.org.au/meetings/online-aa-meetings/>
- » Family Drug Help (SHARC): www.sharc.org.au/program/family-drug-help/
- » Narcotics Anonymous: <https://www.na.org.au/multi/online-meetings/SMARTRecovery> & <https://smartrecoveryaustralia.com.au/online-meetings/>
- » Youth Support and Advocacy Service (YSAS): <http://ysas.org.au/>

9 SPECIAL POPULATIONS

9.1 Clients with poly-drug use

Poly-drug use is concurrent use of two or more psychoactive substances, and is the norm rather than the exception among clients presenting to withdrawal services, particularly those presenting for treatment of an illicit drug use disorder (see Figure 1). Clients should be asked about poly-drug use in order to respond appropriately to the increased risk associated with withdrawal. Clinicians should consider referring clients dependent on multiple substances to inpatient residential or hospital-based withdrawal care if appropriate.

Figure 1: Closed episodes by primary drug of concern and number of additional drugs of concern (DOC), 2015-16 (Source: AIHW, 2017a)



Nicotine dependence is common among people using illicit drugs (AIHW, 2017a). Many withdrawal services are smoke-free and service providers should ensure that clients are provided with appropriate information regarding these restrictions before admission. Clients may be provided with or required to procure their own nicotine replacement therapy during their stay in residential withdrawal.

Alcohol use is common among illicit drug users, with nearly 6 in 10 (58%) recent illicit drug users also drinking alcohol in risky quantities (AIHW, 2017b). Cannabis is the drug most often used in addition to other illicit drugs, and is particularly high among users of hallucinogens (88%), ecstasy (79%), synthetic cannabinoids (78%) and meth/amphetamines (74%).

Considerations for withdrawal management

Assessing dependence for each drug is recommended in order to determine the likelihood of withdrawal syndromes occurring for multiple substances. Although clients may wish to withdraw from all substances simultaneously, a stepped approach will reduce withdrawal risks and is therefore often preferable. The drug with the greater withdrawal risk should be the primary focus of assessment. This is typically alcohol; however heroin, pharmaceutical opioids, benzodiazepines, or methamphetamine may also be a concern, particularly if the client is engaging in risky drug use practices. Clients should not be withdrawn from substances from which they have reached stable dependence, such as methadone, before dependence to other, riskier substances has been redressed.

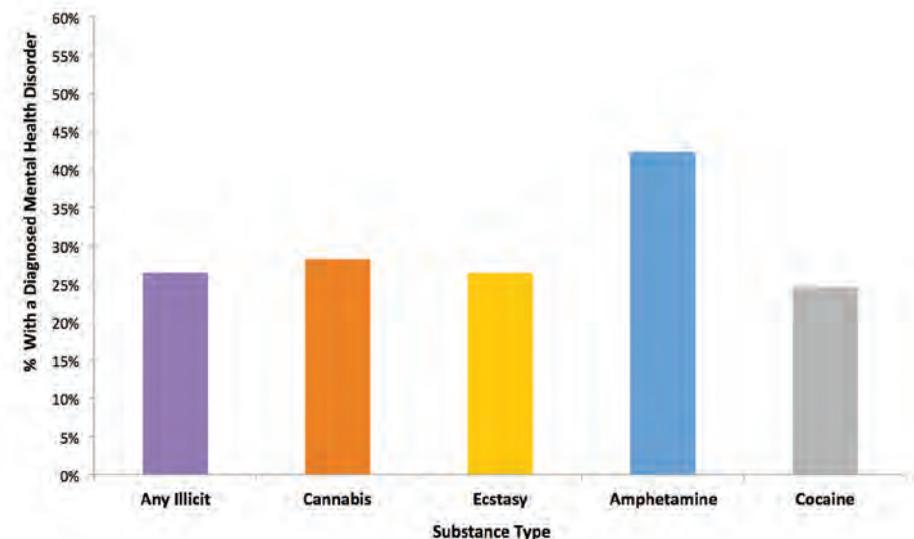
9.2 Clients with co-occurring disorders

Rates of substance use are generally higher among individuals with mental health disorders (see Figure 2; AIHW, 2017b). In a survey of co-occurring disorders in the general population 35% of individuals with a substance use disorder were found to have at least one co-occurring affective or anxiety disorder (Teesson et al, 2009). This increases to 63% among those who used alcohol or drugs daily or almost daily. Co-occurring disorders are common in people seeking treatment for substance use disorders; one third of clients in treatment for heroin or methamphetamine use report a co-occurring mental health diagnosis (McKetin et al, 2013; Teesson et al, 2009).

Every type of mental health disorder can co-occur in clients presenting to withdrawal services (from chronic psychotic disorders, depression, and anxiety to personality disorders) and it is important that professionals providing withdrawal services have an understanding of these disorders or access to staff within the service who can assist them.

The presence of a co-occurring mental health disorder may increase the complexity of care required during withdrawal. There is the need for collaboration between treating practitioners from AoD, general practice, and mental health settings from the assessment phase to the post-withdrawal planning phase.

Figure 2: Proportion of people (18 years or over) diagnosed or treated for a mental illness(s) by non-medical drug use in the previous 12-months (Source: AIHW, 2017b)



9.2.1 Screening

Mental health screening is an essential component of an assessment of a client not only prior to withdrawal, but also during and post withdrawal. An integrated approach that addresses mental health and AoD needs is considered best practice across the withdrawal period and increases the likelihood of a client successfully undergoing withdrawal and continuing to engage with the service. Early recognition of mental health symptoms provides an opportunity for timely linkage to appropriate services.

A range of validated and widely used screening tools are available that can be used to screen for mental health problems in people using alcohol or other drugs. These include the Australian PsyCheck screening tool, the Hospital Anxiety and Depression Scale (HADS) and the K-10 (see Appendix 4).

The goal of screening is to identify the presence of key mental health symptoms, which can then be enquired about during a more comprehensive assessment. Clinical judgement is critical and secondary consultation should be sought where uncertainties exist about the client’s presentation and the results of screening tools. In particular, concerns that someone may be at risk of harming themselves or others should be explored.

9.2.2 Key considerations in care planning

To optimise outcomes for clients with co-occurring AoD and mental health disorders:

- » The co-occurrence of a mental illness should not preclude a client from accessing a full range of services, including community-based withdrawal – as with all clients, an assessment of the individual’s needs, wants and risks should guide clinical decision making
- » Consider the interaction between symptoms of mental illness and substance use, including the possibility that clients feels their symptoms are improved by their substance use
- » Consider the possibility that a withdrawal syndrome may worsen a client’s mental health symptoms and mental state and may necessitate a longer stay at a residential facility or prolonged period of community monitoring
- » Be aware that some withdrawal symptoms may mimic symptoms of mental illness; Screening for symptoms prior to commencing withdrawal can assist in differentiating the cause
- » Consider the individual’s risk of harming themselves or others, which may increase during a withdrawal syndrome, and may necessitate safety planning, access to specialist mental health supports, or care on a mental health unit
- » Substance use and mental health disorders can have common psychosocial contributing factors which are ideally recognised prior to withdrawal
- » Consider the best withdrawal setting, including whether the client will need to access to both pharmacological and non-pharmacological supports, monitoring of mental state, and access to stepped care between inpatient psychiatric wards and non-residential outpatient AoD settings. Graduated treatment responses should be based on client need/risk
- » Be mindful that there is no single correct intervention or program for clients with co-occurring substance use and mental health disorders. The correct intervention must be individualised, according to diagnosis, stage of treatment

or stage of change, phase of recovery, need for continuity, and extent of disability and level of care required

- » Strong collaboration with local mental health services and mental health and psychosocial support services will allow greater flexibility to cater for clients changing needs
- » Ensure that mental health follow-up is a component of post-withdrawal care planning

9.2.3 Pharmacological considerations

Clinicians should consider the potential for interaction between medications used to manage mental health disorders and those used during a withdrawal. Common interactions are summarised in Table 6 below.

Table 6: Common interactions between substance withdrawal and mental health medications

	Mental health disorder pharmacotherapy	Potential drug interaction
AoD Withdrawal		
Alcohol or Benzodiazepine	Antidepressants: Tricyclic antidepressants (TCAs) Monoamine Oxidase Inhibitors (MAOIs) Selective Serotonin Receptor Inhibitors (SSRIs)	Lowered seizure threshold leading to increased risk of seizures
Alcohol (intoxication or withdrawal)	Lithium carbonate	Potential for electrolyte imbalances or lithium toxicity (for those on certain medications for bipolar disorder, in the latter case)

Source: Marel et al, (2016)

Table 7: Common interactions between addiction pharmacotherapies and mental health medications

AoD pharmacotherapy		
Opioid pharmacotherapy	Tricyclic antidepressants (TCAs)	Increased effect/toxicity
	Antipsychotics	Increased effect/toxicity
Disulfiram	Tricyclic antidepressants (TCAs)	Increased effect/toxicity
	Benzodiazepines	
Benzodiazepines	Tricyclic antidepressants (TCAs)	Increased effect/toxicity
	Antipsychotics	
	Buprenorphine*	
	SSRIs	

Source: Marel et al, (2016) *can cause either opiate withdrawal or enhanced CNS depression.

Prescription medications for mental health disorders should not be ceased without consultation with the prescribing service. It is also important to ascertain whether the client is taking their mental health medications as prescribed. The ongoing pharmacological treatment needs of the client should be considered in discharge planning.

It is essential that care is taken not to over-sedate clients with withdrawal medications due to the possible interactions with mental health medications. Interaction between commonly prescribed withdrawal medications and those prescribed for mental health disorders can impact dosing regimens. Discharge planning should take into account the ongoing pharmacological treatments needs of the client. The risk of relapse should be included as an area of concern when deciding on the most appropriate discharge medications.

Useful Resources:

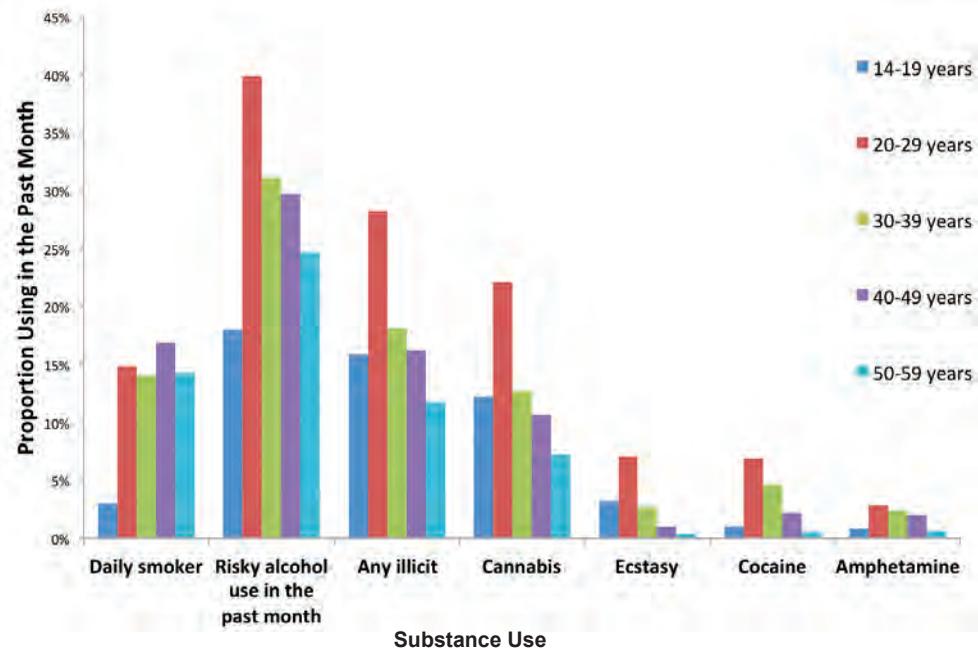
- » Marel, C., Mills, KL., Kingston, R., Gournay, K., Deady, M., KayLambkin, F, Baker, A, & Teesson, M. (2016). Guidelines on the management of co-occurring alcohol and other drug and mental health conditions in alcohol and other drug treatment settings (2nd edition). Sydney, Australia: Centre of Research Excellence in Mental Health and Substance Use, National Drug and Alcohol Research Centre, University of New South Wales
- » SANE Advocacy, education and research for people with a mental illness, their families, health professionals and the community <http://www.sane.org/>
- » Mental Illness Fellowship Australia (MIFA) Self-help, support and advocacy group for people with a mental illness, their families and friends <https://mifa.org.au/index.php?lang=en>
- » Beyondblue Information, support, training, programs and research related to depression <http://www.beyondblue.org.au>

9.3 Young people

Young people (12–21 years) have particular needs that may affect their engagement with and experience of withdrawal care. Issues may include unresolved trauma, chaotic social situations and a relative lack of cognitive and emotional resources. Young people are often particularly reliant on family for accommodation, financial, and emotional support. Social and familial affiliation and approval is often important to this group. A lack of information about AoD treatment, poor family or social support, unstable accommodation, involvement with the juvenile justice system, past trauma, mental health issues, low socio-economic status, and homelessness may limit young peoples' access to support and continuing care (YSAS, 2016).

People aged 20-29 are far more likely to drink alcohol in risky quantities than any other age group, and to have used cannabis, ecstasy, or cocaine in the previous 12 months (AIHW, 2017b; See Figure 3). They are more likely to consume alcohol at levels that exceed the NHMRC single occasion risk guidelines, and are more likely to be victims of alcohol-related incidents in the previous 12 months.

Figure 3: The prevalence of substance use behaviours by age group
(Source: AIHW, 2017b)



Earlier intervention is associated with increased likelihood of treatment success. It is therefore imperative to understand and respond appropriately to the AoD use, comorbidities, and other complex needs of younger clients. The use of AoD by young people is often motivated by subsidiary concerns, such as physical, emotional, and sexual abuse, bullying, homelessness, or housing instability, and is often accompanied by mental health issues. Withdrawal service providers should be cognisant of these potential comorbidities when treating AoD issues. Young people require a more supportive, intensive, and youth-tailored approach - from language used, to services offered - to foster positive treatment outcomes, treatment involvement, and retention (YSAS, 2016).

Young people presenting to adult withdrawal services should be transferred to youth-specific services, if available. Ongoing contact with and adjunct support from

a consistent youth-specific worker throughout withdrawal care can promote more positive experiences for young people. Young people may benefit from limited contact with adult clients; interactions with older clients with more severe AoD use disorders and ingrained drug related beliefs may have a negative impact on the withdrawal experience for young people..

For more detailed AoD withdrawal guidelines specialised towards young people, please refer to the **YSAS Clinical Guidelines (YSAS, 2016)** and Victoria's **youth drug and alcohol advice service ('YoDAA')**.

Useful Resources:

- » Bonomo, Y & O'Brien, M (2016). YSAS Adolescent Withdrawal Guidelines. YSAS, Fitzroy, Vic. https://www.ysas.org.au/sites/default/files/YSAS0106_WithdrawalGuidelines_2016_v14_FA_WEB.pdf
- » YoDAA Youth Drug and Alcohol Advice for Workers <http://ysas.org.au/articles/yodaa-youth-drug-and-alcohol-advice>

9.4 Older adults

According to the recent NDSHS (AIHW, 2017a), people in their 50s reported the largest rise in use of illicit use of drugs since 2001 (from 6.7% to 11.7% in 2016), mostly as a result of recent use of cannabis and pharmaceuticals. One in four (25%) reporting consuming 5 or more standard drinks on a single occasion at least monthly and one in ten (11%) respondents aged 50-59 olds reported consuming more than 11 standard drinks at least monthly. With Australia's burgeoning ageing population, the number of people experiencing AoD dependence and in need of withdrawal is expected to increase.

Increased harms and withdrawal complications in older adults (aged 65+)

The severity of AoD problems may be greater among older adults who have delayed help-seeking as a result of denial, shame, fear of stigma, or ageism. Cognitive decline may make it difficult for older adults to monitor increasing consumption and recognise alcohol problems. Isolation is more common in older adults, and they may be less likely to experience social pressure to reduce their use of alcohol or other drugs. Physical changes that occur with aging (such as alterations in metabolism, body fat gastrointestinal, and renal functioning) can affect the body's

ability to process alcohol and other drugs. There is evidence that older adults more frequently experience particular alcohol-related harms, including gastrointestinal disease, respiratory disorders, hypoglycaemia, cardiac disease, alcohol related brain injury strokes, and falls (Royal College of Psychiatrists, 2015). Older adults are more likely to have a longer history of use and/or dependence (Kuerbis et al, 2014). This age group are more likely to experience concomitant medical conditions (e.g., liver impairment) that could increase the severity of withdrawal, and lead to complications during withdrawal. Finally, older adults are more likely to be prescribed other medications for physical or mental health conditions that may interact with medications used in the management of withdrawal.

Withdrawal management

Older adults can experience a more protracted and severe withdrawal and therefore may be better suited to withdrawal in a residential setting where complications (e.g., medical comorbidity, poly-pharmacy, and increased risk of delirium) can be closely monitored. This is particularly important in cases of alcohol withdrawal. Given that older adults are more likely to be receiving medication to treat other physical and mental health problems, there is also an increased risk of interactions between the person's usual medications and those prescribed for withdrawal. It is particularly important to consider the cumulative risk of sedation when prescribing multiple sedative drugs to older adults, especially if the individual has liver or metabolic impairment. Similarly, the withdrawal syndrome of some drugs (e.g., benzodiazepines) may be more protracted due to reduced metabolism, and therefore the use of shorter-acting medications and a slower dose reduction regimen (e.g., over weeks to months) should be considered.

As with any AoD treatment service, there may be a need for special provisions to be made in terms of supporting withdrawal, such as ensuring premises are accessible, sufficiently private, and that leaflets conveying important information relevant to older people are legible. Ensuring older adults understand what will happen during and after withdrawal is critical. Communication can be enhanced by avoiding stereotyping, use of patronising language, or referring to them in the third person when others are present. It can be helpful to face older clients when talking to them to ensure they can hear, to make use of visual aids, and to keep information sessions short and informal to increase comprehension. For more information on responding to the needs of older adults in AoD treatment see Nicholas et al, (2015).

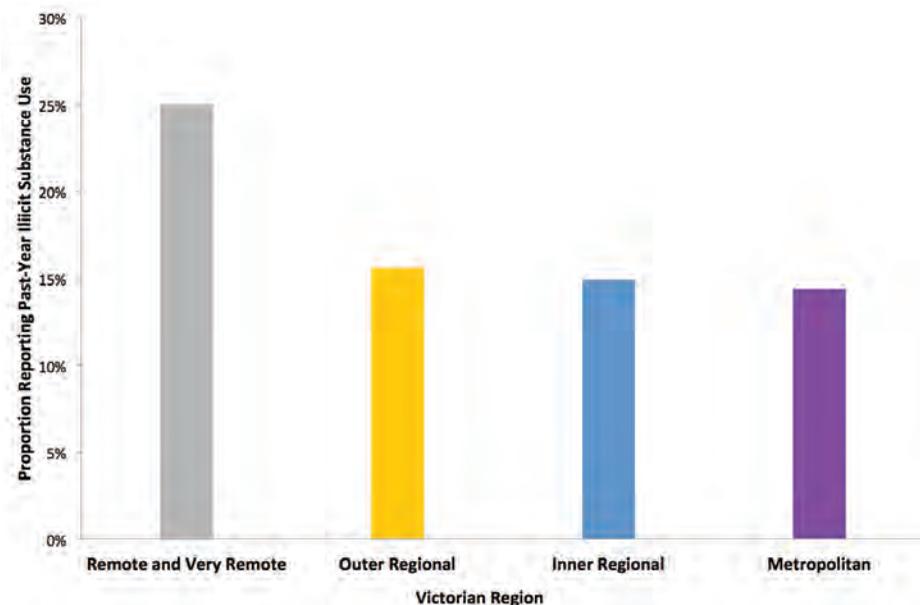
Useful Resources:

- » Nicholas, R., Roche, A., Lee, N., Bright, S., & Walsh, K. (2015). Preventing and reducing alcohol- and other drug-related harm among older people: A practical guide for health and welfare professionals. National Centre for Education and Training on Addiction (NCETA), Flinders University: Adelaide, South Australia
- » Royal College Psychiatrists, (2015). Substance misuse in older people: an information guide Older Persons' Substance Misuse Working Group <https://www.rcpsych.ac.uk/pdf/Substance%20misuse%20in%20Older%20People%20an%20information%20guide.pdf>

9.5 Clients residing in remote rural and regional areas

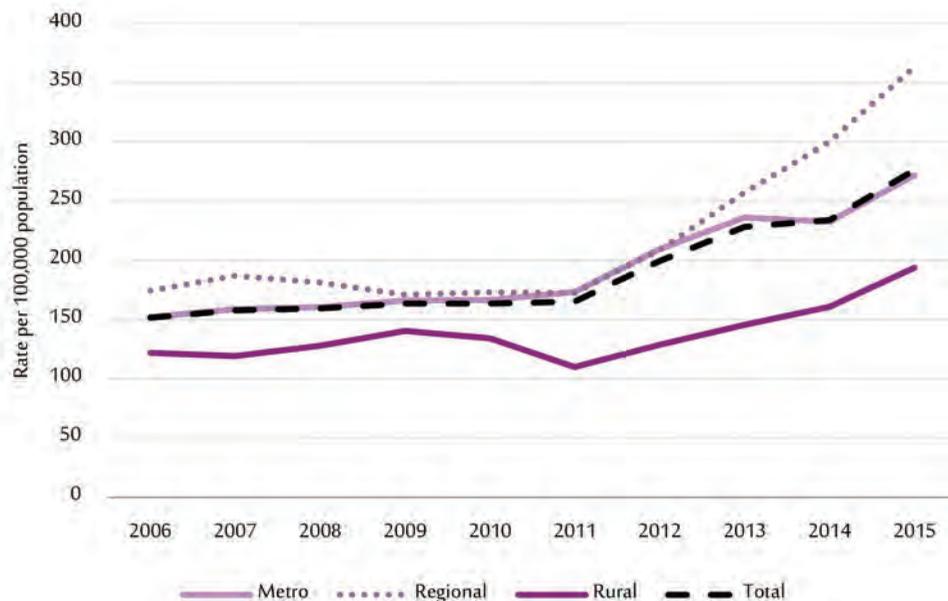
According to the NDSHS (AIHW, 2017b), a greater proportion of people living in remote and very remote regions reported using an illicit drug in the past year compared to people in metropolitan areas (see Figure 4).

Figure 4: Prevalence of past year illicit drug use by residential location (Source: AIHW, 2017b)



Rates of drug use and possession incidents in all jurisdictions of Victoria increased steadily between 2011 and 2015, but to a greater extent in regional Victoria (Sutherland & Millsted, 2016; See Figure 5 below). The NDSHS (AIHW, 2017b) indicated that people residing in remote and very remote areas are twice as likely as people living in regional and metropolitan areas to have recently used methamphetamines.

Figure 5: Rate of drug use and possession incidents in metropolitan, regional and rural Victoria, 2006-2015 (Source: Sutherland & Millsted, 2015)



AoD clients residing in rural and regional areas experience significant barriers to adequate and appropriate withdrawal care, including geographic isolation, limited public transport, reduced service availability, membership of minority groups, and economic constraints (VAADA, 2016). In addition, these clients may experience heightened stigma due to the increased visibility of AoD use and treatment-seeking within smaller communities.

Flexible treatment strategies are therefore required to accommodate clients residing in rural and regional locations. The availability of nurse practitioners in remote communities significantly improves patient access to treatment and care, but they are not always available (Ling et al, 2013). Similarly, access to addiction medicine specialists is restricted in regional communities, however telephone consultation support is available via the Drug and Alcohol Clinical Advisory Service (DACAS) on 1800 812 804. Treatment planning may include allowances for clients who fall outside certain catchment areas, and may include telephone or Skype triage and assessment, AoD workers travelling certain distances to meet clients, and specialised discharge planning for post-withdrawal care. The best treatment for clients in rural and regional areas will often involve residential stays in appropriate facilities in metropolitan areas if appropriate facilities are unavailable locally. If travel is not feasible, a short hospital stay and a period of home-based withdrawal may be undertaken.

Rural and regional withdrawal care should include consideration of:

- » Service flexibility to enable modification of metropolitan programs to suit local conditions
- » Local patterns of drug use and changing patterns that may develop
- » Service linkages
- » Flexible waitlist management
- » Pre-admission planning including preparatory activities
- » Facilitation of linkages to the broader community for post-withdrawal support and relapse prevention

Useful Resources

- » **Regional voices:** The impact of alcohol and other drug sector reform in Victoria http://www.turningpoint.org.au/site/DefaultSite/filesystem/documents/Care%20and%20recovery/VAADA%20%20Regional%20Voices%20Final%20Report_12022015.pdf

9.6 Aboriginal and Torres Strait Islander (ATSI) clients

Indigenous Australians experience significantly higher levels of AoD use than non-Indigenous people, contributing to higher levels of associated health and social harms (MacRae & Hoareau, 2016). Aboriginal and Torres Strait Islander people (ATSI), of whom 70% live in rural Australia, are almost twice as likely to have used smoked tobacco or used illicit drugs recently compared to the general population (AIHW, 2017a). Cannabis is the most commonly used illicit drug among ATSI people, with 19% aged 15 years and over reporting recent use. ATSI people are also 2.2 times as likely to use meth/amphetamines and 2.3 times as likely to misuse pharmaceuticals as non-ATSI people (AIHW, 2017b). ATSI people are more likely to abstain from alcohol use. ATSI people who do drink alcohol are, however, 1.4 times more likely to drink at 'high risk' levels as non-ATSI people (37% compared with 27%).

The most recent national treatment data indicated that 1 in 10 withdrawal treatment episodes were for ATSI clients (AIHW, 2017b), a significant over-representation in treatment services. Illicit drug use is associated with a number of health impacts and social harms that disproportionately affect ATSI people. These harms include increased risk of contracting hepatitis C and HIV from injecting drug use, higher levels of psychological distress, and an increased risk of suicide. Illicit drug use is also linked with social issues, such as harms to children and family, violence, crime and incarceration.

ATSI clients may be heavily influenced by cultural beliefs and attitudes concerning AoD use (Chenhall & Senior, 2013). For many ATSI people there is shame associated with seeking treatment, as well as concern about legal issues. Concerns over losing their children may also be a barrier to seeking help for many ATSI women. Finding ways to address these concerns at the intake stage is likely to improve withdrawal uptake and retention.

Culturally appropriate and holistic engagement with ATSI clients by withdrawal services should consider the potential involvement of the client's immediate and extended family, as well as specialist Aboriginal AoD workers, community workers, leaders, and elders in the withdrawal process (NIDAC, 2014). Awareness of and sensitivity to the experiences of ATSI clients affected by economic and socio-cultural factors, endemic marginalisation, racism, and the traumatic effects of colonisation and the Stolen Generation is necessary throughout withdrawal care. Where possible, AoD workers should be attuned to how ATSI clients react to medical professionals

and best practice for ATSI clients (e.g., a non-confrontation assessment style in ATSI community centres, often with family members present, avoidance of eye-contact, knowledge of ATSI terminology, etc.).

- » As such, mainstream AoD withdrawal services should ensure:
 - ATSI clients understand any questions asked
 - They are supported by an Aboriginal Liaison Officer (ALO) or family as appropriate wherever possible
 - An interpreter is used when needed
 - Cultural awareness training is regularly offered to staff
- » Established links with ATSI services
- » ATSI clients are assisted to access appropriate ATSI support services, according to individual preference (i.e., engage ATSI/ Koori Community Alcohol and Drug Workers)

In addition, mainstream withdrawal services may further meet the needs of ATSI clients by:

- » Drawing on the expertise of ATSI services to inform appropriate withdrawal screening, assessment, planning, engagement, withdrawal care, and follow-up of ATSI clients
- » Using culturally-specific tools, where available
- » Formalising relationships with ATSI services through a Memorandum of Understanding
- » Considering the use of a narrative approach to conduct assessment with ATSI clients

Three rural Aboriginal AoD nursing teams in Mildura, Shepparton and Bairnsdale provide clinical support to clients, and link in with Aboriginal AoD workers. Along with social and emotional wellbeing workers, these teams provide Aboriginal clients with holistic, culturally appropriate care.

Aboriginal-specific services accept referrals from catchment-based intake and assessment as well as self-referrals and direct referrals from other services, and are expected to prioritise access for Indigenous clients. Further advice on accessing these services is available at DirectLine (1800 888 236).

Useful Resources:

- » **Bunjilwarra Koori Youth Alcohol and Drug Healing Service** is a state-wide service for Aboriginal young people.
- » **ATSI Withdrawal Guidelines:** AOD treatment for Aboriginal and Torres Strait Islander peoples - National Indigenous Drug and Alcohol Committee (2014).
- » **Ngwala Willumbong (VIC):** Ngwala Willumbong is an Aboriginal Community Controlled Organisation that is dedicated to delivering quality specialist alcohol and drug residential rehabilitation and outreach support services to meet the needs of Aboriginal people and their families.
<http://www.ngwala.org.au/>
- » **Healesville Indigenous Community Services Association:**
<https://www.hicsa.org/>
- » **VACCHO** Victorian Aboriginal Community Controlled Health Organisation: Alcohol and Other Drugs information <http://www.vaccho.org.au/wd/aod/>
- » **VAHS Victorian Aboriginal Health Service:** The Victorian Aboriginal Health Service (VAHS) was established in 1973 to address the specific medical needs of Victorian indigenous communities. The organisation has expanded steadily over past 40 years to provide a comprehensive range of medical, dental and social services for the community. Clinics are based in Fitzroy and Preston.

9.7 Culturally and linguistically diverse (CALD) clients

From the limited research available, AoD use and mental health issues appear higher only in specific CALD communities, although this may reflect CALD populations being under-representation in research (Posselt, 2014; Horyniak, 2016). Rates of AoD use in CALD populations are heavily influenced by rates of AoD consumption in one's countries of origin, and potential subsequent experiences of trauma during the migration process (Savic, 2014). People from CALD backgrounds with AoD issues are under-represented in treatment and, when in treatment, are less likely to be linked with professional support services. Many CALD communities are at increased risk of experiencing AoD related harms, as they are subject to multiple risk factors. These risk factors include but are not limited to experiences of trauma, low levels of health literacy (particularly knowledge of the harms associated with increased

alcohol use), pre- and post-migration stressors (making it harder to adjust to a new cultural environment and navigate the treatment system), as well as socio-cultural pressures and stigma. AoD workers should be aware of the cultural factors that can limit uptake of AoD services, as well as clients' religious views and culturally-influenced beliefs. Inappropriately challenging ingrained cultural beliefs during the withdrawal process is likely to hinder treatment.

Providers of withdrawal services to CALD clients should consider a client's ethnicity and cultural identity and adopt appropriate methods of engagement. Victoria's Alcohol and Drug Association (VADDA, 2016) conducted detailed interviews with members of CALD communities and specialist AoD practitioners across Victoria with the aim of identifying risk factors, barriers, enablers, and patterns of use within specific CALD communities. These interviews have led to the development of specialised 'cultural inventories' which include detailed resources, techniques, and guidelines on how to assess, counsel, and assist members CALD communities throughout withdrawal. The following recommendations are drawn from those guidelines:

- » Ask how the person defines, for themselves, their ethnicity and cultural identity and how they would like to be addressed (i.e., preferred names and correct pronunciation)
- » Consider the clients migration experience while avoiding prompting disclosures of past trauma, particularly among clients who may have been asylum-seekers or refugees
- » If practical, offer clients a withdrawal worker from the same cultural background
- » If practical, where English proficiency is low offer the services of an interpreter when discussing important medical issues, discharge planning, and referrals
- » Build trust and rapport and consider shame and stigma that may be associated with AoD use in certain CALD groups and acknowledge and ease their concerns about being identified within their community
- » Explain and emphasise client-worker confidentiality, client-consent, choice, and control
- » Take the time to explain treatment options and processes (explanations involving metaphors and stories may be useful), on more than one occasion if necessary

- » Check in regularly on clients' understanding of discussions, particularly if medically-related; Consider use of the 'TEACH-BACK' technique (asking the client to explain the information to you)
- » In some cultures, talking about certain subjects with a member of the opposite sex or a younger person might be inappropriate. It may be beneficial to acknowledge that they may have concerns about appropriate gender and age relations, and offer specific accommodations (e.g., offer gender-matched workers and minimise physical/eye contact where appropriate).
- » Consider capacity to practice cultural and religious practices (e.g., physical space for prayer and whether prayer-time might conflict with the program schedule) and adapt accordingly
- » Consider and accommodate any dietary requirements clients may have (e.g., Halal-certified food)
- » Endeavour to ensure that the physical environment is reflective of cultural diversity, for example, that signage and reading materials are available in multiple languages and art work is not culturally-homogenous
- » Enquire about clients' expectations regarding visitors during inpatient withdrawal and, when appropriate, seek consent to involve family members and community representatives
- » Offer cultural awareness training to staff
- » Establish and consolidate links with CALD services
- » Assist CALD clients to access appropriate CALD support services, according to individual preference

Services are also encouraged to work toward a model of care that:

- » Draws on the expertise of culturally appropriate support services to inform appropriate withdrawal screening, assessment, planning, engagement, withdrawal care and follow-up of CALD clients
- » Formalises relationships with CALD services through a Memorandum of Understanding, particularly in locations where there is a high proportion of ethnic minority groups
- » Provides access to an interpreter to support the completion of an accurate AoD screen and assessment
- » Provides information about AoD treatment options to CALD clients who are

- unfamiliar with the service system and facilitates access to AoD services
- » Works with clients' family and significant others, where appropriate
- » Considers the most appropriate AoD setting dependent on CALD client need and preference
- » Integrates and uses culturally-specific screening and assessment tools, where available
- » Considers the heightened need for confidentiality among CALD clients who are members of a close community network

Useful Resources:

For more information about optimising AoD care for CALD clients see

- » VAADA CALD AOD Project Final Report 2016 <http://www.vaada.org.au/wp-content/uploads/2016/06/CALD-AOD-Project-final-report.pdf>
- » **NADA:** Working with Diversity in Alcohol & Other Drug Settings. <http://www.nada.org.au/>
- » **DAMEC (NSW):** Drug and Alcohol Multicultural Education Centre. <http://www.damec.org.au/>
- » <https://www2.health.vic.gov.au/about/populations/cald-health>
- » Cochrane Database of Systematic Reviews: Cultural competence education for health professionals available at <http://cochranelibrary-wiley.com/doi/10.1002/14651858.CD009405.pub2/full>

9.8 Clients with acquired brain injury (ABI) or cognitive impairment

ABI is common among individuals with severe AoD use disorders and may be due to injury, illness, substance use, or a combination of the three (McHugo et al, 2017). Long-term, heavy substance use can have neurotoxic effects on neurons and neurotransmitter production and may lead to structural changes in grey and white matter (i.e., brain volume shrinkage and poorer functional connectivity).

