Next Step

Drug and Alcohol Services

A brief guide to the management of alcohol and other drug withdrawal

September 2018

Government of **Western Australia**
Mental Health Commission

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Introduction

These guidelines have been developed for Next Step doctors, nurses and pharmacists to give a brief and succinct overview of the withdrawal process for opioids, cannabis, benzodiazepines, and amphetamine type substances. Health professionals in other services may also find it useful.

These guidelines are based on current evidence at the time of writing. It is recognised that substance use and treatment can be dynamic and complex. Treatment may change as new evidence becomes available. Clinicians are recommended to use these guidelines as a foundation and to research additional information when required.

These guidelines are designed to be used in conjunction with the handbook “A brief guide to the assessment and treatment of alcohol dependence” (Quigley, Christmass, Vytialingam, Helfgott, & Stone, 2018).

General principles of withdrawal

Assessment

Withdrawal from alcohol and other drugs can be undertaken in a variety of settings. Home-based withdrawal, managed by the general practitioner, may be appropriate for stable patients with mild substance dependence. Withdrawal in an inpatient facility should be considered for patients with a moderate to high level of substance dependence or those with associated risks such as seizures or alcohol delirium tremens. A pre-assessment screening will help to identify these risks. The Next Step Inpatient Withdrawal Unit (IPWU) is designed to provide low to medium medical care. People with unstable comorbid conditions requiring high medical care, such as co-occurring psychosis and withdrawal, may not be suitable for inpatient withdrawal units.

All patients should have a thorough assessment before the commencement of withdrawal. The assessment should discuss:

- The patient's **motivation** for withdrawal and readiness to change.
- **Other treatment options**. Has the patient consider other treatment options? For example, opioid substitution treatment for patients dependent on opioids.
- **Post-withdrawal plan**. Completing a post-withdrawal plan will increase the likelihood of abstinence. For example, has the patient arranged for a long term rehabilitation program or ongoing counselling following withdrawal?
- **Previous withdrawal experience**. What was the outcome and/or complications during (and after) previous withdrawal attempts?
- **History and pattern** of substance use. Assess the amount, preferred route of administration, frequency of use and time of last use.
- **Degree of dependence**, as indicated by impaired control, social impairment, risky use and physiological indicators of dependence (DSM-5).
- **Substance use-related harm** e.g. accidents/injuries, illness/disease, crime/violence, economic/workplace costs, family/social disruption, other identified harms.
- **Polysubstance** use. It is not uncommon for patients with substance use disorders to use more than one substance. In these situations, it is important to monitor for withdrawal symptoms from other substances.
- **Risk of relapse**.
- **Physical examination**. Examination of cardiovascular, gastrointestinal, respiratory and neurological systems. Examine injection sites for signs of infection and consider BBV testing if required. Consider liver and kidney function tests if needed.
- **Mental health**. Assess the patient's current mood, cognition, perception, presence or history of self-harm, and symptoms of hallucinations or paranoia. The K10 distress scale and the suicide risk assessment form can screen for cognitive impairment and suicide risk respectively.
- **Medications**. Is there a current medication regimen? Are there any allergies or previous adverse reactions?

It is important to establish an open therapeutic relationship to ensure an accurate assessment. However, some patients may not disclose all information for a variety of reasons including:

- Fear of judgement
- Being under the influence of substances
- Impaired memory or cognition
- Pre-existing perception of the withdrawal process e.g. some patients may fear the intensity of withdrawal and seek additional medications to minimise any discomfort.

Clear expectations and boundaries should be discussed at the beginning of treatment to avoid misunderstandings and potential conflicts.

With the patient's permission, it is often helpful to obtain collateral information from the patient's GP, pharmacy or family members to corroborate details that may be unclear.

Treatment

The aim of withdrawal treatment is to manage intense withdrawal symptoms and prevent dangerous sequelae e.g. seizures. The withdrawal process should be flexible and patient-centred with regular monitoring.

Safe and effective withdrawal management is the beginning of recovery from substance use disorders. Withdrawal treatment it is not viewed as a standalone

treatment. During the inpatient admission, patients should be encouraged to develop non-pharmacological strategies to manage residual withdrawal symptoms which can persist beyond the inpatient stay e.g. sleeping disturbances, anxiety and cravings. These symptoms can increase the risk of relapse if not well managed.

Different substances may require different considerations during withdrawal. These will be discussed in their respective sections.

Post Withdrawal

The risk of relapse is generally the highest during the first 12 months following withdrawal. This risk slowly reduces the longer abstinence is maintained. Patients with an evidence-based post-withdrawal plan such as attending a long-term rehabilitation program are more likely to maintain abstinence. The plan should ideally be completed before commencing withdrawal. Inpatient staff can support and assist in consolidating these plans during the inpatient stay.

It is also recognised that a well-established social network can help maintain abstinence following withdrawal. Patients who can develop a supportive social circle away from drug using acquaintances are more likely to succeed in abstinence. Patients should be referred to relevant services to support them to establish a life away from drug use.

Alcohol

1. Introduction

In Australia, alcohol consumption cause over 5000 deaths per year and for each death, about 19 years of life are prematurely lost.[1]

Alcohol is a central nervous system depressant with psychoactive properties. It's mechanisms of action include potentiating $GABA_A$ receptor mediated inhibitory effects and inhibiting glutamatergic N-methyl-D-aspartate (NMDA) excitatory effects.[2] It has strong reinforcing and rewarding effects such as euphoria and anxiolysis.[2] Alcohol can stimulate the release of endogenous opioids which, in turn, activates the dopamine 'reward' system.[2]

With prolonged exposure to alcohol, the brain attempts to compensate by decreasing the number of $GABA_A$ receptors and increasing the number NMDA receptors. This is known as neuroadaptation and leads to the development of tolerance to the effects of alcohol.[2] When intake is reduced or ceased, the deficiency in $GABA_A$ receptors and excess of NMDA receptors causes the hyper-excitability features of the alcohol withdrawal syndrome.

Alcohol is rapidly absorbed through the small bowel and distributed throughout the body. It readily crosses the blood-brain barrier - reaching the brain within 5 minutes of ingestion. The blood concentration peaks within 30 to 90 minutes.[3] Alcohol is mainly metabolised by the liver via the enzymes alcohol dehydrogenase and aldehyde dehydrogenase.

Alcohol and its main, acetaldehyde, is toxic and causes direct cell damage. Alcohol also reduces thiamine absorption and utilisation. Chronic thiamine deficiency can lead to neurological disorders such as Wernicke's encephalopathy and Korsakoff's syndrome. The acute effects of alcohol varies between individuals and can be influenced by a range of factors including gender, body size, ethnicity, presence of food in the stomach, and tolerance. These effects are listed in Table 1. It is useful to note that chronic alcohol users who have developed a high tolerance may not exhibit symptoms of intoxication even with a high blood alcohol concentration (BAC).

Table 1: Correlation between effect and BAC in non-tolerant drinkers[3]

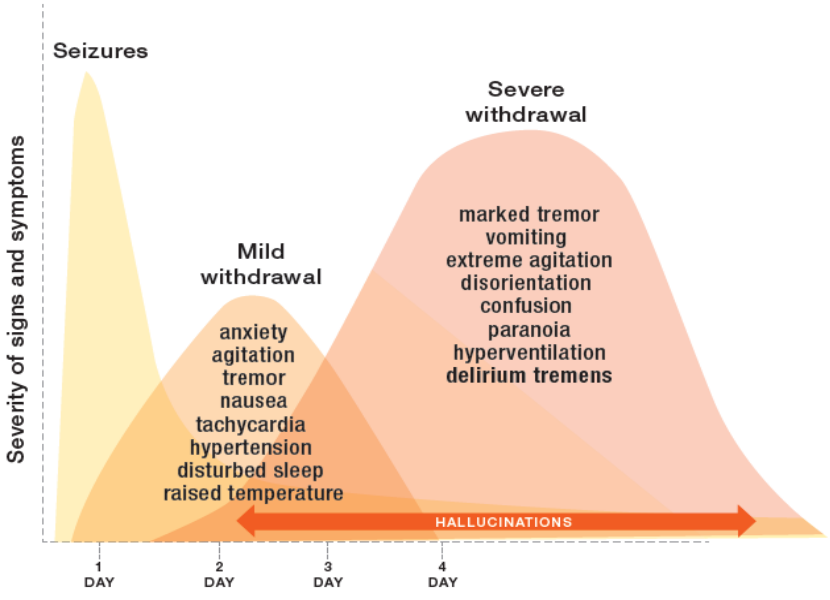
BAC	Likely effect of intoxication
0.02-0.05g/100mL	- Cheerful, relaxed - Decreased inhibition - Impaired judgement - Impaired coordination
0.1-0.3g/100mL	- Ataxia - Unpredictable and labile behaviour. Possible aggression - Grossly impaired judgement
0.3g-0.4g/100mL	- Sedated with poor response to external stimuli
>0.4g/100mL	- Respiratory failure - Coma and possible death

2. Withdrawal

The alcohol withdrawal syndrome can occur when an alcohol-dependent person ceases or reduces their alcohol intake. In severely dependent drinkers, withdrawal symptoms can begin when the BAC is decreasing, even if the patient is still intoxicated or has consumed alcohol recently.

The onset of withdrawal usually begins within 6 to 24 hours from the last drink. For most patients, the symptoms are generally short-lived and self-limiting. For others, the symptoms may increase in severity through the first 48 to 72 hours.

Figure 1: Severity of signs and symptoms of alcohol withdrawal over time [4]



The use of other substances may affect the onset and severity of withdrawal. For example, recent use of benzodiazepines may delay the onset and reduce the severity of withdrawal. On the other hand, concomitant benzodiazepine dependence may result in a more severe and/or prolonged withdrawal course, particularly if it is not recognised and treated.

Most of the features of acute alcohol withdrawal settle over 5 to 7 days. However, some symptoms can last several months, for example insomnia, mild anxiety and small elevations in blood pressure, pulse and respiratory rate.[4]

2.1 Withdrawal seizures

Withdrawal seizures can occur in 2-5% of alcohol dependent people.[2] They are usually generalised, grand-mal tonic-clonic convulsions and occur between 6 to 48 hours after last drink as the BAC is falling. Seizures can occur even if the BAC is high and multiple seizures can occur within the withdrawal episode. The risk of withdrawal seizures is higher in people who have experienced seizures in the past. This includes patients with a history of epilepsy as alcohol withdrawal lowers the seizure threshold.[2]

2.2 Delirium Tremens (DTs)

DTs (or alcohol withdrawal delirium) is a potentially life threatening condition with an incidence of up to 5% in untreated patients experiencing withdrawal.[1] The incidence of DTs is significantly reduced with adequate treatment.

DTs are characterised with symptoms of grossed tremors, extreme agitation and hyperactivity, clouding of consciousness, disorientation and hallucinations. This can occur 48 to 96 hours after the last drink, but can occur earlier.[5] Untreated DTs can have a mortality rate of up to 15%.[1] With effective treatment, the mortality rate reduces to below 1%.[1] Patient's experiencing DTs should be managed at a hospital and treatment involves:

- Controlling agitation with IV benzodiazepines
- Fluid replacement to correct any electrolyte disturbances
- Prophylactic thiamine
- Close monitoring

3. Treatment

Treatment for alcohol withdrawal can occur at an inpatient setting, or an outpatient setting with or without treatment. The recommended treatment setting will depend on the predictive course of withdrawal and the patient's motivation, plan, and experience of previous withdrawal attempts.

