Recommendations on the Management of Selected Alcohol-Related Presentations in the Emergency Department

METAPHI
MENTORING, EDUCATION, AND CLINICAL TOOLS FOR ADDICTION
PARTNERS IN HEALTH INTEGRATION

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A. BACKGROUND

Alcohol-related emergency department (ED) visits are increasingly common. In a retrospective population-level study of alcohol-related ED visits in Ontario 2003 to 2017 (1), the total number of alcohol-related visits was 829,662, or about 55,000 per year, with a substantial rate increase over the study period. Alcohol use–attributable ED visit costs in Ontario were $78.15 million in 2020, higher than the cost of all other substance use–attributable ED visits combined ($67.2 million) (2). The COVID-19 pandemic has also had an impact on alcohol-related healthcare use; one study showed a 34% increase in rates of alcohol withdrawal in hospitalized patients from March to September 2020 compared to the same period in 2019 (3). During and after COVID-19 stay-at-home orders, there was an increase in the ED diagnosis of alcohol withdrawal (4, 5) and severe withdrawal with complications such as delirium tremens (DTs) and seizures (6).

People who visit the ED for an alcohol-related reason are at higher risk for death. Individuals who visit the ED at least once for an alcohol problem have been found to have a mortality rate of 2% in the year following the visit, which is four times higher than the annual mortality rate in the general population (7). Patients who attended the ED two or more times within a year for an alcohol problem had a one-year mortality rate of 5.4%, rising to 8.8% for those with five or more visits (8). Furthermore, failure to meet an ED patient's substance-related needs increases return visits, adding to ED capacity and cost burden (9).

The purpose of these recommendations is to provide updated evidence-informed guidance regarding management of alcohol withdrawal and alcohol-related presentations in the ED, with the goal of facilitating effective and supportive patient care, reducing repeat ED visits, and lowering one-year mortality rates. The recommendations address the following clinical objectives:

- Effective treatment of alcohol withdrawal
- Brief interventions for alcohol use
- Initiation of anti-craving medications
- Connection to community addiction services

These recommendations are based on focused literature reviews using combinations of search terms, including the following: alcohol withdrawal, emergency department, withdrawal scales, diazepam, naltrexone, acamprosate, gabapentin, seizures, arrhythmias, and thiamine. There are limited randomized controlled trials available on emergency department treatment of alcohol-related presentations. Included were available published guidelines focused on alcohol and withdrawal such as those from British Columbia Centre on Substance Use, the American Society of Addiction Medicine, the American Academy of Emergency Medicine, Alberta Health Services, and the Australian government. The recommendations are based on expert opinion, informed by the available evidence.

B. PATIENT ASSESSMENT AND DISPOSITION

Alcohol intoxication and withdrawal (including seizures) are the most common ED presentations related to alcohol use. Other common alcohol-related presentations to the ED include trauma (e.g., accident, assault), cardiac issues (such as chest pain or arrhythmias), hepatic and extra-hepatic sequelae (e.g., ascites), gastro-intestinal issues (such as pancreatitis or gastritis), psychiatric conditions (such as self-harm or suicidal ideation), "feeling unwell", or repeat ED visits (10). Each of these presentations requires an assessment for safety, the need for withdrawal management, disposition, and at least a brief intervention regarding additional psychosocial and medication approaches to treatment.

B1. Intoxicated patients should be assessed for concurrent medical issues.

Patients with alcohol intoxication are at high risk of missed associated diagnoses including trauma and medical conditions with presentations of altered mental status such as hypoglycemia, diabetic ketoacidosis, and other concurrent substance use. All patients found to be intoxicated should be assessed for trauma and complicating medical conditions such as pancreatitis, arrhythmia, hypothermia, and gastritis. At a minimum, all patients presenting with intoxication should have vitals completed. If a reliable history is unavailable, a careful physical exam and more extensive laboratory measurements are required, with a CT head if there are any signs or a suspicion of a head injury.