It is estimated that 50-80% of individuals with alcohol use disorders (Bates, Bowden & Barry, 2002; Schmidt et al, 2017) and around 75% of individuals with poly-substance use disorder experience mild-to-moderate cognitive impairment (Fernández-Serrano

et al, 2010; Cadet & Bisagno, 2016). Deficits are most pronounced in memory, frontal lobe/executive functioning (e.g., planning, organisation, problem-solving, mental flexibility, and impulse control), and visuospatial processing, whereas verbal skills tend to be preserved. Cognitive deficits are exacerbated by malnutrition (especially vitamin B deficiency in alcohol dependent individuals) and can lead to serious impairments in memory and language.

In the absence of intoxication, clients with ABI will typically display the following symptoms or behaviours:

- » Reduced co-ordination and balance (ataxia)
- » Emotional and behavioural problems
- » Reduced cognitive capacity evidenced by behaviours such as requests for information to be repeated, difficulty recalling information without cues or prompts, difficulty doing more than one thing at a time, or a reduced capacity to inhibit behaviours and anticipate consequences of events

Cognitive impairment can occur as a result of withdrawal seizures, overdose, physical head injury, or prolonged AoD use, and can significantly impede successful withdrawal treatment.

The presence of ABI is often ascertainable from medical records and client interviews. However, intact verbal skills may cause cognitive impairment to go undetected at interview. Screening tools such as the Montreal Cognitive Assessment (MoCA; Nasreddine et al, 2005) or the Australian version of the Addenbrooke Cognitive Examination-Revised (Mioshi et al, 2006) have been shown to be effective at detecting impairment in people who use substances (Ridley et al, 2018). With abstinence, proper nutrition and psychological intervention, significant recovery of cognitive impairment is possible - with many deficits recovered after 12-months of abstinence (Stavro, Pelletier & Potvin, 2013). Imaging studies have shown evidence of rapid regeneration of brain volume after just two-weeks of abstinence from alcohol (Eijk et al, 2013). Physical examination, CT scan, and blood tests (LFT, MCV etc..) may be necessary to establish a diagnosis of more serious neurocognitive disorders. If more serious forms of impairment, such as Korsakoff's syndrome or Wernicke's encephalopathy are suspected, more intense medical intervention during withdrawal and rehabilitation linkages during the post-withdrawal period will be necessary. Thiamine supplements (Vitamin B1) and a balanced diet is recommended for alcohol-dependent clients with ABI (ARBIAS, see useful resources p60).

Although cognitively-demanding psychological interventions for substance use disorders generally take place after withdrawal, psychoeducation and group therapy sessions commonly form part of residential withdrawal programmes. It may be helpful to tailor the way in which sessions are delivered to optimise engagement, motivation, and retention of critical information.

For clients with poorer attention and memory, sessions should be short and frequent with regular breaks and 'booster sessions' as required. Withdrawal staff should also take care to limit the amount and complexity of information communicated to clients with ABI at any one time, particularly during the initial days of withdrawal. Efforts should be taken to minimise distractions, use repetition, simple written summaries, reviews, and checklists, and encourage the use of electronic reminders as prospective memory aids (e.g., for calendar appointments or medications). It is important to check that the person is able to use and maintain their mobile phone adequately (i.e., not lose it). For some less technologically-savvy clients this may not be an option. In addition, some clients are not adequately motivated to use external memory aids. Some clients may experience improved comprehension or recall if key concepts or ideas are delivered through different modalities (e.g., verbally, using written materials, pictures/illustrations, or videos/cartoons).

For clients with impaired executive functioning (e.g., impulsivity), it can be helpful to set clear boundaries, use relaxation techniques to dampen arousal/anger, adopt simple rules, use real-life examples to ameliorate problems with abstract thinking, and adopt a more directive therapeutic style (e.g., guided questions). It can be beneficial to clients with poor planning and organisational skills to encourage self-monitoring by using strategies such as "stop, think, check" and role play to practice strategies for coping with /managing triggers for relapse. Some clients can tell you what they should do, but when a situation arises in the real world, they are not able to implement the strategies they have been taught. Frequent practice in the withdrawal and rehabilitation setting may help to improve real-world translation of skills learnt.

Clients with ABI respond well to routine, practice and rehearsal. Pre-admission planning is therefore essential in preparing clients with ABI for withdrawal care. Multiple visits to the AoD service and introduction to a consistent case manager is likely to enhance engagement and retention.

Useful Resources:

- » **Arbias Ltd:** Provide specialist services in Victoria tailored to substance-related brain impairment. They provide neuropsychological assessment, case management, housing, lifestyle support, information and training for AoD specialists.
- » **Turning Point Statewide Neuropsychology Service:** Provides state-wide specialist secondary consultation for clinicians, and face-to-face neuropsychological assessment. Further information and referrals can be found at www.turningpoint.org.au

9.9 Clients with housing instability or homelessness

It is estimated that more than half of all homeless persons in western countries are AoD dependent (Fazel et al, 2008; Grinman et al, 2010). Prior to withdrawal, service providers working with homeless clients should engage in effective case management, making sure they link the client with appropriate post-withdrawal resources - particularly housing and welfare support. Lack of accommodation on discharge may be a barrier to entry at some residential withdrawal services. It is important to remember that homeless clients often present with a range of mental health comorbidities and may have experienced victimisation by the justice system, trauma, family violence, as well as physical, emotional, and sexual abuse. Homeless clients may also present with more severe physical health issues due to poorer self-care and lack of access to adequate nutrition, and may engage in riskier drug use practices. Homeless clients may also be unwilling to disclose the extent of their substance use due to fear of being denied access to additional support and welfare services. Therefore a non-confrontational, empathetic approach is best employed when working with this population to establish therapeutic rapport.

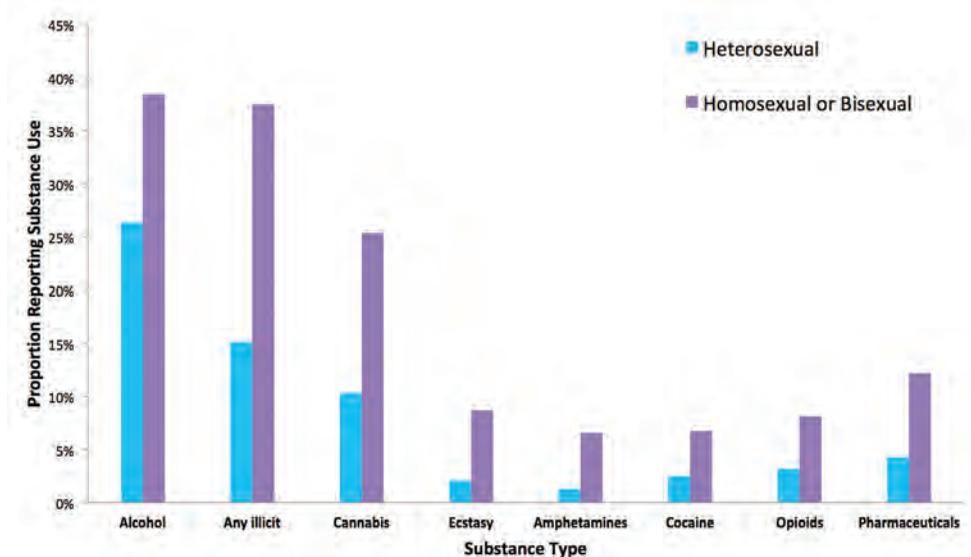
Useful Resources:

- » **Housing and Homelessness Support Line:** 1800 825 955.
- » For more information visit <http://www.melbourne.homeless.org.au/>

9.10 LGBTIQ clients

In the 2016 NDSHS (AIHW, 2017b), respondents who identified as homosexual or bisexual exhibited higher rates of daily smoking, as well as risky life-time and single occasion drinking. They also had more than double the rate of illicit drug use, with particularly elevated rates of cannabis, stimulant, and illicit pharmaceutical use (see Figure 6). There are several reasons why LGBTIQ (Lesbian, Gay, Bisexual, Transgender, Intersex, Queer) communities warrant a specialised approach during withdrawal treatment. In general, LGBTIQ individuals experience increased rates of mental health issues and psychological distress (Leonard, Lyons & Bariola, 2015).

Figure 6: Rates of AoD use in heterosexual and homosexual/bisexual populations in 2016 (AIHW, 2017b)



For LGBTIQ clients – particularly younger clients or those living in rural or remote areas - AoD use may be related to coping with and accepting one's sexual orientation, 'coming out', gender identity, or intersex status. AoD use and craving may be exacerbated if clients feel unsafe, belittled or victimised. Fostering a supportive and accepting withdrawal environment and creating linkages to post-withdrawal support is therefore integral to promoting successful long-term outcomes.

Gender Identity

In accordance with the current Victorian intake and assessment tools, efforts should be made to respect the subjective identify of the client and to consistently use the preferred names and pronouns which reflect this identity. Avoid using gendered pronouns until this has been established. If you are unsure of a client's preferred name/pronoun wait until you can politely and discreetly ask. Physical appearance is not regularly a reliable indicator of LGBTIQ status. When asking about gender it is important to recognise that a person's gender refers to their internal, 'felt' sense of gender identity (a sociological construct) and may not reflect their sex at birth (physiological and biological characteristics identified at birth).

The current Victorian AoD intake and assessment tools allow a client to self-identify as male, female, or 'other'. The latter may be used as a means of specifying non-binary gender identities that do not fall strictly into the masculine/feminine dichotomy (e.g., transmale/transman, trans-female/trans-woman, gender queer, non-binary etc.).

It is important to recognise disclosure of gender identity can be a very personal decision and of special concern for transsexual and gender diverse clientele, as their identification documents may not match their gender and given name, or they may harbour concerns around privacy, discrimination, insensitivity, or being denied services. It is therefore recommended that withdrawal clinicians ask if the client wishes to be identified in a particular way. It is also important that clients are made aware of how this information may be used and if the data may be shared with other organisations.

Sexual Orientation

Note the term LGBTIQ refers to people of diverse sex, gender and sexuality. This may include but is not limited to people who identify as Lesbian, Gay, Bisexual, Trans and gender diverse, Intersex and Queer (LGBTIQ). Disclosure of a person's sexual orientation is a very personal decision and many clients may be hesitant to disclose this information for fear of discrimination, negative past experiences, and a range of other sociocultural factors. However, it can be useful to note a clients' sexuality as this can be important for informing culturally-inclusive care. It also enables healthcare services to plan and design services according to need and help understand the specific needs of LGBTIQ clients. A major barrier to disclosure of this information is a perceived lack of anonymity or confidentiality; it is important that clinicians explain why the information is being collected and how it is used.

Strategies to better respond to the needs of LGBTIQ clients include:

- » Educating staff on the relationship between illicit drug use, alcohol use, and sexual risk-taking, including how to best initiate discourse relating to sexual history and sexual disease assessment (if appropriate)
- » Educating staff on the role of AoD use as a tool for coping with discrimination, stigma, and their associated mental health impacts
- » Promoting the acceptance of LGBTIQ people, and the need to avoid stereotyping/typecasting clients (in part because this may jeopardise a therapeutic alliance)
- » Making appropriate referrals to mental health services for LGBTIQ clients (e.g., 'Re-wired' and 'Drink Limits' at VAC)
- » Linking clients to LGBTIQ community and support networks as part of treatment programs and following up where appropriate

Considerations for residential withdrawal services:

- » Ensure respectful interactions (i.e., use of preferred name and pronoun)
- » Many withdrawal settings have mixed gender facilities, often with binary gender segregation of sleeping facilities and toilets. Ask the client which facility they would feel more comfortable using and, if possible, prioritise offering a private ensuite room to trans and gender diverse clients, and have a gender neutral bathroom available
- » It is important that services reinforce the message of LGBTIQ inclusivity and acceptance, particularly in residential settings, where other clients may have conflicting or discriminatory views that could be disruptive in group therapy settings

Useful Resources:

- » Some LGBTIQ clients may feel safer/more comfortable undergoing withdrawal at home rather than in an inpatient unit. However, some detox facilities are dedicated purely towards LGTBIA youth (e.g., **Queer Youth Residential Withdrawal Unit in Fitzroy**). This should be offered to young clients if available.
- » Practitioners should consult the **YSAS Adolescent Withdrawal Guidelines (YSAS, 2016)** when working with young LGBTIQ clients undergoing withdrawal.

- » VAC and VAADA have produced an excellent set of guidelines for AoD service providers supporting Trans and Gender Diverse people. See Policy and Practice Recommendations: for alcohol and other drugs (AOD) Service providers supporting the Trans and Gender Diverse (TGD) community <https://vac.org.au/site/assets/uploads/622ef9ea-vac2503-reference-guide-05-web.pdf>

9.11 Pregnant women

One third of closed episodes of withdrawal treatment in Australia (2015-2016) were provided to women (AIHW, 2017a). Women who present for withdrawal treatment may have complex needs, such as pregnancy, that require specialist care. The most recent household survey suggests there has been a decline in substance use among pregnant women in recent years. Nonetheless, 35% reported consuming alcohol, 11% reported smoking tobacco, 2% reported using an illicit drug, and 1.9% had misused prescription analgesics.

The use of substances such as alcohol, tobacco and illicit drugs are associated with pregnancy-related morbidity in both women and their infants. The range of adverse effects and complications associated with AoD misuse, dependence, and withdrawal during pregnancy is well recognised (e.g., premature birth and low-birth weights and foetal alcohol syndrome disorders). Opioids, alcohol, and nicotine in particular present risks for mother and foetus that are discussed within each relevant withdrawal chapter. Pregnant women should be prioritised for care at AoD services and access to AoD specialist advice and support is recommended.

Pregnancy presents an opportunity to engage women with substance use disorders in treatment, and to stabilise their use for their benefit as well as that of the developing foetus. However, it is important that screening is conducted in a sensitive, empathic, and non-judgemental manner, as pregnant women can face a great deal of stigma with regards to their substance use disorder. Screening and assessment of pregnant women should aim to elicit a range of information relevant to AoD withdrawal, including identification of nicotine dependence. If diagnosed with a substance use disorder during pregnancy, immediate inpatient withdrawal is usually advised and specialist advice should be sought in a timely manner. The withdrawal experience during pregnancy is discussed in more detail within each drug chapter.

In some instances, a client may seek partner involvement in withdrawal care planning. This is only appropriate where the clinician believes that the partner will be

a positive and useful resource in supporting the client's withdrawal. Since AoD use of a significant other (e.g. partner) increases a woman's risk of continuing or relapsing to drug use, post-withdrawal planning should address such issues.

In addition, it is recommended that all women presenting to withdrawal services who are of child-bearing age are offered a urine pregnancy test. If not pregnant and if appropriate, women should be offered information on contraception and the risks associated with AoD use during pregnancy, and tested for sexually transmitted diseases.

Useful Resources:

- » The Women's Alcohol and Drug Service (WADS) at the Royal Women's Hospital provides a state-wide specialist clinical service to pregnant women with complex substance use dependence, as well as secondary consultation, including a 24 hour on-call obstetric service. Further information is available at <https://www.thewomens.org.au/health-professionals/maternity/womens-alcohol-and-drug-service/>
- » The Mother and Baby residential withdrawal unit at Uniting Re-Gen offers a purpose-built facility ensuring the safety and well-being of mothers and their children during early treatment stages, programs to improve parenting skills, and links to services supporting affected families. For more information see <http://www.regen.org.au/treatment-support/withdrawal/mother-and-baby>

9.12 Clients experiencing family violence

Both victims and perpetrators of family violence are over-represented in AoD treatment services (VAADA, 2012). The final report of the Royal Commission into Family Violence (2016) makes a number of key recommendations including greater integrated working, information sharing, and collaboration between AoD and other sectors (mental health, family violence, child protection services etc.). Women and children are most likely to become victims of family violence and are at increased risk of developing AoD and mental health disorders. The shame, fear and hopelessness experienced by victims mean they often do not disclose their experiences of violence. Therefore an empathetic and non-judgemental supportive approach should be adopted to foster a therapeutic relationship with clients who have experienced family violence.

Family violence should be routinely screened for on intake to AoD treatment. It is recommended that any history of Family Violence is documented and consideration given to referring the victim to **SafeSteps 1800 015 188**. All AoD workers are encouraged to seek secondary consultation with a Family Violence expert, and complete basic Family Violence training, which is widely available and free through Domestic Violence Resource Centre Victoria (DVRCV) (see resources section).

Useful Resources:

- » **VAADA, Connections:** family violence and AoD (2012) http://www.vaada.org.au/wp-content/uploads/2013/01/Family_violence.pdf
- » **VAADA Report:** Royal Commission into Family Violence- VAADA Summary for the AoD sector <http://www.vaada.org.au/wp-content/uploads/2016/03/Royal-Commission-into-Family-Violence-VAADA-summary-for-the-AOD-sector.pdf>
- » **DVRCV** <https://training.dvrcv.org.au/our-courses/>

Crisis Lines

- » **1800 RESPECT:** 1800 737 732 (National Line – 24 hours)
- » **Victoria:** 1800 015 188 (24 hours)
- » **Western Australia:** (08) 9325 1111 or 1800 007 339 (24 hours)
- » **Australian Capital Territory:** (02) 6280 0900 (24 hours)
- » **New South Wales:** 1800 656 463 (24 hours)
- » **Northern Territory:** 1800 019 116 (24 hours)
- » **Queensland:** 1800 811 811 (24 hours, local only)
- » **South Australia:** 1300 782 200 (Mon-Fri, 9:00 -4:00), (08) 8203 0424 (after hours/ weekends)
- » **Tasmania:** 1800 633 937 (Mon- Fri 9:00-midnight; Sat, Sun & Public Hol 4:00pm to midnight)

9.13 Clients with a history of trauma

Clinicians should be aware that clients utilising treatment services are more likely to be experiencing, or to have experienced trauma - most commonly physical and sexual assault (Roberts et al, 2015). This trauma is often unresolved or repressed and may 'surface' during withdrawal, thereby affecting the behaviours and emotions of some clients. Thus an advantage could be to utilise 'trauma-informed practice', a strengths-based framework grounded in empathetic understanding of, and responsiveness to, the impact of trauma on the physical, emotional and psychological experiences of clients (Roberts et al, 2015). While withdrawal settings are not typically the appropriate time or context to delve into or explore past trauma, clinicians should attempt to link clients with appropriate aftercare and resources, and where possible give clients opportunities to regain a sense of control and empowerment of their lives.

Useful Resources:

- » **The Blue Knot Foundation** is a telephone counselling service for adult survivors of childhood trauma, and their friends and family. Email: athelpline@blueknot.org.au. Or visit <https://www.blueknot.org.au/>
- » **ARC Victoria** (<https://www.arcvic.org.au/>) and **Phoenix Australia** <http://phoenixaustralia.org/recovery/find-help/> - Provides tips, counselling and support groups to help deal with anxiety and PTSD.

9.14 Families/significant others

An individual's AoD misuse is often impacted by and impacts on their family, significant others, and social circles. AoD use and specific AoD attitudes by parents and significant others is known to increase risk of developing a substance use disorder (Acheson, 2018). It is recommended that service providers encourage clients to cut-off or reduce contact with individuals who may hamper their treatment by triggering negative emotions, opposing withdrawal, or encouraging a return to AoD use. It is also important to remember that family members often have little-to-no understanding of AoD use, associated behaviours, or how to help their loved one deal with AoD issues. Educating family members is therefore a part of a service provider's role, particularly in deciding whether outpatient home-based withdrawal is a viable option. Service providers should consider recommending ongoing family therapy, available through 'family drug help' (Mackenzie et al, 2015).

It is important to remember that family members and significant others may be capable of giving a more accurate history regarding the clients pattern of use, and may have relevant inputs and concerns that may not have occurred to the client. A significant other should be involved in treatment planning in situations where the client is not able to make decisions about their own health care during treatment.

Family involvement

Family members and significant others may experience difficulties both before and during the primary client's withdrawal care. Such difficulties may include significant financial, emotional, legal, and economic stress and may involve child protection intervention. When the choice to enter withdrawal is made, many clients will continue to use substances and may increase use in the days or hours before admission. Family members will often experience marked distress stemming from the primary client's behaviour, and may or may not chose to become involved in the withdrawal process. If families do wish to become involved, they can be important beneficiaries of support from AoD withdrawal providers. The rationale for delivering services to families and significant others is strengthened by evidence that the inclusion of close, supportive family members and significant others in AoD care is known to have a positive impact on client treatment outcomes, particularly for young people (Lander, Howsare & Bryne, 2013; YSAS, 2016). Therefore, support for and from families will often increase the primary client's chances of recovery. Even so, service providers should always also consider whether the primary client keeping in contact with family is in the clients best interests (i.e., consider likelihood of family violence, relapse risks, etc) and vice versa.

If appropriate, AoD Services can encourage families to:

- » Support the client's choice to enter withdrawal and further treatment
- » Encouraging family members to check in on, motivate, and remind clients of their commitments, important dates, and appointments
- » Provide a supportive environment post-withdrawal (e.g., by removing alcohol from the home, abstaining themselves, and encouraging clients to attend support groups and therapy, and take prescribed medications)
- » Engage in training to better understand clients' unique triggers, reasons for AoD use, as well as appropriate ways to communicate post-withdrawal (in a non-judgement, empathetic way, e.g., with limited expressed emotion)

AoD services should ensure that:

- » Clients are consulted about the potential supportive role of family and significant others
- » An analysis of a client's home-life is undertaken before outpatient withdrawal is considered
- » Client confidentiality is upheld when engaging with family and significant others of clients, except where client consent to disclose particular information has been obtained
- » Families and significant others are valued for their expertise, with a focus on their strengths and resources and a no-blame approach
- » Indirect and/or direct services are offered to families and significant others, including information, advice and referral to AoD support groups, community-based advocacy and information services, and Government services
- » Staff are adequately trained to deliver family focused therapy

Useful Resources:

- » **Family Drug Help (VIC):** Family Drug Help is a program that provides practical help, information and support to families and friends impacted by someone's drug and alcohol use. <http://www.sharc.org.au/program/family-drug-help/> Contact: 1300 660 068
- » **Youth:** YoDDA Families <http://www.yodaa.org.au/>
- » Mackenzie, J., Best, d., Savic, M., Hunter, B. (2015). Evaluating the effectiveness of support programs for family members affected by a relatives substance use. Family Drug Health Evaluation. Turning Point.

10 ALCOHOL

The guidelines outlined below provide an approach to alcohol withdrawal care. Their use must be supported by a comprehensive clinical assessment.

Alcohol consumption is widespread in Australia and ingrained in many social and cultural activities. In 2016, three out of four Australians aged 14 and over reported consuming alcohol in the past year (AIHW, 2017b). It is estimated that approximately 26% of the national population are single-occasion risky-drinkers (consuming 5 or more standard drinks on a single drinking occasion on at least a monthly basis), that 15% consume more than 11 drinks on a single drinking occasion, and 6% are daily drinkers (AIHW, 2017b).

The findings of the most recent NDSHS (AIHW, 2017b) support the finding of earlier studies that suggest alcohol consumption is generally greater in men, older people, people from lower socio-economic status, residents of remote, rural, and disadvantaged areas, ATSI and LGBTIQ individuals.

In delivering alcohol withdrawal services to clients, clinicians should consider:

- » Setting
- » Withdrawal severity and potential complications
- » Planning for post-withdrawal
- » Special populations

Alcohol withdrawal settings

The most appropriate setting for an individual seeking alcohol withdrawal will be informed by a thorough clinical assessment.

Alcohol withdrawal can occur in each of the treatment settings outlined in this document, depending on a thorough analysis of the following factors:

- » Previous history of complex withdrawal (seizures, psychosis, delirium, hallucinations, and delirium)
- » Clarity regarding type and degree of AoD use
- » Withdrawal from multiple drugs

- » Home environment and support available
- » Comorbid medical and psychiatric conditions
- » Vital signs (BP, PR, temp, dehydration, level of consciousness, etc.)
- » Signs of liver disease or other medical complications associated with alcohol use

As outlined in Table 8, alcohol withdrawal can only be safely undertaken in the client's home or an outpatient setting if no complications are expected, the client is not experiencing severe medical and psychiatric comorbidity, and appropriate support is available. Patients with no/unsuitable outpatient support should be referred to a residential detox, unless there are severe medical (e.g., recent seizure or delirium) or psychiatric conditions that warrant hospital admission.

Table 8: Alcohol Withdrawal Settings, Considerations and Recommendations

Alcohol withdrawal setting	Considerations and Recommendations
Outpatient withdrawal	<p>Indicated for clients able to undertake alcohol withdrawal with low levels of supervision</p> <p>Usually involves a prescribing medical practitioner and AoD clinician making home visits or a client and support person presenting daily to a clinic.</p> <p>Detailed information, including medication effects, should be provided to the client and supporting individuals</p> <p>Risk factors associated with outpatient withdrawal settings should be clearly outlined and contingency planning put in place</p> <p>Unsuitable for clients where there is a history of previous complex withdrawal including seizures, confusion or delirium, or very high levels of alcohol intake prior to withdrawal.</p> <p>Clients should be reviewed regularly by a health professional (e.g., outreach nurse), initially daily, with frequency of reviews tapering after 4 days</p> <p>Contingency and step-up plans should be included in outpatient and home-based withdrawal plans</p>
Residential withdrawal	<p>Indicated for moderate-to-severe alcohol withdrawal syndrome where higher levels of supervision are required</p> <p>May have capacity to manage complex withdrawal where AoD support and step up care is available</p>
Hospital inpatient withdrawal	<p>Indicated where clients are at risk of a severe or complex alcohol withdrawal</p> <p>Often associated with unplanned alcohol withdrawal occurring in patients presenting to hospital emergency departments or acute psychiatric inpatient units for co-occurring health issues</p> <p>Staff in these settings should undertake screening and assessment for alcohol use disorders including dependence and plan treatment, including alcohol withdrawal management if required</p>

Other Settings

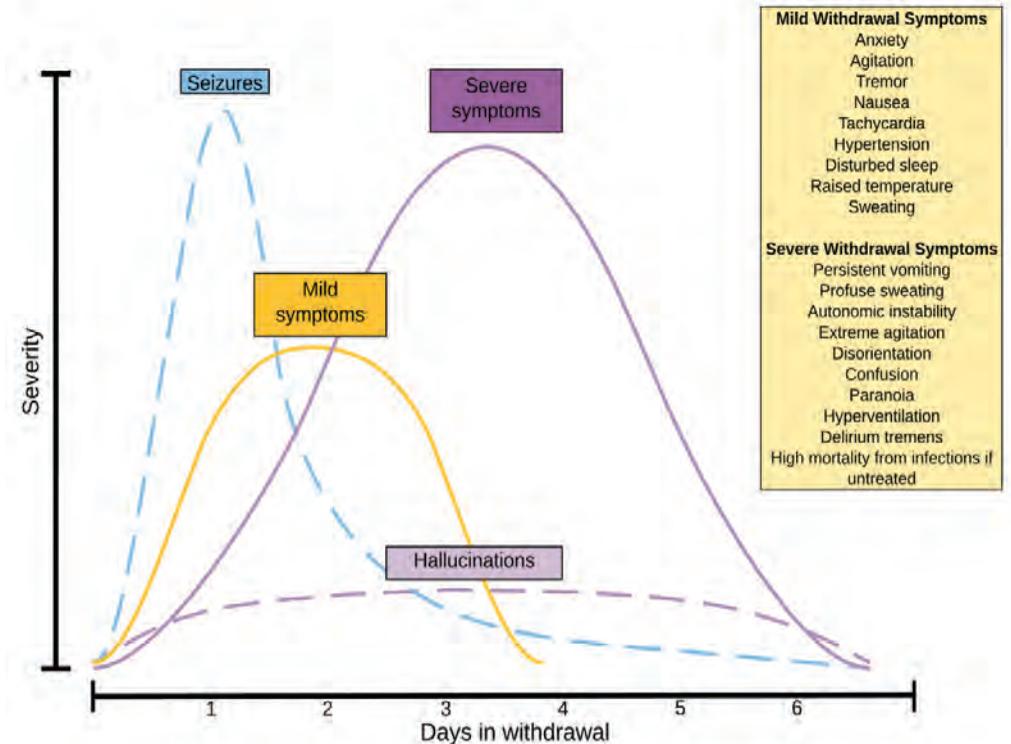
Unplanned alcohol withdrawal can take place in psychiatric facilities, as well as non-clinical settings such as prisons and police detention. In all of these settings, careful assessment and access to medical support is important. Regardless of setting, alcohol withdrawal management has the ability to step-up and step-down care based on client need. Management of alcohol withdrawal is subject to a range of setting-specific considerations outlined in Table 8.

Alcohol withdrawal syndrome

The potential severity of alcohol withdrawal syndrome falls on a continuum from mild to severe, with the onset of alcohol withdrawal usually occurring 6–24 hours after a client’s last alcoholic drink, or a severe reduction in consumption. Withdrawal symptoms tend to peak over 36-72 hours, and usually completely subside within 5-7 days (see Figure 7).

While the duration of alcohol withdrawal is generally 72 hours from last drink, poly-drug use, liver impairment, and other factors may significantly prolong symptoms or increase their severity. If complex withdrawal, symptoms are inappropriately managed, the chances of them becoming life threatening are dramatically increased. If a patient displays signs and symptoms of complex withdrawal clinical judgment should be utilised in seeking timely advice and support (i.e., from a DACAS consultant or an experienced AoD clinician) and if the symptoms worsen the patient should be transferred to the emergency department as soon as possible.

Figure 7: Stages of alcohol withdrawal and symptoms (Source: NSW Department of Health, 2008a)



Withdrawal complications

Withdrawal seizures

In general, withdrawal seizures occur in 2-5% of alcohol dependent individuals, approximately 6-48 hours after alcohol cessation. Early benzodiazepine treatment typically prevents the occurrence of a withdrawal seizure. With appropriate treatment the prevalence of seizures in residential withdrawal units should be less than 1% (Saunders et al, 2016). Withdrawal seizures usually consist of generalised convulsions alternating with muscular contractions (i.e., tonic-clonic seizures), rather than localised twitches, which may suggest the presence of another, unrelated disorder.

More than 90% of alcohol withdrawal seizures occur within 48 hours after the client stops drinking. The likelihood of experiencing a withdrawal seizure increases with the number of past withdrawals, a previous history of seizures, and the degree of physiological dependence. It is important to keep in mind the 'kindling' phenomenon, in which the likelihood of certain withdrawal symptoms and complications e.g. the risk of seizures increases with repeated withdrawal episodes. Service workers should therefore document and pay particular attention to documentation of past withdrawal symptoms and complications (Duka et al, 2004).

The use of benzodiazepines in alcohol withdrawal aims to reduce the likelihood of withdrawal seizures occurring as well as minimising the symptoms of alcohol withdrawal.

Alcohol Withdrawal Delirium (AWD)

AWD, formerly referred to as *delirium tremens* (DTs), is manifested by extreme hyperactivity of the automatic nervous system, disturbed cognition and attention, disorientation, anxiety, agitation, tremors, paranoia, hallucinations, and fluctuating blood pressure. Delirium occurs in between 3-5% of all persons experiencing withdrawal, and in some studies death occurs in up to 5% of patients who experience AWS (Schuckit, 2014). The onset is typically 1-5 days after onset of alcohol withdrawal and predictors include severity of physiological dependence, previous detoxifications, history of DTs, prior history of seizures, and duration of alcohol consumption.

Wernicke's Encephalopathy and Korsakoff's Syndrome

Both Wernicke's encephalopathy (WE) and Korsakoff's syndrome (KS) are serious conditions associated with alcohol dependence, caused by brain damage resulting from vitamin B1 (thiamine) deficiency (Gerritzen et al, 2018). WE is characterised by confusion, ataxia (unsteady or unstable gait), and nystagmus. KS is characterised by permanent and severe memory loss and confabulation. Wernicke-Korsakoff syndrome (WKS) occurs when acute WE is left untreated and KS develops. Only 20% of patients will recover from WKS, and 25% will not show any improvement in cognitive functioning, requiring long-term care.