Specialist inpatient withdrawal is most appropriate when:

- Alcohol withdrawal symptoms are likely to be moderate to severe
- There are complicating medical, psychological or psychiatric problems or previous complications during withdrawal (DTs, seizures)
- There is dependence on other drugs in addition to alcohol
- Previous attempts at outpatient withdrawal have been unsuccessful
- The patient is pregnant.

Outpatient withdrawal is most appropriate when:

- The patient is not severely dependent on alcohol
- Previous withdrawals have not been complicated
- There are no significant complicating medical, psychological or psychiatric problems
- There is no significant use of drugs other than alcohol
- There is a supportive home environment
- A non-using carer is present to provide support, monitor progress and control medications
- The patient is strongly motivated to achieve abstinence.

As medical assistance is often required for outpatient withdrawal, patients should be linked with a home withdrawal service.

A comprehensive assessment can take some time and may involve multiple sessions to develop rapport with the patient. This should ideally be completed by the original referrer of the patient. One important factor during the assessment is to determine the level of alcohol consumption. There are standard guides available to assist in estimating the number of standard drinks or the amount of ethanol the patient is consuming. One example from the National Health and Medical Research Council is included in Table 2. In Australia, one standard drink contains approximately 10g ethanol.

Table 2: Alcohol concentration in standard drinks

Drinks Guide	Number of Standard drinks
1 can/stubby of full strength beer 4.8%	1.4
1 can/stubby of mid strength beer 3.5%	1.0
1 slab of full strength beer	34
1 glass of wine 100ml	1.0
1 bottle of wine 750ml	7.5
1 cask of wine 4L	39
1 bottle of spirits 700ml	22

Adapted from the National Health and Medical Research Council (NHMRC) Australian Alcohol Guidelines 2009

In addition to the standard admission assessment, attention should be given to the patient's mental state and physical heath. The mental state examination can occur when the clinician observes the patient during the assessment and should include:

- **Appearance and behaviour**. Ataxia may suggest intoxication or Wernicke's encephalopathy
- **Speech, mood** and **affect**.
- **Form of thought**. Illogical thoughts may suggest intoxication or DTs.
- **Content of thought**. Confabulation may suggest Korsakoff's syndrome.
- **Perception**. Hallucinations can appear suddenly and may be auditory, visual or tactile. They can occur alone. However, hallucinations with other signs such as delirium or severe agitation may suggest DTs.
- **Cognition**. Impairments may suggest DTs, Wernicke's encephalopathy or Korsakoff's syndrome.
- **Insight**. Poor insight may suggest brain damage.

The physical examination should check for:

- **Alcoholic facies** such as conjunctival injection, facial telangiectasia and rhinophyma
- Evidence of **injury** and **bruising**
- **Neurological examination** for nystagmus, ophthalmoplegia, truncal ataxia or gait abnormalities
- **Evidence of hepatic diseases** e.g. hepatomegaly, palmar erythema, spider naevi, splenomegaly or ascites.

It is not uncommon for patients to be admitted to the inpatient in alcohol withdrawal or still be under the influence of alcohol. Withdrawal signs may not always be obvious because of a high blood alcohol concentration, and intoxication may not be present because of a high level of neuroadaptation. A blood alcohol concentration (BAC) can be beneficial to establish a baseline at the beginning of admission.

Blood tests can provide additional information and can also be used to corroborate the provided patient history. The results can assist the patient's motivation to change by providing feedback regarding alcohol related organ damage. Useful markers can include:

- **Full blood count**: Screen for low haemoglobin which may be the result of:
  - Nutritional neglect
  - Blood loss from gastritis/ulcerations
  - Thrombocytopenia from heavy chronic alcohol use.
- **Urea and electrolytes:** Screen for hypokalaemia and hyponatraemia.
- **Liver function tests:** Liver enzymes may be deranged:
  - An AST/ALT ratio >1 and a significant raised GGT are suggestive of alcohol related liver damage
  - Elevated bilirubin and liver enzymes suggest acute alcoholic hepatitis
  - Low albumin is suggestive of severe chronic liver damage.

Early treatment is important to prevent progression into severe withdrawal. Patients at risk of severe withdrawal should be advised to continue drinking until they can receive medical assistance.

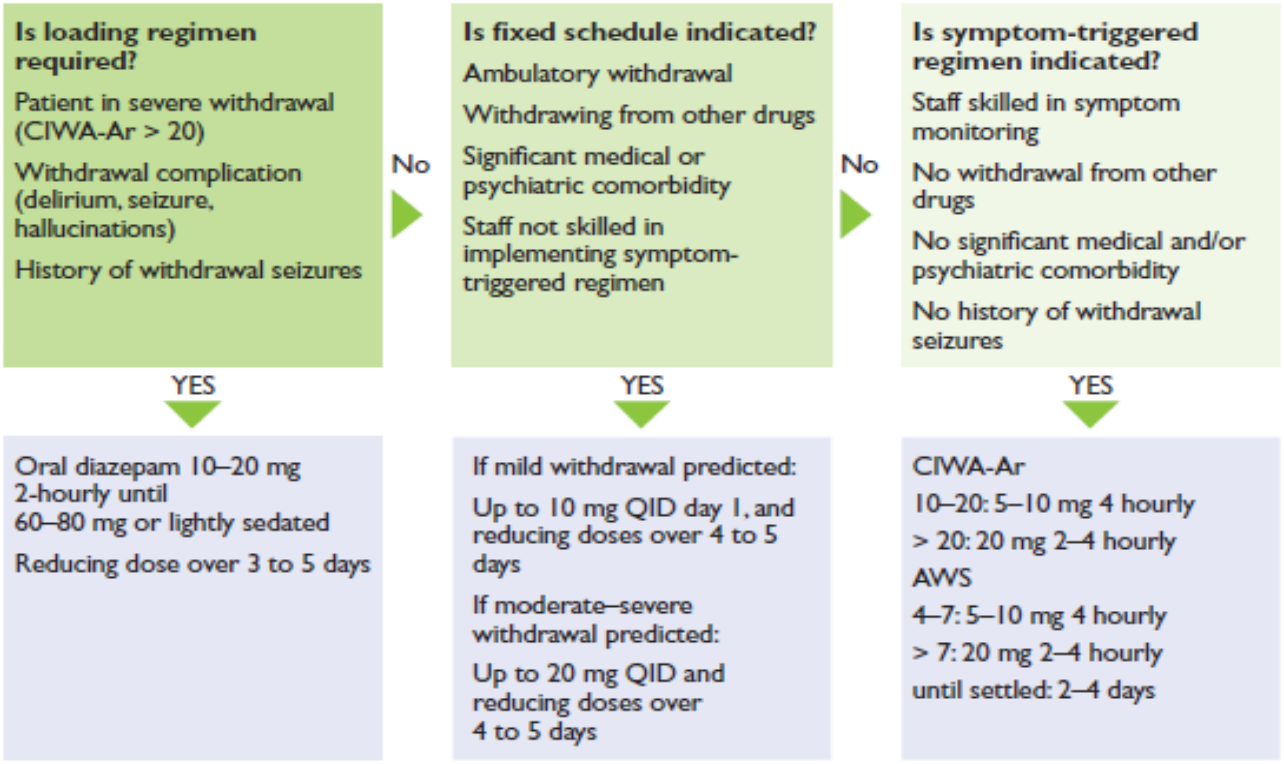
3.1 Monitoring

The Clinical Institute Withdrawal Assessment for Alcohol Scale (CIWA-Ar scale, see Appendix A) can be used to monitor the severity of alcohol withdrawal. A score of 9 or more indicates significant withdrawal symptoms and the need for medication. In the revised CIWA-Ar scale at Next Step Drug and Alcohol Services, a score of 15 or more indicates severe withdrawal with impending risk of delirium tremens and seizures.[4] Urgent medical attention should be provided.

3.2 Benzodiazepines

Benzodiazepines enhance the effects of GABA at the $GABA_A$ receptor sites. Benzodiazepines augment the inadequate inhibitory effects of GABA during alcohol withdrawal.[6]

Figure 2: Selecting benzodiazepine regimens for alcohol withdrawal[1]



Diazepam is the preferred benzodiazepine because it is well absorbed orally, has a rapid onset, and a prolong duration of action. Lorazepam can be used if there are concerns surrounding prolonged sedation, such as in the elderly and people with liver impairment, recent head injury or respiratory failure.

The three commonly used benzodiazepine regimens are symptom-triggered therapy, loading dose therapy and fixed-schedule (regular) therapy.[1]

Figure 2 shows a schematic for using the different benzodiazepine regimens. The regimen(s) used will depend on an assessment of the patient's expected withdrawal severity. This can be predicted by an analysis of the patient's current drinking patterns (e.g. the amount of alcohol consumed and when it is consumed), past withdrawal experience (e.g. history of withdrawal seizures), concomitant substance use, and concomitant medical or psychiatric conditions.

Loading regimens administer high doses of diazepam at the early stages of withdrawal and are indicated for managing patients in severe withdrawal or those who have a history of severe withdrawal complications e.g. DTs, seizures.

Fixed dose regimens involve administering diazepam in a reducing dose over the course of 3-5 days of withdrawal. The patient should be reviewed each day by a doctor or an addiction specialist. This is appropriate for ambulatory withdrawal or within an inpatient setting.

Symptom-triggered therapy involves administering medications according to the severity of withdrawal symptoms based on a monitoring scale such as the CIWA-Ar. Symptom-triggered therapy is associated with a reduction in treatment duration, and benzodiazepine exposure compared to fixed dose regimen.[7]

It is common to use a combination of the fixed dose regimen with the symptom triggered regimen during the first few days of an inpatient admission. Additional diazepam doses may be given as needed based on clinical observation and alcohol withdrawal scores from the CIWA-Ar. A brief guide to alcohol withdrawal management in the Next Step Inpatient Withdrawal Unit is included (Appendix B).

3.3 Thiamine for prophylaxis and treatment of Wernicke-Korsakoff Syndrome (WKS)

Thiamine (vitamin B1) deficiency is common in dependent drinkers due to poor nutrition and impaired intestinal absorption.

Thiamine deficiency can lead to Wernicke's encephalopathy which is characterised by neurological signs such as:[1]

- Confusion
- Ataxia
- Nystagmus and opthalmoplegia
- Coma, hypotension, hypothermia.

Wernicke's encephalopathy is initially reversible, but if untreated it can lead to irreversible cognitive damage known as Korsakoff's syndrome.

Korsakoff's syndrome is characterised by:

- Anterograde and retrograde amnesia
- Disorientation in time
- Confabulation
- Apathy.

At Next Step Drug and Alcohol Services, thiamine 250mg/day IM is routinely given for at least the first 3 to 5 days of alcohol withdrawal. Although there is no standard dosing guideline, consensus advice from specialist addiction doctors recommend administrating more frequently (up to three times a day) and for longer if there is any concern about the patient's nutritional state or neurological features suggesting an increased risk of WKS. IM thiamine is then followed by oral thiamine 100mg TDS for the remainder of the patient's admission. Patients with signs suggestive of WKS should be encouraged to continue oral thiamine on discharge for at least several weeks.

3.4 Other medications for symptomatic relief

Medications used for symptomatic relief of alcohol withdrawal symptoms are detailed in Table 3 below.

