



Turning Point
Alcohol & Drug Centre

**ALCOHOL AND OTHER DRUG
WITHDRAWAL:
PRACTICE GUIDELINES**

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CHAPTER 10: ALCOHOL WITHDRAWAL

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10 ALCOHOL WITHDRAWAL

These Guidelines provide a comprehensive approach to withdrawal care. The use of prescribing guidelines outlined below focus on alcohol withdrawal and will be supported by a comprehensive clinical assessment.

The prevalence of alcohol misuse is a cause for concern in Australia. Approximately 1,401,400 Australians are using alcohol daily (AIHW, 2007). More than seven million people or 40% of the population use alcohol on a weekly basis and approximately 3.4% of the population could be at high risk for alcohol-related problems (AIHW, 2007).

In delivering alcohol 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

Each of these considerations is examined below.

10.1 Alcohol withdrawal settings

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

The most appropriate setting for an individual seeking alcohol withdrawal should be determined via a thorough clinical assessment. Alcohol withdrawal can occur in each of the treatment settings outlined in this document (outpatient withdrawal, community residential withdrawal, hospital inpatient withdrawal and rural withdrawal support). Many clients are able to undertake withdrawal from alcohol in community settings.

In some settings, such as hospitals, psychiatric facilities, prisons and police watch-houses, individuals may experience an unplanned alcohol withdrawal. Staff in such settings will be familiar with, and alert to, the signs of alcohol withdrawal in order to respond in a timely and appropriate manner.

Attention to unplanned alcohol withdrawal is critical to responding in an appropriate and timely manner to individuals. Evidence of the onset of withdrawal symptoms should be considered potential indicators of alcohol withdrawal.

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

Regardless of withdrawal setting, the best withdrawal care facilitates step-up and step-down care, as appropriate. This allows clients whose needs warrant greater withdrawal care to be transferred to a more intensive withdrawal setting. Alternatively, stepped care allows those for whose need is reducing to be stepped down to less intensive care.

Pharmacotherapy support in alcohol withdrawal is subject to a range of setting-specific considerations. These are outlined below in Table 6.

Table 1: Pharmacotherapy considerations for alcohol withdrawal settings

Alcohol withdrawal setting	Pharmacotherapy considerations
Outpatient withdrawal	<p>Appropriate for clients able to undertake alcohol withdrawal in the community</p> <p>Unsuitable for clients where there is a history of DTs, previous complicated withdrawal or a high level of alcohol dependence</p> <p>Dosing of benzodiazepines such as diazepam should be reduced over the period of withdrawal and care should be taken not to over-sedate the client</p> <p>Ideally, clients should be monitored by a health professional (e.g. outreach nurse) for the first four days of withdrawal and then every two days until the completion of withdrawal</p> <p>Detailed information should be provided to both the client and any support people who may be present throughout the withdrawal process. Symptoms, onset and duration of withdrawal and side effects of benzodiazepines should be explained. Risk factors associated with outpatient withdrawal settings should be clearly outlined and contingency planning put in place</p>
Community residential withdrawal	<p>Appropriate where a moderate–severe alcohol withdrawal syndrome is anticipated, as determined at the time of assessment</p> <p>These settings are increasingly recognised as having the capacity to manage complicated withdrawal</p>
Hospital inpatient withdrawal	<p>Appropriate where clients are likely to experience a severe or complicated alcohol withdrawal syndrome</p> <p>Alcohol withdrawal is commonly associated with presentation to hospital accident and emergency or psychiatric settings for co-occurring health issues. The cessation of alcohol consumption at this time may trigger the onset of withdrawal</p> <p>Staff in these settings should undertake screening and assessment for alcohol withdrawal, and any patient reporting alcohol consumption in excess of the NHMRC recommendations for safe levels of drinking should be considered at risk</p>

10.2 Alcohol withdrawal syndrome

The alcohol withdrawal syndrome occurs on a continuum from mild to severe, with the onset of alcohol withdrawal usually occurring 6–24 hours after the last drink. Use of benzodiazepines or other sedatives may delay the onset of withdrawal symptoms. In some severely dependent drinkers, simply reducing the level of consumption may precipitate withdrawal, even if they have consumed alcohol recently.