Alcohol withdrawal assessment

Clinicians should be familiar with the general principles of assessment (refer to section 7).

A thorough assessment of alcohol-dependent clients is critical in determining the most appropriate withdrawal care. Assessment is, however, dependent on the capacity of clients to provide relevant information. Recent alcohol use, particularly acute intoxication, may limit capacity to share and absorb accurate assessment information and, in some cases, assessment may need to be undertaken over multiple sessions.

Medical conditions and alcohol withdrawal assessment

Alcohol withdrawal management often requires higher intensity of care in the setting of medical comorbidity. There is also an increased risk of post-operative morbidity and longer inpatient hospital stay for alcohol-dependent surgical patients (Foy, 1997). Where medical comorbidities are significant or unstable, withdrawal care planning may need to involve specialist AoD services.

Alcohol screening and assessment tools

Screening for alcohol use in generalist settings is ideally a part of routine practice that can alert clinicians to the presence of alcohol use disorders and in some cases inform planning of alcohol withdrawal care. A summary of available screening tools for alcohol use is outside the scope of these guidelines. One of the most widely used and clinically useful screening tools is the Alcohol Use Disorder Identification Tool (AUDIT; Babor, Higgins-Biddle, Saunders and Monteiro, 2001).

Alcohol withdrawal care planning

Information obtained during assessment informs the client's withdrawal care plan, which documents:

- » The likely severity of withdrawal based on the consumption calendar and CIWA-Ar (see Appendix 8)
- » Previous history of complex withdrawal
- » The client's motivation for withdrawal care, where this is a planned withdrawal presentation
- » The client's goals during withdrawal care
- » Potential barriers that may impact on achieving the client's withdrawal goals
- » Available support to enhance the likelihood of success
- » A post-withdrawal plan, including relapse prevention and linkages to external support networks to address the client's psychosocial needs
- » Inclusion of family and significant others, where appropriate

Alcohol withdrawal care

Psychosocial support in alcohol withdrawal

Psychosocial interventions complement the medical management of alcohol withdrawal symptoms and will be available at all alcohol withdrawal services.

The overarching principles of supportive care are fundamental to the provision of a holistic model of withdrawal care.

Psychosocial interventions should explore:

- » Client goals, including any change in these goals over time
- » Perceived barriers to achieving an individual's goals of withdrawal care
- » An individual's beliefs about withdrawal care
- » Appropriate interventions and support services

Alcohol Withdrawal Assessment Tools

Several tools may be used to score symptom severity in acute alcohol withdrawal, the most widely used being the 10-item CIWA-Ar (Appendix 8). The CIWA-Ar provides a reliable and consistent clinician generated score that helps rate severity of alcohol withdrawal and guide medication dosing, particularly benzodiazepine dose.

This CIWA-Ar is less reliable in the presence of significant medical or psychiatric comorbidities and is not recommended for severe or complex withdrawal. For these reasons, the utility of the CIWA-Ar in hospital settings is unclear, particularly where there are no affiliated AoD services or staff training and support is inadequate.

Use of withdrawal scales such as the CIWA-Ar require staff training before use. Experienced clinicians might consider utilising symptom triggered dosing schedules based on scales such as the CIWA-Ar, which may reduce the risk of progression to serious complications of withdrawal, such as seizures (Mayo-Smith, 1997).

Instructions for use of the CIWA-Ar is included in Appendix 8.

Symptomatic care for alcohol withdrawal

A range of symptomatic medications may be used in the management of alcohol withdrawal.

In most countries, including Australia, acute alcohol withdrawal is primarily managed with benzodiazepines. Additional medication may be used for management of symptoms, as described in section 5.

- » While there is some evidence supporting the use of non-benzodiazepine based regimens, anticonvulsants, antipsychotics and antidepressants are NOT recommended as the primary agent or first line therapy of withdrawal symptoms.

Benzodiazepines in the management of alcohol withdrawal

Medical management of acute alcohol withdrawal includes the management of withdrawal symptoms such as tremor, nausea, headaches, sweats, and anxiety with titrated doses of benzodiazepines. Benzodiazepines not only help to lessen withdrawal symptoms, but also prevent seizure and progression to delirium.

Long-acting benzodiazepines such as diazepam (Valium®) are preferred for the management of all forms of alcohol withdrawal-related symptoms, provided that liver

function is normal (Hoffman & Weinhouse, 2017). For older clients and those with compromised liver functioning, short-acting benzodiazepines such as oxazepam and lorazepam are preferred to prevent the accumulation of active metabolites. Different dosing regimens, such as symptom-triggered, loading dose, and fixed-dose regimens, can be used for managing withdrawal symptoms (see table 9).

Service providers should keep in mind that treatment of withdrawal with benzodiazepines carries risks of increasing toxicity, particularly where a client is administered a dose while intoxicated. If a client is intoxicated, from alcohol or any other drugs, benzodiazepine dosages should be reduced or ceased.

Benzodiazepines should not be administered until a diagnosis of alcohol withdrawal is confirmed, BAC is falling (ideally less than 0.1 g/100ml), comorbidities are assessed, and a review of concurrent medications has been undertaken as combining other CNS depressants (i.e., opioids with benzodiazepines) will significantly increase risk of respiratory depression.

Table 9: Medication regimens for the use of benzodiazepines in alcohol withdrawal

Type of dosing regimen	Client group	Dosing regimen
Fixed schedule	Appropriate for clients at risk of complex withdrawal who are not in a hospital or other supervised environments (e.g., outpatient withdrawal)	Specified doses at fixed intervals, tapered over a set number of days
Symptom-triggered dosing	Appropriate for alcohol withdrawal clients in a medically supervised setting (inpatient withdrawal)	Doses administered according to individually-experienced symptoms of alcohol withdrawal
Loading dose	Appropriate for alcohol withdrawal clients at high risk of complex withdrawal who are in an inpatient environment	Large doses until alcohol withdrawal subsides or light sedation is reached

Source: NSW Department of Health (2008a); Saunders et al, (2002); Shand, et al, (2003)

Inpatient and residential withdrawal settings are usually the best setting for administration of diazepam based on the results of the CIWA-Ar or similar withdrawal scales conducted every 1-4 hours. Dosing regimens may vary from setting to setting, depending on level of support available, the duration of admission, and clinical preference. Doses may be altered and alternative agents considered where there are significant comorbid medical or other disorders. Treatment duration of acute alcohol withdrawal with benzodiazepines depends on clinical progress, but is normally completed within 5-7 days.

A standard benzodiazepine dosing schedule example is provided in Table 10 below.

Table 10: Examples of benzodiazepine dosing regimen

Level of Dependence/ Setting of Withdrawal	Example of Diazepam Dosing
Mild dependence in outpatient withdrawal setting	Day 1: 5-10mg QID Day 2: 5-10mg QID Day 3: 5-10mg TDS Day 4: 10mg BD Day 5: 5mg BD
Moderate severity dependence in inpatient setting	5–20mg 2–4 hourly as needed if CIWA-Ar score > 10 for 3–4 days
High level of dependency and/ or risk of complex withdrawal in inpatient setting	Loading doses of 10–20mg every 2–4 hours until light sedation achieved followed by CIWA-Ar triggered or fixed dose therapy for 3–4 days

Dehydration is common among alcohol withdrawal clients. Continued fluid consumption and clinical monitoring is advised. In severe cases, intravenous fluid replacement may be required.

Continued monitoring and medical review of medications is recommended throughout the course of withdrawal.

Thiamine and Other Supplementation

Multivitamins, zinc, and magnesium (to reduce muscle rigidity/cramping) supplementation may be prescribed to clients displaying or who are suspected of having nutritional deficiencies. Vitamins B1, B2, B6, C and nicotinamide for the initial 5-6 days is recommended.

Deficiency of thiamine (vitamin B1) is common in chronic alcohol use and is associated with a range of neurological problems. All alcohol dependent individuals presenting for treatment should initially receive at least 300mg daily of oral or parenteral thiamine, which can be guided by the example regimens in Table 11 below.

Clients with suspected WE or WKS should be referred to a hospital emergency department for treatment with intravenous thiamine.

Table 11: Example of thiamine dosing for alcohol-dependent clients

Alcohol Withdrawal Presentation	Thiamine Dose
Non-nutritionally deficient alcohol dependent patient with no clinical signs of WKS	200-300mg IM in divided doses daily for 3 days 100mg orally or IM daily after day 5
Alcohol dependent patient with risk factors for thiamine deficiency	300mg IV or IM for 3–5 days 300mg orally daily thereafter
Suspected WKS	At least 500mg (up to 900mg) daily IV or IM for 3–5 days or until symptoms subside 300mg orally thereafter

Note: Initial doses of thiamine should be given prior to carbohydrate load (e.g. dextrose infusions)

Pharmacotherapies for alcohol use disorders

Alcohol pharmacotherapies for long-term treatment of alcohol dependence are best used as part of a comprehensive management plan with appropriate psychosocial supports, and may be commenced early in withdrawal treatment. Pharmacotherapy need not be immediately discontinued in the event of relapse to alcohol use. However, resumption of daily drinking should prompt review of the individual's withdrawal care plan including anti-alcohol pharmacotherapy.

Medications approved for the treatment of alcohol use disorders and listed on the Pharmaceutical Benefits Scheme (PBS) are acamprosate (e.g., Campral®) and naltrexone (e.g., Revia®). These agents may be commenced in both inpatient and outpatient settings and are prescribed to prevent relapse in alcohol dependence.

There is no consistent evidence that supports the effectiveness of one of these agents over another. Choice of medication(s) should be dependent upon drug interactions, treatment setting, client experience, likely adherence to dosing, and potential adverse effects and medical co-morbidities.

There is limited evidence that indicates combination therapy with acamprosate and naltrexone is more effective than monotherapy with either agent. There may be some benefit of multiple pharmacotherapy, including combination naltrexone and acamprosate, when medications are initiated to address specific symptoms (Naglich, 2017).

Other non-PBS pharmacotherapies for alcohol use disorders are detailed below.

The following is a summary of the principles behind these therapies. Prescribers should refer to the detailed Australian product information found in MIMS (The Monthly Index of Medical Specialities) or similar pharmaceutical guidelines prior to prescribing these therapies.

Acamprosate

Acamprosate acts on the brain's glutamatergic pathways. Randomised placebo-controlled trials show the benefit of acamprosate in reducing craving for alcohol, reducing relapse to drinking, and percentage of alcohol-free days. A recent review of its use concluded that it is an effective adjunct to psychosocial interventions providing modest but potentially valuable improvements in alcohol consumption outcomes, and is generally well-tolerated (Plosker, 2015). One advantage of acamprosate is that it can be taken by clients who are still intoxicated.

Dosing and commencement of therapy

Guidelines recommend acamprosate is started 5–7 days after the patient's last drink, but it can be safely started during withdrawal and when clients are still intoxicated. As acamprosate does not reduce acute alcohol withdrawal severity it should not be used as a treatment for withdrawal per se or in isolation. A usual dose of two 333mg tablets, 3 times daily can be prescribed to people over 60kg. Acamprosate is best taken during meals, to increase treatment adherence.

Continued therapy is recommended post-withdrawal, but is dependent on individual response to acamprosate and treatment goals.

Adverse effects and contraindications

Acamprosate is generally well tolerated, but most adverse effects are mild and transient and rarely necessitate cessation of treatment. The most common adverse effect is diarrhoea, nausea, and skin-rashes.

Interactions

While acamprosate does not have any significant interactions, it is a calcium-based compound and a theoretical interaction may occur with drugs such as tetracyclines. There is no interaction between acamprosate and alcohol. It is safe in those with liver problems. Note that the safety of acamprosate use during pregnancy has not been established.

Naltrexone

Naltrexone is an opioid receptor antagonist that exerts its effect through interruption of reward pathways. Randomised placebo-controlled trials show that naltrexone increases the duration of abstinence and reduces the amount of alcohol consumed in relapse (Donoghue et al, 2015).

Dosing and commencement of therapy

Naltrexone therapy may be commenced early in alcohol withdrawal. Duration of naltrexone therapy depends on the response to treatment and individual patient goals. The usual dose of naltrexone is 50mg (1 tablet) daily, starting 4–7 days after last drink, often starting on a half tablet (25mg) daily for the first 3–5 days to minimise adverse effects. Naltrexone can also be safely taken by those who are intoxicated.

Adverse effects and contraindications

Naltrexone is generally well tolerated and adverse effects generally resolve within a few days of commencement of treatment. These effects may include dizziness, fatigue, headache, and nausea.

Naltrexone is contraindicated in acute hepatitis or liver failure and should not be taken by pregnant or breastfeeding women. Patients on substitution therapy should not be treated with naltrexone (see interactions below). Liver function monitoring is usually recommended in long-term naltrexone treatment.

Interactions

As a potent opioid mu receptor antagonist, naltrexone should not be given to patients on substitution therapy. Opioids should be ceased for at least seven days before commencing naltrexone.

There are no specific interactions between naltrexone and other commonly used non-opioid medications, including anti-depressants or anti-anxiety agents.

Disulfiram

Disulfiram (Antabuse®) acts by inhibiting aldehyde dehydrogenase. It is a deterrent drug that does not directly influence alcohol craving or reduce withdrawal symptoms. Drinking alcohol within two weeks of taking disulfiram results in the accumulation of acetaldehyde in the blood. This causes unpleasant effects such as sweating, headache, dyspnoea, flushing, sympathetic overactivity, palpitations, nausea, and vomiting. Patients should be educated about avoiding unintended sources of alcohol post-withdrawal. Disulfiram has a role in withdrawal treatment of some clients, given that post-withdrawal many will avoid alcohol in order to avoid these unpleasant effects. However, the effectiveness of disulfiram is limited by several factors, including the cost of treatment in Australia and the extensive planning required for disulfiram therapy including the need for supervised dosing. Disulfiram's effectiveness is usually contingent on compliance with self-administration of the drug, which is low. Due to difficulties with compliance and toxicity, disulfiram is no longer considered a first-line treatment (Crowley, 2015). However when used, disulfiram is usually started 3-7 days post detoxification, at 100mg daily and, if well tolerated, can be increased to a maximum of 300mg.

Baclofen

Baclofen is an anti-spasticity GABA receptor agonist drug which has shown potential effectiveness as both an agent for managing acute alcohol withdrawal, and as a maintenance treatment. Baclofen has been found to have benefited in reducing craving, managing withdrawal-related anxiety, and increasing abstinence rates post-withdrawal. A Cochrane review found that treatment with baclofen is easy to manage, that it rarely produces euphoria and that few side effects or drug interactions are reported (Liu & Wang, 2017). In randomised controlled trials, Baclofen has been found to be as effective as diazepam, and effective in conjunction with benzodiazepines at reducing alcohol withdrawal as assessed on the CIWA-Ar (Addolorato et al, 2006; Liu & Wang, 2017). Although there are a number of trials currently underway to evaluate the safety and efficacy of baclofen for alcohol withdrawal, the most up to date review concluded that no conclusions can be drawn about the efficacy and safety of baclofen for the management of alcohol withdrawal because of insufficient and very low-quality evidence (Liu & Wang, 2017).

Baclofen for maintenance treatment is best suited to drinkers seeking to maintain abstinence but is not approved for this indication in Australia. There is evidence that baclofen is better tolerated than naltrexone when used for maintenance treatment of alcohol dependence in individuals with liver impairment (Addolorato et al, 2007). Baclofen requires careful dose titration over weeks, beginning with 5 mg three times a day, however the optimum dose is yet to be established. Doses above 60mg should be overseen by an addiction medical specialist.

Adverse effects and contraindications

Baclofen should be used with caution in clients with renal impairment. It is highly toxic in overdose and as such is unsuitable for people with a history of past-suicide attempts or those unable to take medication as prescribed (e.g., psychosis or severe cognitive impairment). Adverse effects include sedation and impairment of ability to drive or use machinery, which are amplified with alcohol use. Nausea, visual disturbance, and urinary symptoms can occur and sudden cessation of baclofen can cause seizures or confusion.

Topiramate

Studies of topiramate have demonstrated promising therapeutic effects for the treatment of alcohol use disorder (Crowley, 2015). Topiramate is an antiepileptic medication with neuroprotective properties that may attenuate alcohol's rewarding effects, by reducing and normalising dopamine activity and reducing both craving and withdrawal symptoms. Due to its mood stabilising properties it may be suited to individuals with co-occurring disorders. Dosing for long-term treatment of alcohol use disorder requires slow titration from 25 mg daily to a maximum of 150 mg twice daily, and can commence before the cessation of alcohol. Currently, topiramate is not licensed for use in Australia for alcohol withdrawal or dependence.

Adverse effects and contraindications

Topiramate should be used with caution with patients who have hepatic impairment. Adverse effects are generally mild to moderate, but include dizziness, psychomotor slowing, memory, or concentration impairment and weight loss (Johnson & Ait-Daoud, 2010).

Other drugs

A range of other drugs have been used to treat alcohol withdrawal and dependence, including some new generation anti-epileptic agents. While some of these non-PBS medications show promise, they should not be used as first line treatments or without input from an AoD specialist.

Post withdrawal planning

Withdrawal treatment is never a standalone solution and post-withdrawal support is an essential component of the treatment continuum for alcohol-dependent clients.

Planning for post-withdrawal may include consideration of pharmacotherapies (such as acamprosate or naltrexone) and relapse prevention strategies that assist individuals in maintaining abstinence or a more controlled pattern of drinking.

Planning for post-withdrawal will:

- » Commence at the assessment phase of withdrawal care
- » Support the client's individual 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 post-withdrawal care, as appropriate, to help implement the client's post-withdrawal plan

Special populations

Withdrawal during pregnancy

Alcohol is a teratogen, and there is no safe level of alcohol consumption during pregnancy. Pregnant women dependent on alcohol or other drugs who agree to undergo detoxification should undergo withdrawal from substance use in a residential facility. Equal attention should be paid to the health and needs of the mother and foetus during detoxification and treatment adjusted accordingly. The use of benzodiazepines in pregnant women for alcohol withdrawal can be complex, and specialist advice is recommended.

Foetal withdrawal

A foetus that is exposed to regular maternal alcohol consumption while in the womb should be closely monitored for withdrawal symptoms at birth, as well as potential physical/neurological abnormalities (i.e., FAS). Specialist advice and care (e.g., from obstetricians) should be sought.

Clients with co-occurring disorders

Clients for whom a psychiatric condition emerges during alcohol withdrawal should receive care that addresses their specific needs.

Specifically, they should be:

- » Linked with appropriate mental health services
- » Encouraged to continue to seek mental health support beyond withdrawal care
- » Monitored for symptoms, such as agitation during withdrawal, and managed appropriately

Further details can be found in section 9.2.

Families/significant others

Consideration should be given to the needs of family and significant others in contact with an alcohol-dependent person during outpatient withdrawal or reduction.

Where appropriate, information should be provided to family and significant others regarding the alcohol withdrawal process and support services such as DirectLine and/or Family Drug Help.

Young people

Young people presenting to AoD services will be linked with youth-specific services, where available.

As outlined above (section 9.3), young people may present with varying psychosocial factors contributing to their drug use which impact upon their long-term plan for recovery. It is important to be mindful of the potential differences when commencing withdrawal care. Ongoing contact and adjunct support from youth-specific workers throughout withdrawal care can promote more positive experiences for the young person.

For further detailed information related to the withdrawal care of young alcohol users, please refer to the YSAS Clinical Practice Guidelines (YSAS, 2016).

Useful Resources:

- » Haber et al (2009) Guidelines for the treatment of Alcohol problems [https://www.health.gov.au/internet/main/publishing.nsf/Content/0FD6C7C289CD31C9CA257BF0001F96BD/\\$File/AustAlctreatguidelines%202009.pdf](https://www.health.gov.au/internet/main/publishing.nsf/Content/0FD6C7C289CD31C9CA257BF0001F96BD/$File/AustAlctreatguidelines%202009.pdf)
- » **DACAS (Drug and Alcohol Clinical Advisory Service):** 1800 812 804
- » DACAS GP Fact Sheets
http://dacas.org.au/Clinical_Resources/For_GPs.aspx
 - Management of alcohol use disorders: withdrawal care
 - Acamprosate in alcohol dependence
 - Naltrexone in alcohol dependence
- » **Turning Point Statewide Specialist Services (Vic):** Provide AoD and psychiatry specialist assessment, opinion and management. GPs can refer to this service using the referral form at www.turningpoint.org.au
- » **Ready2Change (Vic):** 6 week telephone-based counselling program, clients can self-refer via Directline (Vic) 1800 888 236

11 NICOTINE

These Guidelines provide a comprehensive approach to withdrawal care. The use of prescribing guidelines outlined below must be supported by a comprehensive clinical assessment.

The 2016 NDSHS (AIHW, 2017b) showed that, despite a downward trend in smoking rates over the past 20 years, 14.9% reported smoking in the past year and daily smoking declined (from 12.8% to 12.2%) and only a modest reduction in the mean number of cigarettes smoked per week (from 96 to 94) among those who smoke.

Research suggests that up to 95% of individuals in AoD treatment in Australia smoke tobacco, approximately 5 times higher than the general population (Baker et al, 2006). Higher rates of cigarette consumption and levels of dependence are also reported among this population (Kelly et al, 2012; Prochaska, 2010, NHS 2016). Among closed treatment episodes in 2015-2016 where more than one drug of concern was reported, nicotine was the most commonly reported substance (18%; AIHW, 2017b). Tobacco-related causes of death account for greater mortality than alcohol in people with AoD problems and use of tobacco is more likely to contribute to mortality than an individual's primary drug of concern (Hays et al, 1999; Randall et al, 2011).

The adverse health effects and pharmacokinetic properties of nicotine are well established. Smoking is the primary contributor to the preventable burden of disease in Australia (AIHW, 2017b). The most common health problems associated with nicotine include acute effects on the central nervous system, gastrointestinal, and musculoskeletal system, as well as longer-term effects on the cardiovascular and respiratory systems. It has been estimated that people with mental health and substance dependence die 25 years earlier than those without these disorders (Colton & Manderscheid, 2016).

Recent research has shown that approximately 66% of smokers in Australian AoD treatment are interested in quitting (Kelly et al, 2012), but that quit attempts are less successful than in among non-AoD smokers (Ritcher & Arnsten, 2006). It has been demonstrated that smoking cessation during AoD treatment does not compromise the attainment of the goals of AoD treatment (Prochaska, Delucchi & Hall, 2004). AoD treatment may be an opportune time to engage clients in tobacco harm reduction.

In delivering nicotine withdrawal services to clients, clinicians should consider:

- » Setting
- » Withdrawal syndrome and potential complications
- » Assessment
- » Withdrawal care planning
- » Withdrawal care
- » Planning for post-withdrawal
- » Special populations

Nicotine withdrawal settings

Nicotine dependence is usually addressed in conjunction with treatment for other drugs, in both residential and outpatient withdrawal settings. Many residential withdrawal units are now smoke-free. Given the high comorbidity rates between nicotine dependence and other substance use disorders, concurrent withdrawal creates an opportunity for clients to address their nicotine dependence. Even so, if necessary, a client may choose to withdraw from just nicotine alone in both residential and outpatient settings.

Nicotine withdrawal syndrome

According to the DSM-5, the diagnostic criteria for nicotine withdrawal is characterised either by the following criteria:

- 1) Daily tobacco use lasting several weeks;
- 2) Sudden cessation or reduced tobacco use leading to four (or more) of the following symptoms within a 24-hour period:
 - Irritability, frustration, or anger
 - Anxiety
 - Difficulty concentrating
 - Restlessness
 - Increased appetite

- Depressed mood
 - Insomnia
- 3) The signs or symptoms in criterion b cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
 - 4) The signs or symptoms are not attributable to another medical condition and are not better explained by another mental disorder, including intoxication or withdrawal from another substance.

Clinicians should be familiar with the general principles of assessment (refer to section 7).

A thorough assessment of nicotine-dependent clients is critical in determining the most appropriate level of withdrawal care. Recent concurrent AoD use may limit a client's capacity to provide accurate information (refer to section 7.2).

When forming a withdrawal plan, it is particularly important that, at the assessment stage, a client is informed of the availability of nicotine withdrawal and that many residential withdrawal units are smoke-free. While some facilities may provide nicotine replacement therapy (NRT), others will require clients to purchase and bring in their own supply prior to admission. The 2-item, Heaviness of Smoking Index (items 1 and 4 of the Fagerström nicotine dependence scale, see Appendix 13) is an easy to use tool for determining nicotine dependence (Heatherton, 1989).

The two-item heavy smoking index test for nicotine dependence and cut-off scores

1. How soon after you wake up do you smoke your first cigarette?	2. How many cigarettes a day do you smoke?
Within 5 minutes (3)	31 or more (3)
6-30 minutes (2)	21-30 (2)
31-60 minutes (1)	11-20 (1)
After 60 minutes (0)	10 or less (0)

Total score from the 2 items and apply the following cut-offs: 5-6 = High dependence, 2-4 = moderate dependence, 1 = low dependence, 0 = not dependent

Nicotine withdrawal care planning

Information obtained during assessment will inform the withdrawal care plan.

The withdrawal care plan documents:

- » Likely severity of withdrawal based on the degree of nicotine dependence determined by the Fagerström nicotine dependence scale (see Appendix 13)
- » The client's motivation to quit
- » 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
- » A post-withdrawal plan, including relapse prevention and linkages to external support networks to address the client's psychosocial needs
- » Inclusion of family and significant others where appropriate

Nicotine withdrawal care

Nicotine is known to interact with and affect the action and metabolism of some medication and drugs. Changes in metabolism, particularly related to the use of antipsychotic drugs such as clozapine and olanzapine, may occur upon cessation of smoking or NRT (Lucas & Martin, 2013; Harris, Zopey, & Friedman, 2016).

Clients withdrawing from nicotine should be informed of the body's ability to more readily metabolise and absorb caffeine (i.e., coffee, chocolate, tea, and soft drinks). An increase in caffeine levels may lead to increased restlessness and sleep disturbances. Clinicians should also monitor clients for signs of depression and anxiety. This is particularly relevant to clients with previous or concurrent mental health concerns (Lucas & Martin, 2013; Roberts, Evins, McNeill, & Robson, 2016).

Pharmacotherapy options for nicotine withdrawal include nicotine replacement therapy (NRT), varenicline, and bupropion sustained-release. Each of these pharmacotherapies is outlined below. Best practice is NRT plus psychosocial support (e.g. Quitlines which can be accessed at www.quit.org.au/).

Nicotine replacement therapy (NRT)

NRT delivers a dose of nicotine, without exposure to the other harmful constituents of tobacco smoke. Where required, NRT can be used to minimise the symptoms of nicotine withdrawal, thereby increasing the likelihood of successful intervention. The best evidence is for a combination of NRT agents in conjunction with counselling (e.g., Quitline).

There are six main types of NRT and these are outlined in Table 12. In general, NRT is not administered to those who smoke less than 10 cigarettes a day (unless the client weighs less than 45 kg). Current best practice is for 'dual NRT' which involves combining sustained release NRT (i.e., patches) with NRT products that provide immediate effects (e.g., inhalers or gum).

Nicotine replacement therapy should not be commenced without a clinical assessment, including exploration of the following:

- » Patient preference
- » Previous withdrawal symptoms
- » Consideration of NRT contraindications
- » Consideration of potential adverse side effects

NRT dosing guidelines are outlined in Table 12.

Clinicians managing clients on NRT should:

- » Regularly review the client's withdrawal to tailor the NRT dose
- » Emphasise the need for complete abstinence from nicotine
- » Address cravings, triggers, and stress through psychosocial interventions

Table 12: Approved NRT products

NRT product	Recommended Dose
Patch 24 hour: 21mg, 14mg, 7mg 16 hour: 25mg, 15mg, 10mg	Begin with full strength if smoking more than 10 cigarettes/day
Mouth Spray 1mg per spray	1-2 sprays every 30-60 mins, max 4 sprays/hour or 64 sprays per day
Oral strips 2.5mg	One strip every 1-2 hours, up to 15 per day
Lozenges 2mg, 4mg	2mg and 4mg: 9-15/day, (4mg if TTFC < 30 mins)
Mini lozengers 1.5mg, 4mg	1.5mg: 9-20/day 4mg: 9-15/day (use 4mg if TTFC < 30 mins)
Gum 2mg, 4mg	2mg: 8-20/day or 4mg 4-10/day (use 4mg if TTFC < 30 mins)
Inhalator 15mg per cartridge	3-6 cartridges/day

Source: Mendelsohn, Kirby & Castle, 2015

*TTFC – Time to first cigarette.

Contraindications

NRT is not recommended as first line treatment for clients who:

- » Have significant active cardiac or vascular disease
- » Reported nicotine sensitivities or allergies

» Special considerations may apply to use of NRT in clients who

- Are pregnant or likely to become pregnant
- Are currently breastfeeding

NRT can usually still be used in these groups under close monitoring and with informed consent, but only if the benefits of nicotine abstinence outweigh potential adverse effects.

Bupropion

Bupropion (Zyban®) is a selective reuptake inhibitor of dopamine and noradrenaline that has traditionally been used as an antidepressant, but has shown effectiveness in reducing craving and symptoms of nicotine withdrawal. It has comparable efficacy with NRT mono-therapy (Hughes et al, 2014). It is best offered when NRT or other medications cannot be prescribed or have been ineffective, although it can also be given in conjunction with NRT (Aubin et al, 2014; Douaihy et al, 2013; Kranzler et al, 2014; Stapleton et al, 2013).

Bupropion is not recommended for clients with a history of:

- » Seizures (withdrawal seizures, epilepsy, or any injuries, disorders, or medications that increase the risk of seizures, e.g., head trauma or central neurological disorders)
- » Bipolar disorder (mood disorders)
- » Eating disorders (bulimia and anorexia)

Note: those with renal or hepatic disease should be given a reduced dose.

It should also be avoided by those who are:

- » Pregnant
- » Breast feeding (Bupropion is excreted in breast milk)
- » Have been prescribed SSRIs or St John's Wort (refer to Appendix 2)
- » Co-administration of monoamine oxidase inhibitors (MAOIs) and bupropion is contraindicated due to the occurrence of hypertensive adverse effects (Coller, Barratt & Somogyi, 2016).

Table 13: Dosing schedule of bupropion (Zyban® (SR))

Dose And Duration	Side Effects	Comments
150mg for 3 days, then 150mg twice daily (one in the morning and once in the evening), for 7-12 weeks	Headaches Dry mouth Impaired sleep (insomnia, nightmares) Seizures Nausea / Dizziness Constipation Anxiety Dizziness	Begin dosing 7 days before quit day, a course of treatment is usually 9 weeks There should be an interval of at least 8 hours between doses

Source: NPS Australian Prescriber

Note: Dose reduction should be considered if co-administered with tricyclic antidepressants, mirtazapine, or antipsychotics, as bupropion can increase the plasma levels of these drugs. Co-administration with other medications that raise serotonin levels (e.g., antidepressants) can increase the risk of serotonin syndrome.

Insomnia, headache, dry mouth, nausea, dizziness, and anxiety are the most commonly reported adverse effects associated with bupropion (McDonough, 2015; Greenhalgh, Stillman, & Ford, 2016).

Varenicline (Champix®)

Varenicline is the most effective pharmacological treatment for smoking cessation, with studies suggesting that it improves the smoking cessation rate up to 3 times in comparison with placebo (Cahill, Stead & Lancaster, 2012).

Varenicline is derived from cystine and is a partial nicotinic acetylcholine receptor agonist. It is approved in Australia as a short-term adjunct pharmacotherapy for nicotine dependence, and works to reduce withdrawal symptoms, particularly negative affect, craving, and reactivity to smoking cues.

Varenicline can be safely prescribed in conjunction with most other pharmacotherapies. While there were initial reports of mental health symptoms related to varenicline,

subsequent studies have found that there is no causal link between the use of varenicline and psychological distress (Anthenelli et al, 2013; Sharma et al, 2017). However, closer monitoring of mental state during commencement and maintenance treatment with varenicline is recommended in individuals with a history of serious mental illness.

It is recommended that clients set a nicotine quit date of 1-2 weeks after commencing varenicline, with a course of treatment usually lasting for 12 weeks.

Varenicline is not suitable for:

- » Pregnant women
- » Those under 18 years
- » Those with a history of seizures

Varenicline is principally eliminated by the kidney so reduced doses (0.5mg once daily) are recommended for patients with renal impairment. There is no evidence of adverse interactions in those diagnosed with mental illness (Thomas et al, 2015; Anthenelli et al, 2016).

Adverse effects of varenicline include abnormal dreams, insomnia, headache, stomach upset, and nausea. Nausea can be reduced if taken with food and water.

Electronic nicotine devices

Electronic nicotine devices (END) are a family of devices that heat a liquid (usually comprised of flavouring, propylene glycol, vegetable glycerine, and liquid nicotine) into an aerosol 'vapour' for inhalation, a process known as 'vaping'. Unlike cigarettes, ENDs deliver nicotine in an inhalable form without burning tobacco and exposing users to the levels of toxic and carcinogenic products contained in combusted tobacco products. Some studies have found that switching to ENDs reduces smokers' nicotine consumption when compared with placebo ENDs and nicotine patches (McRobbie et al 2012; Hajek et al, 2014). As with NRT, ENDs have been shown to reduce craving and withdrawal symptoms and are additionally thought to replace the behavioural 'hand to mouth' inhaling and exhaling aspects of cigarette smoking (Rooke et al, 2016). Most of the support for ENDs is based around their role as a harm reduction approach in people who smoke cigarettes, given they are likely to be substantially less damaging than tobacco based cigarettes (McNeil et al, 2015). A recent Cochrane review concluded that ENDs are at least as effective

as NRT (Hartmann-Boyce et al, 2016), and current trials are underway assessing their feasibility, safety and efficacy in people with substance use disorders. Whilst ENDS help smokers quit in the short term, long term effects and safety of END use is unknown.