Table 3: Medications for the symptomatic relief of alcohol withdrawal

Symptoms	Suggested treatments
Nausea & vomiting	- **Metoclopramide** PO/IM 10mg three times daily PRN. Maximum of 5 days treatment - **Ondansetron** PO 4-8mg BD PRN. 2nd line treatment if nausea is severe or unresponsive to metoclopramide
Muscle aches & pain	- **Paracetamol** PO 1000mg every 4-6 hours PRN. Maximum 4000mg in 24hrs. A reduced dose should be considered in patients with significant liver disease - **Ibuprofen** PO 400mg every 6-8 hours PRN. Can be used in combination with paracetamol
Insomnia	- **Temazepam** PO 10-20mg PRN at night. Encourage to cease after day 5
Inadequate diet	- **Multivitamin** PO 1 tablet daily - **Folate** PO 5mg daily

3.5 Pharmacotherapies for relapse prevention

There are several pharmacotherapies that are commonly used for alcohol dependence. These include naltrexone, acamprosate and disulfiram. Their mechanisms of action, contraindications and other details are provided in Table 4. There is stronger evidence for the benefits of naltrexone and acamprosate compared to disulfiram. Consider disulfiram when naltrexone and acamprosate have been unsuccessful and the patient is highly motivated to remain abstinent. Results from combination treatment with naltrexone and acamprosate have been mixed.[8, 9] Naltrexone with acamprosate can be trialled for patients unsuccessful on single pharmacotherapies with no contraindications.

Table 4: Pharmacotherapies for alcohol relapse prevention[2, 10, 11]

	Naltrexone	Acamprosate	Disulfiram
Mechanism of action	Inhibits the effects of endogenous opioids, which are released during alcohol consumption, at the mμ receptor sites. This reduces the reinforcing effects of alcohol. It can: - Reduce cravings - Increase alcohol-free days - Reduce alcohol intake during relapse.	A synthetic GABA analogue that may act by restoring the glutamate and GABA-ergic systems to normal activity. This decreases the positive reinforcement of drinking alcohol and withdrawal cravings. It can: - Reduce cravings - Increase alcohol-free days - Reduce alcohol intake during relapse.	Inhibits alcohol dehydrogenase and prevents the breakdown of the toxic alcohol metabolite acetaldehyde. Accumulation of acetaldehyde can cause flushing, sweating, nausea, vomiting, palpitations, headache, dyspnoea, chest pain, hypotension, seizures, arrhythmias.
Contraindications	- Acute hepatitis or liver failure - Pregnancy	- Hepatic impairment (no data) - Pregnancy (no data) - If serum creatinine >120 micromol/L	- Severe renal or hepatic impairment - Pregnancy (no data) - Cardiovascular diseases, diabetes, stroke or psychosis
Side effects & monitoring	Nausea, headaches, dizziness, fatigue, anxiety. Monitoring: Conduct liver function test before initiation, then monthly for the first 3 months then, if normal, every 3 months thereafter.	Rash, diarrhoea, changes in libido.	Nausea, headache, fatigue, drowsiness, taste disturbances.
Dosage	25mg daily for 3 days, increasing to 50mg daily.	≥ 60kg: 666mg three times daily < 60kg: 666mg morning, 333mg at midday and 333mg at night	100mg daily for 7 days, increasing to 200mg daily.
Drug interactions	Opioids	Nil known	Alcohol, metronidazole, phenytoin, theophylline, warfarin.

3.5 Psychosocial intervention

Treatments that combine psychosocial interventions with pharmacotherapy have improved outcomes compared to single modality treatment.[12]

Psychosocial intervention can include:

- Brief interventions during screening and assessment. This can involve providing information in a short time frame (e.g. 5 to 30 minutes) to reduce the risk of alcohol consumption and related harms.
- Motivational interviewing – a technique designed to strengthen an individual's motivation for and movement towards a specific goal by eliciting and exploring their own arguments for change.
- Cognitive behavioural therapy such as developing coping skills and relapse prevention. Examples of these skills include assertiveness, coping with urges, identifying triggers, and drink refusal training.

If there are appropriately trained clinicians, patients can begin psychosocial interventions during their inpatient stay. These skills and supporting framework can then continue after withdrawal.

4. Pregnancy and breastfeeding

Pregnancy can be an opportune time to engage mothers who are highly motivated to change. No alcohol consumption is the safest option for pregnant or breastfeeding women or those who intend to become pregnant.

Alcohol freely crosses the placenta and consumption during pregnancy increases the risk of Fetal Alcohol Spectrum Disorders (FASD). FASD refers to severe neurodevelopmental impairments caused by maternal alcohol consumption. The risk is linked to the dose, timing and frequency of alcohol consumed during pregnancy. There is no safe amount of alcohol consumption during pregnancy.

Alcohol readily passes into the breastmilk. It can adversely affect lactation, infant behaviour (for example, feeding and sleeping) and the psychomotor development of the breastfed baby.

Consider the following harm reduction advice for mothers who cannot remain abstinent:[13]

- Alcohol will be present in breastmilk 30 to 60 minutes after ingestion.
- Generally, it takes 2 hours for an average woman to remove 1 standard drink, and 4 hours to remove 2 standard drinks from the body
- Only time will reduce the alcohol level in your body
- If you must drink, plan ahead. Breastfeed before consuming alcohol or try expressing some milk for your baby ahead of time.

There are apps available, such as the Feedsafe App, which can assist women to estimate when they have no alcohol remaining in their breastmilk http://www.feedsafe.net/ .

Untreated alcohol withdrawal is potentially dangerous for the mother and the foetus. All pregnant women undergoing alcohol withdrawal should be managed in a specialised service for close observation and monitoring. In Western Australia, refer all alcohol dependent pregnant women to the Women and Newborn Drug and Alcohol Service (WANDAS (08) 6458 1582) for antenatal care and specialist support.

5. Post Withdrawal

Long-term post-withdrawal care is important as part of a comprehensive treatment plan. Chronic severely dependent drinkers have the greatest risk of relapse. This risk is highest in the first 3 months following withdrawal.

Following withdrawal treatment, patients can benefit from long-term rehabilitation and ongoing after care from a drug and alcohol counselling service. Some patients can also benefit from self-help programs such as Alcoholics Anonymous and SMART Recovery®.

The post-withdrawal period is also an important time to address physical, mental health and cognitive complications related to alcohol use. Patients should be encouraged to follow up with their GP for ongoing care. If necessary, referrals to appropriate specialist services should be considered. These may include gastroenterology or hepatology, neurology, community mental health and clinical psychology.

Opioids

1. Introduction

Opioids are substances that act on the opioid receptor system to produce a range of morphine-like effects. Prolonged use of opioids can lead to the development of tolerance, dependence and addiction. Cessation after prolonged use is associated with a range of withdrawal symptoms. Although the withdrawal syndrome is uncomfortable, it is not life threatening. Patients may choose to complete withdrawal without medical intervention or with support at an inpatient setting.

Tolerance to opioids falls rapidly following withdrawal, and this increases the risk of opioid overdose if the patient resumes opioid use. Thus, harm reduction advice and ongoing support following withdrawal is crucial to reduce the likelihood of early relapse with potentially fatal consequences. Patients who are not ready for complete opioid withdrawal should consider an opioid substitution treatment program.

2. Withdrawal

The aim of withdrawal treatment is to provide symptomatic relief from discomfort and support the patient's plans to maintain abstinence. The severity and time course of withdrawal is dependent on the opioid used. Withdrawal symptoms from short acting opioids, such as heroin, generally begin 6-24 hours after last used, reach a peak at 24-48hrs and resolve after 4-7 days. Withdrawal symptoms from long acting opioids, such as methadone and buprenorphine, generally begin 36-72 hours after the last dose and reach a peak after 5-7 days.[14, 15] The long half-life of methadone and buprenorphine generally results in a lower peak severity (compared to short acting opioids such as heroin) but a more protracted period of withdrawal which can continue over several weeks.

Table 5: Morphine-like effects[3]

Body System	Effect
Central Nervous System	• Analgesia • Sedation, drowsiness, respiratory depression • Reduced cough reflex • Miosis (pupillary constriction) • Euphoria
Gastrointestinal	• Nausea and vomiting • Constipation • Biliary spasm
Endocrine (long-term use)	• Increase anti-diuretic hormone (ADH); reduce adrenocorticotropic hormone (ACTH) • In women - reduce follicle-stimulating (FSH) and luteinising hormone; increase prolactin resulting in menstrual changes, reduced libido and galactorrhoea • In men – reduce testosterone with reduced libido
Other	• Pruritus, hyperhidrosis (excessive sweating), flushed skin • Dry mouth, skin and eyes • Hypotension and bradycardia

Figure 3: The time course of heroin and methadone withdrawal[3]

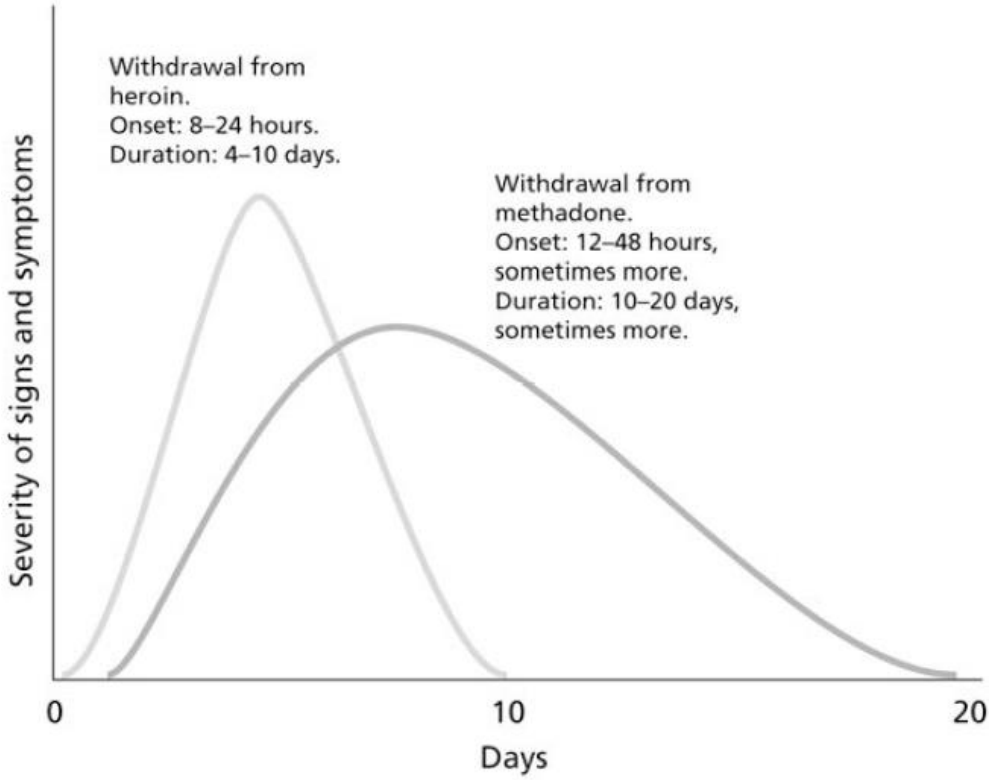


Table 6: Symptoms and course of opioid withdrawal[1]

Stage of withdrawal	- Common symptoms
Early	- Runny eyes and nose, sneezing, yawning - Sweating, hot and cold flushes - Loss of appetite - Goosebumps
Peak	- Strong cravings - Stomach cramps and diarrhoea - Nausea and vomiting - Body aches - Restlessness, agitation, irritability and insomnia - Lethargy and poor concentration - Hot and cold flushes with increased sweating
Late	- Physical symptoms begin to subside - Psychological symptoms such as lethargy, irritability, cravings and insomnia may persist but in lower severity

3. Treatment

In addition to the standard assessment, it is important to explore other associated harms which may occur with opioid misuse. For example, patients who have used opioids intravenously in the past are at a higher risk of contracting blood borne viruses (BBVs). Consider discussing the relevance of a blood test to screen for BBVs. A liver function test may be beneficial for patients who have been on long term codeine and paracetamol combination medications.