Respiratory depression should be monitored closely, ideally with pulse oximetry, and the patient should remain in a safe position with the bed rails up and elevated head of bed to prevent aspiration in case of vomiting. Protective airway devices and intubation should be considered if a patient shows signs of respiratory depression or is unable to protect their airway.

If an intoxicated patient is agitated, verbal de-escalation should be attempted. If the situation cannot be de-escalated, and the patient poses a risk to themself or others, restraint (either physical or chemical, e.g., with antipsychotics, ketamine, or benzodiazepines) may be required. Agitation in patients with withdrawal symptoms must be treated with benzodiazepines.

Intoxicated patients should be assessed for their capacity before discharge, with consideration of the supports they are being discharged with and to. Patients should not be discharged until their risk of alcohol-related harms such as falls or sedation is resolved unless they have reliable support person(s) able to monitor and return them to care if required.

B2. All patients with an alcohol-related presentation should be assessed for the need for medical management of withdrawal and be in an appropriate setting for withdrawal management.

People are at known risk for withdrawal if they have consumed more than five standard drinks daily for at least one week consecutively and if they have experienced withdrawal of any severity in the past. Withdrawal symptoms typically develop six to twelve hours after the last drink. Therefore, patients who present with intoxication, as well as those already in withdrawal, should be assessed for the need for medical management of withdrawal. The clinician should take a focused history, including daily alcohol consumption, time of last drink, current alcohol use goals, and history of previous withdrawal experiences including medication treatment, admission, seizures, and delirium tremens (DTs).

Alcohol withdrawal management is not required for patients who do not have a current goal of alcohol cessation unless they will enter withdrawal while awaiting treatment of other health conditions (e.g., having a bone set, awaiting other laboratory results, etc.); in these situations, withdrawal should be managed with **benzodiazepine treatment** or with a managed alcohol program if available.

If required, treatment of withdrawal can typically be initiated in the ED; completion of treatment may require admission to hospital or take place in the community (withdrawal management setting or at home), depending on the patient's past experiences of withdrawal, concurrent medical conditions, and psychosocial factors.

Hospital admission to complete withdrawal management is warranted for patients with any of the following criteria:

- **Treatment-refractory withdrawal in the ED**
- **Active DTs**
- Wernicke's-Korsakoff syndrome
- Concurrent unstable or complex medical conditions
- Pregnancy
- Psychiatric conditions requiring active management such as suicidal or homicidal ideation

Patients with histories of mild to moderate withdrawal without medical comorbidities or concurrent substance use can complete their treatment in the community, either at home or in a withdrawal management setting (WMS). Discharge home is appropriate for patients with stable/safe housing who have someone who can assist with supporting and monitoring symptoms and use of medication. An alternative is daily pharmacy dispensing of medication with pharmacist instruction to hold the medication with any concerns of intoxication or return to drinking. Discharge to WMS is appropriate for individuals who do not have a safe space and would benefit from support with medication adherence and engagement in continuing treatment for alcohol use disorder. WMS are generally non-medical facilities with limited access to medical care. Patients being discharged to WMS should meet the following criteria:

- Medically stable, e.g., not at risk for dehydration or electrolyte imbalance
- No definitive signs of severe alcohol withdrawal: Autonomic hyperactivity (i.e., SBP > 180 DBP > 110, HR > 120 bpm, T > 37.5 C, arrhythmia, profuse sweating, repeat vomiting, or severe withdrawal tremor), hallucinations, psychomotor agitation, confusion, disorientation, delusions, withdrawal seizures, or DTs
- **Loading doses** have been given if previous history of seizures or DTs
- **CIWA-Ar** < 10 on two consecutive assessments at least one hour apart

B3. All ED patients with severe alcohol withdrawal, seizures, DTs, or complicating medical conditions require ED treatment and close monitoring.