Psychosocial support in nicotine withdrawal

Psychosocial interventions complement the medical management of nicotine withdrawal symptoms and will be available at all withdrawal services.

The overarching principles of supportive care are fundamental to the provision of a holistic model of withdrawal care. Psychosocial interventions should explore:

- » Client goals, including any changes in these goals over time
- » Perceived barriers to achieving an individual's goals of withdrawal care
- » Clients' beliefs about withdrawal care
- » Appropriate interventions and support services

Complementary therapies in nicotine withdrawal

Adjunct therapies such as hypnotherapy acupuncture and herbal remedies are available within some withdrawal settings. Where available, these options can be explored with clients. Scientific evidence for the benefit of these therapies is extremely limited (Hasan et al, 2014; Jang et al, 2017).

Planning for post-withdrawal

Post-withdrawal support is an essential component of the treatment continuum for nicotine-dependent clients.

Planning for post-withdrawal should:

- » Commence at the assessment phase of withdrawal care
- » Support the client's goals regarding accommodation, child protection, domestic violence, and legal support, and involve family and significant others if appropriate
- » Support client access to post-withdrawal services that provide ongoing support and advocacy

Special populations

Pregnant women

Pregnancy is a time when women are the most motivated to stop smoking, with a 3.8-fold increase in smoking cessation rate compared to non-pregnant women (RANZCOG, 2014). Smoking is associated with a range of adverse maternal and foetal consequences (RANZCOG, 2014).

Neither varenicline nor bupropion have been shown to be safe or effective in pregnant or breastfeeding women, and are therefore not recommended (RANZCOG, 2014). Nicotine replacement therapy (NRT) and non-pharmacological methods of addressing smoking (e.g., counselling) are the mainstay of treatment in this population.

NRT is recommended for pregnant women who are unable to quit smoking unassisted. NRT is safer than smoking, and clinicians should offer this to all pregnant women who smoke (see Figure 8 for a recommended approach). If NRT is used in pregnancy, attention should be paid to ensure that adequate doses are used, as there is increased metabolism of nicotine in pregnancy.

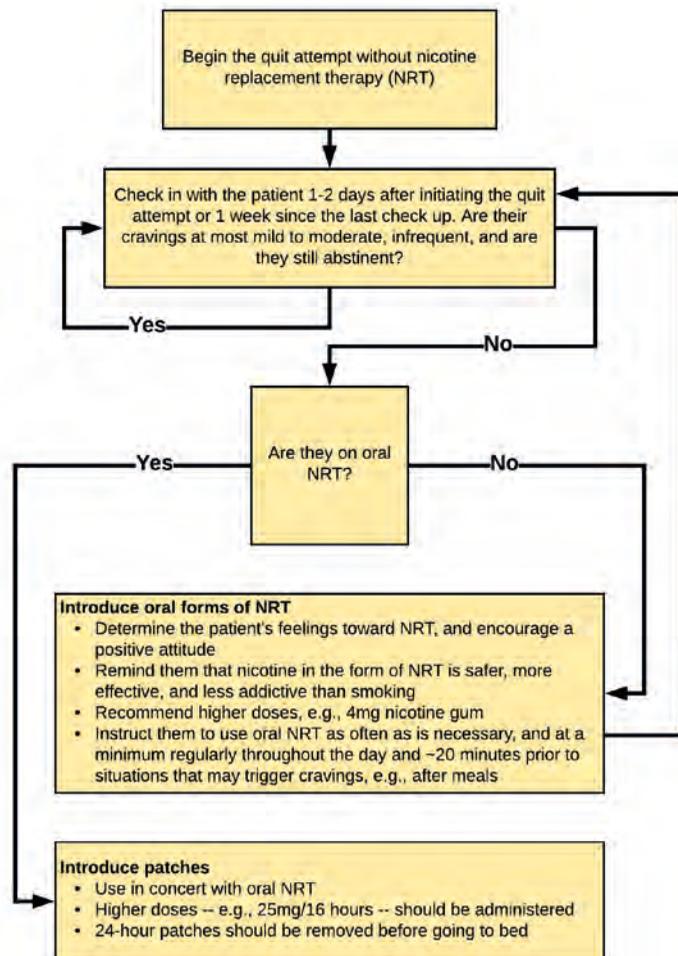
Although nicotine has been demonstrated to be harmful to animal foetuses, human studies have not found any effects on foetal or maternal health (Bar-Zeev et al, 2018).

Clients with co-occurring disorders

There is a high prevalence of smoking in people with a mental health disorder, particularly people with chronic psychotic illnesses, where rates are as high as 71% in men and 58% in women (more than 3 times that of the general population; Cooper et al, 2012; Galletly et al, 2016). Tobacco-related harms account for a substantial proportion of morbidity and mortality in people with co-occurring disorders. Importantly, people with mental health problems have been found to report an improvement in their psychological health following smoking cessation (Callaghan et al, 2014).

Smoking cessation can impact on mental health symptoms and metabolism (and hence the dosage requirements) of a range of psychotropic medications (see Table 14), and this should be taken into account when planning withdrawal.

Figure 8: Suggested approach to initiating and managing NRT during pregnancy



Source: Bar-Zeev, Lim, Bonevski, Gruppetta & Gould, 2018

Table 14: Psychotropic drug and smoking cessation interactions

Psychotropic Drug Class	Drug	Effect Of Smoking Cessation on Serum Levels	Recommended Reduction in Psychotropic Drug
Antipsychotics	Clozapine	Increase	Reduce dose by 50%
	Olanzapine	Increase	Reduce dose by 30%
	Haloperidol	Serum levels may rise	Clinical significance unclear
	Chlorpromazine		
Fluphenazine			
Antidepressants	Fluvoxamine (SSRI)	Plasma levels may increase	May need dose reduction
	Duloxetine	Serum levels may rise	Clinical significance uncertain Monitor for side effects
	Mirtazepine		
	Imipramine		

Source: Mendelsohn, Kirby & Castle, 2015.

Clients with a comorbid disorder should receive care that addresses their specific needs (see section 9.2).

Specifically, they should be:

- » Monitored for any exacerbation or worsening of symptoms
- » Linked with appropriate mental health support
- » Encouraged to continue to seek mental health support beyond withdrawal care

Families/significant others

Consideration should be given to the needs of family and significant others in contact with a nicotine-dependent person during outpatient withdrawal or reduction.

Where appropriate, information should be provided to family and significant others regarding the withdrawal process and support services such as DirectLine and/or Quitline.

Young people

Young people presenting to AoD services should be linked with youth-specific services, where available.

Young people may present with varying psychosocial factors contributing to their drug use which impact upon their long-term plan for recovery. It is important to be mindful of the potential differences in treatment approach and care when commencing withdrawal care. Ongoing contact with and adjunct support from youth-specific workers throughout withdrawal care can promote more positive experiences for the young person.

For further detailed information related to the withdrawal care of young nicotine users, please refer to the YSAS Clinical Practice Guidelines (YSAS, 2016).

Useful Resources:

- » **Quit (Vic):** www.quit.org.au Contact Quitline: 137848
- » McDonough, M. (2015). Update on medicines for smoking cessation. *Australian prescriber*, 38(4), 106.
- » The Royal Australian College of General Practitioners (RACGP). *Supporting smoking cessation: a guide for health professionals*.
- » Mendelsohn, C. P., Kirby, D. P., & Castle, D. J. (2015). *Smoking and mental illness. An update for psychiatrists*. *Australasian Psychiatry*, 23(1), 37-43.
- » Roberts, E., Eden Evins, A., McNeill, A., & Robson, D. (2016). Efficacy and tolerability of pharmacotherapy for smoking cessation in adults with serious mental illness: a systematic review and network meta-analysis. *Addiction*, 111(4), 599-612.
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- » Coller, J. K., Barratt, D. T., & Somogyi, A. A. (2016). *Clinically Significant Interactions with Anti-addiction Agents. In Applied Clinical Pharmacokinetics and Pharmacodynamics of Psychopharmacological Agents* (pp. 565-577). Springer International Publishing.

12 CANNABIS

These Guidelines provide a comprehensive approach to withdrawal care. The use of prescribing guidelines outlined below must be supported by a comprehensive clinical assessment.

Cannabis is the most widely used illicit drug worldwide and in Australia (AIHW, 2017b). In 2016, 35% of adults (aged over 14 years) reported having used cannabis in their lifetime, with more than 10% having used in the last 12-months. Cannabis users were more likely than any other AoD users to use weekly or more (36%; AIHW, 2017a). Cannabis can be smoked alone or with tobacco, within a regular or water pipe (bong), rolled in paper (a 'joint' or 'cone'), or ingested, typically in food.

Contrary to popular opinion sustained cannabis use is not entirely risk free, and the consequences of frequent use can be severe. Dependent clients may present with cardiovascular diseases (Franz & Frishman, 2016), cognitive deficits (e.g., memory impairment or poor concentration), affective and psychotic disorders, and reduced creativity and motivation (Kedzior et al, 2016; Kowal et al, 2015; Volkow et al, 2016).

Individuals experiencing cannabis use disorder exhibit high rates of relapse. Abstinence is maintained by as few as 20% of clients attempting recovery (Allsop et al, 2015). Research suggests that approximately 30% of cannabis users exhibit signs of dependence and as many as 10% may become dependent. The risk of developing dependence appears to be increased by frequency of use, age of initial use, and the potency and strain of cannabis consumed (Hall & Degenhardt, 2015). Cannabis is more likely than any other drug to be used in conjunction with other illicit drugs, with use particularly high among users of hallucinogens (88%), ecstasy (79%), synthetic cannabinoid (78%), and meth/amphetamines (74%; AIHW, 2017b).

In delivering cannabis withdrawal services to clients, clinicians should consider:

- » Setting
- » Withdrawal syndrome and potential complications
- » Assessment
- » Withdrawal care planning
- » Planning for post withdrawal
- » Special needs groups

Cannabis withdrawal syndrome

Sudden cessation of regular, heavy cannabis use is associated with a distinctive withdrawal syndrome characterised by marked agitation and anxiety, irritability, depression, insomnia and other sleep problems, decreased appetite, tremors, sweating, fever, chills, and headaches (Allsop et al, 2015). These symptoms are exaggerated in clients whose use of cannabis was a component of poly-substance use. Symptoms typically commence 24 hours after cessation or significant reductions in use, peak 2-3 days after cessation, and fully subside in little over a week.

Adverse effects of cannabis intoxication can include anxiety and depression, paranoia, appetite disturbance, and sedation. Cannabis is considered psychotogenic and, in vulnerable individuals, is associated with exacerbations or new presentations of psychosis during intoxication and occasionally in cannabis withdrawal states. Clients should be transferred to the emergency department if signs of psychosis are observed during withdrawal and linked to appropriate mental health services post-withdrawal.

Cannabis withdrawal settings

The most appropriate setting for an individual seeking cannabis withdrawal will be informed by a thorough clinical assessment.

Cannabis withdrawal syndrome is not life threatening and typically withdrawal symptoms are mild. Withdrawal can typically be managed in an out-patient (home-based) community setting. If more severe withdrawal symptoms are anticipated (e.g., clients with co-occurring mental health disorders) admission to an residential withdrawal setting may be warranted. The most appropriate setting should be determined via a thorough clinical assessment.

The best withdrawal care facilitates step-up and step-down care, according to client need.

Cannabis withdrawal assessment

Clinicians should be familiar with the general principles of assessment (refer to section 7). During withdrawal assessment, clinical staff will be alert to signs of client intoxication.

A thorough assessment of cannabis-dependent clients is critical in determining the most appropriate withdrawal care. It may be difficult to assess acutely intoxicated clients, but effort should be taken to discern as much information as is practical, as expeditiously as possible.

A cannabis assessment should explore all substance use and any attendant health issues, including:

- » Dependence
- » Quantity, form, frequency of cannabis use, and route of administration
- » Poly-drug use and dependence
- » Physical health issues
- » Mental health issues, including symptoms of depression and/or psychosis
- » Pregnancy
- » The characteristics of any previously experienced withdrawal symptoms and their severity

Assessment of these domains will inform the likely severity of the current withdrawal syndrome and contribute to appropriate withdrawal care planning.

Cannabis withdrawal assessment tools

The Cannabis Withdrawal Assessment Scale (Allsop et al, 2011; Appendix 12) is a validated 19-item self-report scale that assesses common symptoms of withdrawal over the past 24 hours.

Cannabis withdrawal care planning

Information obtained during assessment will inform the withdrawal care plan.

The withdrawal care plan documents:

- » 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, if it 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 the success of the client's withdrawal goals
- » Available support (during and post-withdrawal) to enhance the likelihood of success
- » A post-withdrawal plan, including relapse prevention and linkages to external support networks to address the client's psychosocial needs
- » Inclusion of family and significant others where appropriate

Cannabis withdrawal care

Treatment of cannabis withdrawal is primarily symptomatic and is discussed in section 12. An important part of cannabis withdrawal care is the use of psychosocial interventions.

Some strategies that may be used in outpatient cannabis reduction include:

- » Gradually limiting the quantity used per day, and delaying use to later in the day
- » Gradually reducing the frequency of use per day in conjunction with a smaller quantity
- » Setting weekly reduction goals

Severity of cannabis withdrawal symptoms is dependent on a number of key factors such as:

- » Method of ingestion
- » Potency
- » Quantity used per day
- » Comorbid mental health conditions
- » Poly-drug dependence, including tobacco
- » Current engagement in an outpatient or inpatient treatment setting

All withdrawal care is predicated on ongoing and objective monitoring in the initial stages of a client's presentation to withdrawal care. Monitoring should then occur at regular intervals, the frequency of which should reflect the severity of the withdrawal syndrome.

Symptomatic medications

A range of symptomatic medications is appropriate for use in cannabis withdrawal.

Benzodiazepines such as diazepam are commonly used to treat withdrawal symptoms such as anxiety and insomnia. Benzodiazepine dosing during cannabis withdrawal is based on ongoing assessment and monitoring. The use of benzodiazepines in cannabis withdrawal is not clearly linked to positive outcomes or better engagement in treatment, and treatment with these agents should be of a short duration in conjunction with psychosocial support.

Emerging Treatments

A range of medications are currently under trial for use in cannabis dependence and withdrawal, including cannabinoid agonists (Trigo et al, 2016; Allsop et al, 2015), mood stabilisers (Johnston et al, 2014) and other pharmacological agents (Marshall et al, 2014). However, there are no medications approved for cannabis withdrawal in Australia at present.

Symptomatic medications useful in managing cannabis withdrawal symptoms are outlined in Table 15.

Table 15: Symptomatic medications for use in cannabis withdrawal

Symptoms	Symptomatic medications
Anxiety, irritability, and sleep disturbances	Benzodiazepines, such as diazepam, for up to 7 days in tapering doses
Physical pain and/or headaches	Paracetamol Non-steroidal anti-inflammatory drugs such as ibuprofen Hyoscine for abdominal cramps
Nausea	Promethazine or metoclopramide

It is preferable to use the lowest possible dose of benzodiazepine and limit duration administration to less than 10 days. Wherever possible a single benzodiazepine agent is recommended for anxiety and sleeplessness, ideally diazepam. Dosages and prescribing schedules for symptomatic relief will most effectively be decided upon only after thoroughly exploring the individual patient's symptom profile and circumstances.

General principles and guidelines for coping with and relaxing during cannabis withdrawal may also assist some clients (Appendix 5).

Psychosocial support in cannabis withdrawal

Psychosocial interventions complement the medical management of cannabis withdrawal symptoms and will be available at all cannabis withdrawal services.

The overarching principles of supportive care are fundamental to the provision of a holistic model of withdrawal care. Psychosocial interventions should explore:

- » Client goals, including any change in these goals over time
- » Perceived barriers to achieving the client's goals of withdrawal care
- » The client's beliefs about withdrawal care
- » Appropriate interventions and support services

Planning for post-withdrawal

Post-withdrawal support is an essential component of the treatment continuum for cannabis-dependent clients.

Planning for post-withdrawal should:

- » Commence at the assessment phase of withdrawal care
- » 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 post-withdrawal care, as appropriate, to help implement the client's post-withdrawal plan

Special populations

Pregnant women

There is limited evidence of adverse effects of cannabis consumption on a pregnant woman or foetus. Where poly-drug use exists, consultation with a specialist AoD clinician should be sought. Cannabis use and withdrawal can be characterised by hyperemesis, which can be a particular concern during pregnancy (Schmid et al, 2011; Soriano-Co et al, 2010).

Cannabis reduction or abstinence should be encouraged among pregnant women and the use of supportive medications should be minimal.

Tobacco

Cannabis is commonly mixed with tobacco for smoking and there is some evidence that withdrawal from both nicotine and cannabis at the same time leads to more severe withdrawal symptoms than would be experienced during withdrawal from either substance alone (Hindochoa et al, 2015). The comprehensive management of nicotine dependence should be strongly considered for all cannabis-dependence clients who are also dependent on nicotine.

Clients with co-occurring disorders

Clients for whom a psychiatric condition emerges during cannabis withdrawal should receive care that addresses their specific needs.

Specifically, they should be:

- » Linked with appropriate mental health services
- » Encouraged to continue to seek mental health support beyond withdrawal care
- » Monitored for symptoms such as agitation during withdrawal and managed appropriately

Families/significant others

Consideration should be given to the needs of family and significant others in contact with a cannabis-dependent person during outpatient withdrawal or reduction.

Where appropriate, information will be provided to family and significant others regarding the withdrawal process and support services such as DirectLine and Family Drug Help.

Young people

Young people presenting to AoD services should be linked with youth-specific services, where available.

As outlined above (section 9.3), young people may present with varying psychosocial factors contributing to their drug use which impact their long-term plan for recovery. It is important to be mindful of the potential differences in treatment approaches and care when commencing withdrawal care. For example, young people have reported increased conflict with parents and peers during cannabis withdrawal and a reduction in capacity to undertake school work. Ongoing contact with adjunct support from youth-specific workers throughout withdrawal care can promote more positive experiences for the young person.

For further detailed information related to the withdrawal care of young cannabis users, please refer to the YSAS Clinical Practice Guidelines (YSAS, 2016).

Useful Resources:

- » Cannabis Information and Support (www.cannabissupport.com.au) provides useful resources for cannabis users.
- » YSAS. (2016). YSAS Clinical Practice Guidelines - Management of alcohol and other drug withdrawal. Melbourne; YSAS.
- » Cannabis Information and Support www.cannabissupport.com.au with information and tools for quitting (including the Joint Effort quit app, and Reduce Your Use online 6 week program)
- » DACAS GP Fact Sheet: Management of cannabis use
 - http://dacas.org.au/Clinical_Resources/For_GPs.aspx

13 OPIOIDS

These Guidelines provide a comprehensive approach to withdrawal care. The use of prescribing guidelines outlined below must be supported by a comprehensive clinical assessment.

The term 'opioids' is used here to refer to those compounds, both synthetic and plant based, that have opium or morphine-like activity. In these guidelines, the term 'opiates' applies only to drugs derived directly from opium (e.g., morphine, codeine, and heroin).

According to the most recent NDSHS, 0.2% of the Australian population aged over 14 years had used heroin in the past year (AIHW, 2017b) and 4.8% reported misusing a pharmaceutical drug (i.e., consuming Painkillers/analgesics, opioids, tranquillisers/sleeping pills, methadone/buprenorphine, and steroids for non-medical purposes) during the past 12 months. Painkillers/analgesics and opioids were identified as the most commonly misused class of pharmaceutical (3.6%), which makes it the second most illicitly used drug after cannabis. The detrimental social and economic effects of opioid use are high and associated with high rates of overdose, transmission of hepatitis and HIV through injecting drug use, criminal activity, and reduced quality of life.

Pharmaceutical and prescription opioid use is becoming increasingly prevalent in Australia and worldwide. In 2015–16, pharmaceutical opioids were the principal drug of concern in 5% of all AoD treatment episodes throughout Australia (AIHW, 2017a). There is increasing recognition of opioid dependence in individuals who are prescribed opioid analgesics for chronic non-malignant pain. While similar principles of opioid withdrawal management apply for individuals with prescription opioid misuse as for other opioids, particular relevant considerations will be discussed in this chapter.

This chapter provides a broad overview of the guidelines for management of opioid withdrawal. For a more comprehensive discussion of management of opioid dependence, refer to the National Guidelines for Medication-Assisted Treatment of Opioid Dependence (National Drug Strategy, 2014).

Withdrawal Objectives

The primary aim of opioid withdrawal is to help relieve client distress throughout the withdrawal process, to reduce the risk of overdose following withdrawal (by providing clients with necessary information) and complications associated with concomitant physical or psychiatric conditions, and to establish linkages with ongoing drug treatment programs, case management, health services, and relevant support post-withdrawal.

While many clients may intend to remain abstinent following withdrawal, that is not a primary goal for all. Importantly, evidence-based management of opioid withdrawal should incorporate medication-assisted opioid treatments (mainly methadone or buprenorphine), as this is linked to better client outcomes and treatment engagement. In practice, withdrawal care plans with abstinence as the aim can be associated with poorer outcomes including unplanned/early exit from treatment. Abstinence-based interventions for opiate dependence in general have been shown to be effective for only a minority of clients who are highly motivated and with stable living circumstances and social support (Van den Brink & Haasen, 2006). National clinical practice guidelines for the management of opioid use disorders in Canada recommend against withdrawal management alone. This is because of the associated increased risks (e.g., syringe sharing and death from overdose) relative to receiving no treatment, and evidence of high rates of relapse when withdrawal takes place without immediate transition to long-term evidence-based treatments such as medication-assisted opioid treatments (Bruneau et al, 2018). As such, opioid-agonist treatment is the first line approach for opioid dependence. Buprenorphine (particularly as sublingual buprenorphine-naloxone preparations) has features (such as safety due to ceiling of effects and ease of dosing) that make it a preferable option to methadone for management of withdrawal.

Opioid overdose risk should be considered as part of withdrawal care planning. Naloxone provision should be offered as part of discharge planning for every opioid withdrawal episode.

In delivering opioid withdrawal services to clients, clinicians should consider:

- » Setting
- » Withdrawal syndrome and potential complications
- » Assessment

- » Withdrawal care planning
- » Withdrawal care
- » Planning for post withdrawal
- » Special needs groups

Prescription opioid dependence and chronic pain

Individuals dependent on prescription opioids may present with particular issues that need to be considered when planning withdrawal.

Medication-related factors:

- » Longer-acting opioid analgesics (e.g., sustained release preparations of oxycodone or morphine) are associated with slower onset of a longer withdrawal syndrome
- » Opioid analgesic doses are usually calculated in terms of oral morphine equivalence (see Table 16); www.opioidcalculator.com.au (ANZCA Faculty of Pain Medicine). However in clinical situations these conversions lack validity in the context of long-term opioid use and dependence. As such, specialist advice should usually be sought in planning opioid agonist treatment for individuals with prescription opioid dependence.
- » Evidence-based care for prescription opioid dependence usually involves a transfer to an agonist opioid treatment (e.g., methadone or buprenorphine). Commencement of buprenorphine in particular can be complicated by the risk of precipitated withdrawal if buprenorphine is commenced whilst opioids are still circulating in the blood. Consultation with an addiction specialist (e.g., via DACAS) and consideration of residential or other medically-monitored withdrawal settings may be preferable in situations where there is a risk of concomitant use

Illness-related factors:

- » Individuals with a history of chronic non-malignant pain require adequate assessment and treatment planning regarding pain management prior to withdrawal from prescription opioid(s)

Prescriber and system factors:

- » Individuals with prescription opioid dependence may access multiple doctors and/or pharmacies to access prescription analgesics. Withdrawal planning offers an opportunity for the treating prescriber to communicate with all involved health professionals to develop a clear and collaborative treatment plan. Further, prescribers need to comply with Federal Government prescription requirements, and should consider use of the Prescription Shopping Information and real time prescription monitoring services as they become available.

Table 16: Approximate equivalent doses of opioid analgesics to 10mg of oral morphine

ORAL		
morphine	mg/day	10
oxycodone	mg/day	15
hydromorphone	mg/day	50
codeine	mg/day	1.3
methadone	mg/day	47
tramadol	mg/day	2
SUBLINGUAL		
buprenorphine	mg/day	375
TRANSDERMAL		
fentanyl	mcg/hour	30
buprenorphine	mcg/hour	25

Source: National Drug Strategy (2014).

Opioid withdrawal settings

The most appropriate setting for opioid withdrawal must be informed by a thorough clinical assessment.

Many opioid withdrawal clients can be managed in outpatient withdrawal settings, if these individuals possess stable and supportive home environments, are without any significant medical or psychiatric comorbidities, and are unlikely to experience withdrawal complications.

Residential or hospital inpatient withdrawal settings may be more suitable for patients with:

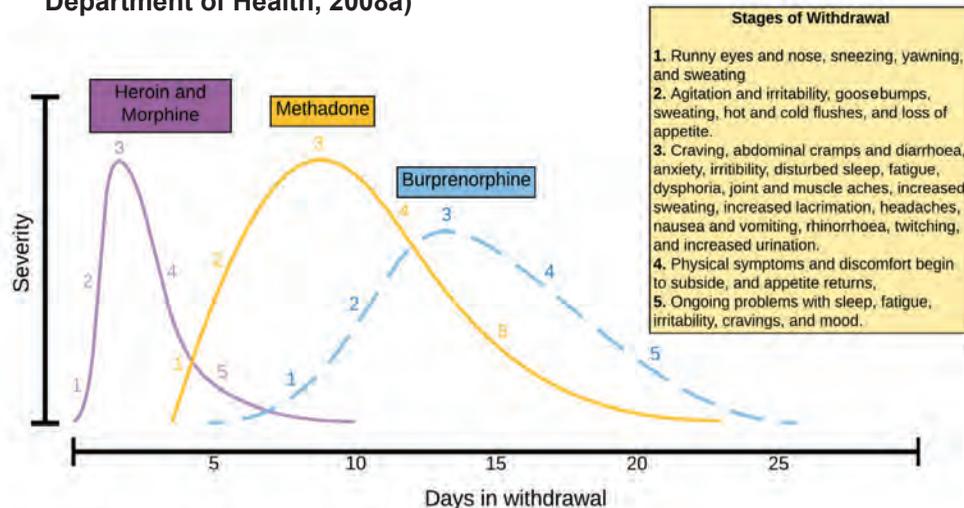
- » A history of repeated, unsuccessful attempts at withdrawal in a non-residential outpatient setting
- » Limited social and community support available to complete withdrawal safely
- » A lower level of medical care than hospitals
- » Concurrent dependence on other drugs, particularly alcohol or benzodiazepines
- » Inadequate access to a registered opioid pharmacotherapy prescriber, such as in rural settings
- » Significant comorbid physical (e.g., chronic pain) or mental illnesses (e.g., psychosis)
- » Dependence on long-acting or high-dose prescription opioid medications, with plan for transfer to opioid pharmacotherapy (methadone or buprenorphine)

Opioid withdrawal syndrome

Opioid withdrawal is not life threatening to clients with few medical comorbidities, provided hydration and electrolyte level is adequately maintained throughout (Schuckit, 2016). Nevertheless, the risk of relapse post-withdrawal is high, and given the markedly reduced levels of physiological tolerance post-withdrawal, so is the risk of overdose. These risks should be managed with a comprehensive post-withdrawal management plan, which will often necessitate ongoing maintenance opioid pharmacotherapy.

The severity, onset, and time course of opioid withdrawal is influenced by the type of drug, route of administration, duration of use, as well as general physical and mental health factors. The withdrawal syndromes of different opioids vary in their time-course due to their half-lives. Methadone withdrawal is often reported as more severe and protracted than either heroin or morphine withdrawal (see Figure 9).

Figure 9: Time course and stages of opioid withdrawal (NSW Department of Health, 2008a)



Opioid withdrawal assessment

Clinicians should be familiar with the general principles of assessment (refer to section 7).

A thorough assessment of opioid-dependent clients is critical in determining the most appropriate withdrawal care. The purpose of assessment is to identify their needs, determine their suitability for treatment, and establish a treatment plan.

Assessment should determine opioid dependence (and current levels of use), and should explore:

- » Physical health including blood borne-virus (BBV) status and risk factors
- » Mental health
- » Poly-drug use and dependence

- » Chronic pain conditions
- » Previous withdrawal history
- » Social factors such as accommodation, family supports

Opioid withdrawal scales are used in some treatment settings to rate the severity of opioid withdrawal. Unlike alcohol withdrawal scales, opioid withdrawal scales are not usually directly linked to management medication doses. Subjective withdrawal scales, generally perceived to have greater sensitivity to changes in withdrawal severity, include the Short Opiate Withdrawal Scale (SOWS; Gossop et al, 1990, Handelsman et al, 1987; See Appendix 9). Objective scales include the 11-item Clinical Opiate Withdrawal Scale (Wesson & Ling, 2003).

Objective Indications of Opioid Intoxication

During withdrawal assessment, clinical staff should be alert to signs of client intoxication.

Objective signs of opioid intoxication include contracted pupils, sedation, low blood pressure, slowed pulse, respiratory depression, and slurred speech. Where the client is opioid affected, all services should:

- » As soon as possible, identify the most recent drug type, dose, and time consumed (to inform medical intervention in the event of an overdose)
- » Implement regular clinical observations of the client at frequent intervals at first then decreasing over time as evidence of intoxication subsides
- » Revisit the assessment when acute intoxication has passed

Withdrawal care planning

Information obtained during assessment should inform the withdrawal care plan.

Withdrawal care should be administered according to a carefully constructed withdrawal care plan, created collaboratively with the client. Plans should take into account the following factors:

- » Likely severity of withdrawal
- » Previous history of complex withdrawal
- » Risks associated with substance use, such as overdose history

- » The client's motivation for withdrawal care (if planned withdrawal)
- » 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
- » A post-withdrawal plan, including relapse prevention and linkages to external support networks to address the client's psychosocial needs
- » A post-withdrawal plan addressing overdose risk, and provision of naloxone where appropriate
- » Inclusion of family and significant others where appropriate

A treatment plan should:

- » Show sensitivity and awareness of the patient's culture, ethnic background, and religious affiliation as well as their gender and any LGBTIQ affiliation
- » Specify authorised sharing of information
- » Describe the specific interventions that are planned
- » Describe how the care plan will be reviewed over time

Opioid withdrawal care

Maintenance pharmacotherapy

Clients should be informed of the evidence of improved outcomes (reduced relapse and overdose rates post-withdrawal) associated with longer term opioid maintenance pharmacotherapy. Engagement in maintenance pharmacotherapy treatment should be a priority with patients at high risk of relapse or overdose. *A full discussion of maintenance therapies (i.e. transition on to methadone and buprenorphine) are beyond the scope of these guidelines, but are addressed within other documents, including the National Guidelines for Medication-Assisted Treatment of Opioid Dependence (Gowing et al, 2014).*

Symptomatic medications are often used as an adjunct to manage specific symptoms of opioid withdrawal, as outlined in table 19. Anti-craving strategies, such as meditation and relaxation techniques, can be a useful part of opioid withdrawal care (see Appendix 5).

Alternative approaches to maintenance pharmacotherapy

Some clients have a preference to undertake complete withdrawal without the aid of an opioid agonist maintenance pharmacotherapy (e.g. methadone or buprenorphine). AoD services should consider their own local policies and guidelines on the management of withdrawal care in such circumstances, with an emphasis on post-withdrawal supports, including inpatient (i.e., rehabilitation) or outpatient programs involving close monitoring, to minimize the risks of relapse and overdose.

In situations where a client is not being inducted on to methadone or buprenorphine maintenance pharmacotherapy, the following approaches are discussed.

- » Buprenorphine taper
- » Naltrexone

Buprenorphine taper

Buprenorphine is an opioid that is available as a sublingual preparations as a monotherapy ("Subutex" sublingual tablets) or in combination sublingual film preparations with naloxone ("Suboxone"). Buprenorphine effectively reduces the acute symptoms encountered during withdrawal. This simplifies treatment by reducing or eliminating the need for multiple adjunctive symptomatic medications.

Buprenorphine is a mu-opioid receptor partial agonist resulting in competitive antagonism of concomitantly administered 'full' opioid drugs. When administered sublingually, buprenorphine reaches peak plasma levels in approximately 3 hours and has a terminal half-life of approximately 30 hours. Buprenorphine is generally preferred to methadone due to the lower risks of sedation and respiratory depression. It is also preferred when opioid and benzodiazepine withdrawal is carried out concurrently (Lingford-Hughes et al, 2012).

Each Australian jurisdiction is responsible for a system of authorising and regulating medical practitioners to prescribe sublingual buprenorphine preparations, usually in a supervised dosing setting, for the management of opioid dependence within a framework of medical, social, and psychological treatment.

Detailed information on prescribing sublingual buprenorphine for the treatment of opioid use disorders is available through jurisdictional and national prescribing guidelines and regulations documents, such as through Victoria's Department of Health and Human Services drugs policy and reform pharmacotherapy guidelines.