3.1 Monitoring

Patients should be regularly monitored using a recognised withdrawal scale such as the Clinical Opiate Withdrawal Scale (COWS). The COWS (Appendix C) is an 11 item objective scale designed to measure the severity of opioid withdrawal symptoms.

3.2 Buprenorphine

A short course of buprenorphine can reduce the intensity of withdrawal symptoms associated with heroin, methadone, and prescription opioids. Opioid withdrawal managed with buprenorphine has several advantages over clonidine:[16]

- Withdrawal symptoms are milder in intensity
- Higher treatment retention and completion rates
- Fewer adverse effects and subsequently reduced likelihood of discontinuation from treatment.

Buprenorphine can alleviate withdrawal symptoms without significant sedative effects. This allows patients to participate in activities and engage in post-withdrawal planning early in treatment. Starting buprenorphine when withdrawal symptoms are reaching peak severity can generally reduce the need for other symptomatic relief medications such as diazepam and clonidine.

If symptoms of opioid withdrawal are not apparent, consider using clonidine initially to reduce the risk of precipitated withdrawal. Buprenorphine has a high affinity for the opioid receptor but lower intrinsic action than full agonist opioids. Administering it too early may cause the buprenorphine molecule to displace other opioid agonists and cause precipitated withdrawal. Precipitated withdrawal is more severe than non-precipitated or 'normal' withdrawal; is more difficult to manage and may potentially jeopardise the client's progress. It is important to prevent this by delaying buprenorphine until opioid withdrawal symptoms are significant.

The short course buprenorphine assisted withdrawal regimen may be individualised to each client. There is minimal risk of dependence or rebound discomfort with courses of 5 days or less. Consult with an addiction specialist if longer treatment with buprenorphine is required.

3.3 Clonidine

Clonidine is an α^2-adrenoreceptor and imidazoline agonist.[17] Peak plasma levels are reached within 1 to 3 hours with a duration of action between 6 to 12 hours.[17] Clonidine is approved for the management of opioid withdrawal symptoms in Australia. It can help reduce opioid withdrawal symptoms such as nausea, vomiting, diarrhoea, cramps, agitation and sweating.[18] Unlike methadone, clonidine has little effect in reducing cravings. However, clonidine does not produce opioid-like tolerance or dependence. Patients taking clonidine require monitoring for adverse effects such as hypotension, bradycardia and sedation. Caution is required when administering clonidine with other depressant medications e.g. benzodiazepines.

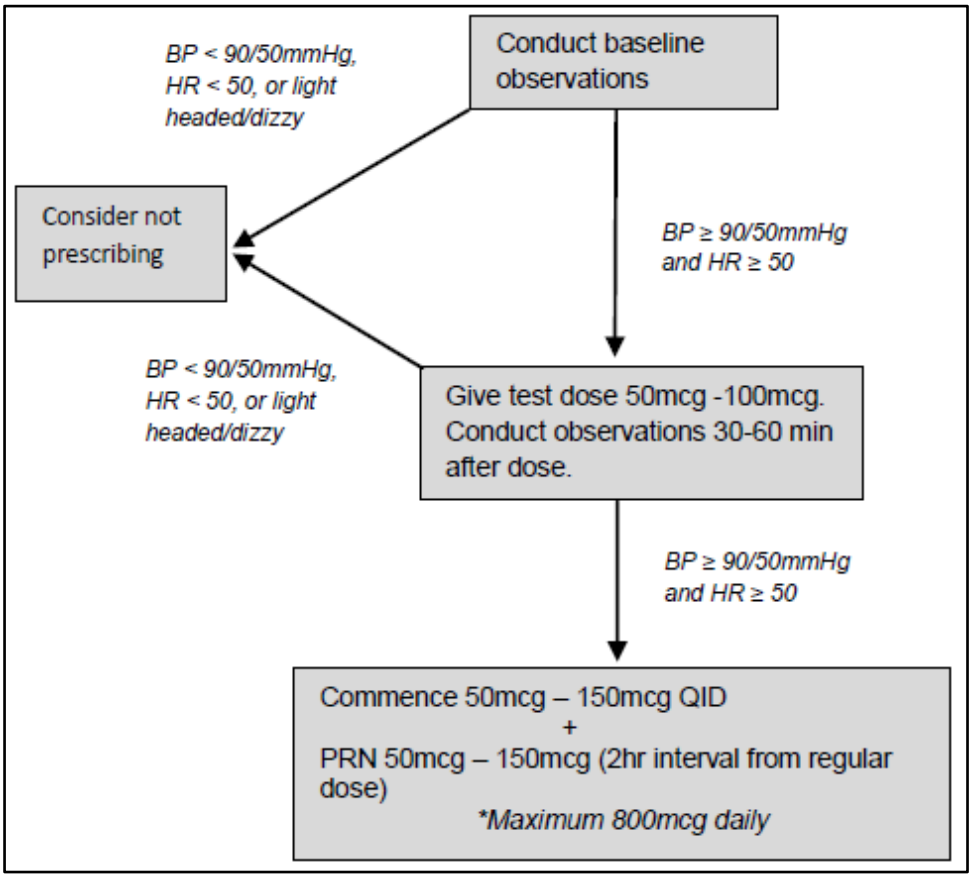
Table 7: Example of a short course buprenorphine regimen for inpatient withdrawal from opioids

Day of onset of withdrawal	Proposed regimen	Total daily max dose
1*	4mg at onset of withdrawal and additional 2mg to 4mg PRN evening dose	4mg to 8mg
2	4mg mane and additional 2mg to 4mg PRN evening dose	4mg to 8mg
3	4mg mane and additional 2mg PRN evening dose	4mg to 6mg
4	2mg PRN mane and additional 2mg PRN evening dose	0 to 4mg
5	2mg PRN	0 to 2mg
6	No dose	
7	No dose	

**Patients may not experience significant withdrawal symptoms on the first day of withdrawal from opioids with a long half-life e.g. methadone. Delay buprenorphine treatment until withdrawal symptoms are significant.*

Before commencing regular clonidine, it's recommended to conduct a test dose for adverse effects. Refer to "Figure 4 Administering Clonidine Flow Chart" for an example. Additional when required (PRN) doses of 50-150mcg QID can be given according to the COWS score. "When required" doses of clonidine allows flexibility and is especially useful for patients experiencing significant discomfort in between regular clonidine doses. There should be at least a 2 hour interval between doses. Observations should be conducted before each dose of clonidine to minimise the risk of adverse effects. Clonidine should be withheld if the client's BP < 90/50mmHg or pulse < 50.

Figure 4: Administering clonidine flow chart



3.4 Other medications for symptomatic relief for opioid withdrawal

Other medications may be provided for symptomatic relief. These are detailed in Table 8 below.

Table 8: Other medications for symptomatic relief for opioid withdrawal

Symptoms	Suggested treatments
Nausea & vomiting	- **Metoclopramide** PO/IM 10mg three times daily PRN. Maximum of 5 days treatment - **Ondansetron** PO 4-8mg BD PRN. 2nd line treatment if nausea is severe or unresponsive to metoclopramide
Muscle aches & pain	- **Paracetamol** PO 1000mg every 4-6 hours PRN. Maximum 4000mg in 24hrs. A reduced dose should be considered in patients with significant liver disease - **Ibuprofen** PO 400mg every 6-8 hours PRN. Can be used in combination with paracetamol
Agitation and/or anxiety	- **Diazepam** PO regular or PRN. Adjust dose to clinical needs and risks. A dose of 15-20 mg per day is appropriate for most patients. Taper to cessation at least two to three days before discharge.
Insomnia	- **Temazepam** PO 10-20mg PRN at night. Encourage to cease after day 5
Abdominal cramps	- **Hyoscine butylbromide** PO 20mg every 6 hours PRN. - Paracetamol may also provide some pain relief
Diarrhoea	- **Loperamide** PO PRN 2mg after loose bowel motion. Maximum of 16mg in 24hrs

4. Pregnancy

Opioid substitution treatment (OST) is the preferred management for opioid dependent pregnant women.[16] Risk vs benefit scenarios should be clearly explained to the patient. Compared to continued illicit drug use or withdrawal, OST is associated with improved fetal development, infant birth weight, and reduced risk of perinatal and infant mortality.[16] Buprenorphine may be associated with more favourable neonatal growth outcomes than methadone.[19] Refer to the "Western Australian Community Program for Opioid Pharmacotherapy (CPOP) Clinical Policies and Procedures for the Use of Methadone and Buprenorphine in the Treatment of Opioid Dependence" for more information.

Opioid withdrawal during pregnancy is a high-risk option because relapse will potentially expose both mother and child to illicit substance use. Opioid withdrawal in the first trimester of pregnancy may be associated with an increased risk of miscarriage, and opioid withdrawal in the third trimester of pregnancy may be associated with fetal distress and fetal death. Patients who decline an OST program should be advised about the risks of withdrawal. If withdrawal is considered appropriate, it should be undertaken in the second trimester of pregnancy.

Refer pregnant patients to the Women and Newborn Drug and Alcohol Service (WANDAS (08) (6458 1582)) for additional specialist advice and ongoing support.

5. Naltrexone

Naltrexone tablets may be considered for highly motivated patients for relapse prevention. However, due to the reduction in opioid tolerance that is associated with detoxification and naltrexone treatment, the risk of overdose is elevated if a patient ceases naltrexone and resumes opioid use. For this reason, naltrexone may not be suitable for individuals with a high risk of relapse.

Conduct a liver function test before commencing naltrexone. Naltrexone is contraindicated in acute hepatitis, liver failure or when liver enzymes are >3 times upper limit of normal. If appropriate, patients may begin naltrexone in the inpatient setting after withdrawal symptoms have abated. Initiate on 25mg daily for 3 days, increasing to 50mg daily if there are no adverse effects. Naltrexone is not approved on the Pharmaceutical Benefits Scheme for maintaining opioid abstinence and patients need to be aware of the private cost.

Combing naltrexone pharmacotherapy with non-pharmacological treatments will increase the chance of abstinence. Consider referral to a counselling service, long term rehabilitation, and/or Narcotics Anonymous.

6. Naloxone

Given the high prevalence of relapse following withdrawal, it is recommended to discuss relapse prevention and management with the patient. In addition, overdose prevention and management should be explored. Consider providing the patient with a supply or prescription for naloxone and information about overdose reversal.

Naloxone is a competitive opioid receptor antagonist that can prevent or reverse the effects of opioid intoxication including respiratory depression, sedation and hypotension. Take-home naloxone kits can be provided to patients at high risk of opioid overdose and to people who are likely to witness opioid overdoses.

Cannabis

1. Introduction

Cannabis is the most commonly used illicit drug in Australia with 35% of people, aged 14 and over, having used it in their lifetime.[20] There are over 400 different chemicals contained in cannabis. The principle psychoactive constituent is delta-9-tetrahydrocannabinol (THC).[3] THC is lipophilic and accumulates in fatty tissues.

On 1 November 2016, it became legal for doctors to prescribe, and pharmacists to dispense medicinal cannabis in Western Australia. However, it remains illegal to cultivate or use cannabis for non-medical purposes.