Patients should be assessed for a previous history of severe withdrawal or current **definitive signs of severe alcohol withdrawal:** Signs of autonomic hyperactivity (i.e., SBP > 180 DBP > 110, HR > 120 bpm, T > 37.5 C, arrhythmia, profuse sweating, repeat vomiting, or severe withdrawal tremor), hallucinations, psychomotor agitation, confusion, disorientation, delusions, withdrawal seizures, or DTs. Severe alcohol withdrawal can be associated with substantial morbidity and mortality if not appropriately managed.

Patients in severe withdrawal, as well as patients with complicating medical conditions that may require close medical supervision, should have a nurse-to-patient ratio that allows frequent monitoring, a cardiac-monitored bed when available, and laboratory investigations including electrolytes. More intensive monitoring should be considered for patients not responding to initial dosing, with worsening withdrawal symptoms, or needing phenobarbital. Patients can be moved to a less monitored area of the ED as their symptoms resolve.

C. BENZODIAZEPINE TREATMENT FOR ALCOHOL WITHDRAWAL

C1. Symptom-triggered benzodiazepine treatment is recommended as the first-line treatment for alcohol withdrawal in the ED.

In symptom-triggered treatment, benzodiazepines are dispensed if the patient scores above a cut-off value on a standardized withdrawal severity scale (e.g., CIWA-Ar ≥ 10), administered at regular intervals dictated by symptom severity. Symptom-triggered benzodiazepine dosing reduces the total amount of benzodiazepines dispensed, reduces the risk of over-medication, and shortens the duration of treatment compared to dispensing benzodiazepines on a fixed schedule (11-14).

While research on symptom-triggered treatment in the ED setting is lacking, many EDs currently use symptom-triggered treatment with good results, and narrative reviews and observational studies have recommended symptom-triggered treatment in the ED (15-17).

C2. Diazepam is the preferred agent for benzodiazepine treatment. Lorazepam is preferred for patients with cirrhosis and those at risk for benzodiazepine toxicity.

Diazepam is preferred for patients without major medical comorbidities because it has a very long duration of action, extended by its active metabolite, and an adequate dose will relieve withdrawal symptoms and prevent rebound of symptoms after discharge (18, 19). There is little direct evidence on the comparative safety and efficacy of lorazepam compared to diazepam (20). However, lorazepam may be preferred over diazepam in patients with cirrhosis (21), as prolonged high plasma levels of diazepam put these patients at high risk of sedation, aspiration, falls, and encephalopathy. Lorazepam may also be preferred for patients who are at higher risk for benzodiazepine toxicity, including the frail elderly, those on high doses of opioids, and those with liver or respiratory impairment (22), because it has a shorter duration of action than diazepam and its mechanism of metabolism, glucuronidation, is not affected by alcoholic cirrhosis. Because of lorazepam's shorter duration of action, more frequent monitoring and dosing is required, as withdrawal symptoms can return as the medication wears off; patients receiving lorazepam may therefore require longer hospital stays or admission.

C3. Benzodiazepine dose and route should correspond to the severity of the presentation and patient characteristics.

Benzodiazepines are not required if the withdrawal is mild (CIWA-Ar < 10); observation alone may suffice. Patients with moderate withdrawal symptoms (CIWA-Ar ≥ 10) who do not have major medical comorbidities should be managed with oral doses of diazepam 20 mg. This dose is generally safe for patients in alcohol withdrawal because alcohol-dependent patients have a high degree of cross-tolerance to benzodiazepines. Given the subjective limitation of the CIWA-Ar, patients that do not have at least one definitive sign of withdrawal despite their scoring can be started on lower doses of treatment at the clinician's discretion (i.e., diazepam 10 mg). Patients with severe or worsening alcohol withdrawal symptoms require **higher doses or intravenous administration**. Intravenous benzodiazepines can also be used when oral administration may be challenging (e.g., agitation or repeat vomiting).