While unsupported alcohol withdrawal is generally completed within three days, polydrug use and other factors may significantly prolong symptoms. Acute symptoms of mild to moderate alcohol withdrawal commonly include:

- Agitation
- Anxiety
- Fever
- Insomnia
- Nausea
- Nightmares
- Restlessness
- Sweats
- Tachycardia
- Tremor
- Vomiting (Ntais et al., 2005)

More serious features associated with alcohol withdrawal include:

- Delirium Tremens (DTs)

Symptoms of DTs usually occur between two and five days after cessation of drinking

Symptoms include disorientation, anxiety and agitation, tremors, paranoia, hallucinations and fluctuating blood pressure

This most serious complication of alcohol withdrawal is potentially life-threatening and requires immediate medical attention (Shand et al., 2003a)

- Cardiac arrest and death - can occur in very severe alcohol withdrawal syndrome
- Hallucinations - auditory, visual, tactile
- Increased agitation
- Seizures - usually occur within the first 48 hours of cessation of drinking (Ntais et al., 2005)
- Wernicke's encephalopathy

Wernicke's encephalopathy is caused by inadequate intake or absorption of thiamine (Vitamin B1) associated with prolonged alcohol consumption

Symptoms may include abnormal eye movement, staggering, agitation, confusion and drowsiness

This condition requires thiamine dosing as outlined in Section 10.5.5

The major features, time-course, onset, duration and severity of alcohol withdrawal are shown in Figure 2 below.

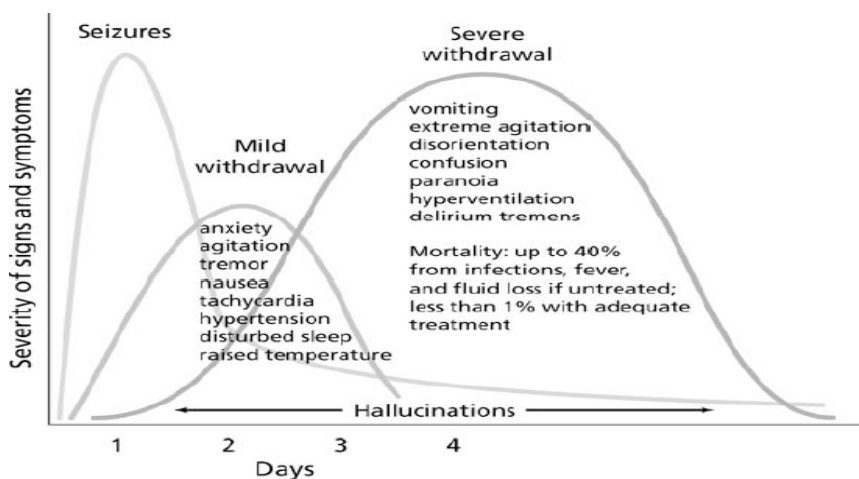


Figure 1: Symptoms and duration of alcohol withdrawal

Source: NSW Health (2008, p.22)

10.3 Alcohol withdrawal assessment

Clinicians should be familiar with the general principles of assessment (refer section Error! Reference source not found.).

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

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

Intoxicated clients presenting to assessment may have slurred speech, reduced motor control and lack of emotional inhibition. Intoxication may limit their capacity to share and absorb accurate assessment information.

For intoxicated clients, all services should:

- As soon as possible, identify the most recent drug type, quantity 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

10.3.1 Medical conditions and alcohol withdrawal assessment

Withdrawal service staff will consider the potential for alcohol withdrawal to complicate clients' existing medical conditions and provide specialist medical care and monitoring, as required.

Some medical conditions may be complicated by alcohol withdrawal and are at times difficult to manage in alcohol withdrawal settings. For example, the management of malnutrition, liver and gastric conditions and platelet dysfunction may be affected by the withdrawal process. There is also an increased risk of post-operative morbidity and longer inpatient hospital stay for alcohol-dependent surgical patients. Emotional, economic and social impacts may also result from alcohol withdrawal (Foy et al., 1997).

10.3.2 Alcohol screening and assessment tools

Note: Withdrawal scales may lack the sensitivity to detect progression to serious illness in complicated withdrawal. Withdrawal monitoring should always include regular clinical observation.

The CIWA-Ar (Appendix 6) is a tool used to scale symptom severity for simple alcohol withdrawal, and complicating factors such as co-occurring disorders and polydrug use may impact on the appropriateness of its use. The ten-item scale can be used to evaluate the presence and severity of withdrawal symptoms, with higher scores indicating increased risk for severe withdrawal.

Scoring on the CIWA-Ar correlates directly with the severity of withdrawal, that is, the higher the score, the more severe the withdrawal symptoms. It is recommended that staff using the CIWA-Ar receive appropriate training, as incorrect scoring will result in increased benzodiazepine dosing. Using benzodiazepine doses triggered by the CIWA-Ar reduces the risk of progression to serious complications of withdrawal such as seizures (Mayo-Smith, 1997).