Table 9: The acute effects of cannabis[1, 3]

Positive acute effects	Negative acute effects
- Relaxation - Euphoria - Disinhibition - Heightened visual and auditory perceptions - Increased appetite	- Anxiety and panic attacks - Short term memory loss - Difficulty concentrating, with a tendency to focus on one particular activity - Paranoia - Visual and auditory hallucinations - Impaired coordination - Tachycardia and supraventricular arrhythmias

Chronic use is associated with:

- **Dependence**
- **Cognitive impairment:** Affecting memory, attention, organisation and the ability to process complex information
- **Adverse respiratory effects:** Tobacco is often mixed with cannabis into "joints", "pipes" or "bongs" for inhalation. "Joints" of cannabis contain tar and carcinogens which are risk factors for bronchitis, and oropharyngeal and lung cancers.[15]

Many regular users do not believe they need treatment for cannabis dependence. However, contrary to this statement, there are an increasing number of cannabis users seeking assistance at treatment services. The Diagnostic and Statistical Manual of Mental Disorders, 5th edition, criteria for cannabis use disorder may be helpful to determine the level of cannabis dependence.[21]

Withdrawal is not life threatening and can be managed through an outpatient setting. Inpatient withdrawal may be considered if:

- Repeated attempts at outpatient withdrawal have been unsuccessful
- The patient has significant mental health issues e.g. schizophrenia, bipolar disorder
- There is concomitant problematic polysubstance use.

2. Withdrawal

The cannabis withdrawal syndrome can last for several weeks.

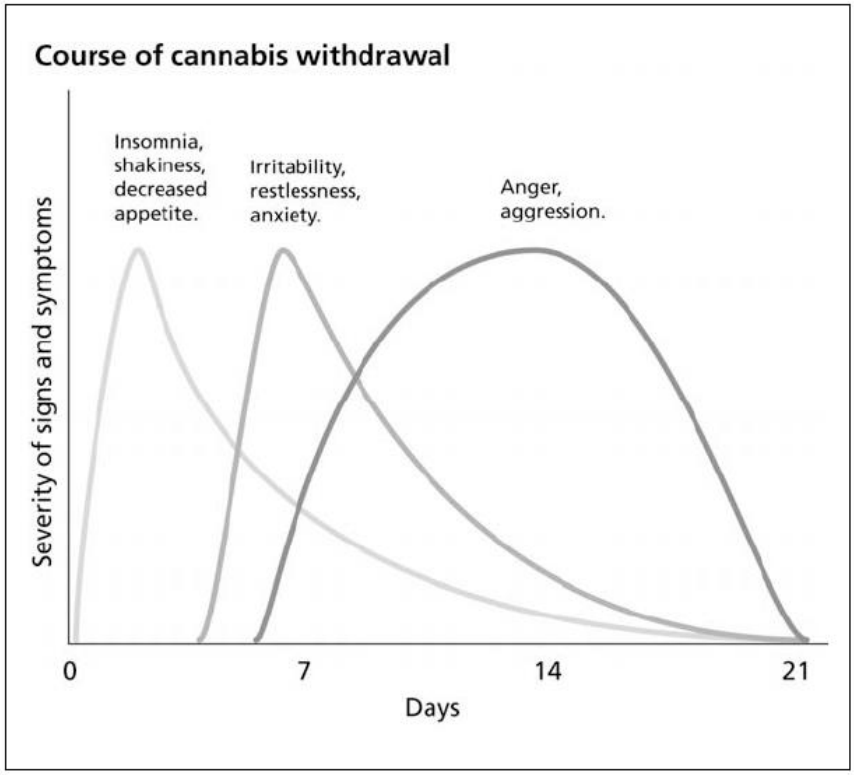
Table 10: Symptoms of cannabis withdrawal[1, 3]

Common	Less common
- Craving - Anger and aggression - Anorexia - Nausea and vomiting - Nervousness/anxiety, agitation, restlessness - Sleeping difficulties which may include vivid dreams	- Chills and sweats - Depressed mood - Stomach pain - Shakiness

Most symptoms emerge one to two days after last use, peak within the first 7 days and last for approximately 7-14 days.[21] Symptoms may peak at different stages throughout withdrawal e.g. anger and aggression may have a later onset compared to other symptoms.

Underlying psychiatric illnesses or symptoms, which may have been masked during cannabis use, could emerge during the withdrawal period.[15]

Figure 5: Symptoms and duration of cannabis withdrawal[3]



Long term cannabis use may be associated with paranoia, anxiety, visual and auditory hallucinations. These symptoms are more likely to emerge during the withdrawal period if the patient has experienced them in the past.

3. Treatment

In addition to the standard pre-assessment, the assessment of an individual who uses cannabis should include a thorough examination of their respiratory and neurological health. Patients often mix cannabis with tobacco before inhalation. Examine for any signs of bronchitis, exacerbation of asthma, any compromise in lung function and consider spirometry test if indicated.

Between 50% and 75% of dependent cannabis users will experience four or more withdrawal symptoms.[15] The most commonly reported symptoms are sleeping disturbances, reduced appetite, irritability, anger and aggression. Withdrawal symptoms may be a significant barrier to patients opting for detoxification, especially in a home-based setting.[22]

The aim of cannabis withdrawal treatment is to provide symptomatic relief and to introduce or engage patients with psychosocial interventions.

Results from studies for pharmacotherapy with antidepressants, mood stabilisers and replacement therapy have been mixed and further evidence is required before any recommendations can be made.

3.1 Monitoring

There are a number of cannabis withdrawal scales available. None are validated for clinical practice. However, the scales do provide a useful tool to assess the progression of withdrawal.

The Clinical Assessment Rating (CAR) scale (Appendix D) is a monitoring tool that can be used for cannabis withdrawal and may be especially useful for poly-substance users.

3.2 Medications for symptomatic relief for cannabis withdrawal

Table 11: Medications for symptomatic relief for cannabis withdrawal

Symptoms	Suggested treatments
Nausea & vomiting	- **Metoclopramide** PO/IM 10mg three times daily PRN. Maximum of 5 days treatment - **Ondansetron** PO 4-8mg BD PRN. 2nd line treatment if nausea is severe or unresponsive to metoclopramide
Muscle aches & pains and headaches	- **Paracetamol** PO 1000mg every 4-6 hours PRN. Maximum 4000mg in 24hrs - **Ibuprofen** PO 400mg every 6-8 hours PRN. Can be used in combination with paracetamol
Agitation and/or anxiety, restlessness	- **Diazepam** PO regular or PRN. Adjust dose to clinical need and risks. A dose of 5 mg TDS or QID is appropriate for most patients. Taper to cessation at least two to three days before discharge.
Insomnia	- **Temazepam** PO 10-20mg PRN at night. Encourage to cease after day 5
Abdominal cramps	- **Hyoscine butylbromide** PO 20mg every 6 hours PRN. - Paracetamol may also provide some pain relief
Symptoms of psychosis e.g. thought disorders, paranoia, perceptual disturbances	- ***Quetiapine** 25-50mg PO BD PRN. Maximum of 100mg daily alone or 800mg daily in combination with regular dose - ***Olanzapine** 2.5-5mg PO BD PRN. Maximum of 10mg daily alone or 20mg daily in combination with regular dose

**The antihistamine effect of some antipsychotics, e.g. quetiapine, can cause sedation and this may be beneficial for patients experiencing severe agitation unrelieved with diazepam. If the patient is currently taking a regular antipsychotic, it is preferable to choose the same antipsychotic for PRN dosing. PRN antipsychotic medications should only be given in an inpatient setting under the supervision of a psychiatrist or addiction specialist. Currently, there is insufficient evidence to recommend routine use.*

3.3 Psychological and social support

Brief interventions and cognitive behavioural therapy have shown to be effective in changing cannabis using behaviour.[23] Psychosocial interventions can include:

- Goal setting
- Developing non-pharmacological strategies to manage post-withdrawal symptoms e.g. sleeping disturbances, anxiety, low mood and cravings
- Encouraging individuals to engage with support services following withdrawal
- Exploring support from family members and/or significant others.

Only use medications for symptomatic relief if they are considered safe in pregnancy or where the benefits clearly outweigh the risks.

Consider referring to the Women and Newborn Drug and Alcohol Service (WANDAS (08) 6458 1582) for specialist advice and ongoing support.

4. Pregnancy

Studies on the effects of maternal cannabis consumption have been inconsistent. It has been suggested that cannabis use during pregnancy is not an independent risk factors for adverse neonatal outcomes.[24] However, cannabis use may be associated with the use of other substances which can be harmful to the neonate e.g. tobacco. Pregnant women are strongly recommended to cease cannabis and tobacco use.

Benzodiazepines

1. Introduction

Benzodiazepines (BZDs) enhance the effects of gamma-aminobutyric acid (GABA) by modulating its' affinity to the $GABA_A$ receptors. There is evidence for clinical efficacy in selected medical conditions but the use of these medications may be associated with problematic tolerance and dependence. Tolerance to the various effects of BZDs develop at different rates:[25]

- Tolerance to the sedative and hypnotic effects occur rapidly
- Tolerance to the anticonvulsant effects develops slowly
- Tolerance to the anxiolytic effects may only partially develop after long term therapy.

Table 12: Short and long term effects of BZD[15]

Short term effects	Long term effects
- Drowsiness and fatigue - Muscle weakness - Impaired memory and cognition - Intoxication from BZD can present as: ▪ sedation where the individual can be roused but quickly lapses back to the sedated state ▪ slurred speech and drooling ▪ Poor balance and incoordination ▪ Disinhibition ▪ Paradoxical stimulating effect	- Tolerance - Dependence - Withdrawal syndrome from discontinuation - Emotional blunting - Cognitive impairment - Menstrual irregularities, breast engorgement

There is only a small risk of dependence when BZDs are used for less than two to four weeks. Half of the people using BZD for longer than four weeks will develop dependence.[26] Although substantive trials to support the use of BZDs for more than four weeks are lacking, long term benzodiazepine prescribing is unfortunately common, often initiated for the management of anxiety or insomnia. Patients who continue to take prescribed BZDs long term with no evidence of misuse are often labelled as "therapeutically dependent".[27] These patients generally find it difficult to cease or withdrawal from BZDs. However, every effort should be made to give patients the opportunity to do so in view of the potential harms associated with long-term treatment. If withdrawal is undertaken, the BZD dose should be tapered slowly. Patients using BZDs for a short period (e.g. 5 to 7 days) generally do not experience withdraw symptoms and will not need withdrawal treatment.

Patients with a history of substance use disorder are at a higher risk of BZD misuse. Tranquillisers and sleeping tablets are the second most commonly misused pharmaceutical drug type in Australia.[20] A patient may go to multiple doctors presenting compelling reasons to obtain a prescription. One example that is commonly used is when a patient reports that he/she will be at risk of seizures if not immediately prescribed a BZD. In this scenario, comprehensive documentation of clinical reasoning for BZD treatment is essential, together with a strategy to reduce the potential harm from overuse of BZD medication. The risk of misuse can be reduced by:

- Prescribing for a short duration and in limited quantities
- Having a treatment agreement with the patient
- Not providing early or replacing "lost" prescriptions
- Interval dispensing (also known as staged supply) by one pharmacy if appropriate
- Supervision of administration by a significant other e.g. family member
- Regular patient review.

BZD overdose is of significant concern, although, rarely life-threatening on its own. Patients with substance use problems often use BZD concurrently with other substances. This greatly increases the risk of a fatal overdose. The 2017 Illicit Drug Reporting System (IDRS) National Report results suggested 73% of illicit drug users also take a BZD at some stage throughout their lifetime.[28]

Table 13: Properties of common BZDs[3]

Generic name	Trade name	Time to peak concentration	Elimination half life†	Equivalent dose‡
Diazepam	Antenex Ducene Valium Valpam	30–90 min	Biphasic: rapid phase half-life, 3 hours; elimination half-life, 20–48 hours	5 mg
Alprazolam	Alprax Xanax Kalma	1 hour	6–25 hours	0.5–1.0 mg
Bromazepam	Lexotan	0.5–4 hours	20 hours	3–6 mg
Clobazam	Frisium	1 – 4 hours	17–49 hours	10 mg
Clonazepam	Paxam Rivotril	2–3 hours	22–54 hours	0.5 mg
Flunitrazepam	Hypnodorm	1–2 hours	20–30 hours	1–2 mg
Lorazepam	Ativan	2 hours	12–16 hours	1 mg
Nitrazepam	Alodorm Mogadon	2 hours	16–48 hours	2.5–5 mg
Oxazepam	Alepam Murelax Serepax	2–3 hours	4–15 hours	15–30 mg
Temazepam	Euhypnos Normison Temaze Temtabs	30–60 minutes after tablets, 2 hours after capsules	5–15 hours	10–20 mg
Triazolam	Halcion	1–3 hours	Biphasic: rapid phase half-life, 2.5–3.5 hours; elimination half-life, 6–9 hours	0.25 mg
Zolpidem	Stilnox	0.5–3 hours	2.5 hours	Not known

*Based on manufacturer's product information.
†Elimination half-life: time for the plasma drug concentration to decrease by 50%.
‡Equivalent dose: approximate dose equivalent to diazepam 5 mg.