Moderate to severe withdrawal symptoms (CIWA-Ar ≥ 10) in patients with cirrhosis or who are at risk for benzodiazepine toxicity (frail elderly, on high doses of opioids, liver or respiratory impairment) should be managed with oral doses of lorazepam 2–4 mg; patients that do not have at least one definitive sign of withdrawal may be started at 1–2 mg at the clinician's discretion. Patients with decompensated cirrhosis require lower lorazepam doses (e.g., 0.5–1 mg per dose) for moderate withdrawal. Patients with severe respiratory impairment also require dose reductions to avoid respiratory suppression; consider a consultation with internal medicine to appropriately manage respiratory risk.

C4. Dosing frequency should vary with the severity of the presentation and should continue until tremor and other withdrawal signs have resolved.

Frequent dosing (hourly for oral doses, up to every 10 minutes for intravenous doses) is recommended until withdrawal symptoms are almost fully resolved; this will reduce the length of stay, the risk of relapse, and repeated ED visits. The patient is ready for discharge when they have no tremor or minimal residual tremor, and their withdrawal scores should be below treatment cut-off (CIWA-Ar < 10) for at least two readings at least one hour apart.

Hourly or more frequent treatment is recommended in many cases of moderate withdrawal and all cases of severe withdrawal because delays between doses will result in underdosing, which is associated with an increased frequency of complications (23) and may increase likelihood of patients returning to drinking after discharge to relieve withdrawal symptoms. While frequency of dosing and assessment is often determined by nursing resources, more frequent doses may result in earlier symptom resolution and reduced length of stay.

D. PREVENTATIVE TREATMENT FOR COMPLICATIONS OF ALCOHOL WITHDRAWAL

D1. Oral loading doses of benzodiazepines should be used in patients with a history of withdrawal seizures or DTs.

Loading doses reduce length of stay, complications, and withdrawal duration (24). Loading doses should not be started while the patient is still intoxicated due to risks of benzodiazepine-alcohol interactions. For patients with a history of withdrawal seizures or DTs, loading doses can be started either when CIWA-Ar ≥ 10 or at least six hours after the last drink and/or the blood alcohol level (BAL) is trending down. Patients should receive oral loading doses of diazepam 20 mg or lorazepam 4 mg every hour for three doses, monitoring to ensure the patient is not sedated before each dose; lower doses (i.e., diazepam 10 mg or lorazepam 2 mg) can be considered when the clinician is concerned about the risk of oversedation (e.g., patients without definitive signs of withdrawal or at risk for benzodiazepine toxicity).

After loading doses are complete, patients should be placed on an oral symptom-triggered treatment protocol to complete withdrawal management in an appropriate setting.

D2. Thiamine should be administered routinely to prevent Wernicke's encephalopathy.

Thiamine (vitamin B1) is used to prevent or treat Wernicke's encephalopathy. Alcohol alone, and the malnutrition associated with chronic alcohol use, decrease gastric and intestinal absorption of thiamine by 50–70% (25). Because of decreased absorption, thiamine should ideally be provided intramuscularly or intravenously, with intravenous being the preferred route to avoid multiple injections given the volume of medication required. Patients presenting to the ED with alcohol intoxication or withdrawal should be provided at least 300 mg thiamine IM or IV for prevention of Wernicke's encephalopathy; higher doses divided throughout the day should be given if Wernicke's encephalopathy is suspected or diagnosed (22, 24-27). Thiamine should be administered before glucose-containing solutions are administered, unless the patient is hypoglycemic (28); glucose can exacerbate a thiamine deficiency and trigger Wernicke's.[1] Patients should be instructed to continue taking at least 100 mg of thiamine orally once daily for two to four weeks after discharge; patients at higher risk of nutritional concerns (e.g., poor dietary intake, gastric bypass) should be advised to take 100 mg orally three times daily for increased absorption (22, 26, 29). Note that the cost of thiamine is not covered and patients will have to pay out of pocket.

D3. Take steps to prevent arrhythmias.