Buprenorphine dosing

Ideally, a minimum of 12-18 hours should elapse between the last dose of the short acting opioid and administration of the first buprenorphine dose, the latter of which should occur when the client begins to show signs of opioid withdrawal. When buprenorphine is used to manage withdrawal symptoms of long-acting opioids, such as methadone, 24-48 hours should elapse between last use and first dose of buprenorphine. These “methadone to buprenorphine” transfer clients are at risk of buprenorphine-precipitated withdrawal, and specialist support is recommended for prescribers managing these regimens.

Table 17 below outlines an example dosing regimen recommended for residential withdrawal settings. Dosing should be flexible enough to adequately address the severity of withdrawal symptoms and may be tapered by reducing an initial dose of 4-8mg by 10-20% every 1-2 days as necessary. Dose-response studies have shown that high doses of buprenorphine (> 16mg daily) do not result in greater symptom amelioration than lower doses.

Table 17: Buprenorphine dosing regimen for inpatient withdrawal settings

Day	Buprenorphine S/L Tablet Regimen	Recommended Total Daily Dose
Day 1	4mg at onset of withdrawal Potential additional 2 to 4mg evening dose prn if necessary	4mg (max 8mg)
Day 2	4mg mane Potential additional 2 to 4mg evening dose prn if necessary	4 (max 8mg)
Day 3	4mg mane Potential additional 2mg evening dose prn if necessary	4 (max 6mg)
Day 4	2mg mane Potential additional 2mg evening prn	0 (max 4mg)
Day 5	2mg prn	0 (max 2mg)

Source: McDonough et al, (2013); Gowing et al, (2014)

Side Effects and Drug Interactions

- » Buprenorphine has side effects similar to that of other opioids, namely constipation, drowsiness, nausea, headaches, reduced libido, disturbed sleep, and increased sweating. Buprenorphine produces mild sedative effects (although to a lesser degree than methadone), so clients should be warned to avoid operating heavy machinery and to be cautious while driving when first introduced to this drug.
- » It is also important to warn those beginning treatment with buprenorphine of the increased risk of toxicity when buprenorphine and sedatives such as alcohol and benzodiazepines are used concomitantly. Moreover, given that buprenorphine is a partial opiate receptor agonist with a higher affinity to opioid receptors than ‘full’ opioid drugs, if a ‘full’ agonist opioid (e.g., heroin, morphine, or methadone) is taken before a dose of buprenorphine, a partial withdrawal syndrome is likely.

Naltrexone

The use of naltrexone in ultra-rapid and rapid detoxification is not recommended in Australian treatment settings.

The opioid antagonist naltrexone has been used to assist withdrawal in “ultra-rapid” or rapid detoxification contexts. Evidence of the benefit of rapid antagonist based detoxification regimens is poor, and there is significant risk associated with the procedure. Naltrexone subdermal implant formulations have been made in Australia and overseas and are occasionally used as a long term (3-6 month) relapse prevention therapy. However, there are currently no naltrexone implant preparations approved by the Australian Therapeutic Goods Administration. Given their lack of consistency, associated risks and limited evidence of therapeutic benefit, naltrexone implants are not recommended as a treatment for opioid dependence in Australia at this time. Where clients request naltrexone assisted withdrawal treatments, specialist opinion and referral is recommended.

Evidence regarding the efficacy of oral naltrexone for relapse prevention is limited, and it is not funded under Australia’s PBS. However, there is emerging evidence that other formulations (for instance, long acting injectable agents) may offer comparable benefits to buprenorphine (Tanum et al, 2017).

At the time of revising these guidelines, implantable or long acting injectable agents have not been approved by the Therapeutic Goods Administration in Australia.

Other medications

Widespread availability of sublingual buprenorphine for the treatment of opioid withdrawal has limited the need for most of the antidiarrheal, antiemetic, and anxiolytic drugs that were previously used as symptomatic medications. In cases where buprenorphine is not available, alpha adrenergic agonists, such as clonidine, may be appropriate non-opioid alternatives. However, it is important to note that these medications are associated with poorer outcomes for recovery from opioid dependence in comparison to opioid agonist treatment.

Clonidine

Clonidine has been used to reduce agitation and restlessness during withdrawal. Clients require observation during its use due to the potential adverse effects of hypotension, bradycardia and drowsiness.

In most cases, clonidine should only be used where intense observation and medical assistance is readily available, such as inpatient or residential detoxification settings where registered nurses are on site. An example regimen for clonidine as a symptomatic agent is as follows:

- » Prior to commencement of treatment, measure baseline blood pressure and pulse
- » Clonidine should not be commenced in clients with hypotension (systolic pressure below 80mmHg or diastolic pressure below 50mmHg) or bradycardia (pulse rate below 50bpm)
- » If there is no significant drop in pulse or blood pressure 30–60 minutes after a test dose of 50mcg of clonidine, dosing can commence
- » Clonidine doses are usually in the range 50–150mcg every 6 hours, depending on response, to a maximum of 200mcg every 6 hours
- » Blood pressure and pulse should be checked prior to each dose, and clonidine withheld if hypotension or bradycardia develop
- » Clonidine treatment is usually tapered and ceased by day 5 of withdrawal treatment
- » In addition, some clients may access residential detoxification to transfer from methadone to buprenorphine.

Methadone to buprenorphine transfer

Supervision of methadone to buprenorphine transfers by a medical professional with experience in managing opioid use disorders is recommended.

Transfer from methadone to buprenorphine may be necessary due to the occurrence of side-effects or drug interactions. Note that transition from the potent full agonist methadone to the partial agonist buprenorphine is sometimes complex, as it may precipitate a relatively rapid and potentially severe opioid withdrawal syndrome.

Methadone to buprenorphine transfers should be supported by AoD specialist consultation (e.g. experienced pharmacotherapy prescribers, nurse practitioners or addiction medicine specialists). High dose methadone to buprenorphine transfers can be more complex, and may require additional support, including addiction medicine specialist secondary consultation and reference to the **National Guidelines for Medication-Assisted Treatment of Opioid Dependence (Gowing et al, 2014)**.

General principles of such transfers often include high levels of supervision and monitoring and the reduction of methadone to the lowest tolerated dose (e.g., \leq 30mg/day) before transfer: at least 24 hours elapsing after last methadone dose before buprenorphine is administered, and; only after moderate signs of withdrawal become evident (see Table 18 below).

Table 18: Buprenorphine to methadone equivalent dosages

Buprenorphine dose	Methadone-equivalent dose		
	\leq 10mg	10-40mg	40-60mg
Day 1	2-4mg	4-8mg	4-8mg (2-4mg additional if necessary)
Day 2	4mg	8mg (4-8mg)	8mg (6-10mg)
Day 3	6mg (6-8mg)	12mg (8-12mg)	12mg (10-16mg)

Source: McDonough et al, (2013); Gowing et al, (2014)

It is believed that most patients can be stabilized on a dose between 12mg and 16mg. However, due to patient variability, each patient should be dosed to clinical effect. There is no maximum recommended dose, but doses greater than 32mg are not generally necessary. Trials of long-acting injectable formulations of buprenorphine are currently underway, with these products expected to be accessible in the coming years, diversifying the range of options available.

Symptomatic medications

A range of symptomatic medications is appropriate for use in opioid withdrawal, outlined below, in Table 19.

Table 19: Symptomatic medications for use in opioid withdrawal

Symptom(s) Of Opioid Withdrawal	Symptomatic Medication(s)
Nausea and vomiting	Antiemetics such as metoclopramide 10 mg three times a day as required for up to three to four days or Prochlorperazine 5 mg three times a day for 4–7 days, best 30 minutes before food or as required, Ondansetron 4–8 mg, every 12 hours as required. Note: Also encourage fluids and a simple diet
Diarrhoea	Non-opioid anti-diarrhoeals such as loperamide
Abdominal cramps	Antispasmodics such as hyoscine butylbromide
Muscles and joint pains	Non-steroidal anti-inflammatory agents such as ibuprofen (avoid if contraindications such as history of peptic ulcer or gastritis) or simple analgesics such as paracetamol
Excessive sympathetic nervous system activity such as sweating	Clonidine
Anxiety and/or sleep disturbances	Medium or long acting benzodiazepines in small, limited doses, e.g., diazepam or temazepam (limited dispensing is recommended in non-residential settings)

Source: NSW Department of Health (2008a)

Natural supplements

In addition to medications, natural supplements are used in adult and youth AoD withdrawal settings to manage withdrawal symptoms. There is limited evidence in support of these agents (See Appendix 2).

Given the association of illicit opioid use with other AoD use, poor nutrition, and lifestyle factors, the use of inexpensive and safe vitamin supplements including multivitamins and thiamine is recommended.

Psychosocial support in opioid withdrawal

Psychosocial interventions complement the medical management of opioid withdrawal symptoms and should be available at all opioid withdrawal services.

The overarching principles of supportive care are fundamental to the provision of a holistic model of withdrawal care. Psychosocial interventions should explore:

- » The client's goals, including any change in these goals over time
- » Perceived barriers to achieving the client's goal of withdrawal care
- » The client's beliefs about withdrawal care
- » Appropriate interventions and support services
- » Consideration of risks and benefits of proposed withdrawal plan, and client's readiness to consider alternative options if proposed plan is unsuccessful

Planning for post withdrawal

Post-withdrawal support is an essential component of the treatment continuum for opioid-dependent clients.

Planning for post withdrawal should:

- » Commence at the assessment phase of withdrawal care
- » 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 post-withdrawal care, as appropriate, to help implement the client's post-withdrawal plan
- » Clients need to be informed about the increased risk of overdose if using opioids post withdrawal due to the reduction in tolerance which occurs during withdrawal, particularly in cases with concurrent sedative use (e.g. alcohol or benzodiazepines). For clients at risk of opioid overdose, provision of naloxone to the clients and/or families, carers or significant others should be discussed.

Naloxone provision

In 2016 approximately 447 Victorians died from opioid overdose. In many of these cases death could have been prevented through the use of naloxone. Naloxone (an opioid agonist) *temporarily* reverses the effects of opioid overdose, lasting between 30-90 minutes. It allows the person who has overdosed to breathe, allowing time for emergency medical assistance to arrive. Typically only a single dose of naloxone is necessary, but a second dose can be administered two to three minutes later if the person is still unresponsive.

Risks

Very few people experience unwanted effects from naloxone. It is encouraged that those at risk of overdose, as well as potential overdose witnesses (i.e., friends and family) have naloxone on hand. Research has shown that the use and availability of naloxone does not increase opioid use or levels of opioid overdose.

Availability and administration

In Australia, naloxone is administered via intra-muscular (IM) injection (to the upper arm or outer thigh) and is available in either a five-pack of ampoules or single five-dose prefilled syringe. It can also be taken as a nasal spray; however, naloxone nasal spray is not registered for use in Australia at this time. Naloxone (IM) prescribed by a GP is subsidised through the Pharmaceutical Benefits Scheme (PBS), but it is also available directly from a pharmacist without a prescription (unsubsidised), making it readily accessible during emergencies.

Given the safety and effectiveness of Naloxone as a harm-reduction measure, and the high-rates of relapse post-withdrawal, naloxone prescription should be considered as part of discharge planning for every opioid withdrawal episode. Clients should be informed, and encouraged to inform others (e.g., carers, partners, peers)

about effective overdose management, which includes understanding elevated risks of overdose, recognising signs and symptoms of overdose and actions to be taken including calling an ambulance, placing the overdosing person in the recovery position, checking airways, breathing and administering Naloxone.

Resources:

- » Any medical practitioner can prescribe naloxone for clients and/or significant others, with a step-by-step guide to prescribing and training available at <http://www.copeaustralia.com.au/health-professionals/cope-training/>
- » Pennington Institute's COPE program supports doctors to prescribe naloxone-injectable devices to at-risk patients and potential overdose witnesses.

Special populations

Pregnant women

Opioid withdrawal is not recommended during pregnancy as it poses risks to the mother and foetus. Instead, opioid maintenance treatment is recommended, leading to improved outcomes, reduced drug use, and associated harms (including drug related mortality). Opioid withdrawal in pregnancy should only be undertaken by specialists following clear, informed consent by the client.

Pregnant women wishing to undertake opioid withdrawal should be:

- » Informed of the risks of withdrawal, including the risks to the foetus (increased risk of infant mortality and low birth weight for gestational age) and the high risk of relapse
- » Encouraged to consider maintenance treatment instead of withdrawal

Opioid-dependent pregnant women (who are not in opioid maintenance treatment) should be inducted on to buprenorphine or methadone maintenance treatment under close monitoring. The general protocol and principles for commencing clients onto maintenance treatment should be adhered to for pregnant women (Gowing et al, 2014).

Where pregnant women decline buprenorphine or methadone maintenance treatment, the risks of supervised withdrawal may be reduced by undertaking withdrawal with specialist guidance:

- » In the second trimester only (weeks 14-32) with foetal monitoring, in a monitored setting such as an inpatient obstetric unit
- » Through gradual withdrawal using tapered doses of buprenorphine. During this period, the benefits of buprenorphine maintenance should be continually discussed.

Opioid maintenance treatment in pregnancy

Comprehensive guidance on the best practice management of opioid dependence and maintenance pharmacotherapies in pregnancy can be found in the National Guidelines for Medication Assisted Treatment of Opioid Dependence (Gowing, 2014).

Drug interactions

Use of benzodiazepines in conjunction with methadone or buprenorphine is associated with longer-lasting neonatal withdrawal syndrome (Welle-Strand, et al, 2013) and longer hospital stays (Wachman et al, 2011), and is therefore not recommended. Poly-drug exposure may potentiate the effects of methadone on the foetus and infant (Jansson et al, 2012).

Breastfeeding

The concentrations of buprenorphine and methadone found in breastmilk are low and therefore unlikely to have short-term negative effects on the developing infant (Reece-Stremtan et al. 2015). However, there is a lack of research concerning potential long-term harms, and specialist consultation is advised, particularly where the mother is at risk of relapse to opioid use.

Clients with co-occurring disorders

Clients for whom a psychiatric condition emerges during opioid withdrawal should receive care that addresses their specific needs.

Specifically, they should be:

- » Linked with appropriate mental health services
- » Encouraged to continue to seek mental health support beyond withdrawal care
- » Monitored for symptoms during withdrawal and managed appropriately

Family members and significant others

Consideration should be given to the needs of family and significant others in contact with an opioid-dependent person during outpatient withdrawal or reduction.

Where appropriate, information should be provided to family and significant others regarding the withdrawal process and support services such as DirectLine and/or Family Drug Help. Family members should also be provided with information about the increased risk of overdose following opioid withdrawal, signs of overdose and effective overdose management (e.g., CPR, airway support and the need to call an ambulance) as well as information on how to obtain Naloxone and how it is administered.

Young people

Young people presenting to AoD services should be linked with youth-specific services, where available.

Young people will likely present with varying psychosocial comorbidities which contribute to their drug use and impact upon their long-term recovery. It is important to be mindful of the potential differences in treatment approach and care when commencing withdrawal care. Ongoing contact with, and adjunct support from, youth-specific workers throughout withdrawal care can promote more positive experiences for the young person.

For further detailed information related to the withdrawal care of young opioid users, please refer to the latest YSAS Adolescent Withdrawal Guidelines (YSAS, 2016).

Useful Resources:

- » National Drug Strategy (2014). National Guidelines for Medication-Assisted Treatment of Opioid Dependence. Commonwealth of Australia, Canberra. [http://www.nationaldrugstrategy.gov.au/internet/drugstrategy/Publishing.nsf/content/AD14DA97D8EE00E8CA257CD1001E0E5D/\\$File/National_Guidelines_2014.pdf](http://www.nationaldrugstrategy.gov.au/internet/drugstrategy/Publishing.nsf/content/AD14DA97D8EE00E8CA257CD1001E0E5D/$File/National_Guidelines_2014.pdf)
- » Department of Health Victoria: Pharmacotherapy (Opioid Replacement Therapy): The following website outlines the legislative and regulatory requirements relating to prescription of opioid replacement therapies in Victoria. There are a range of useful resources, including step by step guides, and online smartforms for medical practitioners to apply for permits <https://www2.health.vic.gov.au/public-health/drugs-and-poisons/pharmacotherapy>

- » Department of Health Victoria: A brief guide to prescribing buprenorphine/naloxone for medical practitioners
<https://www2.health.vic.gov.au/about/publications/policiesandguidelines/buprenorphine-naloxone-prescribing-brief-guide>
- » DACAS GP Fact Sheets
http://dacas.org.au/Clinical_Resources/For_GPs.aspx
 - Heroin withdrawal in general practice
 - Heroin withdrawal precipitated by naltrexone
 - Naltrexone in heroin dependence
- » Victorian Policy for maintenance pharmacotherapy for opioid dependence (2016) <https://www2.health.vic.gov.au/public-health/drugs-and-poisons/pharmacotherapy>
- » National Health and Medical Research Council. (2010). Naltrexone implant treatment for opioid dependence: Literature Review. Canberra: NHMRC
- » YSAS. (2016). YSAS Clinical Practice Guidelines – Management of alcohol and other drug withdrawal. Melbourne: YSAS.
- » Any medical practitioner can prescribe naloxone for clients and/or significant others, with a step-by-step guide to prescribing and training available at <http://www.copeaustralia.com.au/health-professionals/cope-training/>
- » Pennington Institute's COPE program supports doctors to prescribe naloxone-injectable devices to at-risk patients and potential overdose witnesses.

14 BENZODIAZEPINES

These Guidelines provide a comprehensive approach to withdrawal care. The use of prescribing guidelines outlined below must be supported by a comprehensive clinical assessment.

Benzodiazepines are a commonly prescribed class of psychoactive drug with depressant properties regularly used in the treatment of stress, insomnia and anxiety disorders. Benzodiazepines are also used for limited periods in the treatment of AoD withdrawal, such as clonazepam, diazepam, alprazolam and temazepam.

Nearly 7 million PBS-subsidised benzodiazepine prescriptions are dispensed each year in Australia, (Ware & Thorson, 2016). In the last 20 years, the amount of benzodiazepines prescribed per prescription has increased, leading to increased rates of dependence (Brett & Murnion, 2015). In 2016, 33% of Australians used legally-obtained benzodiazepines (excluding alprazolam) over a 6-month period, while 31% reported use of illicitly-obtained benzodiazepines (Stafford & Breen, 2017). In 2015-16, benzodiazepines were the principal drug of concern in 1% of all closed treatment episodes and a drug of concern in 5% (AIHW, 2017a).

A survey conducted in 2013 by the National Drug and Alcohol Research Centre (NDARC) amongst regular injecting drug users found that the most commonly abused prescription drug in this group were benzodiazepines (NDARC, 2015 see resources on page 184). Prescription drug abuse contributed to 80% of all overdose deaths between 2009-15, with benzodiazepines, particularly diazepam, responsible for more than half of all fatalities (Coroners Court of Victoria, 2016). Patterns of benzodiazepine use in clients presenting for withdrawal treatment include those who are taking benzodiazepines as prescribed, those who are using larger doses than prescribed, and those who have not been prescribed benzodiazepines (illicit use).

Use of benzodiazepines in larger doses than prescribed often involves fluctuating use and may include a pattern of prescription 'shopping' that involves visiting multiple doctors.

In delivering benzodiazepine withdrawal services to clients, clinicians should consider:

- » Setting
- » Withdrawal syndrome and potential complications

- » Assessment
- » Withdrawal care planning
- » Withdrawal care
- » Planning for post-withdrawal
- » Special needs groups

Benzodiazepine withdrawal settings

The most appropriate setting for an individual seeking benzodiazepine withdrawal should be informed by a thorough clinical assessment.

For individuals taking a high daily dose of benzodiazepines, older adults, those with a history of withdrawal seizures, or clients who use benzodiazepines while drinking alcohol, a monitored setting (i.e., inpatient hospital or residential withdrawal) is most appropriate, given the higher likelihood of withdrawal complications, and a longer withdrawal period.

Unplanned benzodiazepine withdrawal can take place in psychiatric facilities, as well as non-clinical settings such as prisons and in police detention. In all of these settings, careful assessment and access to medical support is important. Regardless of setting, benzodiazepine withdrawal management has the ability to step-up and step-down care based on client need.

Benzodiazepine withdrawal syndrome

The withdrawal syndrome for people dependent on benzodiazepines can vary from relatively mild to complex and high risk. In some cases, particularly those involving chronic use of high doses of short acting benzodiazepines, withdrawal complications may be similar to those seen in complex alcohol withdrawal, including delirium or seizures.

The risks associated with poly-drug use should be considered in benzodiazepine withdrawal assessment and planning. Benzodiazepine users who use multiple other agents may require specialist referral.

The onset of benzodiazepine withdrawal is variable and dependent on factors such as dose, duration of use, individual susceptibility, benzodiazepine type, and half-life. Onset of symptoms in short-acting benzodiazepines (e.g., alprazolam) may occur within 24 hours of the last dose. For long acting benzodiazepines, withdrawal onset is more gradual and symptoms may not appear for up to 3 days after last use.

Severity of benzodiazepine withdrawal is often worse with short half-life drugs such as alprazolam (see Table 20 below).

Table 20: Benzodiazepine withdrawal symptoms

Stage	Psychological Symptoms	Physiological Symptoms
Intoxication	Drowsiness, relaxation, and sleepiness	Sedation and decreases in alertness and concentration
Acute withdrawal	Anxiety, panic attacks, depression, insomnia, poor memory and concentration, anger, irritability, and distorted perceptions	Agitation, tremor, headaches, weakness, dizziness, nausea, vomiting, diarrhoea, constipation, palpitations, fatigue, and flu-like symptoms
Protracted withdrawal	Anxiety, depression, insomnia, irritability, muscle aches, restlessness, poor concentration, and memory problems	Diarrhoea, constipation, and bloating,
Potential withdrawal complications	Transient hallucinations (visual, tactile, and auditory) and, rarely, delirium and psychosis	Withdrawal seizures (in 1-2% of patients)

Source: RACGP, 2015 please see resources on page 149

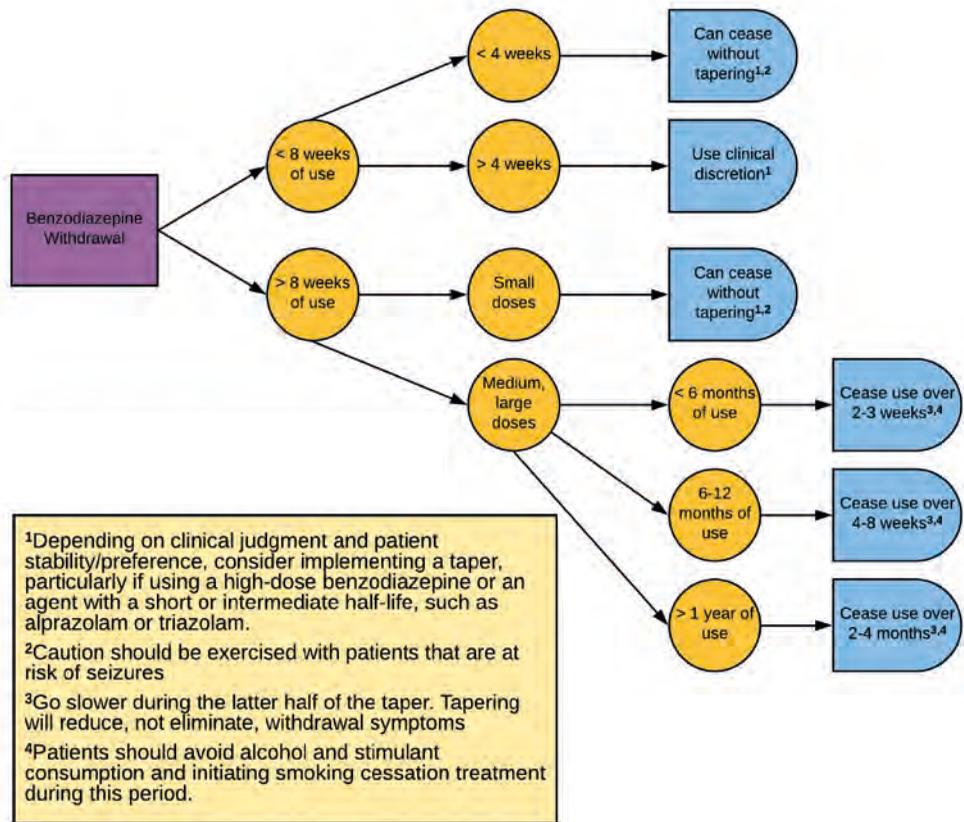
Protracted benzodiazepine withdrawal symptoms lasting a few weeks (and occasionally months) will occur in over 15% of clients, with symptoms including anxiety, depression, diarrhoea, constipation, bloating, insomnia, irritability, muscle aches, restlessness, poor concentration, and memory problems.

As shown in Figure 10, the symptoms and duration of a benzodiazepine withdrawal will vary depending on the duration and degree of benzodiazepine use prior to

withdrawal. Dose reduction and gradual reduction is the most important factor affecting severity of the withdrawal syndrome. Additional contributing factors include:

- » Other drug dependence
- » History of seizures
- » Background of documented anxiety disorder, depression, or trauma
- » Marked fluctuations in benzodiazepine doses used

Figure 10: Benzodiazepine dose tapering (Source: RACGP, 2015)



Benzodiazepine withdrawal assessment

Clinicians should be familiar with the general principles of assessment (refer to section 7) and managing client intoxication.

During withdrawal assessment, clinical staff should be alert to signs of client intoxication.

A thorough assessment of benzodiazepine-dependent clients is critical in determining the most appropriate withdrawal care. Assessment is, however, dependent on the capacity of clients to provide relevant information. Recent benzodiazepine use may limit clients' capacity to share and absorb accurate assessment information.

For intoxicated clients, all services should:

- » As soon as possible, identify the most recent drug type, dose, and time consumed to inform medical intervention in the event of an overdose
- » Implement regular clinical observations of the client at frequent intervals at first then decreasing over time as evidence of intoxication subsides
- » Revisit the assessment when acute intoxication has passed

Benzodiazepine use is common among poly-drug users, particularly those misusing alcohol (18%), cannabis (17%), and nicotine (13%), therefore direct, careful questioning concerning poly-drug use should be a staple in all AoD assessment (AIHW, 2017a).

Clients withdrawing from benzodiazepines commonly experience concurrent psychological problems, such as anxiety or sleeping disorders, for which benzodiazepines were often originally prescribed. This concurrent concern is typically a driver of benzodiazepine misuse and a common cause of relapse post withdrawal, and must be addressed during withdrawal care (i.e., strategies put in place to manage underlying causative factors). Assessment should seek to identify whether an individual's use of benzodiazepines was related to an initial therapeutic indication. For such clients, the potential re-emergence of the underlying problem may require treatment.

Poly-drug users with brief histories of high dose benzodiazepine use may be complex to manage and require specialist consultation to clarify risks of benzodiazepine stabilisation (i.e., relapse particularly where dose or source of benzodiazepines is unclear) versus discontinuation when complications of benzodiazepine withdrawal may occur.

It is important to clarify an individual's benzodiazepine use pattern, particularly in the case of non-prescribed (illicit) and high dose use. Many polydrug users take benzodiazepines sporadically in a binge pattern, and this needs careful assessment before deciding whether the individual is dependent, and whether a reducing regimen of benzodiazepines is necessary.

Withdrawal care planning

Information obtained during assessment should inform the withdrawal care plan.

- » The withdrawal care plan documents:
- » 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
- » A post-withdrawal plan, including relapse prevention and linkages to external support networks to address the client's psychosocial needs
- » Inclusion of family and significant others where appropriate

Given that benzodiazepine withdrawal can occur over an extended period of time, psychosocial support and continuing care are key elements of a withdrawal management plan. Remaining flexible throughout the course of treatment is also essential due to the varied nature of the withdrawal syndrome amongst benzodiazepine clients. Given that many people become dependent on benzodiazepines after following a medically prescribed regimen to treat a comorbid, non-AoD related disorder, the reality of AoD withdrawal, dose tapering, and aftercare can be overwhelming and clients can often feel stigma, shame, and guilt. Extra care and support may be necessary in these scenarios, as well as a collaborative approach between the client's healthcare providers.

Withdrawal care

Given the variability in withdrawal symptoms, clinical assessment, and review of response to treatment should inform dosing and reduction regimens. For example, in cases of protracted uncomfortable withdrawal, doses of benzodiazepine may need to be maintained at a fixed level until the client feels able to continue dose reduction.

All benzodiazepine withdrawal care involves ongoing regular monitoring in the initial stages of a client's presentation, with the frequency of reviews modified based on client response and stability. Biochemical testing via urine drug assays is often useful in management of benzodiazepine dependence. Interpretation of urine drug screen results requires clinical expertise, as some benzodiazepine metabolites are themselves parent compounds. For example, temazepam and oxazepam are metabolites of diazepam, which may lead the practitioner to conclude that the patient had been taking other benzodiazepines during diazepam treatment. Specialist input is therefore recommended when there is uncertainty regarding urine drug screen results.

Level of benzodiazepine dependence is affected by factors including duration of use and dose. Recommendations regarding dose tapering fluctuate according to these factors (see Figure 10).

Calculation of total dose of benzodiazepines used daily and conversion to a longer acting benzodiazepine is required prior to commencing withdrawal. Without conversion to longer acting benzodiazepines, clients can experience withdrawal symptoms or rebound anxiety throughout the day. Conversion tables are available (see next page) to assist in conversion to diazepam.

It is important to note that these tables may not be as useful for dose calculation in clients with multiple drug dependences or those using very high doses of benzodiazepines. Calculation of total daily dose should be estimated after obtaining an accurate picture of the pattern of benzodiazepine use, and binge pattern benzodiazepine use may not require daily reducing regimens.

In clients with liver disease, oxazepam should be used due to the potential for toxic accumulation of diazepam. All clients should be reviewed after dose conversion to assess withdrawal status and level of sedation. Table 21 outlines the recommended dosing regimen for therapeutic benzodiazepine clients and Table 22, which follows, provides a conversion table for benzodiazepine/diazepam transfer.

Table 21: Dosing regimen for people dependent on benzodiazepines

Setting	Withdrawal Goal	Recommended Regimen
Outpatient withdrawal	Reduction or stabilisation	<ul style="list-style-type: none"> » Convert benzodiazepine to diazepam and reduce by 10% every 1–2 weeks » When dose is at around 5mg, reduce by 1mg » Provide ongoing review, support, and reassurance » Manage therapeutic issues underlying the benzodiazepine dependence » Supervised pick-up of doses should be based on a management plan in conjunction with a community prescribing doctor » Consider use of a benzodiazepine treatment agreement or contract, outlining terms of ongoing prescribing as set out above, e.g., frequency of medication dispensing, frequency of review, frequency of use of urine drug assays, etc.
Inpatient withdrawal	Reduction or stabilisation	<ul style="list-style-type: none"> » Convert to diazepam and provide equivalent benzodiazepine dose in divided daily dosing » Specialist input may be required for higher doses, e.g., higher than 80mg total per day. Higher doses should be given with a higher level of nursing observation and doses withheld if patients are not easily roused. Clients should not be awoken to receive a dose. After establishing the dose required, on days 1-2 there should not be provision of PRN doses. Dose can then be reduced by 10mg daily without significant withdrawal symptoms. Below 50-40mg the rate of reduction will need to be slowed on par with an outpatient regimen

Source: RACGP, 2015

Note: The client should be reviewed weekly, sign a Medicare and PBS Claims information release form, and be on daily, next-day or weekly medication pickup depending on safety concern.

Table 22: Conversion table for benzodiazepine or Z-drug to diazepam transfer *

Drug	Trade Name	Approximate Equivalent to 5mg Diazepam (mg)	Half-life (hours)
Benzodiazepines			
Alprazolam	Xanax, Kalma, Alprax, Ralozam	0.5-1	6-25
Oxazepam	Serepax, Murelax, Alepam	15-30	4-15
Clonazepam	Rivotril, Paxam	0.25-0.5	22-54
Nitrazepam	Mogadon, Aldorm	5	16-48
Lorazepam	Ativan	0.5-1	12-16
Temazepam	Normison, Temaze, Temtabs	10-20	5-15
Z-drugs			
Zolpidem	Dormizol, Somidem, Stildem, Stilnox, Zolpibell	10	1.4-4.5
Zopiclone	Imovane, Imrest	7.5	5

* The above conversions are approximates only and clinical judgement is required

Source: NSW Department of Health, (2008a)

Symptomatic medications

A range of symptomatic medications may be used in benzodiazepine withdrawal.

Z-Drugs

Z-drugs, like benzodiazepines, are GABA receptor agonists. However, due to their different chemical makeup, they produce fewer anxiolytic and anticonvulsant side-effects and are occasionally prescribed during withdrawal to manage insomnia and other symptoms. While initially presumed to have a lower addiction liability, there have since been extensively documented cases of dependence and withdrawal on Z-drugs and, as such, their use is not recommended during withdrawal. Instead, non-medication strategies and medications without dependence liability (e.g., melatonin and SSRIs) should be used to manage symptoms of withdrawal (see Table 23 below). If Z-drugs are used, they should be fully tapered off prior to discharge from in-patient withdrawal.

Table 23: Symptomatic medications for use in benzodiazepine withdrawal

Symptom(s)	Symptomatic Medication(s)
Anxiety or Depression	If anxiety or insomnia is prominent in benzodiazepine withdrawal, consideration may need to be given to rate of dose reduction Sedating atypical antipsychotics are sometimes prescribed as benzodiazepine sparing agents but carry some risk and are not approved for this use Persisting anxiety or depressive symptoms may be managed with antidepressant medications & SSRIs
History of seizures	Anticonvulsants
Physical symptoms such as tremors	Beta-blockers
Insomnia	Melatonin

Source: NSW Department of Health (2008a); Murray et al, (2002)

General principles and guidelines for coping with and relaxing during withdrawal may also assist some clients withdrawing from benzodiazepines (Appendix 5).