2. Withdrawal

BZD withdrawal can be an extended process but can be safely managed by a GP in most circumstances. Inpatient treatment may be suitable for:

- Patients with erratic patterns of BZD use (often non-prescribed) who wish to stabilise their use. BZD stabilisation and the initial reduction can take place at an inpatient facility. Following discharge, care is transferred back to the patient's GP to continue with a gradual outpatient reduction.
- Patients on 10mg diazepam equivalent or less wishing to reduce to cessation where there are safety concerns with an outpatient withdrawal e.g. risk of seizures or destabilisation of mental health; concurrent use with alcohol; elderly; or previous unsuccessful attempts at outpatient withdrawal.

The severity and time course of withdrawal is dependent on the type of BZD and duration of use. Withdrawal symptoms for short acting BZD, such as alprazolam, generally begin 1 to 2 days after last use. Withdrawal symptoms for long acting BZD, such as lorazepam or diazepam, generally begin 2 to 7 days after last use. Withdrawal symptoms can persist for 2 to 4 weeks or, in some cases, much longer.

Table 14: Benzodiazepine withdrawal symptoms[3]

Common	Less Common
- Anxiety - Agitation and irritability - Restlessness - Insomnia - Tremors, muscle aches and twitches - Depression - Poor concentration and memory	- Seizures - Delirium - Hallucinations - Depersonalisation - Nausea - Anorexia - Hypersensitivity to sound, light, touch and taste

3. Treatment

It may be difficult to establish an accurate history of BZD use during an assessment, particularly for BZD dependent patients with a history of polysubstance use. However, it is important to ascertain the quantity, pattern and type of BZD use. An open therapeutic relationship and good rapport may encourage patients to discuss their BZD and substance use more readily. Additionally, clinicians can seek the patient's consent to obtain collateral information from the GP or the dispensing pharmacy to clarify details that are unclear.

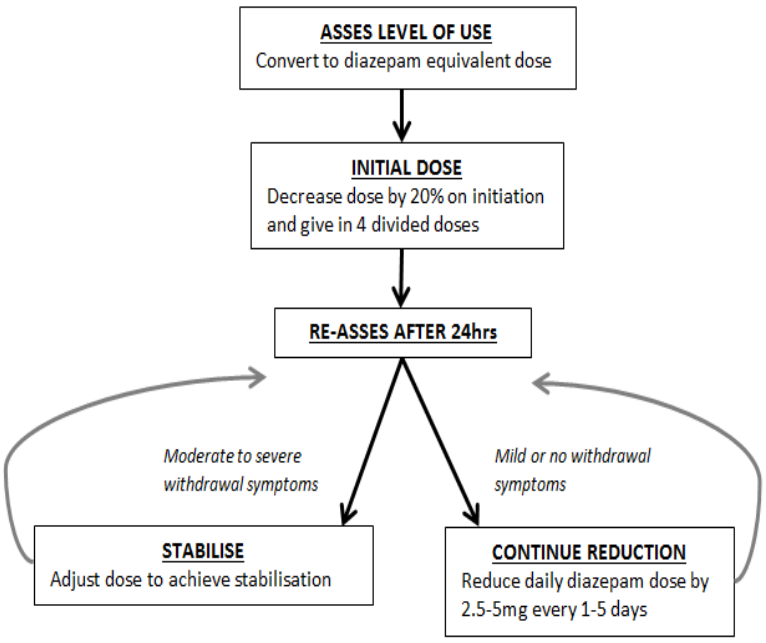
The withdrawal process should be gradual and flexible with regular monitoring and patient feedback. Monitoring is especially important in the first 2 to 3 days of withdrawal. If there are minimal withdrawal symptoms during this time, the diazepam dose can be reduced. If the patient experiences significant withdrawal symptoms, the reduction rate can be slowed down. Patients should be provided with support and reassurance that withdrawal symptoms are normal and to be expected.

An approach to initiating **inpatient** BZD stabilisation and withdrawal is as follows:

1. The total reported BZD dose is converted to a diazepam equivalent dose. This reduces the risk of administering multiple BZDs. The longer half-life of diazepam creates a smoother taper and less intense withdrawal.
2. A clinical decision is made to either start on this equivalent dose or to decrease it by 20% to 50% (being mindful that some patients may overestimate their BZD use)
3. Divide the dose and give in 3 to 4 divided doses throughout the day.
4. Assess the patient's response to this initial dose. Monitor for signs and symptoms of toxicity or withdrawal.
5. If the patient tolerates the dose on the first 1 to 2 days, start decreasing the dose by 2.5-5mg per day every 1 to 5 days during the admission. Patients generally tolerate a faster reduction at higher doses of diazepam e.g. above 40 mg per day.
6. The dose should be reduced quicker and by larger amounts if the patient appears drowsy or sedated.
7. Objective signs or significant symptoms of withdrawal may necessitate an appropriate initial increase in diazepam dose, which can be charted as 5 mg PRN doses to a pre-determined maximum limit.
8. Following reduction, aim to stabilise the patient on an appropriate dose of diazepam before discharge. Generally this should not be higher than 30 mg per day.

Following discharge, at lower doses of diazepam, the rate of outpatient reduction can be slowed to a reduction of 10% every 1 to 2 weeks.

Figure 6: Benzodiazepine reduction plan example



3.1 Monitoring

Most BZD withdrawal symptoms are subjective. A common and useful BZD withdrawal scale is the CIWA-B.[29] Refer to Appendix E.

3.2 Medications for symptomatic relief

Medication options for managing BZD withdrawal symptoms are limited. There is insufficient evidence to support routine use and most medications are used off-label based on past positive results and clinical judgement. The first option in managing intolerable withdrawal symptoms should be to slow down the reduction rate. Other options for symptomatic relief include:

- Mirtazapine: Short-term therapy with low dose (15mg nocte) mirtazapine for insomnia and anxiety[30]
- Metoclopramide: For nausea and vomiting
- Paracetamol and/or ibuprofen: For muscle aches.

There is limited evidence to recommend antidepressants for BZD withdrawal. Antidepressants may be beneficial for patients with persistent depression or anxiety following withdrawal. Patients should discuss these options with their GP.

3.3 Psychological and social support

A gradual dose reduction combined with psychological interventions, such as cognitive behavioural therapy, may improve BZD discontinuation rates compared to gradual dose reduction alone.[31, 32] Patients should be encouraged to engage with other support services following withdrawal to increase the chance of abstinence.

4. Pregnancy

Regular large doses of BZDs, especially in the third trimester, have been associated with neonatal withdrawal, hypertonicity and an increased risk of oral clefts.[10, 33] Pregnant women undergoing withdrawal should be encouraged to switch to diazepam with the goal of reducing to cessation by the expected birth date. Consider referring to the Women and Newborn Drug and Alcohol Service (WANDAS (08) 6458 1582) for specialist advice. WANDAS may also be able to provide antenatal and postnatal care.

5. Post withdrawal

Following discharge from the inpatient withdrawal unit, patient care should be transferred back to the GP.

Amphetamine Type Substances

1. Introduction

For the purpose of this guide, amphetamine-type substances (ATS) will refer to a group of drugs which includes amphetamine, methamphetamine, methylphenidate and methylenedioxymethamphetamine ('MDMA').
ATS can stimulate the sympathetic and the central nervous system by increasing the synaptic concentration of excitatory neurotransmitters dopamine, norepinephrine and serotonin.[3]
Amphetamine type substances can increase the release of these neurotransmitters, inhibit their reuptake or do a combination of both to produce a range of stimulatory effects.

Table 15: Acute ATS effects [1]

CNS, neurological and behavioural	- Overstimulation, restlessness, increased energy, reduced fatigue and insomnia - Heightened alertness, headache, mydriasis, dizziness and tremors - Overconfidence, violent, unpredictable or irrational behaviour - Euphoria - Pressured speech - Bruxism (teeth grinding) - Seizures and coma - Anorexia (appetite suppression) - Confusion and psychosis (hallucinations, delusions and paranoia)
Cardiovascular	- Hypertension - Palpitations - Tachycardia, arrhythmia - Angina, acute coronary syndrome, aortic dissection
GI	- Nausea and vomiting - Abdominal cramps, diarrhoea or constipation
Other	- Tachypnoea (increased respiration), respiratory failure - Pyrexia (increased temperature) - Flushing or pallor - Diaphoresis (sweating)

Some ATS users may use only occasionally whilst others have a 'binge' pattern of use. Withdrawal from ATS is not life threatening and withdrawal can be safely managed in an outpatient setting. However, ATS users often have complex presentations which may warrant clinical assessment and consideration for inpatient withdrawal. There are several benefits to an inpatient admission:

- The break from substance use allows patients to future plan whilst not being under the influence of drug(s) of abuse
- Access and introduction to supportive counselling and other health services
- Assessment and treatment for physical and/or mental health issues.

Supervised residential withdrawal should be considered for patients with:

- Poly-substance dependence
- Extensive medical or mental health issues (especially major depressive disorder, suicidal ideation)
- An unconducive home environment
- A history of multiple, unsuccessful attempts to withdraw from ATS.

2. Withdrawal

There is limited evidence describing a specific withdrawal pattern of symptoms or duration for ATS withdrawal. Available information is predominantly based on experience and consensus opinion.

The pattern of ATS use is illustrated in the Figure 7. Intoxication is usually followed by a 'crash' period where the person is exhausted, sleeping for long hours or days and often display depressive symptoms.