Arrhythmias can be triggered by electrolyte imbalances, the hyperadrenergic state that accompanies withdrawal, and underlying cardiac disease including alcoholic cardiomyopathy. All patients in moderate to severe withdrawal should have an EKG done and electrolytes (sodium, potassium, chloride, magnesium, calcium, bicarbonate) monitored, and all fluid and electrolyte imbalances should be corrected.[2]

Severe alcohol withdrawal is associated with prolonged QT interval (30), which should be treated with electrolyte correction and withdrawal management. Medications with risks for prolonging the QT interval (such as antipsychotics) should be used with caution in these cases.

E. TREATING SEVERE ALCOHOL WITHDRAWAL, WITHDRAWAL SEIZURES, AND DTS

E1. Patients with an initial presentation of severe alcohol withdrawal should be started with intravenous benzodiazepine doses.

Intravenous benzodiazepine doses can be administered as per clinician discretion if the patient presents to the ED with a CIWA-Ar score of 20 or above and definitive signs of severe alcohol withdrawal (i.e., signs of autonomic hyperactivity (i.e., SBP > 180 DBP > 110, HR > 120 bpm, T > 37.5 C, arrhythmia, profuse sweating, repeat vomiting, or severe withdrawal tremor), hallucinations, psychomotor agitation, confusion, disorientation, delusions, withdrawal seizures, or DTs. Intravenous doses of diazepam 10 mg or lorazepam 2 mg can be given every ten minutes until the patient is no longer in severe withdrawal, at which point oral symptom-triggered dosing can begin. Higher or lower IV benzodiazepine doses can be used at the clinician's discretion. Lorazepam at the lower range (i.e., 0.5–1 mg) should be used for those at higher risk for benzodiazepine toxicity.

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[1] The author group could not come to full consensus about the risk of glucose administration prior to thiamine.
[2] INR should also be monitored if there are signs of liver compromise.

E2. For severe or worsening alcohol withdrawal, double the oral dose or consider intravenous dosing.

Benzodiazepine doses should be escalated if the patient is in severe or worsening withdrawal despite receiving 80 mg or more of diazepam orally or 16 mg or more of lorazepam orally over four hours or less. In this circumstance, diazepam can be doubled to 40 mg per dose orally or given as 10 mg intravenously every ten minutes. Lorazepam can be doubled to 8 mg per dose orally, or 2 mg intravenously every ten minutes, with lower doses for those at higher risk for benzodiazepine toxicity. Consider faster dose escalation or higher dosing in accordance with presentation; for instance, in patients with a baseline tolerance to benzodiazepines (i.e., concurrent daily benzodiazepine use), higher total doses will be required for the treatment of alcohol withdrawal.

Repeat doses of intravenous or intramuscular benzodiazepines can lead to increased risk of respiratory depression; careful monitoring and frequent assessment after each administration is needed, with attention to respiratory rate, oxygen saturation, and sedation.

If the patient responds to these doses and is no longer in severe withdrawal, then symptom-triggered treatment with benzodiazepines may be continued. **Phenobarbital** is indicated if the patient continues to worsen despite these higher doses.

E3. Consider oral or intravenous phenobarbital for severe withdrawal not responding to treatment. Patients requiring phenobarbital should be prepared for hospital admission.

While there is currently insufficient evidence to support the routine use of phenobarbital for mild to moderate alcohol withdrawal in the ED, reviews (15, 31) suggest that phenobarbital is safe and effective in the management of severe alcohol withdrawal. However, there is no consensus on the optimal ED dosing protocol; specific protocols that have been used or proposed in the ED include a single dose of 10 mg/kg IV (32), one dose of 260 mg IV plus one dose of 130 mg IV 48 hours later at the clinician's discretion (33), and a single dose of 7.5 mg/kg IV (34).

The authors of a focused review of the use of adjunctive IV phenobarbital (31) recommended "starting a low dose (i.e., 65 mg), slowly titrating to response at approximately 30- to 60-minute intervals, and closely monitoring the patient for any adverse effects" (p. 1522). Oral phenobarbital has been used at doses of 30–90 mg every eight hours with symptom-triggered lorazepam treatment in between. The literature focuses on the use of lorazepam in conjunction with phenobarbital to offset the risk of combining a longer-acting benzodiazepine like diazepam with the longer-acting phenobarbital, given its narrow therapeutic window.