Benzodiazepine withdrawal assessment tools

The Clinical Institute Withdrawal Assessment Scale - Benzodiazepines (CIWA-B) is a 22-item instrument designed to assess and monitor the type and severity of symptoms of benzodiazepine withdrawal (Busto, Sykora, & Sellers, 1989; see Appendix 10). Although the CIWA-B is commonly used within AoD treatment settings (Saunders & Yang, 2002), its psychometric properties have not been extensively evaluated. The CIWA-B is preferable to exclusively self-report scales as symptoms of co-morbid conditions, especially anxiety, may be confused with symptoms of withdrawal.

Withdrawal scales should never be solely relied upon to monitor complex withdrawal as they may lack the sensitivity to detect progression to serious illness. Withdrawal monitoring should always include close clinical observation and judgement.

Psychosocial support

Psychosocial interventions complement the medical management of benzodiazepine withdrawal symptoms and should be available at all withdrawal services.

The overarching principles of supportive care are fundamental to the provision of a holistic model of withdrawal care. Psychosocial interventions should explore:

- » Client goals, including any change in these goals over time
- » Perceived barriers to achieving the client's goals of withdrawal care
- » The client's beliefs about withdrawal care
- » Appropriate interventions and support services

Longer-term support strategies for clients whose benzodiazepine withdrawal results in the re-emergence of symptoms for which they were originally prescribed benzodiazepine medication

A recent Cochrane review found moderate evidence that Cognitive Behavioural Therapy (CBT) is an effective adjunct to a tapered medication regimen and should

continue post-withdrawal, particularly in chronic benzodiazepine users and clients who initiated benzodiazepine use to control anxiety and sleep related disorders (Darker et al, 2015).

Planning for post-withdrawal

Post-withdrawal support is an essential component of the treatment continuum for benzodiazepine-dependent clients.

As reduction of benzodiazepines is usually part of a long term program, post-withdrawal measures are often early in the treatment episode, prior to cessation of drug treatment. Post withdrawal planning should:

- » Commence at the assessment phase of withdrawal care
- » Consider individualised supports for symptom management (e.g. including insomnia, sleep hygiene and anxiety management, which can commonly occur following benzodiazepine cessation)
- » 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 post-withdrawal care, as appropriate, to help implement the client's post-withdrawal plan

Education should be provided prior to completing withdrawal as to the increased risk of overdose should the patient recommence using benzodiazepines given the loss of tolerance that occurs during withdrawal.

Special populations

Children and Adolescents

Benzodiazepines are generally not recommended for use in children or adolescents, as they may cause aggression, anxiety, nervousness, and disinhibition.

Young people

Young people presenting to AoD services should be linked with youth-specific services, where available, as they may present with varying psychosocial factors contributing to their drug use which impact upon their long-term plan for recovery. It is important to be mindful of the potential differences in treatment approach and care when commencing withdrawal care. Ongoing contact with, and adjunct support from, youth-specific workers throughout withdrawal care can promote more positive experiences for the young person. For further detailed information related to the withdrawal care of young ATSI users, please refer to the YSAS Clinical Practice Guidelines (YSAS, 2016).

Older clients

Over half of all clients (55%) withdrawing from benzodiazepines as a principal drug of concern are aged 30–49, with 23% aged 50 and over (AIHW, 2017a). Benzodiazepines are widely prescribed to older people to manage sleep related disturbances. Older people are at the greatest risk of harm from benzodiazepine use, given increased risk of CNS depression, falls (and fractures), cognitive impairment, delirium, ataxia, pseudo-dementia, physiological dependence, and mortality (Mallet, 2016). Older clients and those with chronic comorbid physical illness are also more likely to experience benzodiazepine withdrawal toxicity, typically due to poor metabolism and physical frailty. Increased supervision is recommended for older clients undergoing withdrawal.

Chronic Pain

There is a strong association between older age and chronic pain, often causing increases in sleep disturbances leading to benzodiazepine use. Assessment of benzodiazepine dependence in older clients should involve a review of sleep quality, including contributing lifestyle factors, sleep hygiene, comorbid anxiety or depression, physical and mental illnesses, and uncontrolled pain to focus management on an individualised basis.

Pregnant women

Benzodiazepines should be avoided during pregnancy and breastfeeding. Non-drug approaches for anxiety and insomnia are preferred. Management of withdrawal involving benzodiazepine dependent pregnant women should include input from an addiction specialist, experienced GP, the Women's Alcohol and Drug Service or an equivalent substance dependency maternity treatment obstetrician. In general, women who become pregnant and are already taking benzodiazepines should be tapered down to the lowest effective dose, or if possible should be completely withdrawn. As benzodiazepines can cross the placenta, there is some evidence of an association with foetal congenital abnormalities, as well as risks when taken later in pregnancy or while breastfeeding (e.g., foetal withdrawal syndrome, drowsiness, respiratory depression, poor feeding, etc.). With appropriate withdrawal care, there is no evidence that withdrawal is likely to cause problems to the mother or foetus, and therefore is preferred to a maintenance dose.

Clients with a comorbid disorder

Clients with substance use and co-occurring mental health (particularly personality disorders) disorders treated with benzodiazepines are more likely to develop dependence than other groups. Benzodiazepines should therefore be avoided except in the withdrawal context. Communication between care providers is important to establish shared goals for a client's care.

Comorbid AoD use and interactions

When benzodiazepines are mixed with other CNS depressants (e.g., alcohol and opioids), clients are at increased risk of respiratory depression, heavy sedation, coma, and death. They may also produce cross-tolerance, rendering withdrawal more severe and protracted. Comorbid use of anti-depressants may also increase risk of overdose. Benzodiazepines are therefore not recommended for poly-drug users, and those already taking them should be tapered-off.

Useful Resources:

- » **Reconnexion (Vic):** Programs and services that treat panic, anxiety, depression and benzodiazepine/ tranquiliser dependence, including an eHealth program, an information and counselling line, free telephone and email support, and group programs <http://www.reconnexion.org.au/>
Contact: 1300 273 266
- » **DACAS GP Fact Sheet:** Benzodiazepine withdrawal
 - http://dacas.org.au/Clinical_Resources/For_GPs.aspx
- » **RACGP Clinical Guidelines 2015:** Prescribing drugs of dependence in general practice: Benzodiazepines: Comprehensive clinical guidelines for general practitioners, including information sheets for clients on benzodiazepine withdrawal, sleep hygiene and insomnia
 - <https://www.racgp.org.au/your-practice/guidelines/drugs-of-dependence-B/>
 - <https://www.racgp.org.au/your-practice/guidelines/drugs-of-dependence-b/resource-d-communication-with-patients/d1-benzodiazepine-fact-sheet-for-patients/>
 - <https://www.racgp.org.au/your-practice/guidelines/drugs-of-dependence-b/resource-d-communication-with-patients/d4-sleep-hygiene-and-stimulus-control-fact-sheet-for-patients/>
- » Ashton, H. (2005). The diagnosis and management of benzodiazepine dependence. *Current Opinion in Psychiatry*, 18(3), 249–255
- » **The Royal Women's Hospital.** Medicines, drugs and breast feeding <https://www.thewomens.org.au/health-information/breastfeeding/medicines-drugs-and-breastfeeding>

15 STIMULANTS

These Guidelines provide a comprehensive approach to withdrawal care. The use of prescribing guidelines outlined below must be supported by a comprehensive clinical assessment.

Illicit stimulants include amphetamines, cocaine, and ecstasy (MDMA), are the second most widely used drug class in Australia (AIHW, 2017b). In 2016, cocaine (2.5%) was the most commonly used in the previous 12-months, followed by ecstasy (2.2%), and methamphetamines (1.4%; AIHW, 2017b). While less frequently used, the harms associated with methamphetamine dependence in Australia far outweigh those associated with other stimulants. Since 2014, amphetamines have become the second most common principle drug of concern for those presenting for treatment, after alcohol (AIHW, 2017a).

The term 'amphetamine' encompasses three drug-types: amphetamine, dexamphetamine, and methamphetamine. Dexamphetamines are stimulants available legally on prescription to treat a variety of ailments, but which have the potential for illicit use when used for non-medical purposes. Stimulants vary in many ways, including appearance, composition, effect, mode of administration, and availability (see Table 24). Many illicit drugs such as speed and ecstasy also include other substances such as MDMA, ephedrine, pseudoephedrine, and methcathinone.

Table 24: Stimulant types and characteristics

	Cocaine	Ecstasy	Speed	Base	Ice
Drug	Cocaine hydrochloride	3,4-Methylenedioxy-methamphetamine	Amphetamine	Meth	Meth
Street Name	Coke, charlie, lines	E, eckie, xtc, pills	Whiz, go-ee	Paste, point, pure, wax	Meth, shards, glass, rock, gear
Appearance	Crystalline white-coloured powder	Tablets or powder (any colour)	Fine, (usually) white powder	Sticky, waxy moist powder or paste or crystal (usually cream-yellow coloured)	Crystal or coarse crystalline powder
Mode of Administration	Snorted, mostly, but sometimes injected or swallowed	Swallowed	Swallowed, sometimes snorted or injected	Swallowed, sometimes snorted, smoked, or injected	Swallowed, sometimes snorted, smoked, or injected
Availability/Quantity Forms	Grams	Pills/tablets, and grams	'Points' (0.1 gram) and grams	'Points' (0.1 gram) and grams	'Points' (0.1 gram) and grams

Source: Queensland Alcohol and Drug Withdrawal Clinical Practice Guidelines (Queensland Health, 2012).

The existence and clinical significance of stimulant withdrawal is firmly established (Lee et al, 2007; Rawson, 2013; Radfar & Rawson, 2014). Although scales exist to monitor stimulant withdrawal, there is a limited evidence regarding effective pharmacological treatment approaches to managing withdrawal symptoms (Brensilver, Heinzlering & Shoptaw, 2013; Hellem, 2012; Queensland Health, 2012).

While stimulant withdrawal is not life threatening, the complex presentation of many users seeking treatment warrants thorough clinical assessment and withdrawal management. Assessment should explore physical and mental health, concurrent drug use, and dependence. The purpose of structured withdrawal is to attend to and manage possible withdrawal complications, change environment, access supportive care and engage the client in post-withdrawal relapse prevention and support.

Stimulant dependence occurs at increased rates across vulnerable populations. Certain LGBTIQ clients (homosexual or bisexual) are almost 6 times more likely to use ecstasy and meth/amphetamines compared to heterosexual clients (AIHW, 2017b). Younger people (14-30 years) are far more likely to use ecstasy and cocaine, while those in regional and remote areas, ATSI populations, as well as homeless and unemployed individuals experience generally higher rates of use.

Continuing care is critical to successful treatment. In particular, collaborative work with external support services to address the presenting psychosocial factors associated with stimulant misuse is advised.

In delivering stimulant withdrawal services to clients, clinicians should consider:

- » Setting
- » Withdrawal syndrome and potential complications
- » Assessment (Amphetamine Withdrawal Questionnaire (AWQ; See Appendix 11)
- » Withdrawal care planning
- » Withdrawal care
- » Planning for post-withdrawal
- » Special needs groups

Stimulant withdrawal settings

The most appropriate setting for an individual seeking stimulant withdrawal should be informed by a thorough clinical assessment.

Stimulant users typically undertake withdrawal in the community and, for the most part, it is considered safe to do so (Ciketic et al, 2012).

Supervised residential withdrawal settings are appropriate for clients with:

- » Multiple drug dependence
- » Severe amphetamine dependence
- » Serious medical or psychiatric complications
- » An unfavourable home environment
- » A history of multiple, unsuccessful attempts to withdraw from stimulants
- » Previous admission to residential rehabilitation facilities

Unplanned stimulant withdrawal can take place in psychiatric facilities, as well as non-clinical settings such as prisons and police detention. In all of these settings, careful assessment and access to medical support is important. Regardless of setting, stimulant withdrawal management has the ability to step-up and step-down care based on client need.

Stepped care allows clients whose needs warrant greater withdrawal care to be transferred to a more intensive withdrawal setting. Stepped care also allows those for whom need is reducing to transfer to less intensive care.

Stimulant withdrawal

When stimulants are used sporadically, physiological dependence rarely develops, although clients may experience a 'crash' following use, resulting in mild withdrawal symptoms. Higher or more frequent use can cause physiological dependence and psychological dependence. Unlike the features of alcohol or opioid withdrawal, which tend to be the opposite of intoxication, some symptoms of stimulant withdrawal can mimic intoxication, with symptoms of agitation, hyper-arousal, and sleep disturbance. One important aspect to discuss with clients prior to withdrawal is the high chance of experiencing changes in sleep and mood after the acute withdrawal phase, which can last for weeks or months (see Figure 11 for the phases of withdrawal). The experience of these lingering symptoms of withdrawal can be a trigger for clients to return to substance use.

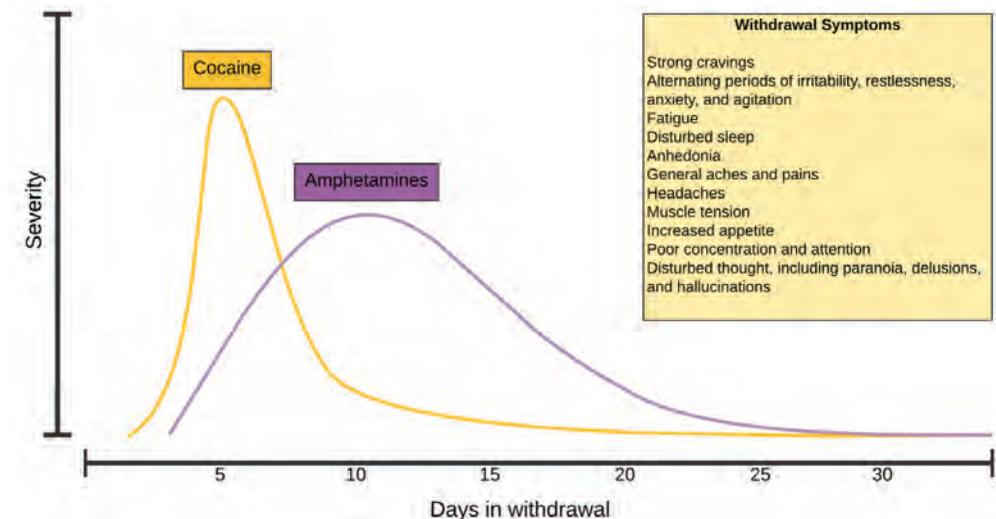
Stimulant withdrawal syndrome

Severity of Withdrawal

The severity of withdrawal is influenced by many factors, such as

- » Dose, frequency, intensity, and duration of recent use
- » The type of stimulant used and its potency
- » Mode of administration
- » Poly-drug use
- » Comorbid physical or mental health issues

Figure 11: Phases of stimulant withdrawal (Source: NSW Department of Health, 2008a)



Symptoms of withdrawal tend to emerge at day one of abstinence, peak during days one to three, and decrease in a linear fashion over seven to ten days. Some symptoms persist for several weeks, particularly sleep disturbance and increased appetite, with the majority of symptoms stabilising within two weeks (McGregor et al, 2005). However, there is some evidence to suggest that craving can persist for up to 3 months following cessation of methamphetamine use (Wang et al, 2013).

Stimulant withdrawal assessment

Clinicians should be familiar with the general principles of assessment (see section 7).

During withdrawal assessment, clinical staff should be alert to signs of client intoxication.

A thorough assessment of stimulant users is critical in determining the most appropriate withdrawal care. Assessment is, however, dependent on the capacity of clients to provide relevant information which may be hampered by some of the effects of stimulant intoxication (see table 25 below).

Table 25: Signs of stimulant intoxication

Symptoms	Physiological	Psychological
Desired effects	Increased energy Increased alertness	Euphoria Increased talkativeness Increased confidence
Short-term negative effects	Loss of appetite Increased heart rate and respiration Nausea and vomiting Hot and cold flushes Sweating Headaches Pallor Jaw clenching	Paranoia Anxiousness Panic attacks Difficulty sleeping Moodiness, irritability, and agitation
Long-term negative effects	Heart attack Hypertension Stroke	Depression Anxiety Insomnia Psychosis

For intoxicated clients, all services should:

- » Identify the most recent drug type, dose, and time consumed
- » Implement regular clinical observations of the client at frequent intervals at first, then decreasing over time as evidence of intoxication subsides
- » Revisit the assessment when acute intoxication has passed

Clients undergoing stimulant 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, when another assessment should be undertaken (see Figure 11). If there is concern about a client's mental state, physical health, or risk of harm to themselves or others, specialist assessment is necessary.

Assessment of stimulant withdrawal clients should explore:

- » Stimulant dependence as determined by DSM-V and ICD-10 (see section 2: Definitions of substance use disorder and withdrawal)
- » Quantity, type/form of substance, frequency of stimulant use, and route of administration (many street products will not be pure, so urine drug testing should be used to appropriately determine what has been consumed)
- » Poly-drug use and dependence, particularly concurrent alcohol, cannabis, and nicotine use (common in the stimulant-dependent population)
- » Physical health issues associated with injecting stimulant use, as required
- » Physical health issues, including medical complications associated with stimulant use, such as respiration, neurological, and cardiovascular conditions
- » Mental health issues, including symptoms of depression and/or psychosis
- » Pregnancy
- » The severity of any previous withdrawal episode

Stimulant withdrawal care planning

Information obtained during assessment will inform the withdrawal care plan.

- » The withdrawal care plan documents:
- » 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
- » A post-withdrawal plan, including relapse prevention and linkages to external support networks to address the client's psychosocial needs
- » Inclusion of family and significant others where appropriate

Stimulant withdrawal care

There are no standard guidelines for stimulant withdrawal. In practice the mainstay of withdrawal care is the provision of psychological support, therapy, and behavioural interventions. Benzodiazepines (e.g., diazepam) and anti-psychotics are often used to ameliorate symptoms of agitation and sleep disturbance.

Amphetamine-type substance withdrawal requires regular monitoring, including looking for psychiatric disturbance. Psychosis secondary to stimulant use is usually managed by specialist mental health services in conjunction with addiction medicine specialist teams and may require hospital admission and treatment with antipsychotic medication.

All withdrawal care is predicated on ongoing and objective monitoring in the initial stages of a client's presentation to withdrawal care. Monitoring should then occur at regular intervals, the frequency of which should be determined by the severity of the withdrawal syndrome.

Symptomatic medications

A range of symptomatic medications may be appropriate for use in stimulant withdrawal.

Stimulants act on a range of different neurotransmitters, and as a consequence, there is no evidence for a single medication or approach that treats the whole of the stimulant withdrawal syndrome.

Stimulant medications, such as dexamphetamine and modafinil, have shown some promise in reducing the severity of the withdrawal syndrome and cravings (ANCD, 2013, see resources on page 163). These medications can carry a risk of abuse or dependence, and have been found to be safe, effective and well-tolerated when trialled under daily-supervised conditions (ANCD, 2013). A number of studies have examined the use of mirtazapine, with some evidence of improvement in anxiety symptoms and sleep, but not overall severity or duration of withdrawal (Shoptaw et al, 2009; ANCD, 2013).

However, in practice, symptomatic medications may be useful for some clients in managing specific withdrawal symptoms. For example, short-term use of low-dose benzodiazepines or atypical anti-psychotics (such as quetiapine) may be helpful in managing agitation in the acute withdrawal period (ANCD, 2013).

Symptomatic medications available for stimulant withdrawal are outlined in Table 26.

Table 26: Symptomatic medications for use in stimulant withdrawal

Symptoms	Symptomatic Medication
Pronounced agitation or insomnia	Benzodiazepines, preferably diazepam in tapering doses for short duration Other agents such as typical and atypical antipsychotics, mirtazapine, and tricyclic antidepressants have been used (Tricyclic antidepressants are generally avoided due to toxicity)
Psychotic features (psychosis, thought disorder, such as paranoid ideation, or perceptual disturbances)	Typical antipsychotic medication including haloperidol, chlorpromazine, and atypical agents such as olanzapine or risperidone Note: If these symptoms are marked, assessment with an experienced mental health clinician (or psychiatrist) is recommended and involuntary treatment under jurisdictional mental health acts may be required Antipsychotic medication is often continued for several weeks after an acute presentation with careful monitoring if medication is withdrawn
Other symptoms	Non-specific symptoms such as headache and nausea can be treated with symptomatic agents Psychomotor slowing, particularly if part of a depressive disorder, may respond to selective serotonin reuptake inhibitors (SSRIs) Muscle aches and cramping may be treated with magnesium supplements and or paracetamol ¹

Source: Wodarz et al, (2017); Scahill, (2013)¹

General principles and guidelines for coping with craving and relaxing during withdrawal may also assist some clients (Appendix 5).

Stimulant withdrawal scale

The Amphetamine Withdrawal Questionnaire (AWQ; Appendix 11) is a 10-item self-report instrument based on DSM-IV-TR criteria for amphetamine withdrawal (Srisurapanont, Jarusuraisin, & Jittiwutikan, 1999). It is not a validated instrument, but provides one option for monitoring a stimulant withdrawal syndrome.

It is important to note that withdrawal scales should never be solely relied upon to monitor complex withdrawal as they may lack the sensitivity to detect progression to serious illness. Withdrawal monitoring should always include close clinical observation and judgement.

Psychosocial support in stimulant withdrawal

Psychosocial interventions complement the medical management of stimulant withdrawal symptoms and should be available at all withdrawal services.

The overarching principles of supportive care are fundamental to the provision of a holistic model of withdrawal care. Psychosocial interventions should explore:

- » Client goals, including any change in these goals over time
- » Perceived barriers to achieving the client’s goals of withdrawal care
- » The client’s beliefs about withdrawal care
- » Appropriate interventions and support services

Planning for post-withdrawal

Post-withdrawal support is an essential component of the treatment continuum for stimulant dependent clients.

Planning for post-withdrawal should:

- » Commence at the assessment phase of withdrawal care
- » 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 post-withdrawal care, as appropriate, to help implement the client’s post-withdrawal plan

Special populations

Pregnant women

Stimulant use during pregnancy is associated with limited risks to the mother, but a number of adverse outcomes for the foetus. Use of pseudoephedrine has been linked to increased risk of ventricular septal defect, and most stimulant drug use has been associated with umbilical artery spasm, intrauterine growth retardation, poor prenatal brain development, placental abruption, as well as neonatal intoxication and withdrawals. Pregnant women should be provided with necessary support to help cease stimulant drug use. Interventions should include counselling, relapse prevention, social support, and treatment for any comorbid mental health issues. The following approach is recommended:

- » Advise the client of the potential health risks to herself and to her baby (higher rates of obstetric complications such as spontaneous abortion, miscarriage, and placental abruption)
- » Provide or refer the client to relevant support services (preferably within a multidisciplinary framework)
- » Encourage the client to reduce or cease stimulant use
- » Discuss the risks associated with stimulant use and mental illness, and monitor mental health where necessary

Clients with a co-occurring disorder

Clients for whom a psychiatric condition emerges during stimulant withdrawal should receive care that addresses their specific needs.

Specifically, they should be:

- » Linked with appropriate mental health services
- » Encouraged to continue to seek mental health support beyond withdrawal care
- » Monitored for withdrawal symptoms and managed appropriately

Families/significant others

Consideration should be given to the needs of family and significant others in contact with a stimulant dependent person during outpatient withdrawal.

Where appropriate, information should be provided to family and significant others regarding the withdrawal process and support services such as DirectLine and/or Family Drug Help.

Young people

Young people presenting to AoD services should be linked with youth-specific services, where available.

Young people may present with varying psychosocial factors contributing to their drug use which impact upon their long-term plan for recovery. It is important to be mindful of the potential differences in treatment approach and care when commencing withdrawal care. Ongoing contact with and adjunct support from youth-specific workers throughout withdrawal care can promote more positive experiences for the young person.

For further detailed information related to the withdrawal care of young stimulant users, please refer to the YSAS Clinical Practice Guidelines (YSAS, 2016).

Useful Resources:

- » **DACAS GP Fact Sheet:** Management of stimulant use http://dacas.org.au/Clinical_Resources/For_GPs.aspx
- » **1800 ICE ADVICE:** Ice helpline for individuals, families and health professionals
- » **Breakthrough (Vic):** Ice education for families www.breakthroughforfamilies.com
- » ANCD (2013) Research Paper: Medication Treatment Options <http://www.atoda.org.au/wp-content/uploads/rp29-medication-treatment-options.pdf>
- » Interventions and treatment for problematic use of methamphetamine and other amphetamine-type stimulants (ATS). <https://www.matuaraki.org.nz/uploads/files/resource-assets/interventions-and-treatment-for-problematic-use-of-methamphetamine-and-other-amphetamine-type-stimulants.pdf>

16 OTHER DRUGS:

16.1 Ketamine

Ketamine hydrochloride is a dissociative anaesthetic which acts primarily as a glutamatergic NMDA receptor antagonist in the brain. Ketamine is used clinically as a powerful analgesic for both humans and animals, and has shown potential for treating depression (McGirr et al, 2015). Ketamine was used illicitly in the previous twelve months by 0.4% of Australians in 2016, with 1.3% reporting ever having used ketamine during their lifetime (AIHW, 2017b). Ketamine use is more prevalent in some sub-groups than others, particularly those who frequent clubs or music festivals, medical workers, and LGBTIQ individuals, and has been linked to unsafe sex practices (Abdulrahim & Bowden-Jones, 2015). When used illicitly, ketamine is usually sold as a crystalline powder, but may be compounded into tablets or dissolved into a liquid. It is usually snorted or swallowed, and is occasionally injected. Ketamine can also be smoked, often mixed with tobacco or cannabis. Typical dose ranges are 20–100mg orally and 10-50mg for intravenous use (Corazza et al, 2012). Alternate names for ketamine include 'K', 'special K', 'vitamin K', 'kit-kat', 'ket', 'cat', 'cat valium', or 'tranq'.

In delivering ketamine withdrawal services to clients, clinicians should consider:

- » Setting
- » Withdrawal syndrome and potential complications
- » Assessment
- » Withdrawal care planning
- » Planning for post-withdrawal
- » Special needs groups

Ketamine withdrawal

The existence of a ketamine withdrawal syndrome is uncertain, and symptoms that may be indicative of substance withdrawal do not occur in all clients. Case series have reported up to 6 days of reduced appetite, anxiety, tiredness, shaking, sweating, and palpitations (Garg et al, 2014; Rees, Morgan & Curran, 2006).

The effects of ketamine intoxication and overdose, and its long-term effects are shown in Table 27.

Table 27: Long and short term symptoms of ketamine intoxication, toxicity, and withdrawal

	Psychological Symptoms	Physiological Symptoms
Intoxication (low doses)	Relaxation, stimulant-type effects, mood-alterations, mild-dissociation, psychedelic-effects, distortions of time and space, visual and auditory hallucinations, confusion, clumsiness, drowsiness, slurred speech, blurred vision, anxiety, and hyperalgesia	Hypertension, tachycardia, vomiting, dizziness and nausea, abdominal pain, and lower urinary tract symptoms
Intoxication (high doses)	Severe dissociation ('the k-hole'), distorted perceptions, psychedelic effects, and sedation	Hypertension, tachycardia, vomiting, and nausea
Acute Toxicity*	Impaired consciousness, delirium, amnesia, analgesia, psychosis, and paranoia	Convulsions, seizures, muscle rigidity, hyperthermia, tachycardia, and coma
Withdrawal	Tolerance, craving, anxiety, depression, dysphoria, and tremors	Shaking, sweating, and palpitations
Long-Term Effects	Insomnia, mood and personality changes, anxiety and depression, flashbacks, memory impairment, and concentration difficulties	Headaches, abdominal pain ('k-cramps'), 'ketamine bladder syndrome' (characterised by incontinence and painful bladder ulceration), and damage to the urinary tract

See table notes on next page.

Notes for table 27.

Source: Abdulrahim & Bowden-Jones, 2015; Chen, Huang & Lin, 2014; Morgan and Curran, 2011.

*Ketamine has a wide therapeutic window and is rarely implicated in overdose when used alone.

Ketamine Withdrawal Settings

There is no indication that clients withdrawing from ketamine alone require medically monitored withdrawal. The main barrier to home-based withdrawal is the experience of severe cravings beginning a few days after commencement of withdrawal (Morgan & Curran, 2011).

The best withdrawal care facilitates step-up and step-down care, according to a client's need.

Ketamine Withdrawal Assessment

Clinicians should be familiar with the general principles of assessment (see section 7).

A thorough assessment of ketamine-dependence clients is critical in determining an appropriate setting for withdrawal care. Assessment is dependent on client's capacity to provide accurate information, which can be limited by symptoms of intoxication as well as short- and long-term memory impairment experienced by long-term ketamine users.

If the client presents intoxicated the clinician should attempt to ascertain the time of most recent drug use, the amount used and any other drugs used that day to determine risks associated with acute toxicity. The assessment should be regularly revisited, or when intoxication begins to resolve.

A ketamine assessment should explore AoD use, including:

- » Dependence
- » Quantity and frequency of ketamine use and the route of administration
- » Other drug and alcohol use or dependence

- » Co-morbid physical health problems
- » Co-morbid mental health problems, in particular past diagnoses of psychotic disorders.
- » Pregnancy status
- » Previous withdrawals including outcomes and severity of symptoms
- » Potential of drug interactions with HIV treatment

Ketamine Withdrawal Care

Information obtained during the assessment will help inform the withdrawal care plan.

The withdrawal care plan should include:

- » The likely severity of withdrawal, based on frequency and quantity of use, other substances used, and previous withdrawal symptoms
- » The client's motivation for withdrawal and barriers to entering and completing withdrawal care
- » Available supports to enhance the likelihood of success
- » A post-withdrawal plan, including relapse prevention and linking to external support networks to address psychosocial needs

There are no existing guidelines for ketamine withdrawal, and as such the approach to withdrawal management is largely symptomatic.

Planning for post-withdrawal care

Post-withdrawal support is an essential component of the treatment continuum for ketamine-dependent clients. Planning for post-withdrawal care should:

- » Commence prior to withdrawal and be driven by the client
- » Support the client's goals including those around substance use, accommodation, safety and protection, legal issues, family, and vocation
- » Assist clients in accessing post-withdrawal support services to provide ongoing education, counselling, and advocacy
- » Involve family and significant others to help implement the client's post-withdrawal plan, if appropriate

Special populations

Pregnancy

Ketamine crosses the placenta and can be detected in foetal tissue. Ketamine has been associated with reduced APGAR Score (Appearance, Pulse, Grimace, Activity, and Respiration) at birth, but its long term effects on child development are still unknown.

Poly-substance dependence

Poly-drug use when using ketamine is very common. When combined with other CNS depressants, such as benzodiazepines, alcohol, or opioids, ketamine can lead to vomiting, respiratory depression, and even death. Use with stimulants increases the risk of adverse cardiac events. It is recommended that when people present with acute toxicity after ketamine use, clinicians consider the possible impact of other drugs ingested. Clients smoking ketamine with tobacco or cannabis should be assessed for dependence on these substances.

Clients with Co-occurring disorders

Ketamine can induce transient psychotic symptoms in clients without a history of mental illness. Use of ketamine in clients with schizophrenia often causes a re-emergence of symptoms (Morgan and Curran, 2011). While ketamine is being investigated as a possible treatment of depression, illicit use of ketamine has been associated with adverse mood and personality changes.

Cardiac Disease and Cerebrovascular Disease

Use of ketamine can increase heart rate, cardiac output, and blood pressure. This raises the acute risk for those with severe cardiac disease, at high risk of stroke, and individuals with raised intracranial pressure.

Useful Resources:

- » **NEPTUNE:** Abdulrahim D & Bowden-Jones O, on behalf of the NEPTUNE Expert Group. Guidance on the Management of Acute and Chronic Harms of Club Drugs and Novel Psychoactive Substances. Novel Psychoactive Treatment UK Network (NEPTUNE). London, 2015.
- » The Highway Code: Harm reduction advice for Ketamine https://www.globaldrugsurvey.com/wp-content/uploads/2014/04/The-High-Way-Code_Ketamine.pdf
- » Morgan C. J., & Curran H. V. (2012). Ketamine Use: A Review. *Addiction*, 107(1), 27-38

16.2 Gamma Hydroxybutyrate (GHB)

GHB is a central nervous system depressant which acts primarily on GABA receptors, but also exerts effects on serotonin, dopamine, and cholinergic neurotransmission. Approximately 1% of Australians report ever having used GHB and 0.1% report having used in the previous twelve months (AIHW, 2017b). In Australia, use of GHB is particularly prevalent concentrated among gay and bi-sexual men, particularly those who frequent night clubs (Lea et al, 2013). Its use may be driven in part by its relaxing, euphoric, and sexually-stimulating effects at low doses. GHB is generally sold in small vials and is a colourless, odourless liquid with a bitter taste. It is generally swallowed (most commonly diluted in drinks) but can also be injected or inserted rectally. Alternate names for GHB include: 'fantasy', 'Grievous Bodily Harm', 'liquid E', 'liquid fantasy', 'scoop', and 'G'. Popular analogues of GHB include 'Blue Nitro', 'Renewtrient', and 'Revivarant', which are most frequently composed of gamma-butyrolactone (GBL) and 1, 4-butanediol (1,4-B). Users typically take small doses of GHB multiple times in a session for a limited period. Dependent users are likely to use it more regularly and over prolonged periods (e.g., every 4 hours) (Miotto et al, 2001). Table 28 outlines common symptoms of GHB intoxication, dependence, and overdose.