Figure 7: Symptoms and duration of methamphetamine withdrawal[34]

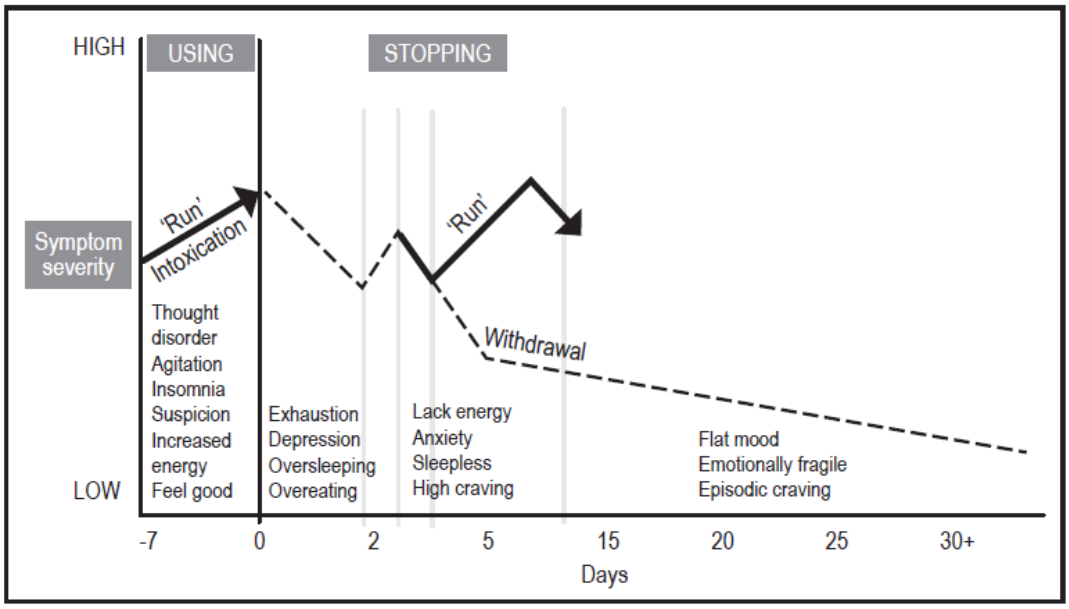


Table 16: ATS withdrawal symptoms and duration [3, 34]

Phase	Time since last stimulant use	Common signs and symptoms
Crash*	Generally commences 12 to 24hrs after last use and subsides by day 2 to 4. These symptoms are more pronounced following high dose use.	- Exhaustion and fatigue - Overwhelming desire to sleep or experiencing sleeping disturbances - Fluctuating emotional state – dysphoric, and can be associated with anxiety or agitation - Low cravings - Generalised aches and pains - Hunger
Withdrawal*	Generally commences 2 to 4 days after last use; peaks in severity over 7 to 10 days; and can persist for 6 to 10 weeks	- Strong cravings and urge to use - Sleeping difficulties and disrupted sleeping patterns - Poor concentration and attention - Fluctuations in mood and energy levels; alternating between irritability, restlessness, anxiety and agitation - Headaches and generalised aches and pains - Increased appetite - Thought disturbance (e.g. predominantly paranoia) and perceptual disturbance (e.g. hallucinations) which may have been masked during the crash phase

**Different references may use different terms to describe these phases. In addition, Saunders et al 2016 describes an initial residual toxicity phase (before the 'crash') which consists of continued stimulant effects characterised by hyperactivity, agitation and paranoid ideation.*[2]

3. Treatment

Assessment during intoxication or the crash phase can be difficult. Patients may be confused, suffer from paranoia or there is simply a lack of energy to engage. Some ATS users do not consider their use as dependent and may not fully disclose all the required information. A systematic approach with regular follow-up to confirm information gained from previous assessments may help to overcome these barriers.

ATS users often have irregular engagement with health services. The assessment presents an opportunity to encourage patients to conduct health checks e.g. blood-borne virus testing for injecting drug users.

Treatment is focused on relieving withdrawal symptoms and providing supportive care. Patients often wish to only sleep during the crash phase and engagement is best encouraged when their energy levels start to improve. As the patient recover, it is important that they begin to participate in daily activities and group programs. A structured daily routine can assist in treatment. Supportive care may involve:

- Counselling and education to help manage withdrawal symptoms
- Developing strategies to address aggression, agitation or emotional dysregulation
- Strategies for relapse prevention
- Facilitating follow-up engagement with services after withdrawal management.

It is not uncommon for fluctuations in mood and energy levels to cause patients to self-discharge before completing the withdrawal program. Most symptoms will gradually subside over the following weeks. However, the fluctuations in mood, sleeping disturbances and cravings may persist for weeks to months.

It is important to note that previously undiagnosed psychiatric conditions may emerge during ATS withdrawal treatment. It may be challenging to differentiate between co-morbid psychiatric conditions and those that were ATS-induced (e.g. dysphoria, anxiety, psychotic symptoms). Patients may benefit from counselling at this stage and should be encouraged to seek additional support after withdrawal to monitor for symptoms that persist beyond withdrawal management.

3.1 Monitoring

Mood and energy levels can fluctuate during withdrawal. The Clinical Assessment Rating (CAR) scale can be used to assess and monitor the patient's withdrawal symptoms and progress.

3.2 Medications for symptomatic relief

Table 17: Medications for symptomatic relief

Symptoms	Suggested treatments
Nausea & vomiting	- **Metoclopramide** PO/IM 10mg three times daily PRN. Maximum of 5 days treatment - **Ondansetron** PO 4-8mg BD PRN. 2nd line treatment if nausea is severe or unresponsive to metoclopramide
Headaches	- **Paracetamol** PO 1000mg every 4-6 hours PRN. Maximum 4000mg in 24hrs - **Ibuprofen** PO 400mg every 6-8 hours PRN. Can be used in combination with paracetamol
Agitation and/or anxiety	- **Diazepam** PO regular or PRN. Adjust dose to clinical need and risks. A dose of 5 mg TDS or QID is appropriate for most patients. Taper to cessation at least two to three days before discharge.
Psychotic features e.g. thought disorders, paranoia, perceptual disturbances	- ***Olanzapine** 2.5-5mg BD PRN. Maximum of 10mg daily alone or 20mg daily in combination with regular dose - ***Quetiapine** 25-50mg BD PRN. Maximum of 100mg daily alone or 800mg daily in combination with regular dose
Insomnia**	- **Temazepam** PO 10-20mg PRN at night. Encourage to cease after day 5
Abdominal cramps	- **Hyoscine butylbromide** PO 20mg every 6 hours PRN. - Paracetamol may also provide some relief
Diarrhoea	- **Loperamide** PO PRN 2mg after loose bowel motion. Maximum of 16mg in 24hrs
Constipation	- **Lactulose** liquid 15mL – 45mL daily (or in divided doses). Laxative effect may take 24-48hrs

**The antihistamine effect of some antipsychotics, e.g. quetiapine, can cause sedation and this may be beneficial for patients experiencing severe agitation unrelieved with diazepam. If the patient is currently taking a regular antipsychotic, it is preferable to choose the same antipsychotic for PRN dosing. PRN antipsychotic medications should only be given in an inpatient setting under the supervision of a psychiatrist or addiction specialist. Currently, there is insufficient evidence to recommend routine use.*

***Sedating medications should be carefully titrated during the crash phase to avoid excessive drowsiness which may delay recovery and engagement.*

4. Pregnancy

ATS using pregnant women are often poor attendees of antenatal care.[35] However, pregnancy can be an opportune time to engage mothers who are highly motivated to change.

ATS use during pregnancy is associated with harms to the mother and neonate:

- There is an increased risk of impaired neonatal growth, preterm labour and delivery. ATS use can affect the overall development of the baby[36]
- Hypertension resulting from ATS use can increase the risk of antepartum haemorrhage, CVA or acute coronary syndrome (as above).[35]

Withdrawal from ATS during pregnancy is not dangerous. Consider withdrawal medications only if the potential benefits outweigh the potential harms of non-treatment. A documented discussion with the mother is essential before treatment begins. Only consider using antipsychotics and benzodiazepines under specialist advice and for short term. Owing to their pharmacological effects, most antipsychotics and benzodiazepines are not recommended for routine use during pregnancy. Current evidence suggests that second generation antipsychotics can cause some potential harms to the neonate but are not associated with an increased risk of major malformations.[10] If benzodiazepines are required, consider using short acting drugs for short term with a plan to gradually cease before delivery to minimise the effect on the neonate.[10]

Consider referring to the Women and Newborn Drug and Alcohol Service (WANDAS (08) 6458 1582) for specialist advice and ongoing support.

5. Post withdrawal

The evidence for ongoing pharmacotherapy for relapse prevention is limited. A small number of studies suggests that naltrexone, modafinil, bupropion, mirtazapine and stimulant replacement treatments may have some potential benefits.[37] These studies are high-quality but have small sample sizes and short durations. As such, these medications are not currently recommended as routine treatment. Consider referral to the GP or psychiatrist for ongoing treatment of any underlying symptoms that may persist. Consider:

- Antidepressant medications for patients with persistent symptoms of depression
- Combining pharmacological treatment with ongoing counselling and non-pharmacological strategies
- Consulting with psychiatrists or addiction specialists if the patient exhibit persistent symptoms of psychosis.

Medications with low sedative, toxicity and abuse potential are preferred to reduce the risk of dependence and overdose e.g. SSRIs.

The protracted nature of ATS withdrawal and associated anhedonia increases the risk of relapse. As such, engagement with a follow-up service is crucial for support and relapse prevention.

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Appendix

Appendix A: CIWA-Ar

METRO COMMUNITY DRUG SERVICE
DRUG AND ALCOHOL YOUTH SERVICE

ALCOHOL WITHDRAWAL ASSESSMENT

Affix Client Label Here

DATE OF ADMISSION _____/____/_____ Seizure History Yes ☐ NO ☐

WITHDRAWAL DAY	
TIME	
BAL	
BP 240	
230	
TEMP 220	
TEMP ● 40° 210	
39° 200	
38° 190	
37° 180	
36° 170	
35° 160	
150	
BP PULSE 140	
130 130	
120 120	
110 110	
100 100	
PULSE ● 90 90	
80 80	
70 70	
60 60	
50 50	
40 40	
1. Nausea and Vomiting	
2. Tremor	
3. Paroxymal sweats	
4. Anxiety	
5. Agitation	
6. Tactile Disturbances	
7. Auditory Disturbances	
8. Visual Disturbances	
9. Headache	
10. Orientation	
TOTAL(Max 67)	
DIAZEPAM DOSE (mg)	
NURSE INITIALS	

Withdrawal Symptoms	CIWA-Ar score	Diazepam dose	CIWA-Ar frequency
Mild	0 – 8	NIL	CIWA-Ar prior to medication
Moderate	9 – 14	5 – 15 mg	CIWA-Ar prior to medication
Severe	15 or more	20mgs	CIWA-Ar repeated in 1 hr - if no reduction in score discuss with MO.

Next Step version of the Revised Clinical Institute Withdrawal for Alcohol scale (CIWA-Ar)

CIWA-AR

1. NAUSEA AND VOMITING — Ask "Do you feel sick to your stomach? Have you vomited?" Observation.

0 no nausea and no vomiting
1 mild nausea with no vomiting
2
3
4 intermittent nausea with dry heaves
5
6
7 constant nausea, frequent dry heaves and vomiting

2. TREMOR — Arms extended and fingers spread apart. Observation.

0 no tremor
1 not visible, but can be felt fingertip to fingertip
2
3
4 moderate, with patient's arms extended
5
6
7 severe, even with arms not extended

3. PAROXYSMAL SWEATS — Observation.

0 no sweat visible
1 barely perceptible sweating, palms moist
2
3
4 beads of sweat obvious on forehead
5
6
7 drenching sweats

4. ANXIETY — Ask "Do you feel nervous?" Observation.

0 no anxiety, at ease
1 mild anxious
2
3
4 moderately anxious, or guarded, so anxiety is inferred
5
6
7 equivalent to acute panic states as seen in severe delirium or acute
schizophrenic reactions

5. AGITATION — Observation.

0 normal activity
1 somewhat more than normal activity
2
3
4 moderately fidgety and restless
5
6
7 paces back and forth during most of the interview, or constantly thrashes about

6. TACTILE DISTURBANCES — Ask "Have you any itching, pins and needles sensations, any burning, any numbness, or do you feel bugs crawling on or under your skin?" Observation.

0 none
1 very mild itching, pins and needles, burning or numbness
2 mild itching, pins and needles, burning or numbness
3 moderate itching, pins and needles, burning or numbness
4 moderately severe hallucinations
5 severe hallucinations
6 extremely severe hallucinations
7 continuous hallucinations

7. AUDITORY DISTURBANCES — Ask "Are you more aware of sounds around you? Are they harsh? Do they frighten you? Are you hearing anything that is disturbing to you? Are you hearing things you know are not there?" Observation.
0 not present
1 very mild harshness or ability to frighten
2 mild harshness or ability to frighten
3 moderate harshness or ability to frighten
4 moderately severe hallucinations
5 severe hallucinations
6 extremely severe hallucinations
7 continuous hallucinations

8. VISUAL DISTURBANCES — Ask "Does the light appear to be too bright? Is its color different? Does it hurt your eyes? Are you seeing anything that is disturbing to you? Are you seeing things you know are not there?" Observation.