We recommend that all patients requiring phenobarbital for severe withdrawal be admitted to hospital; consider treatment consultation with the admitting service. Due to phenobarbital's narrow therapeutic window, repeat intravenous dosing may be best reserved for the ICU. Phenobarbital should be used with great care and at low doses in patients who are at risk for benzodiazepine toxicity.

E4. Identify and treat delirium tremens.

Delirium tremens (DTs) is a late complication of alcohol withdrawal, typically occurring three to five days after the last drink. The patient presents with confusion and disorientation, often accompanied by delusions, paranoia, hallucinations, and agitation. In addition, the patient typically has signs of severe autonomic hyperactivity, including tremor, sweating, tachycardia, hypertension, and a low-grade fever. Risk factors for DTs include history of sustained drinking, a history of seizures or DTs, recent withdrawal seizures, older age, use of sedating medications, concurrent medical illness, and a high CIWA-Ar score (35). DTs is usually preceded by severe withdrawal symptoms, including tremor, sweating, agitation, and seizures.

The following steps can be taken to prevent and reduce the duration and severity of DTs in patients at risk:

1. Optimize withdrawal management. Implement **benzodiazepine loading** (36), then progress from **symptom-triggered treatment** to **doubled oral doses or IV doses** to **phenobarbital**. Avoid long delays between doses, as this could result in rapid worsening of symptoms.
2. Initiate cardiac monitoring and correct electrolyte imbalances to help prevent **arrhythmias**.
3. Keep the patient safe from physical harm. If the patient is very agitated and delusional, consider physical restraints if chemical restraints have not been sufficient.
4. Manage delirium and agitation with benzodiazepines rather than antipsychotics (37). If antipsychotics are considered, they should be used with caution due to their potential of lowering the seizure threshold; however, when they are used in low doses, and with proper benzodiazepine treatment preceding antipsychotic use, this risk is theoretically low.
5. Admit the patient to hospital if the patient does not adequately respond to phenobarbital and benzodiazepines in the ED.

E5. Identify and treat hallucinations.

Alcoholic hallucinosis presents as predominantly visual hallucinations without a clouding of the sensorium, which differentiates it from DTs. In other words, the patient is aware that the hallucinations are not real, and they are oriented to time and place. Alcoholic hallucinations usually occur earlier in the course of alcohol withdrawal than DTs, typically within twelve to 24 hours of alcohol cessation. They typically resolve within 48 hours of onset with symptom-triggered treatment with benzodiazepines. If patients present with auditory hallucinations, differentials such as drug-induced psychosis or schizophrenia should be considered. Antipsychotic medications should be used with caution, as they can lower the seizure threshold and prolong the QT interval.

F. PSYCHOSOCIAL INTERVENTIONS AND MENTAL HEALTH

F1. All patients presenting to the ED with clinical signs of alcohol use, an alcohol-related injury, or a condition highly associated with alcohol should be opportunistically screened and offered a brief intervention.

Screening, Brief Intervention, and Referral to Treatment (SBIRT) is an approach to identification of at-risk substance use and early intervention that has received substantial attention and support.[3] The three components of SBIRT include brevity, so that it can be delivered quickly in an ED or community setting; a series of questions or prompts to increase awareness and motivate change; and referral to more specialized resources for those identified as needing additional supports (38).

Target presentations include alcohol intoxication and withdrawal (including seizures), trauma (e.g., accident, assault), cardiac issues (such as chest pain or arrhythmias), hepatic and extra-hepatic sequelae (e.g., ascites), gastro-intestinal issues (such as pancreatitis or gastritis), psychiatric conditions (such as self-harm or suicidal ideation), "feeling unwell", or repeat ED visits include the "top 10 conditions" deemed to be high-risk alcohol-related conditions: falls, collapse (including seizures), head injury, assault, accidents, "unwell", non-specific gastro-intestinal issues, cardiac issues (including chest pain), psychiatric conditions (including deliberate self-harm and overdose), and repeat attendance at the ED (10). Other indications include clinical signs of alcohol use and evidence of alcohol in blood, breath, or saliva. In addition, offering a brief intervention to patients with evidence of suicidal ideation is critical, as those with acute intoxication and **suicidal ideation** are a very high-risk population (39). Breathalyzer and measurement of blood alcohol concentrations is not required to make a clinical assessment of a correlation between injury and alcohol ingestion, or to initiate a brief intervention and referral to treatment.