Symptom-triggered pharmacotherapy can be titrated against the total CIWA-Ar score (Puz & Stokes, 2005). Instructive information for use of the CIWA-Ar is included in Appendix 6.

A consumption calendar (Appendix 3) can also be completed by the client to inform treatment planning. It provides information regarding the client's alcohol consumption for the week preceding the assessment. The consumption calendar records:

- Substances consumed in the past week
- Quantities of substances consumed in the past week
- Method of ingestion of substances consumed during the last week
- Most recent use and quantities of substances to alert staff to possible overdose
- Patterns of substance misuse

10.4 Alcohol withdrawal care planning

Information obtained during assessment will inform the withdrawal care plan.

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
- Previous history of complicated 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/significant others, where appropriate

10.5 Alcohol withdrawal care

10.5.1 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 goal/s of withdrawal care
- An individual's beliefs about withdrawal care
- Appropriate interventions and support services

10.5.2 Benzodiazepines

Where required, benzodiazepines remain the preferred pharmacotherapy for managing alcohol withdrawal symptoms.

The majority of alcohol-dependent clients complete withdrawal without pharmacotherapy support. However, where required, benzodiazepines manage a range of withdrawal symptoms and have been shown to prevent alcohol withdrawal seizures. There is also some evidence to show that benzodiazepines may prevent progression to delirium (Mayo-Smith, 1997).

Long-acting benzodiazepines, and diazepam in particular, are recommended for use in the management of alcohol withdrawal in a number of recent Australian Clinical Guidelines (D'Onofrio et al., 1999; Mattick & Jarvis, 1993; Mayo-Smith, M., 1997; Mayo-Smith, M. F. et al., 2004; NSW Health Department, 1999; Salloum et al., 1995; Shand et al., 2003a).

Treatment with benzodiazepines in alcohol withdrawal is normally considered once a client's Blood Alcohol Level (BAL) is lower than 0.1. Services may have access to breathalysers for continued monitoring of a person's BAL. Dosing commencement should also be informed by setting, level of monitoring and support available, particularly in rural and regional withdrawal settings.

Table 7 outlines three benzodiazepine medication regimes for use in alcohol withdrawal.

Table 2: Medication regimes for the use of benzodiazepines in alcohol withdrawal (as at March 2009)

Type of dosing regime	Client group	Dosing regime
Fixed schedule	Appropriate for clients at risk of complicated withdrawal who are not in a hospital or other supervised environment (e.g. community-based 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	Doses administered according to individually-experienced symptoms of alcohol withdrawal
Loading dose	Appropriate for alcohol withdrawal clients at high risk of complicated 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., 2002a; Shand et al., 2003a)

Inpatient/residential withdrawal settings can administer diazepam dosing based on the results of the CIWA-Ar conducted every one to four hours. Dosing regimens may vary from setting to setting, depending on level of support available, the duration of admission and clinician preference.

A standard benzodiazepine dosing schedule example is provided in Table 8, below.

Table 3: Examples of benzodiazepine dosing regimens (as at March 2009)

Level of dependence/setting of withdrawal	Example of diazepam dosing
Mild dependence in outpatient withdrawal setting	Day 1: 5–15 mg qid Day 2: 5–10 mg qid Day 3: 5–10 mg tds Day 4: 10 mg bd Day 5: 5 mg bd
Moderate severity dependence in inpatient setting	5–20 mg 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 10–20 mg every 2–4 hours until light sedation achieved followed by CIWA Ar triggered or fixed dose therapy for 3–4 days

Source: Key informant interviews

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.

10.5.3 Anti-craving therapies

Medications used to treat alcohol use disorders include the anti-craving therapies acamprosate (Campral®) and naltrexone (Revia®), and the aversive agent disulfiram (Antabuse®). These agents may be commenced in both inpatient and outpatient settings to prevent relapse in alcohol dependence.

There is no consistent evidence to support the effectiveness of one agent over another. Choice of anti-craving medication should be dependent upon drug interactions, patient experience, likely adherence to dosing and potential adverse effects.

Some research suggests that naltrexone may be suitable in the treatment of patients seeking to reduce heavy alcohol intake and that acamprosate may be suitable for patients seeking abstinence (Rösner et al, 2008).

There is varying evidence that indicates combination therapy with acamprosate and naltrexone is more effective than monotherapy with either agent (Kiefer et al., 2003).

Alcohol pharmacotherapies are best used as part of a comprehensive management plan with appropriate psychosocial supports, and both agents may be commenced early in withdrawal treatment. Therapy should normally be maintained in the event of relapse to alcohol use, and patients should not normally be advised to discontinue anti-craving therapy in this instance. Relapse should prompt review of the individual's withdrawal care plan.