Table 28: Symptoms of GHB intoxication and overdose

Stage	Symptoms
Desired effects of Intoxication	Euphoria, increased libido, and reduced inhibitions
Negative effects of Intoxication	Episodes of amnesia, clumsiness, drowsiness, tremor, bradycardia, gastrointestinal upset, vomiting, and urinary incontinence
Overdose	Shallow or irregular breathing, confusion or agitation, hallucinations, blackouts, unconsciousness, and death Note: The risk of overdose and death is increased if used with other central nervous system depressants, such as alcohol or benzodiazepines When used in conjunction with stimulants the risk of seizures increase
Dependence	Daily use multiple times throughout the day Waking at night to use or using other drugs to prevent symptoms overnight Symptoms of withdrawal on days of abstinence

Source: Abdulrahim D & Bowden-Jones O, on behalf of the NEPTUNE Expert Group. Guidance on the Management of Acute and Chronic Harms of Club Drugs and Novel Psychoactive Substances. Novel Psychoactive Treatment UK Network (NEPTUNE). London, 2015.

In delivering GHB withdrawal services to clients, clinicians should consider:

- » Setting
- » Withdrawal syndrome and potential complications
- » Assessment
- » Withdrawal care planning
- » Planning for post-withdrawal
- » Special needs groups

GHB withdrawal syndrome

The existence of a GHB withdrawal syndrome has been increasingly recognised over the past twenty years through case reports and small case series (McDonough et al, 2004). People who are dependent on GHB should be advised not to abruptly cease use or to attempt unsupervised detoxification, as potentially life-threatening complications have been reported in cases of severe dependence.

GHB withdrawal is most often seen in clients who use the drug frequently (Zvosec & Smith, 2004). The severity of withdrawal can be expected to be more severe with frequent use, large amounts used per day and concurrent benzodiazepine or alcohol use. The symptoms of withdrawal are very similar to that of alcohol withdrawal, but with a more sudden onset (between 1-24 hours; See Table 29 for symptoms). Withdrawal symptoms often become more pronounced over the first 24 hours of withdrawal, and can last for up to two weeks, with symptoms waxing and waning over this time (Bell & Collins, 2011; Abdulrahim & Bowden, 2015).

Table 29: Phases of GHB withdrawal

Withdrawal	Onset < 24 Hours	Onset > 24 Hours (Waxing and Waning for up to 14 Days)	Possible Complications	Possible Long Term Effects (Weeks to Months)
	Insomnia Anxiety Restlessness Tremor Sweating Tachycardia Nausea Vomiting	Transient tachycardia and hypertension Agitation and combativeness Visual, auditory, olfactory, and tactile hallucinations Autonomic instability Seizures Delusions Paranoia Delirium	Hyperthermia, rhabdomyolysis, disseminated intravascular coagulation, arrhythmia, and electrolyte disturbances - all of which can result in a client's death	Insomnia Anxiety Depressive symptoms Tremor Impaired recall

See table notes on next page.

Notes for Table 29.

Source: Abdulrahim, D. & Bowden-Jones, O. (2015). Guidance on the Management of Acute and Chronic Harms of Club Drugs and Novel Psychoactive Substances.

GHB Withdrawal Settings

People who are dependent on GHB should ideally be advised to undertake withdrawal in a supervised setting. The prolonged and potentially severe symptoms can lead to poor outcomes if conducted at home, not just due to the medical complications discussed above, but also due to the potential for overdose if clients attempt to relieve their symptoms through alcohol and/or benzodiazepines.

GHB Withdrawal Assessment

Clinicians should be familiar with the general principles of assessment (see section 7).

A thorough assessment of GHB-dependent clients is critical in determining the appropriate setting for withdrawal care. Assessment is dependent on client's capacity to provide accurate information, which can be limited by intoxication symptoms at review and the amnesic effects of GHB.

If a client presents intoxicated the clinician should to the best of their ability ascertain the time of last drug use, the amount used, and any other substances used that day to determine the risk of overdose. The assessment should be revisited hourly, or when the intoxication begins to resolve.

A GHB assessment should explore AoD use, including:

- » Dependence
- » Quantity and frequency of GHB use and the route of administration
- » Other drug and alcohol use or dependence
- » Co-morbid physical health problems
- » Co-morbid mental health problems, in particular past diagnoses of psychotic disorders.
- » Pregnancy status
- » Previous withdrawals including outcomes and severity of symptoms.

GHB Withdrawal Care Plan

Information obtained during the assessment will help inform the withdrawal care plan.

The care plan should include:

- » Likely severity of severe withdrawal based on frequency and quantity of use, other substances used, and previous withdrawal symptoms.
- » Risks associated with GHB use, including overdose history
- » The client's motivation for withdrawal and barriers to entering and completing withdrawal care
- » Available supports to enhance the likelihood of success
- » A post-withdrawal plan, including relapse prevention and linking to external support networks to address psychosocial needs

As there is a small difference in the amount of GHB used to become intoxicated and the amount resulting in an overdose, there should be a discussion about the reduction in tolerance after a withdrawal and the associated risk of overdose prior to discharge.

GHB Withdrawal Care

There are no existing prescribed guidelines for GHB withdrawal and no randomised controlled trials or robust prospective clinical trials have investigated GHB withdrawal. As such, specialist advice should be sought in planning withdrawal regimens for GHB dependence. Evidence for best practice care is derived from case reports and case series, suggesting that care should be provided in a low stimulus environment, with adequate supportive care, nutrition and hydration.

In terms of medication approaches, there is no evidence for the use of antipsychotics and their use has been associated with adverse outcomes through the side effects of these medications (Brunt, Van Amsterdam & Brink, 2012). In general, a reducing regimen of benzodiazepines is the standard pharmacotherapy approach used for the management of GHB withdrawal (Lingford-Hughes et al, 2012). For mild withdrawal, oral diazepam can be used for symptom management. It has been noted that clients in GHB withdrawal often require high doses due to their tolerance for the sedating effects of medications. There is no evidence that early use of benzodiazepines can

prevent delirium from developing. Novel approaches include the use of baclofen (Floyd, Wood & Dargan, 2018), although there can be risks associated with the use of baclofen on top of GHB leading to increased sedation, respiratory distress, or coma (Abdulrahim & Bowden-Jones, 2015).

Planning for Post-Withdrawal Care

Post-withdrawal support is an essential component of the treatment continuum for GHB-dependent clients.

Planning for post-withdrawal care should:

- » Commence prior to withdrawal and be driven by the client
- » Support the client's goals including those around substance use, accommodation, safety and protection, legal issues, family, and vocation
- » Assist clients in accessing post-withdrawal support services to provide ongoing education, counselling, and advocacy
- » Involve significant others to help implement the clients post-withdrawal plan.
- » Clients and their support people should be aware of the likelihood of ongoing symptoms of tremor, insomnia, anxiety, and depressive symptoms and impairment in recall continuing for weeks or months after the inpatient withdrawal is completed

Special Populations

Pregnancy

There is little-to-no research on the effects of GHB use in pregnancy or in foetal outcomes (Scott & Lust, 2010).

Polysubstance dependence

Dependence on alcohol and or benzodiazepines increases the risk of experiencing severe withdrawal symptoms. Withdrawal can be complicated by the client requiring very high levels of benzodiazepines to control withdrawal symptoms given their tolerance to sedating effects.

Clients with co-occurring disorders

Anxiety and psychotic symptoms are common during the acute withdrawal period.

Ongoing psychotic symptoms after the withdrawal period warrant referral to mental health services. While some anxiety and depressive symptoms post withdrawal are expected, if these interfere with functioning or cause risk to the client or others, referral to mental health services is required.

A mental illness is not a contraindication to a GHB withdrawal, especially when a client's use is putting their health at risk. If active psychotic symptoms are present, the pros and cons of commencing a withdrawal should be considered with the client and their treating mental health clinician/practitioner.

Families/significant others

Consideration should be given to the needs of family and significant others in contact with an alcohol-dependent person during outpatient withdrawal or reduction.

Where appropriate, information should be provided to family and significant others regarding the alcohol withdrawal process and support services such as DirectLine and/or Family Drug Help.

Useful Resources:

- » Abdulrahim D & Bowden-Jones O, on behalf of the NEPTUNE Expert Group. Guidance on the Management of Acute and Chronic Harms of Club Drugs and Novel Psychoactive Substances. Novel Psychoactive Treatment UK Network (NEPTUNE). London, 2015.
- » Australian Drug Foundation. 2017. GHB. Victoria, Australian Drug Foundation.
- » Brunt, T., GC van Amsterdam, J., & van den Brink, W. (2014). GHB, GBL and 1, 4-BD Addiction. *Current pharmaceutical design*, 20(25), 4076-4085.
- » Bell J, Collins R. Gamma-Butyrolactone (GBL) Dependence and Withdrawal. *Addiction*. 2011: 106; 442
- » YoDAA Fast Facts for Workers GHB/GBL: <http://yodaa.org.au/workers/ghbgb-1-fast-facts-workers>
- » The Highway Code: Harm reduction advice- for GHB https://www.globaldrugsurvey.com/wp-content/uploads/2014/04/The-High-Way-Code_GHB.pdf

16.3 Novel Psychoactive Substances (NPS)

New or novel psychoactive substances (NPS) are of a group of highly unregulated drugs synthesised with the aim of producing effects similar to those of other illicit stimulants, hallucinogens, or cannabis. The production and sale of these drugs is unregulated, and they are often sold on the internet or in 'herb' or 'head' shops, deceptively marketed as 'legal highs' and 'safe' alternatives to illicit drugs.

The potential for toxicity and adverse effects following the use of many synthetic analogues is dramatically increased compared to botanical alternatives, as each batch of product is produced from harmful raw materials, with each batch varying in content, concentration, potency, and effect. Risk of adverse effects and death from toxicity is high following use of NPS, particularly if used in conjunction with other illicit substances (Australian Drug Foundation, 2017; Smith et al, 2014; Baumeister et al, 2015). Numerous fatalities and acute health service presentations have been reported in Australia in recent years arising from use of NPS, particularly 25c-NBOME and paramethoxyamphetamine (PMA). However, the majority of the literature in this area has focussed on management of intoxication and complications of overdose, rather than withdrawal. The short and long-term effects of NPS intoxication are described in Table 30.

In 2016, 3% and 1% of Australians reported lifetime use of synthetic cannabinoids and other forms of NPS, respectively (AIHW, 2017b). Although only 0.3% of the Australian general population surveyed in 2016 had used a NPS in the preceding 12-months (AIHW, 2017b), rates of use are elevated among at-risk groups, particularly adolescents, young adults (especially young males), and LGBTIQ individuals. For adolescents and young adults, the use of NPS (particularly synthetic cannabinoids) is a long-term and hazardous practice (Forrester et al, 2012; Sutherland et al, 2016).

NPS Withdrawal Syndrome

There is very limited documentation of NPS withdrawal syndrome and an absence of clinical guidelines to assist in management. The short term mild and serious effects of NPS intoxication and potential long-term effects are exhibited in Table 30. The following sections provide an overview of evidence from case reports and existing literature on the various approaches to withdrawal care. In cases where there is uncertainty in planning for withdrawal, specialist advice should be sought.

Table 30: Symptoms of short and long-term NPS intoxication

	Desired	Mild Negative Effects	Serious Negative Effects	Long-Term Effects
Cathinones	Euphoria, disinhibition, and increased energy and libido	Agitation, anxiety, tachycardia, hypertension and confusion, jaw clenching, reduced appetite, nasal irritation, and nose bleeds	Aggressive behaviour, paranoia, hallucinations, psychosis, hyperthermia, metabolic acidosis, hyponatremia, excited delirium syndrome, and cardiac arrest	Impaired neurocognitive functioning, depressive symptoms, suicidal ideation, and psychosis
Synthetic Hallucinogens	Euphoria, hallucinogenic effect, disinhibition, and increased energy and libido	Anxiety, agitation, tachycardia, vomiting, confusion, and dizziness	Psychosis, chest pain, metabolic acidosis, hyponatremia, and hyperthermia	Impaired neurocognitive functioning, depressive symptoms, and psychosis
Synthetic Dissociative Agents	Euphoria, hallucinogenic effects, and dissociation	Nausea and vomiting, blurred vision, tremor, headache, confusion, anxiety, dissociation, and drowsiness	Unknown	Unknown
Synthetic Cannabinoids	Elevated mood, euphoria, relaxation, altered perception and consciousness, and disinhibition	Increased appetite, sleep disturbance, dizziness, abdominal pain, agitation, irritability, anxiety, mood swings, tachycardia, nausea, and vomiting	Seizures, psychosis, paranoia, dissociation, hallucinations, and suicidal ideation	Impaired neurocognitive functioning

Source: Abdulrahim & Bowden-Jones, 2015 ; Baumeister et al, 2015 ; MacFarlane & Christie, 2015; Smith et al, 2014

Synthetic Cathinones

Most synthetic stimulants are derivatives of cathinone, a stimulant derived from the herb khat. The most common synthetic cathinone is mephedrone, although there are more than 30 types. Cathinones are composed of phenethylamines, and are colloquially known as 'bath salts' or less commonly 'plant food', and are sold under names such as 'Meow-Meow', 'Bath Salts', 'Ivory Wave' and 'Benzo Fury'. Synthetic cathinones operate by increasing extracellular levels of the monoamine neurotransmitters dopamine, norepinephrine, and serotonin, causing effects which appear similar to other stimulants such as amphetamine, methamphetamine, and MDMA. Most synthetic stimulants are sold as a white-yellow crystalline powder, which is then snorted or swallowed, but can also be smoked (except mephedrone) injected or rubbed ('dabbed') onto gums or inside the rectum. Most users use between 0.5-1g over time in a typical session, with the intoxicating effects of synthetic stimulants generally commencing between 10-20 minutes after dosing, peaking at 45-90 minutes, lasting 2-3 hours, and then decreasing over 6-12 hours (Weaver, Hopper & Gunderson, 2015).

Physiological dependence is apparent among regular users, manifested by tolerance and a withdrawal syndrome. Serotonin syndrome, characterised by confusion and neuromuscular changes, can also occur, and there have been a number of reported deaths, particularly associated with mephedrone. Most NPS, including synthetic cathinones, cannot be detected through routine drug testing, making levels of recent use difficult for health-care providers difficult to determine (Brewer & Collins, 2014).

Synthetic Cathinone withdrawal syndrome

While the psychological effects of synthetic stimulant intoxication may persist for 6-8 hours (Imam et al, 2013), management in these acute stages following use should centre on addressing life-threatening issues first (airway, breathing, circulation), before plans commence for longer-term supportive care (Rivera, 2017). Given the acute effects of synthetic stimulants can be extreme and potentially deleterious, short term care rather than withdrawal management is the priority. If longer-term withdrawal symptoms do emerge, medications can be used to manage these symptoms (i.e., benzodiazepines for agitation and antipsychotics for psychotic symptoms).

Distinctive symptoms of withdrawal from synthetic cathinones are yet to be reported, although those discontinuing use have reported intense feelings of craving rivaling that of ecstasy or cocaine (Brunt et al, 2011; Winstock et al, 2011). Feelings of depression and anxiety are also common (Prosser & Nelson, 2012). In general,

the approach to managing the withdrawal symptoms of synthetic stimulants such as cathinones is similar to the approach to other stimulant drugs (See Section 15).

Synthetic Hallucinogens

Synthetic hallucinogens have a similar structure to MDMA, and produce hallucinogenic effects through serotonergic stimulation, although some may cause depressant effects. Synthetic hallucinogens are available in both liquid and powder forms, administered in the same variety of ways as synthetic cathinones, most commonly orally, sublingually, or through nasal inhalation. Synthetic hallucinogens are most often composed of piperazine compounds and are known by names such as 'Legal X', 'Legal E', 'Rapture', or 'Frenzy'. See Table 30 for the desired and negative acute and long term effects. Longer-term withdrawal symptoms associated with synthetic hallucinogens have not been reported, but if necessary patients can be treated with intravenous fluids and antiemetics. As with synthetic cathinones, symptoms should be addressed on an ad hoc basis.

Synthetic Dissociative Agents

Synthetic dissociative agents, often misleadingly called 'research chemicals,' have been found to mimic the effects of ketamine or phencyclidine (PCP) (Adamowicz & Zuba, 2015). Generally composed of methoxetamine, known as 'mexxy', there is little data on the short- or long-term effects of use (see Table 30). Again, while a longer-term withdrawal syndrome from synthetic dissociative agents has not been reported, there have been some reports of fatal intoxication (Adamowicz & Zuba, 2015).

Synthetic Cannabinoids

Synthetic cannabinoids, once synthesised, are available in an oil or solid form, often dissolved in ethanol or acetone and sprayed onto dried ground plant matter that is typically smoked or made into a tea. They commonly produce similar desired (e.g., euphoria, alteration in mood, and sensory perception) and adverse (e.g., slowed thinking and difficulty in concentrating) effects to the primary psychoactive component of cannabis ($\Delta 9$ -tetrahydrocannabinol ($\Delta 9$ -THC)) through the endocannabinoid system, but may be more harmful. Compared to the partial agonist properties of

$\Delta 9$ -THC, synthetic cannabinoids are full-agonists and are substantially more potent (Fantegrossi et al, 2014). This substantially increases the risk of toxicity and severe negative effects, namely seizures, cardiotoxicity, psychosis, and possibly death. Synthetic cannabinoids are often referred to as 'spice', 'K2' and 'kronic', and are sold in metal-foil sachets that are mislabelled. The acute and longer-term effects of intoxication can commence within 10 minutes of a 0.3g or more dose.

Synthetic Cannabinoid withdrawal syndrome

The withdrawal symptoms can range from mild-to-severe, and recent evidence suggests that dependent users withdrawing from synthetic cannabinoids often experience a more intense withdrawal syndrome than that experienced by those who use cannabis. Common mild symptoms mirror those that occur with botanical cannabis (e.g., agitation, irritability, anxiety, mood swings, nausea), however withdrawal from higher doses of synthetic cannabinoids is also more likely to be more severe, and may cause seizures, psychosis, and suicidal ideation.

Synthetic Cannabinoid withdrawal care

Although there are no standardised guidelines for managing withdrawal from synthetic cannabinoids, reports indicate that brief and limited use of diazepam and quetiapine can be used for short term management of withdrawal (MacFarlane & Christie, 2015). In one study, patients reported quetiapine to be more effective than diazepam in attenuating symptoms of withdrawal (e.g., agitation, irritability, and anxiety symptoms; MacFarlane & Christie, 2015).

In delivering NPS withdrawal services to clients, clinicians should consider:

- » Setting
- » Withdrawal syndrome and potential complications
- » Assessment
- » Withdrawal care planning
- » Planning for post-withdrawal
- » Special needs groups

NPS Withdrawal Settings

Given that most presentations to treatment services related to NPS use are in the context of toxicity, the existing literature relating to withdrawal refers to hospital and supervised residential settings. While longer-term withdrawal states for most NPS have not been reported, clients undergoing synthetic cannabinoid withdrawal required inpatient withdrawal more than those withdrawing from cannabis due to the intensity of withdrawal symptoms (MacFarlane & Christie, 2015).

NPS Withdrawal Assessment

Clinicians should be familiar with the general principles of assessment (see chapter 7).

A thorough assessment of NPS-dependence clients is critical in determining setting of withdrawal care. As NPS are not readily detectable through testing, assessment is dependent on client's capacity to provide accurate information about short- and long-term use, which can be limited by intoxication symptoms at review and the effects on short and long term memory by ongoing NPS use.

If a client presents intoxicated, the clinician should to the best of their ability ascertain the time of the most recent drug use, the amount used, and any other drugs used that day to determine the risk of overdose. The assessment should be revisited when the intoxication begins to resolve.

Assessment should explore AoD use, including:

- » Dependence
- » Quantity and frequency of NPS use and the route of administration
- » Other drug and alcohol use or dependence
- » Co-morbid physical health problems
- » Co-morbid mental health problems, in particular past diagnoses of psychotic disorders.
- » Pregnancy status
- » Previous withdrawals including outcomes and severity of symptoms.

NPS Withdrawal Care Plan

Information obtained during the assessment will help inform the withdrawal care plan. The care plan should include:

- » Likely severity of withdrawal based on frequency and quantity of use, other substances used, and previous withdrawal symptoms
- » The client's motivation for withdrawal and barriers to entering and completing withdrawal care
- » Available supports to enhance the likelihood of success
- » A post withdrawal plan, including relapse prevention and linking to external support networks to address psychosocial needs

NPS Withdrawal Care

Targeted approaches are recommended for specific adverse effects during withdrawal, for example, benzodiazepines for severe seizures, agitation and anxiety, sedative agents (e.g., zopiclone) and antipsychotics (e.g., quetiapine and haloperidol) for psychotic symptoms and agitation (Papanti et al, 2013).

NPS Withdrawal Assessment tools

No withdrawal scales exist for NPS, but use of Cannabis Withdrawal Assessment Scale (see Appendix 12) or the Amphetamine Withdrawal Questionnaire (see Appendix 11) may be useful for monitoring withdrawal syndrome.

Planning for Post-Withdrawal Care

Post-withdrawal support is an essential component of the treatment continuum for NPS-dependent clients.

Planning for post-withdrawal care should:

- » Commence prior to withdrawal and be driven by the client
- » Support the client's goals including those around substance use, accommodation, safety and protection, legal issues, family and vocation
- » Assist clients in accessing post-withdrawal support services to provide ongoing education, counselling and advocacy
- » Involve significant others to help implement the client's post-withdrawal plan

Special Populations

Pregnancy

Synthetic cannabinoids can cross the placenta and negatively affect the neural development of the embryo. Use of NPS can cause acute intoxication syndrome in the foetus and, given their toxicity, are likely to negatively affect neuronal migration in early pregnancy (Gunn et al, 2016).

Polysubstance dependence

Use of NPS with other stimulants increases the risk of death through cardiac events, stroke, or hyperthermia. Use of NPS with cannabis or alcohol increases the risk of accidents and nausea.

Clients with co-occurring disorders

NPS use can be associated with symptoms of anxiety, dissociation, and psychosis. Long term use of synthetic stimulants can cause depressive and anxiety symptoms even after cessation.

Clients experiencing a psychotic episode precipitated by NPS require the input of mental health services.

Cardiac disease and cerebrovascular disease

Use of NPS stimulants can increase heart rate, cardiac output, and blood pressure. This raises the acute risk for those with severe cardiac disease, at high risk of stroke, or individuals with raised intracranial pressure.

Useful Resources:

- » Australian Drug Foundation (ADF) New Psychoactive Substances <https://adf.org.au/drug-facts/new-psychoactive-substances/>
- » NDARC/UNSW New (and emerging) psychoactive substances <https://ndarc.med.unsw.edu.au/sites/default/files/ndarc/resources/NDA073%20New%20Psychoactive%20Substances%20%28NPS%29.pdf>
- » Tracy et al, Novel psychoactive substances: types, mechanisms of action and effects. 2017. BMJ <http://www.bmj.com/content/356/bmj.i6848>

- » Abdulrahim D & Bowden-Jones O, on behalf of the NEPTUNE Expert Group. Guidance on the Management of Acute and Chronic Harms of Club Drugs and Novel Psychoactive Substances. Novel Psychoactive Treatment UK Network (NEPTUNE). London, 2015.

16.4 Nitrous Oxide

Nitrous oxide is a legal and readily available gas that is typically used in the automotive and food service industries, or clinically as a dissociative anaesthetic (due to its pain relieving properties). Nitrous oxide is a colourless gas that is sold in cartridges at varying concentrations or 'purity' (20-40%). When used illicitly for human recreation these canisters - often referred to as 'whippets' or 'bulbs' - are opened or 'cracked' directly into the mouth or into a balloon or other container, before inhalation. Street names for nitrous oxide include 'Nangs', 'Nitro', 'NO2', 'Laughing Gas', 'hippie crack' or 'Balloons'. Nitrous oxide is currently popular throughout Victoria in some club and festival scenes. Inhalation of nitrous oxide (commonly referred to as 'nagging') produces an immediate, short term high (lasting a few seconds to a couple minutes), with symptoms and longer-term effects outlined in Table 31 (Van Amsterdam, Nabben & Brink, 2015).

Table 31: Nitrous oxide intoxication, short and long-term effects

	Symptoms
Desired Effects of Intoxication	Euphoria, numbness, relaxation and sedation, uncontrollable laughter, and in some cases auditory and visual hallucinations
Negative Effects of Intoxication	Sweatiness, headaches, coughing, nausea & vomiting, CNS depression, convulsions, dizziness, disorientation, reduced co-ordination (leading to falls) or even paralysis, or (less commonly) arrhythmia, asphyxia, hypoxia
Effects at Larger Doses	Low blood pressure and syncope, CNS depression, reduced brain oxygenation leading to unconsciousness, stroke or even death from asphyxiation
Long-Term Effects	Headaches, respiratory issues, brain damage, psychosis, depression, numbness, tinnitus and incontinence, vitamin B12 deficiency leading to peripheral neuropathy, ataxia

Source: van Amsterdam, J., Nabben, T., & van den Brink, W. (2015).

Poly-drug use and drug interactions

Reports indicate increases in the effects of nitrous oxide when combined with alcohol, and increases in blood pressure and heart rate when combined with stimulants. There is also a risk that users may confuse nitrous oxide with other more volatile substances with far greater short-term risks.

In delivering nitrous oxide withdrawal services to clients, clinicians should consider:

- » Setting
- » Withdrawal syndrome and potential complications
- » Assessment
- » Withdrawal care planning
- » Planning for post-withdrawal
- » Special populations

Nitrous Oxide withdrawal syndrome

There is no known physical withdrawal from nitrous oxide, though cravings may be experienced (Australian Drug Foundation, 2017). Potential harms associated with short and long-term nitrous oxide use are located in Table 31.

Nitrous Oxide Withdrawal Settings

With no physical withdrawal syndrome a medically monitored withdrawal setting is not required. Psychosocial supports may be useful in managing cravings. The best withdrawal care facilitates step-up and step-down care, according to a clients need.

Nitrous Oxide Withdrawal Assessment

Clinicians should be familiar with the general principles of assessment (see Section 7).

While no nitrous oxide withdrawal syndrome has been reported, clients undertaking withdrawal from other substances should explore potential use of nitrous oxide, in order to facilitate implementation of harm reduction strategies.

A nitrous oxide assessment should explore AoD use, including:

- » Inhalant use disorder
- » Quantity and frequency of nitrous oxide use
- » Other drug and alcohol use or dependence
- » Co-morbid physical health problems
- » Co-morbid mental health problems, in particular past diagnoses of psychotic disorders
- » Pregnancy status

Special populations

Pregnancy

Use of nitrous oxide in pregnancy increases the risk of spontaneous abortion, premature delivery and foetal malformation (Jones & Balster, 1998; Khattack, Moghtader, McMartin, 1999).

Clients with co-occurring disorders

Nitrous oxide can cause psychotic symptoms if used for a prolonged period of time. If symptoms persist after cessation of use then referral to mental health services is warranted.

Useful Resources:

- » Abdulrahim D & Bowden-Jones O, on behalf of the NEPTUNE Expert Group. Guidance on the Management of Acute and Chronic Harms of Club Drugs and Novel Psychoactive Substances. Novel Psychoactive Treatment UK Network (NEPTUNE). London, 2015.
- » Australian Drug Foundation. 2017. Nitrous Oxide. Victoria, Australian Drug Foundation.

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18 APPENDICES

Appendix 1: AoD support services

1. DirectLine

DirectLine is a 24-hour counselling and referral for anyone with a question or problem related to alcohol or drug use. DirectLine is part of Turning Point's state-wide telephone service network, providing 24-hour, 7-day counselling, information and referral to alcohol and drug treatment and support services throughout Victoria. Turning Point's professional counsellors are experienced in alcohol and drug-related concerns.

DirectLine counsellors can provide:

- » Immediate counselling and support, including crisis intervention
- » Support in dealing with the impact of drug use on the family and relationships
- » Assistance to develop strategies to deal with an alcohol or drug problem
- » Harm minimisation strategies
- » Information and referral to treatment and support services across Victoria

DirectLine is a free, anonymous and confidential service.

T: 1800 888 236

E: www.directline.org.au

2. AoD Support Services (National)

Australian Capital Territory

Alcohol and Drug Telephone Line (24-hour)

Ph: (02) 6207 9977

New South Wales

Alcohol and Other Drugs Information Service (24-hour)

Ph: (02) 9361 8000 (Sydney metropolitan)

Free call: 1800 422 599 (rural)

Northern Territory

Alcohol and Drug Information Service

Free call: 1800 131 350

Ph: (08) 8922 8399 (Top End Health Service - Darwin)

Ph: (08) 8951 7580 (Central Australia Health Service - Alice Springs)

Queensland

Alcohol and Drug Information Service

Free call: 1800 177 833 (24-hour, Queensland only)

South Australia

Alcohol and Drug Information Service

Free call: 1300 131 340 (8.30 am - 10 pm, SA only)

Tasmania

Alcohol and Drug Services

Free call: 1800 811 994 (24-hour)

Western Australia

Alcohol and Drug Support Line (24-hour)

Ph: (08) 9442 5000

Free call: 1800 198 024 (rural WA only)

Parent and Family Drug Support Line

Ph: (08) 9442 5050

Free call: 1800 198 024 (rural WA only)

3. Drug and Alcohol Clinical Advisory service (DACAS)

DACAS is a 24-hour specialist telephone consultancy service for alcohol and drug practitioners and health and welfare workers.

DACAS takes calls from doctors, nurses and other health and welfare professionals seeking advice on the clinical management of alcohol and drug issues. DACAS consultants are addiction medical specialists.

T: **1800 812 804**

E: www.dacas.org.au

4. Family Drug Help

The 'listening ear' service responding to families experiencing alcohol and drug-related difficulties; a peer- and professional-led service dedicated to providing practical assistance, information, and support to family and friends impacted by a loved-one's alcohol or drug use. The Family Drug Helpline is staffed 24-hours, 7-days by trained volunteers. Callers can connect with counsellors that have personal family experience with alcohol or drug use during business hours, Monday-Friday, 9am-5pm. Trained counsellors staff the line 24-hours a day.

T: **1300 660 068** (Victoria)

5. Domestic Violence Resource Centre Victoria (DVRCV)

The Domestic Violence Resource Centre Victoria (DVRCV) is a state-wide resource centre working to prevent and respond to family violence. They offer initial telephone support, information and referrals for people who have experienced family violence.

292 Wellington St, Collingwood VIC 3066

T: **03 9486 9866**

6. Quit Victoria

Quit offers a range of direct and indirect resources for people wanting to quit and resources for professionals helping others to quit.

Professionals in the health, education and community service areas are well-situated to encourage and support smoking cessation. Quit Victoria provides information and training to assist them in this role.

T: **13 7848** E: www.quit.org.au/contact

7. Syringe Disposal Help Line

Information and referral service responding to the problem of discarded injecting equipment.

T: **1800 552 355** (Victoria)

8. Women's Alcohol and Drug Service (WADS)

WADS is located at the Royal Women's Hospital, Victoria, and provides medical care, counselling, and support to pregnant women with alcohol and other drug issues, assessment and care of infants exposed to alcohol and other drugs during pregnancy, and training for acute, primary, and community health professionals. A duty worker is available from 9am-5pm daily.

T: **(03) 8345 3931**

E: wads@thewomens.org.au / www.thewomens.org.au

9. Victorian Youth Drug and Alcohol Advice (YoDAA) service

YoDAA provides alcohol and other drug advice, information, and support to young people, their family and carers, schools, and professionals.

Their helpline is staffed from 9am-8pm, Monday-Friday.

T: **1800 458 685** (Victoria) E: advice@yodaa.org.au

10. YSAS Support and Advocacy Service

Alcohol and drug assessment and referral service for young people.

YSAS provides a 24-hour telephone service, providing information, counselling, and referral to YSAS services and youth-specific alcohol and drug services throughout Victoria.

This service is open to young people, their families, health and welfare workers, police and ambulance workers, and the wider community.

T: **1800 014 446** (Victoria) E: <http://ysas.org.au/>

11. Kids Help Line

24 hour telephone and online counselling for young people around Australia.

T: **1800 551 800**

12. Counselling Online

Counselling online is an online text-based service, providing counselling to people concerned about their drinking or drug use. This service is also available to people concerned about a family member, relative or friend.

E: www.counsellingonline.org.au

13. Victorian Dual Diagnosis Initiative (VDDI) Units

Support network for professionals working in AoD or mental health services with the objective of facilitating increased co-occurring disorder capacity across Victoria.

VDDI units operate in metropolitan and regional areas.