0 not present
1 very mild sensitivity
2 mild sensitivity
3 moderate sensitivity
4 moderately severe hallucinations
5 severe hallucinations
6 extremely severe hallucinations
7 continuous hallucinations

9. HEADACHE, FULLNESS IN HEAD — Ask "Does your head feel different? Does it feel like there is a band around your head?" Do not rate for dizziness or lightheadedness. Otherwise, rate severity.

0 no present
1 very mild
2 mild
3 moderate
4 moderately severe
5 severe
6 very severe
7 extremely severe

10. ORIENTATION AND CLOUDING OF SENSORIUM — Ask "What day is this? Where are you? Who am I?"

0 oriented and can do serial additions
1 cannot do serial additions or is uncertain about date
2 disoriented for date by no more than 2 calendar days
3 disoriented for date by more than 2 calendar days
4 disoriented for place/or person

The CIWA-AR scale measures 10 symptoms. Scores of less than 9 indicate minimal to mild withdrawal. Scores of 9 to 14 indicate moderate withdrawal (marked autonomic arousal); and scores of 15 or more indicate severe withdrawal (impending *delirium tremens*).

The CIWA-Ar alcohol withdrawal assessment tool should be discontinued after 5 to 7 days

Appendix B: IPWU Alcohol Withdrawal Management

METRO COMMUNITY DRUG SERVICE DRUG AND ALCOHOL YOUTH SERVICE IPWU MEDICAL ASSESSMENT	Affix Client Label Here

Alcohol Withdrawal Management

Next Step uses the CIWA-Ar (Clinical Institute Withdrawal Assessment for Alcohol revised) withdrawal scale to monitor patients admitted for alcohol withdrawal management. This is a 10-item validated scale. Scores of <9 are considered mild withdrawal, 9-14 moderate and 15 or more severe withdrawal. The CIWA-Ar is performed at least 4 times per day along with measurement of vital signs, but may need to be administered more frequently (up to 2 hourly) depending on withdrawal severity.

The following are different ways of managing the medication used to treat alcohol withdrawal symptoms. The exact method used will depend on your assessment of the patient's expected withdrawal severity. This can be predicted by an analysis of the patient's current drinking patterns (eg. amount of alcohol consumed, binge drinking, drinking from waking), past withdrawal experience (eg. history of withdrawal seizures), concomitant substance use (especially benzodiazepines), concomitant medical or psychiatric conditions. At Next Step most patients will be treated with a combination of regular and symptom-triggered therapy, however some patients will meet the criteria for symptom-triggered therapy alone or a loading dose regime as outlined below.

Admission
Most patients are loaded with an initial dose of diazepam of 0-20mg, depending on their history and presentation (eg CIWA-Ar & BAL)

Symptom-triggered therapy
Patients with alcohol withdrawal not complicated by concurrent medical problems, seizure histories, other substance withdrawal and those with modest or irregular alcohol intakes may be treated with symptom-triggered therapy alone. Diazepam is administered based on CIWA-Ar scores as follows:
CIWA-Ar <9: no dose required; monitor 6 hourly
CIWA-Ar 9-14: administer diazepam 5-15mg; review 4 hourly
CIWA-Ar 15 or more: administer diazepam 20mg; review 2 hourly

Regular and symptom-triggered therapy
All patients with a history of seizures and most patients with other risk factors (eg. head injuries, concomitant medical or psychiatric conditions, history of significant withdrawal) will be treated with regular doses of diazepam (generally 10mg qid). They will receive additional doses based on their CIWA-Ar scores.

Loading dose therapy
In some instances loading dose regimes are utilised, particularly in patients with a history of severe withdrawal complications. A common regime is diazepam 20mg every 2 hours until the patient begins to show light sedation. At Next Step a loading regime will be triggered by CIWA-Ar scores of 15 or higher. The medical officer on duty will also be contacted to review the patient and consider increasing the regular diazepam the patient is receiving.

Other medication
Thiamine
Prophylaxis and treatment of Wernicke-Korsakoff Syndrome (WKS). Parenteral doses of 250mg/day (B-Dose Forte) are routinely given for at least the first 3-5 days of alcohol withdrawal due to poor intestinal absorption. Precise doses required are not known, but this therapy may be administered more frequently and for longer if there is any concern about the
patient's nutritional or neurologic state (suggestive of increased risk of WKS). IM doses are to be followed by oral thiamine 100mg tds for the remainder of their admission. Patients with signs suggestive of WKS should be encouraged to continue oral thiamine on discharge for at least several weeks.

Folic acid
Deficiency common in alcohol dependence, has been associated with complications such as peripheral neuropathies. Supplementation given as folic acid 5mg/day orally.

Multivitamins
Levels of other B-group vitamins and minerals (eg. magnesium) are commonly disturbed in chronic alcohol misuse and are vital in glucose and lipid metabolism and the production of amino acids and glucose-derived neurotransmitters. A multivitamin supplement is routinely added to the B-group supplements.

Appendix C: Clinical Opiate Withdrawal Scale (COWS)

METRO COMMUNITY DRUG SERVICE

DRUG AND ALCOHOL YOUTH SERVICE

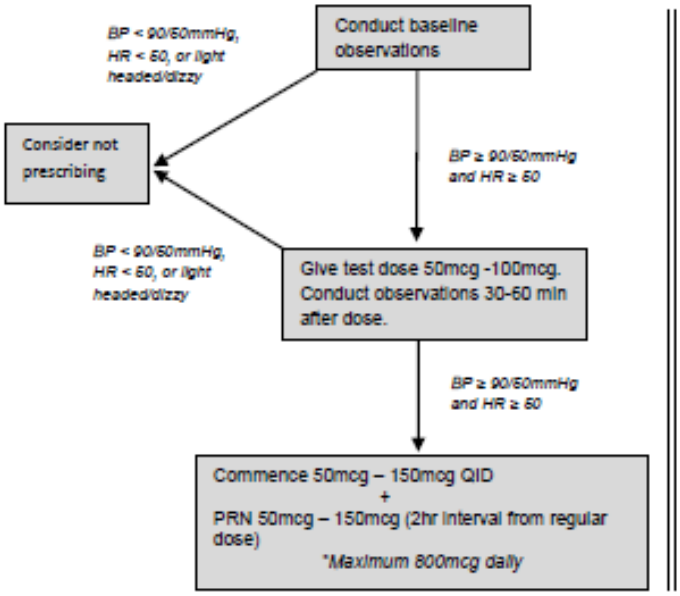
IPWU COWS

Clinical Opiate Withdrawal Scale

Affix Client Label Here

DATE OF ADMISSION _____/_____/_____ Seizure history? Y ☐ N ☐

Clonidine Test Dose



Resting BP:_____ Resting Pulse: _____

Nurse signature:_____ Date: _____

Clonidine test dose:_____

Time given:_____

Refer to medication chart for order

Supine BP:_____ Supine pulse:_____

*Standing BP:_____ *Standing pulse: _____

Observation time:_____

Nurse signature: _____

Inform doctor if BP < 90/50mmHg, HR < 50, client feels light headed/ or dizzy

*Measure standing BP & pulse after 1min of standing

For each item write in the number that best describes the patient's signs or symptom. The rating score should be on the apparent relationship to opiate withdrawal. For example, if heart rate is increased because the patient was jogging just prior to assessment, the increase pulse rate would not add to the score.

DATE															
WITHDRAWAL DAY															
TIME															
RESPIRATORY RATE															
COWS (*Refer to instructions for ratings*)	**Score**														
Resting Pulse Rate															
Sweating															
Restlessness															
Pupil Size															
Bone or Joint Aches															
Runny Nose or Tearing															
GI Upset															
Tremor															
Yawning															
Anxiety/Irritability															
Gooseflesh Skin															
Total Score															
Clonidine Dose (mcg) Also entered into med chart															
Nurses Signature															

MILD	0-12	PRN Clonidine 50-100mcg QID. Plus other symptomatic treatment as charted
MODERATE	13-24	Discuss scores with doctor
SEVERE	25 or above	Medical review

Appendix D: Clinical Assessment Rating (CAR)

METRO COMMUNITY DRUG SERVICE
DRUG AND ALCOHOL YOUTH SERVICE
CLINICAL ASSESSMENT RATING
POLY DRUG WITHDRAWAL

Affix Client Label Here

DATE OF ADMISSION _____/_____/_____ Seizure history? Y ☐ N ☐

DATE														
WITHDRAWAL DAY														
TIME														
230														
220														
TEMPERATURE • 40° 210														
39° 200														
38° 190														
37° 180														
36° 170														
35° 160														
150														
BLOOD PRESSURE 140														
130														
120														
110														
100														
90														
80														
PULSE • 70														
60														
50														
BP														
PULSE														
RESPIRATORY RATE														
OXIMETRY (SaO2) (On admission and as required)														

SUBJECTIVE FEATURES

Score Not present = 0 Mild = 1 Moderate = 2 Severe = 3 Total Score 0 – 39														
Cravings														
Not enough/excessive - sleep/rest														
Poor Concentration														
Headache														
Anxious														
Irritable/Angry														
Sad/Depressed														
Nausea														
Diarrhoea														
Aches & Pains														
Auditory/Visual Disturbances														
Tremor														
Sweats														
TOTAL MAX 39														
Nurses Signature														

A raised score on any item on the Clinical Assessment Rating is clinically significant. A severe score in any area should be brought to the attention of the medical staff.

Appendix E: CIWA-B

METRO COMMUNITY DRUG SERVICE
DRUG AND ALCOHOL YOUTH SERVICE
IPWU CIWA-B
Benzodiazepine Withdrawal Scale

Affix Client Label Here

DATE OF ADMISSION _____ /_____ /_____ Seizure history? Y ☐ N ☐

For each item write in the number that best describes the client's signs or symptom.

0 Not at all	1	2	3	4 Very much so

DATE																
WITHDRAWAL DAY																
TIME																
CLIENT SELF-RATING	**Score**															
Do you feel irritable?																
Do you feel fatigued?																
Do you feel tense?																
Do you have difficulties concentrating?																
Do you have any loss of appetite?																
Do you have 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 think you had enough sleep last night? (0=very much so; 4=not at all)																
Do you feel weak?																
Do you have any visual disturbances? (sensitivity to light, blurred vision)																
Are you fearful?																
Have you been worrying about possible misfortunes lately?																
NURSE TO RECORD THIS SECTION	**Score**															
Perspiration (feel palms)	0. Nil 1. Palms moist 2. Palms and forehead moist 3. Beads of sweat on forehead 4. Severe drenching sweats															
Tremor	0. No tremor 1. Not visible but tremor felt in fingers 2. Visible but mild 3. Moderate with arms extended 4. Severe with arms not extended															
Restlessness & agitation	0. None, normal activity 2. Restless 4. Pacing, unable to sit still															
Total Score																
Nurse Signature																

1-20	Mild withdrawal	Provide support and/or offer non-pharmacological strategies. For example take 10 deep breaths, exercise, colouring, or a cold shower. Explain the concept of emotions coming in waves. Refer to the appropriate coping guide, available at the IPWU, for more information.
21-40	Moderate withdrawal	
41-60	Severe withdrawal	Notify doctor in addition to offering above advice
61-80	Very severe withdrawal	

*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.*