The main anti-craving medications 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 or similar reference prior to prescribing these therapies.

10.5.3.1 Naltrexone

Naltrexone is an opioid receptor antagonist medication which exerts its effect through interruption of alcohol reward pathways. Randomised placebo controlled trials show that naltrexone increases duration of abstinence and reduces amount of alcohol consumed in relapse (Carmen, 2004; Kranzler, 2003).

Dosing and commencement of therapy

Naltrexone therapy may be commenced from day three of alcohol withdrawal and dosing will be determined by a medical professional. Duration of naltrexone therapy depends on the response to treatment and individual patient goals.

Adverse effects and contraindications

Naltrexone is generally well tolerated and adverse effects are usually associated with dosing levels, which may need to be adjusted. Side effects generally resolve within a few days of commencement of treatment and may include:

- Dizziness
- Fatigue
- Headache
- Nausea

Naltrexone is contraindicated in acute hepatitis or liver failure and its safety in pregnancy has not been established. Patients on opioid therapy should not be treated with naltrexone (see Interactions below). Liver function monitoring is usually recommended in long-term treatment.

Interactions

As a potent opioid mu receptor antagonist, naltrexone should not be given to patients on opioid therapy as it is likely to precipitate withdrawal. If an individual on long-term opioids is considered for this intervention, opioids should be ceased for at least seven days before commencing naltrexone.

Clients who are taking anti-depressant or anti-anxiety medications are generally able to commence naltrexone, as it possesses no mood-altering or addictive properties.

10.5.3.2 Acamprosate

Acamprosate acts on the brain's glutamatergic pathways through NMDA receptor systems that are involved in alcohol dependence and withdrawal. Randomised placebo controlled trials show benefit of acamprosate in prolonging duration of abstinence and increasing alcohol-free days (Mann, 2004; Carmen, 2004; Kranzler, 2003). In most cases acamprosate need not be ceased if patients relapse into alcohol use.

Dosing and commencement of therapy

Therapy may be commenced early in alcohol withdrawal management, and there is some evidence of the benefit of acamprosate in reducing neuronal damage in alcohol withdrawal. As acamprosate does not reduce acute alcohol withdrawal severity it should not be used as a treatment for withdrawal per se.

Acamprosate is available in 333 mg tablets and dosing regimens should be determined by a medical professional. The duration of therapy is dependent on individual response to acamprosate and treatment goals.

Adverse effects and contraindications

Acamprosate is generally well tolerated. Most adverse effects are mild and transient and rarely necessitate cessation of treatment. The most common adverse effect is diarrhoea.

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. Note that the safety of acamprosate use during pregnancy has not been established.

10.5.3.3 Disulfiram

Disulfiram (Antabuse ®) has previously been used in the management of alcohol withdrawal. However, the severity of associated adverse effects, cost of treatment and the extensive planning required for disulfiram therapy has resulted in it rarely being used in the treatment of alcoholism in Australia. The use of disulfiram is outside the scope of these Guidelines and should be discussed with Specialist Addiction Medicine services.

10.5.4 Symptomatic care for alcohol withdrawal

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

Alcohol withdrawal is primarily managed with benzodiazepines. Additional medication may be used for management of symptoms as described in Table 4, below.

Table 4: Symptomatic medications for use in alcohol withdrawal (as at March 2009)

Symptoms	Symptomatic medication
Nausea and vomiting	Antiemetics Metoclopramide (Maxolon®) 10 mg every 4–6 hours ^a Prochlorperazine (Stemetil®) 5 mg every 4–6 hours orally or intramuscularly. Reduce the dose rate to 8-hourly as symptoms abate ^a
Diarrhoea	Antidiarrhoeal Loperamide (Imodium®) or Kaomagma® ^a Atropine and diphenoxylate (Lomitil®) ^b
Abdominal cramps	Hyoscine butylbromide (Buscopan®)
Headaches	Paracetamol Note: Paracetamol is often preferable to aspirin or ibuprofen, especially if there is a suspicion of peptic ulceration ^b
To minimise gastrointestinal symptoms encourage fluids and a simple diet ^b	
Prophylactic treatment for seizures (for example with phenytoin, carbamazepine or sodium valproate) is not proven to have any clinical benefit. Medications which do not have any demonstrated benefits over benzodiazepines and cannot be recommended as first line treatments for alcohol withdrawal include:	
<ul style="list-style-type: none"> • Anticonvulsants • Antidepressants • Major tranquilisers 	

a) NSW Department of Health (2008a)

b) Murray et al. (2002)

10.5.5 Use of thiamine in alcohol withdrawal

Suspected or diagnosed Wernicke's encephalopathy is a serious condition that should be treated with intravenous thiamine in an acute hospital setting. Additionally, prophylactic thiamine should be given routinely to alcohol withdrawal clients.