Metropolitan Lead Agencies
Eastern Dual Diagnosis Team
Suite 6 60–64 Railway Rd, Blackburn VIC 3130

T: **03 9875 1600**

Metropolitan areas: Central East, Outer East Rural areas: Eastern Hume

NEXUS

St Vincent's Hospital
P.O. Box 2900, Fitzroy VIC 3065

T: **03 9288 3824**

Metropolitan areas: Yarra, Boroondara, Banyule, Nillumbik Rural areas: Loddon and Northern Mallee

Southern Dual Diagnosis Service c/- SEADS

2/229 Thomas St, Dandenong VIC 3175

T: **03 8792 2330**

Metropolitan areas: Port Phillip, Kingston, Bayside, Greater Dandenong, Casey, Cardinia, Mornington Peninsula, Frankston, parts of Monash, Glen Eira, Stonington

Rural areas: Gippsland and La Trobe Valley

SUMITT (Western)

3–7 Eleanor St, Footscray VIC 3011

T: **03 8345 6682**

Metropolitan areas: Maribyrnong, Wyndham, Brimbank, Hobsons Bay, Melton, Moonee Valley, Moreland, Hume, Darebin, Melbourne City and Whittlesea

Rural areas: Grampians, Barwon, South West and Goulburn Valley

Appendix 2: Complementary Medicine Interaction Effects

Supplement	Contraindications	Interaction effects
Chinese dandelion (Taraxacum mongolicum)	Quinolone antibiotics (Ciprofloxacin, Ofloxacin, and Levofloxacin)	Decreased plasma concentration
Danshen (Salvia miltiorriza)	Anticoagulants (Warfarin/Coumadin)	Increased anticoagulant effect
Dong quai (Angelica sinensis)	Anticoagulants (Warfarin/Coumadin)	Increased anticoagulant effect
Evening primrose (Oenothera biennis)	Antipsychotics (Fluphenazine/Prolixin)	Seizures
Feverfew (Tanacetum parthenium)	Anticoagulants (Warfarin/Coumadin)	Increased anticoagulant effect
Garlic (Allium sativum)	Muscle relaxants (Chlorzoxazone/Lorzone/Paraflex/Muscol/Parafon Forte)	Increased plasma concentration of chlorzoxazone
	Paracetamol/Tylenol/Panadol	Changes in paracetamol pharmacokinetics
	Antiretrovirals (Saquinavir/Invirase/Fortovase)	Decreased saquinavir blood concentration
Ginger (Zingiber officinale)	Anticoagulants (Warfarin/Coumadin)	Increased anticoagulant effect
	Calcium channel blockers (Nifedipine/Adalat)	Increased reduction in platelet aggregation

ALCOHOL AND OTHER DRUG WITHDRAWAL GUIDELINES

Turning Point

Supplement	Contraindications	Interaction effects
Ginkgo (Ginkgo biloba)	Proton-pump inhibitors (Omeprazole/Prilosec/ Losec)	Decreased omeprazole blood concentration
	Antidiabetics (Tolbutamide)	Decreased tolbutamide blood concentration
	Beta blockers (Talinolol)	Increased talinolol blood concentration
Ginseng (Red or Korean) (Panax ginseng)	Antidepressants (Phenelzine/Nardil/ Nardelzine)	Sleeplessness, tremor and headaches
Ginseng (American) (Panax quinquefolius)	Anticoagulants (Warfarin/Coumadin)	Reduced warfarin blood concentration and anticoagulation
Goji (Chinese wolfberry) (Lycium barbarum)	Anticoagulants (Warfarin/Coumadin)	Increased anticoagulant effect
Goldenseal (Hydrastis canadensis)	Antihypertensives (Debrisoquine)	Decreased debrisoquine urinary recovery ratio
Green tea (Camellia sinensis)	Folic acid/Vitamin B9	Decreased folate blood concentration
Hibiscus (Hibiscus sabdariffa)	Paracetamol/Tylenol/Panadol	Changes in paracetamol pharmacokinetics
Kava (Piper methysticum)	Muscle relaxants (Chlorzoxazone/Lorzone/ Paraflex/Muscol/Parafon Forte)	Decreased 6-hydroxychlorzoxazone/ chlorzoxazone serum ratio

ALCOHOL AND OTHER DRUG WITHDRAWAL GUIDELINES

Turning Point

Supplement	Contraindications	Interaction effects
Liquorice (Glycyrrhiza glabra)	Antiarrhythmic agents (Digoxin/Lanoxin)	May induce hypokalaemia
	Corticosteroids	Induces hypermineralocorticoid effects
	Insulin	Increased insulin sensitivity
	Laxatives	Potassium depletion
	ACE inhibitors	May amplify side effects or contribute to potassium build up
Milk thistle (Silybum marianum)	Antibiotics (Metronidazole/Flagyl)	Decreased metronidazole blood concentration
Peppermint (Mentha piperita)	Calcium channel blockers (Felodipine)	Increased felodipine blood concentration
Schisandra chinensis	Beta blockers (Talinolol)	Increased talinolol blood concentration
Skullcap (Scutellaria)	Anticonvulsants (Phenytoin/Dilantin and Valproic acid/Depakote)	Interactions with these substances are poorly-documented, but it may amplify the sedative effect of other depressants
	Barbituates	
	Benzodiazepines (Alprazolam/Xanax and Diazepam/Valium)	
	Tricyclic antidepressants (Amitriptyline/Elavil)	

ALCOHOL AND OTHER DRUG WITHDRAWAL GUIDELINES

Turning Point

Supplement	Contraindications	Interaction effects
St John's wort (<i>Hypericum perforatum</i>)	Benzodiazepines (<i>Alprazolam/Xanax and Midazolam/Versed</i>)	Decreased blood concentration of the concomitantly used prescribed drugs. In the case of Cyclosporine, changes in pharmacokinetics were associated with rejection episodes in transplant patients.
	Antidepressants (<i>Amitriptyline/Elavil and Bupropion/Wellbutrin/Zyban</i>)	
	Immunosuppressants (<i>Cyclosporin/Ciclosporin and Tacrolimus/Fujimycin/Prognaf/Advagraf/ Protopic</i>)	
	Antiarrhythmic agents (<i>Digoxin/Lanoxin, Amiodarone/Cordarone/Nexterone, and Verapamil</i>)	
	Antihistamines (<i>Fexofenadine/Allegra</i>)	
	Antidiabetics (<i>Gliclazide/Diacon</i>)	
	Benzylpiperazines (<i>Imatinib/Gleevec</i>)	
	Antiretrovirals (<i>Indinavir/Crixivan and Nevirapine/Viramune</i>)	
	Topoisomerase inhibitors (<i>Irinotecan/ Camptosar</i>)	
	Opioids (<i>Methadone</i>)	
	Calcium channel blockers (<i>Nifedipine/Adalat</i>)	
	Xenobiotic-sensing receptor modulators (<i>Omeprazole/Prilosec/Losec</i>)	
	Anticoagulants (<i>Phenprocoumon/Marcoumar/ Falithrom and Warfarin/Coumadin</i>)	
Nonbenzodiazepine sedatives (<i>Zolpidem/ Ambien</i>)	Reduced efficacy and increased breakthrough bleeding	
Estrogen-containing oral contraceptives		

ALCOHOL AND OTHER DRUG WITHDRAWAL GUIDELINES

Turning Point

Supplement	Contraindications	Interaction effects
St John's wort (<i>Hypericum perforatum</i>)	Antidepressants (<i>Paroxetine/Paxil/Seroxat, Mirtazapine/Remeron, and Venlafaxine/Effexor</i>)	Serotonin syndrome
	Opioids (<i>Tramadol, Pethidine/Meperidine, and Levorphanol</i>)	
	Stimulants (<i>Phentermine, Diethylpropion, amphetamines, and Sibutramine</i>)	
	5HT agonists (<i>Triptans</i>)	
	Antibiotics (<i>Linezolid</i>)	
	Selegiline/L-deprenyl/Emsam	
	Tryptophan	
	Buspirone/Buspar	
	Lithium	
	5-HTP/Oxitriptan	
Dextromethorphan/Robitussin/Dimetapp/Vicks/ Coricidin	Interactions with these substances are poorly-documented, but it may amplify the sedative effect of other depressants	
Valerian (<i>Valeriana officinalis</i>)		Benzodiazepines
		Barbituates
		Opiates
		Kava
		Antihistamines
		Skullcap

Appendix 3: Client intoxication and overdose

Clients often present to withdrawal intoxicated, or even having overdosed. The correct management of these conditions is essential. Intoxication occurs when a person's intake of a substance exceeds his or her tolerance and produces behavioural and/or physical abnormalities. It complicates the assessment and management of patients because:

- » psychoactive drugs affect mood, cognition, behaviour and physiological functioning
- » intoxication can have a major impact on informed consent to treatment and the validity of all further information reported by the patient
- » intoxication can mimic or mask serious illness and injury
- » patients who are aggressive or disruptive because they are intoxicated can risk their own safety or the safety of others
- » severe intoxication can be life threatening by altering physical and mental functions leading to inappropriate actions or central nervous system depression and death

Identifying intoxication and overdose

In withdrawal settings, always assess the possibility that the patient is intoxicated. Some serious medical conditions can mimic intoxication. Objective observations should be given more weight than the patient's report.

Managing intoxication

Assessment is urgent if intoxication is pronounced, and medical assessment is required if intoxication is worsening or affecting breathing, blood pressure or level of consciousness. Identify the most recent drug type, dose and time consumed.

Consider the possibility that underlying illness (e.g. concussion, subdural haematoma, infections, diabetes or electrolyte disturbances) may be the cause of apparent intoxication.

Check for possible head injury if the patient is incoherent, disoriented or drowsy.

Monitor the airway if breathing is affected or consciousness is impaired, as death may occur from respiratory depression or aspiration pneumonia.

Keep intoxicated patients under observation until their intoxication diminishes and they are considered safe.

If the intoxication does not diminish, assess the patient for other possible causes of the condition.

Managing suspected overdose

Monitor signs of intoxication to identify possible overdose (i.e., intoxication to the point of loss of consciousness) on the patient's arrival and then as frequently as the patient's state requires (usually 1–4 hourly). The Glasgow Coma Scale (GCS) plus vital signs provide the best method of assessment.

Indications of Intoxication and Overdose

Indications of intoxication	Indications of overdose
<p>Maladaptive behaviour</p> <p>Evidence of intoxication by history and physical examination</p> <p>Blood alcohol level by breath analysis. Saliva, urine or blood testing for alcohol and other drugs</p> <p>Behavioural and physical signs:</p> <p>Alcohol: loss of control of voluntary movements, slurred speech, disinhibition, low blood pressure, smells of alcohol</p> <p>Benzodiazepines: slurred speech, loss of control of voluntary movements, sedation, nystagmus (repetitive eye movement), low blood pressure, drooling, disinhibition</p> <p>Opioids: pinpoint pupils, sedation, low blood pressure, slowed pulse, itching and scratching</p> <p>GHB: rapid onset of drowsiness, disinhibition, dizziness, nausea, muscle spasms, movement and speech impairment</p> <p>Cannabis: increased pulse, confusion, restlessness, excitement, hallucinations, anxious or panicky, disconnected from reality, paranoia, violent or suicidal behaviour</p> <p>Magic mushrooms (psilocybin): Similar to LSD</p> <p>PCP: similar to LSD, with euphoria, numbness, psychosis, aggression</p> <p>Ketamine: thought disorder, hallucinations, perceptual distortion, anxiety, agitation, tachycardia, hypertension, analgesia and sensory dissociation</p>	<p>In order of progressive impairment:</p> <ul style="list-style-type: none"> » increasing agitation » cold and clammy skin » pinpoint pupils (opioids) » changing mental state (hallucinations, panic or deep depression) » changes to heart rate (e.g. irregular, below 60/min, or above 120/min) » lowered body temperature • slow and noisy respiration • muscle twitching » cyanosis » pulmonary oedema • stupor » convulsions • coma. » People with decreased levels of consciousness require: <ul style="list-style-type: none"> » urgent medical assessment » management in a medical setting » monitoring of vital signs and neurological » function » examination and support of airway, breathing and circulation.

Source: NSW Department of Health (2008a)

Appendix 4: Mental health screening tools**1. Australian PsyCheck (Lee & Jenner, 2010)**

'The PsyCheck Screening Tool is a mental health screening instrument designed for use by non-mental health specialists. It is not designed to be a diagnostic assessment and will not yield information about specific disorders' (Lee et al, 2007).

PsyCheck is comprised of:

- » Self-Reporting Questionnaire (WHO mental health screen)
- » Suicide risk assessment
- » Brief mental health history
- » Mental health probes.

Online tool: http://www.psychek.org.au/02_PsyCheck_Manual.html

http://www.psychek.org.au/RESOURCES/SCREENING_TOOL_FORM/Screening%20Tool_A4.pdf

http://www.nada.org.au/media/14706/vddi_screening.pdf

2. Kessler 10 (K10) (Kessler et al, 2003)

The K10 is a simple measure of psychological distress and outcomes following treatment for common mental health disorders. The K10 uses a five value response option for each question – all of the time, most of the time, some of the time, a little of the time and none of the time which can be scored from five through to one. The maximum score of 50 indicating severe distress, and the minimum score of 10 indicates no distress.

Online tool: <https://www.blackdoginstitute.org.au/docs/default-source/psychological-toolkit/k10.pdf?sfvrsn=4>

3. *Hospital Anxiety and Depression Scale (HADS)* (Zigmond & Snaith, 1983)

The Hospital Anxiety and Depression Scale (HADS) measures anxiety and depression in the general population. The questionnaire comprises seven questions for anxiety and seven questions for depression, and takes 2–5min to complete. Depression and anxiety each receive separate scores.

Scoring: Normal (0-7), borderline abnormal (8-10) and abnormal (11-21).

Online Tool: <http://www.svri.org/sites/default/files/attachments/2016-01-13/HADS.pdf>

4. *Depression, Anxiety and Stress Scale* (Lovibond & Lovibond, 1995)

The Depression, Anxiety and Stress Scale - 21 Items (DASS-21) is a set of three self-report scales designed to measure the emotional states of depression, anxiety and stress. Each of the three DASS-21 scales contains 7 items, divided into subscales with similar content. Cut-off scores can be found within the document.

Online Tool: <https://s3.maic.qld.gov.au/files/DASS-21.pdf>

Appendix 5: Managing Craving – Relaxation techniques

Relaxation practice 1 – slow breathing

This type of breathing uses your diaphragm rather than your chest. Your diaphragm serves as a kind of plunger to move air in and out of the lungs. When you are relaxed, your diaphragm is doing most of the work in breathing, while your chest should remain relatively still and shouldn't move much at all.

Step 1: Sit comfortably in a chair with your head, back and arms supported. Uncross your legs and close your eyes if that feels comfortable.

Step 2: Put one hand flat on your chest and the other over your stomach between the ribs and the navel. Remember that you want the hand on your stomach to move, rather than the hand on your chest.

Step 3: Take a breath in and hold it as you count to 10. Don't make this a really deep breath. Just breathe in normally, using your diaphragm, and hold it in for a count of 10.

Step 4: When you get to 10, breathe out and mentally say the word '**relax**' to yourself in a calm manner.

Step 5: Practise breathing in and out slowly in a cycle. Breathe in for 4 seconds and out for 4 seconds (in–2–3-4, out–2–3-4). As you breathe in, use your diaphragm as opposed to your chest. Your hand on your chest should remain relatively still. Every time you breathe out, mentally say the word '**relax**' to yourself in a calm manner.

Step 6: After every 10 breaths in and out, **hold your breath** again for 10 seconds and then continue breathing in the 6-second cycle (in–2–3-4, out–2–3-4).

Relaxation practice 2 – progressive muscle relaxation

Step 1, learn to relax: Close your eyes. Make sure you are in a comfortable position with your eyes closed.

Step 2, hands and arms: Imagine that you are squeezing a lemon with your left hand. Squeeze it really hard so all the juice runs out. Hold it for five seconds really tight. Now, RELAX. Notice what it feels like as your hand relaxes. Do the same thing with your right hand.

Step 3, Arms and shoulders: Imagine that you are like a cat stretching after lying in the sun. Stretch your arms high above your head. Reach as far as you can. Hold it for a few seconds. Now RELAX. Notice what your arms feel like when they are completely relaxed.

Step 4, shoulders and neck: Imagine you are a turtle and you see someone coming. Try to push your head back down into your shell so that you can hide. Push your head down. Hold it for five seconds. Now RELAX. Let the tightness in your neck go completely.

Step 5, Jaw: Imagine you have a nut in your mouth and you are trying to crush it with your teeth. Bite down on it and try to break it. Hold it for five seconds. Now RELAX. Notice how good it feels to let your jaw relax completely.

Step 6: Face and nose: Imagine a fly has landed right on the tip of your nose but you can't use your hand to shoo it away. Wrinkle your nose up to try and get rid of the fly. Now RELAX. Notice how good it feels to have a relaxed face. Now the fly has come back and it has landed on your forehead. Wrinkle your forehead up as much as you can to try and get the fly to go away. Now RELAX. Notice how good your forehead feels when it is not wrinkled and tense.

Step 7, stomach: Imagine someone is about to jump on your stomach. Try and make your stomach as hard as you can so that someone standing on it won't hurt. Hold it for five seconds. Now RELAX. Notice how much better your stomach feels when it is completely relaxed and floppy. Now imagine that you have to squeeze through a narrow gap in the fence. Suck in your stomach and make it really skinny so that you can fit through. Now RELAX. Let your stomach go completely relaxed.

Step 8, legs and feet: Imagine that you are walking at the beach down where the sand is wet and squishy. Squish your toes down as far as you can in the sand. Keep squishing for five seconds. Now RELAX. Notice how different your legs and feet feel.

Relaxation practice 3 – mindful walking

Mindful walking is a way of stepping out of 'automatic pilot' and can help you to practise paying attention to the present.

Step 1: Stand at one end of your walk, keeping your feet pointed forward and eyes straight ahead.

Step 2: Start slowly at first and, as best you can, pay attention to the way your feet and legs feel when you take each step forward.

Step 3: Start with the left foot and follow with the right.

Step 4: Slowly move from one end of your walk to the other, aware of the particular sensations in the bottoms of your feet and heels as they make contact with the floor, and the muscles in your legs as they swing forward.

Step 5: Continue this process up and down the length of your walk for about 10 minutes.

Step 6: Your mind will wander away from this activity during your 10 minutes of practice. This is normal. As best you can when you notice this has happened, gently re-focus your attention on your feet and legs and how they feel when they contact with the floor.

Monitor your progressive muscle relaxation practice during the week using the **Relaxation practice log**.

Appendix 6: Useful Mindfulness apps

Below are examples of some mindfulness based apps that turning point clients considered useful.

Smiling mind provides free guided mindfulness tools both online and as an app. There are various modules available specifically designed for your age group; from muscle relaxation to focused eating. The modules come in various lengths, from just 1 minute to an hour. The program creates a profile based on your unique characteristics, and tracks your heart rate and mood so you can analyse your progress.

Pacifica is a free app that provides free daily tools and tips for dealing with stress and anxiety alongside a supportive community. The program is based on Cognitive Behavioural Therapy & Meditation.

Zen is a free app that provides guided meditation, mantras, relaxation guides, music and personal development tutorials. This app also focuses on promoting deep sleep. It is only available on iphones.

Appendix 7: Better sleep checklist

Go to sleep as soon as you feel tired. Sleep cycles cause people to feel tired approximately every 90 minutes – if you ignore the cues, you may have to wait for another 90 minutes.

Set an alarm to wake you at the same time each morning, even on weekends and holidays. This helps your body to get into a regular sleep-wake routine. Use the bed only for sleeping and for sex. Reading, thinking and eating in bed can lead people to associate bed with activity and stress.

Get out of bed when you can't sleep after trying for 30 minutes and go back to bed as soon as you feel tired. Do something enjoyable when you get up (e.g. watching television or reading a book).

Make sure that it is a quiet and relaxing activity, not one that will stimulate your brain too much!

Do not watch the clock if you're lying awake. Worrying that you're not sleeping keeps your mind active and prevents you from actually getting to sleep.

Write your problems on a piece of paper before going to bed then throw the paper out or put it aside to tackle in the morning. Say to yourself: 'There's nothing I can do about this tonight'.

Avoid consuming caffeine (tea, coffee, cola drinks, chocolate) after midafternoon.

Avoid drinking alcohol at dinnertime or afterwards. Although alcohol can induce sleep, it causes you to become wakeful (rebound insomnia) several hours after drinking it. Alcohol also interferes with the energy-restoring benefits of good sleep.

Practise relaxation before going to bed. This helps to calm your body and mind and promotes entry into sleep. Sleep with a minimum of covers so that you do not overheat. Turn off heaters and electric blankets, and keep a window open. Overheating causes restlessness and a lack of deep sleep.

Source: Lee, N., Johns, L., Jenkinson, R., Johnston, J., Connolly, K., Hall, K., et al. (2007). Clinical Treatment Guidelines for Alcohol and Drug Clinicians. No 14: Methamphetamine dependence and treatment. Fitzroy, Victoria: Turning Point Alcohol and Drug Centre Inc.

Appendix 8: Alcohol withdrawal Assessment Scoring Guidelines (CIWA-Ar)

Patient Name: _____ DOB: _____ Date of assessment: _____

a) Vitals, assessment now	DATE																			
b) If initial score ≥ 8 repeat hourly for 8 hrs, then if stable 2 hourly x 8 hrs, then if stable 4 hourly	TIME																			
c) If initial score < 8, assess 4 hourly	PULSE																			
If score ≥ 8 at any time go to (b) above	RR																			
d) If indicated, (see indications below) administer prn medications as ordered and record on MAR and below.	O2 sat																			
	BP																			

Assess and rate each of the following (CIWA-Ar Scale): Refer to reverse for detailed instructions in use of the CIWA-Ar scale

Nausea/vomiting (0-7) 0 – none; 1 – mild nausea, no vomiting; 4 – intermittent nausea; 7 – constant nausea, frequent dry heaves and vomiting																				
Tremors (0-7) 0 – no tremor; 1 – not visible, but can be felt; 4 – moderate w/ arms extended; 7 – severe, even with arms not extended																				
Anxiety (0-7) 0 – none, at ease; 1 – mildly anxious; 4 – moderately anxious or guarded; 7 – equivalent to acute panic state																				
Agitation (0-7) 0 – normal activity; 1 – somewhat normal activity; 4 – moderately fidgety/restless; 7 – paces or constantly thrashes about																				
Paroxysmal Sweats (0-7) 0 – no sweats; 1 – barely perceptible sweating, palms moist; 4 – beads of sweat obvious on forehead; 7 – drenching sweat																				
Orientation (0-4) 0 – oriented; 1 – uncertain about date; 2 – disoriented to date by no more than 2 days; 3 – disoriented to date by > 2 days; 4 – disoriented to place and /or person																				
Tactile disturbances (0-7) 0 – none; 1 – very mild itch, P&N, burning, numbness; 2 – mild itch, P&N, burning, numbness; 3 – moderate itch, P&N, burning, numbness; 4 – moderate hallucinations; 5 – severe hallucinations; 6 – extremely severe hallucinations; 7 – continuous hallucinations																				
Auditory disturbances (0-7) 0 – not present; 1 – very mild harshness, ability to startle; 2 – mild harshness, ability to startle; 3 – moderate harshness, ability to startle; 4 – moderate hallucinations; 5 – severe hallucinations; 6 – extremely severe hallucinations; 7 – continuous hallucinations																				
Visual disturbances (0-7) 0 – not present; 1 – very mild sensitivity; 2 – mild sensitivity; 3 – moderate sensitivity; 4 – moderate hallucinations; 5 – severe hallucinations; 6 – extremely severe hallucinations; 7 – continuous hallucinations																				
Headache (0-7) 0 – not present; 1 – very mild; 2 – mild; 3 – moderate; 4 – moderately severe; 5 – severe; 6 – very severe; 7 – extremely severe																				

Total CIWA-Ar score: _____

PRN Med:	DOSE GIVEN (mg):																			
	ROUTE:																			
Time of PRN medication administration:																				
Assessment of response (CIWA-Ar score 30-60 minutes after medication administered)																				
RN initials																				

Scale for Scoring:	Indications for PRN medication:
Total Score =	Total CIWA-AR score 8 or higher (Symptom-triggered method).
0 – 9: absent or minimal withdrawal	
10 – 19: mild to moderate withdrawal	
>20: severe withdrawal: High risk of seizures, requires ED transfer.	

CIWA-AR Procedure:

Assess and rate each of the 10 criteria of the CIWA scale. Each criterion is rated on a scale from 0 to 7, except for 'orientation and clouding of sensorium' which is rated on scale 0 to 4. Add up the scores for all ten criteria. This is the total CIWA-Ar score for the patient at that time. Prophylactic medication should be started for any patient with a total CIWA-Ar score of 8 or greater (i.e. start on withdrawal medication). If started on scheduled medication, additional PRN medication should be given for a total CIWA-Ar score of 15 or greater. Document vitals and CIWA-Ar assessment on the Withdrawal Assessment Sheet. Document administration of PRN medications on the assessment sheet as well. The CIWA-Ar scale is the most sensitive tool for assessment of the patient experiencing alcohol withdrawal. Nursing assessment is vitally important. Early intervention for CIWA-Ar score of 8 or greater provides the best means to prevent the progression of withdrawal.

Source: www.chce.research.va.gov/apps/PAWS/pdfs/CIWA-Ar.pdf

Appendix 9: The Subjective Opiate Withdrawal Scale (SOWS)

In response to the following symptoms and experiences write in a number from 0-4 corresponding to how you feel about each one RIGHT NOW, where 0 = not at all 1 = a little 2 = moderately 3 = Quite a bit and 4 = extremely.

	date					
	time					
	Symptom	SCORE	SCORE	SCORE	SCORE	SCORE
1	I feel anxious	0	1	2	3	4
2	I feel like yawning	0	1	2	3	4
3	I am perspiring	0	1	2	3	4
4	My eyes are teary	0	1	2	3	4
5	My nose is running	0	1	2	3	4
6	I have goosebumps	0	1	2	3	4
7	I am shaking	0	1	2	3	4
8	I have hot flushes	0	1	2	3	4
9	I have cold flushes	0	1	2	3	4
10	My bones and muscles ache	0	1	2	3	4
11	I feel restless	0	1	2	3	4

12	I feel nauseous	0	1	2	3	4
13	I feel like vomiting	0	1	2	3	4
14	My muscles twitch	0	1	2	3	4
15	I have stomach cramps	0	1	2	3	4
16	I feel like using now	0	1	2	3	4
	TOTAL SCORE					

Scale: 0 = not at all 1 = a little 2 = moderately 3 = Quite a bit 4 = extremely

SOWS

The Subjective Opiate Withdrawal Scale provides patients with an opportunity to be involved in their care, and in assessing the severity of their withdrawal symptoms. Self-report measures can assist in reducing the patients' anxiety about their care, and their concerns about being appropriately medicated.

Scoring: Encourage the patient to score down the columns placing a score from 0-4 for each item. Add the total score for possible range from 0 – 64, a higher score reflects more severe withdrawal.

Source: De Crespigny, C et al. 2003, *Alcohol Tobacco and Other Drugs Guidelines for Nurses and Midwives: Clinical Guidelines* Flinders University and Drug and Alcohol Services Council, Adelaide. Available at www.dasc.sa.gov.au

Appendix 10: Benzodiazepine Withdrawal Assessment Scale (CIWA-B)

DATE: TIME:

	0 Not at all	1	2	3	4 Very much so
Do you feel irritable?					
Do you feel fatigued?					
Do you feel tense?					
Do you have difficulties concentrating?					
Do you have any loss of appetite?					
Have you any numbness or burning in your face, hands or feet?					
Do you feel your heart racing? (palpitations)					
Does your head feel full or achy?					
Do you feel muscle aches or stiffness?					
Do you feel anxious, nervous or jittery?					
Do you feel upset?					
How restful was your sleep last night? (0 = very much so; 4 = not at all)					

Do you have any visual disturbances? (sensitivity to light, blurred vision)					
Are you fearful?					
Have you been worrying about possible misfortunes lately?					
Clinician observations					
Observe patient for sweating, restlessness or agitation	0 (none, normal activity)	1	2 (restless)	3	4 (paces back and forth, unable to sit still)
Observe tremor	0 (no tremor)	1 (not visible, can be felt in fingers)	2 (Visible but mild)	3 (Moderate with arms extended)	4 (Severe, with arms not extended)
Observe feet palms	0 (No sweating visible)	1 (Barely perceptible sweating, palms moist)	2 (Palms and forehead moist, reports armpit sweating)	3 (Beads of sweat on forehead)	4 (Severe drenching sweats)

Scoring of the CIWA-B

Total Score Items 1 – 20

1–20 = mild withdrawal

41–60 = severe withdrawal

21–40 = moderate withdrawal

61–80 = very severe withdrawal

Source: Adapted from Busto, U.E., Sykora, K. & Sellers, E.M. (1989). A clinical scale to assess benzodiazepine withdrawal. *Journal of Clinical Psychopharmacology*, 9 (6), 412–416.

Appendix 11: Amphetamine Withdrawal Questionnaire (AWQ)

During the past 24 hours: (circle one answer per question)

		Not at all (0)	Very little (1)	A little (2)	Quite a lot (3)	Very much (4)
1	Have you been craving amphetamines or methamphetamine?	Not at all	Very little	A little	Quite a lot	Very much
2	Have you felt sad?	Not at all	Very little	A little	Quite a lot	Very much
3	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
4	Have you felt anxious?	Not at all	Very little	A little	Quite a lot	Very much
5	Have you felt as if your movements are slow?	Not at all	Very little	A little	Quite a lot	Very much
6	Have you felt agitated?	Not at all	Very little	A little	Quite a lot	Very much
7	Have you felt tired?	Not at all	Very little	A little	Quite a lot	Very much
8	Has your appetite increased or are you eating too much?	Not at all	Very little	A little	Quite a lot	Very much
9	Have you had any vivid or unpleasant dreams?	Not at all	Very little	A little	Quite a lot	Very much
10	Have you been craving for sleep or sleeping too much?	Not at all	Very little	A little	Quite a lot	Very much

Scoring

Possible range of scores is 0–40 with higher score indicating greater severity.

Source: Srisurapanont M, Jarusuraisin N & Jittiwutikarn J (1999) Amphetamine withdrawal: Reliability, validity and factor structure of a measure. Australian and New Zealand Journal of Psychiatry 33:89–93.

Appendix 12: Cannabis Withdrawal Assessment Scale (CWAS)

Instructions: This version of the CWS can be administered by an interviewer or by self-report. The following statements describe how you have felt over the last 24 hours. Please circle the number that most closely represents your personal experiences for each statement. For each statement, please rate its negative impact on normal daily activities on the same scale (0 = not at all to 10 = extremely), writing the number in the right hand column.

		Not at all			Moderately				Extremely				Negative impact on daily activity (1-10)
		0	1	2	3	4	5	6	7	8	9	10	
1	The only thing I could think about was smoking cannabis	0	1	2	3	4	5	6	7	8	9	10	
2	I had a headache	0	1	2	3	4	5	6	7	8	9	10	
3	I had no appetite	0	1	2	3	4	5	6	7	8	9	10	
4	I felt nauseous (like vomiting)	0	1	2	3	4	5	6	7	8	9	10	
5	I felt nervous	0	1	2	3	4	5	6	7	8	9	10	
6	I had some angry outbursts	0	1	2	3	4	5	6	7	8	9	10	
7	I had mood swings	0	1	2	3	4	5	6	7	8	9	10	
8	I felt depressed	0	1	2	3	4	5	6	7	8	9	10	
9	I was easily irritated	0	1	2	3	4	5	6	7	8	9	10	

10	I had been imagining being stoned or high	0	1	2	3	4	5	6	7	8	9	10	
11	I felt restless	0	1	2	3	4	5	6	7	8	9	10	
12	I woke up early	0	1	2	3	4	5	6	7	8	9	10	
13	I had a stomach ache	0	1	2	3	4	5	6	7	8	9	10	
14	I had nightmares and/or strange dreams	0	1	2	3	4	5	6	7	8	9	10	
15	Life seemed like an uphill struggle	0	1	2	3	4	5	6	7	8	9	10	
16	I woke up sweating at night	0	1	2	3	4	5	6	7	8	9	10	
17	I had trouble getting to sleep at night	0	1	2	3	4	5	6	7	8	9	10	
18	I felt physically tense	0	1	2	3	4	5	6	7	8	9	10	
19	I had hot flashes	0	1	2	3	4	5	6	7	8	9	10	

Scoring: Score by summing each items value to a maximum withdrawal score of 190 (you can derive two scores from the scale: one for withdrawal intensity and one for the negative impact of withdrawal – each separate score has a theoretical maximum of 190).

Source: Allsop, D., Norberg, M., Copeland, J., Fu, S. & Budney, A.J. (2011). The Cannabis Withdrawal Scale Development: Patterns and Predictors of Cannabis Withdrawal and Distress. *Drug and Alcohol Dependence* 119 (1-2), 123-129

ALCOHOL AND OTHER DRUG WITHDRAWAL GUIDELINES

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Appendix 13: Fagerström Nicotine Dependence Scale

Question	Answer	Score
How soon after you wake up do you smoke your first cigarette?	Within 5 minutes	3
	6-30 minutes	2
	31-60 minutes	1
Do you find it difficult to refrain from smoking in the places where it is forbidden (e.g., in church, at the library, in cinema)?	Yes	1
	no	0
Which cigarette would you hate most to give up?	The first one in the morning	1
	Any other	0
How many cigarettes/day do you smoke?	10 or less	0
	11-20	1
	21-30	2
	31 or more	3
Do you smoke more frequently during the first hours after waking than during the rest of the day?	Yes	1
	no	0
Do you smoke if you are so ill that you are in bed most of the day	Yes	1
	no	0

Scoring: 7 to 10 points = highly dependent; 4 to 6 points = moderately dependent; less than 4 points = minimally dependent

Source: Fagerstrom KO, Heatherton TF, Kozlowski LT. (1990) Nicotine addiction and its assessment. *Ear, Nose and Throat Journal*, 89(11), p.763-765.

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