Wernicke's is an acute encephalopathy of thiamine deficiency and may be seen in alcohol-dependent individuals presenting for withdrawal care. This condition, although uncommon, may progress to a chronic form of cognitive damage known as Korsakoff's syndrome. Signs of Wernicke's encephalopathy include confusion and ataxia.

All clients with suspected Wernicke's encephalopathy should be referred to a hospital emergency department. An example of thiamine dosing regimens and routes of administration for alcohol-dependent clients and clients with suspected Wernicke's encephalopathy are outlined in Table 5.

Table 5: Example of thiamine dosing for alcohol-dependent clients and clients with suspected Wernicke's encephalopathy (as at March 2009)

Alcohol withdrawal presentation	Thiamine dose
All patients	100–300 mg intravenously or intramuscularly for 3–5 days 300 mg orally daily thereafter
Suspected Wernicke's encephalopathy	At least 300 mg intramuscularly or intravenously for 3–5 days 100–300 mg orally thereafter

Source: Key informant interviews

10.5.6 Complementary therapies in alcohol withdrawal

Complementary therapies such as massage, acupuncture and herbal remedies are available within some withdrawal settings. There is anecdotal evidence that these therapies assist in alcohol withdrawal and clients should be made aware of the availability of these services during treatment planning. Complementary therapies include but are not limited to:

- Dietary supplements:
 - B Group Vitamins, especially high dose B1, B3 and B6
 - Vitamin C
 - Zinc
- Stress reduction, relaxation and sleep assistance:
 - DL-Phenylalanine
 - Valerian
 - Kava
 - Rescue Remedy
 - Zizyphus & Polygala pills (Chinese Herbal Medicine)
- Nausea and vomiting:
 - Ginger or Homeopathic Remedy (Vomiplex)
 - Peppermint
- Formula for Joint Pain
 - Calcium
 - Fish oils
 - Magnesium
- Liver function
 - Silymarin (YSAS, 2008)

10.6 Planning for post-withdrawal

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

Planning for post-withdrawal may include consideration of additional pharmacotherapies (acamprosate or naltrexone) for alcohol withdrawal symptom management and relapse prevention. Planning for post-withdrawal will:

- 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/significant others in post-withdrawal care, as appropriate, to help implement the client's post-withdrawal plan

10.7 Special needs groups

10.7.1 Infants of alcohol-dependent women

A foetus that is exposed to regular, excessive maternal alcohol consumption will be closely monitored for withdrawal symptoms during their first days of life.

Close monitoring will entail:

- Medical and nursing staff monitoring for signs of Foetal Alcohol Syndrome (FAS) and subsequent alcohol withdrawal 24–48 hours after birth
- Specialist medical attention and medication to manage alcohol withdrawal symptoms (NSW Department of Health, 2008b)

Babies with FAS will be followed up for at least the first six months by a health professional where the neonate's mother has:

- **Engaged in risky levels of drinking (as defined by the Australian Alcohol Guidelines), or**
- **Given birth previously to a baby with FAS (NSW Department of Health, 2008b)**

Note: Diagnosis of FAS at birth is difficult. In suspected cases, the infant should be re-assessed at about six months of age (NSW Department of Health, 2008b).

10.7.2 Clients with a dual diagnosis

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

Specifically, they will be:

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

10.7.3 Families/significant others

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

Where appropriate, information will be provided to family/significant others regarding the alcohol withdrawal process and support services such as Directline and/or Lifeline.

10.7.4 Young people

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

As outlined above (see section **Error! Reference source not found.**), 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 alcohol users, please refer to the YSAS Clinical Practice Guidelines (YSAS, 2008).

10.8 Recommended reading

Mayo-Smith, M. (1997). Pharmacological management of alcohol withdrawal: A meta-analysis and evidence-based practice guidelines. *JAMA*, 278(2), 144–151.

Mayo-Smith, M. F., Beecher, L. H., Fischer, T., Gorelick, D. A., Guillaume, J. L., Hill, A. et al. (2004). Management of Alcohol Withdrawal Delirium: An Evidence-Based Practice Guideline. *Archives of Internal Medicine*, 164, 1405–1412

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Ntais, C., Pakos, E., Kyzas, P. & Ioannidis, J. P. A. (2005). Benzodiazepines for alcohol withdrawal. *The Cochrane Database of Systematic Reviews*, 2.

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YSAS. (2008). *YSAS Clinical Practice Guidelines - Management of alcohol and other drug withdrawal*. YSAS, Melbourne