The purpose of the intervention is to make the connection between the person's alcohol use and their ED visit without judgment; diagnosis of an alcohol use disorder is not the goal. The intervention should be initiated only **after** dealing with the patient's presenting problems and should be framed as a question routinely asked of all patients with the given presentation.

Brief negotiated interviews (BNIs) have been shown to decrease alcohol consumption and alcohol-related consequences when delivered to selected ED patients (40, 41). The BNI has four major components (42):

1. Establish rapport and ask permission to discuss alcohol consumption and its possible consequences.
2. Provide feedback on the patient's drinking levels and make a connection to the ED visit.
3. Enhance motivation to reduce drinking by asking how ready on a scale of 1–10 the patient is to change any aspect of their drinking.
4. Negotiate goals and advise a plan of action.

[3] **https://www.samhsa.gov/sbirt**

F2. When possible, patients presenting with alcohol-related conditions should receive psychosocial support in the ED.

Receipt of substance use navigation services by patients with alcohol, opioid, and cocaine use disorders while in the ED has been strongly associated with higher rates of medications for addiction treatment being administered in the ED and prescribed at discharge and higher odds of follow-up (43). If possible, patients who express an interest in treatment should be seen by a peer support worker, social worker, substance use navigator, addiction service worker, mental health counselor, or health promotion advocate, any of whom can provide support, information about treatment, and linkages to community-based treatment and resources, such as withdrawal management services, RAAM clinics, or psychosocial supports.

F3. Patients presenting with suicidal ideation or a suicide attempt and an alcohol-related concern should receive an on-site intervention and referral to an addiction treatment service.

Suicide is a major cause of death among patients with severe alcohol use disorder (8). Alcohol dependence (44), acute intoxication, major depressive disorder (45), and social factors such as interpersonal conflict are significant risk factors for suicide attempts. Patients who present with both an alcohol-related concern and suicidal ideation or attempts should receive comprehensive treatment for both their alcohol use and concurrent psychiatric disorders (46, 47). The following steps should be taken:

1. Arrange for a mental health assessment if the patient has a concurrent psychiatric disorder. If suicidal ideation persists when intoxication has resolved, the patient may require voluntary or involuntary admission. The patient should be referred to outpatient mental health services (e.g., psychiatry) if the suicidal ideation resolves when the patient is no longer intoxicated.
2. If appropriate, prescribe an **anti-craving medication** such as naltrexone, acamprosate, and/or gabapentin.
3. If the patient has major depressive disorder, consider prescribing an antidepressant and/or referring to mental health, both of which can improve mood and drinking outcomes (48).
4. Provide a **brief intervention**: inform the patient that reducing their drinking will improve their mood and daily functioning, and they will be much less likely to think of or attempt suicide.
5. If the patient will be discharged from the ED, give them information on accessing treatment for alcohol use disorder (i.e., with their primary care provider, a RAAM clinic, or another local resource). Even if the patient is no longer suicidal after the intoxication has resolved, patients who have presented with suicidal ideation are at high risk for a future suicide attempt if they have an alcohol use disorder, return to drinking heavily, have attempted suicide in the past, have an underlying psychiatric condition, or have had a recent loss or conflict. If possible, they should be seen prior to discharge by a peer support worker, social worker, substance use navigator, addiction service worker, mental health counselor, or health promotion advocate to facilitate **connections to treatment**.

G. DISCHARGE

G1. Ensure withdrawal is adequately treated before discharge.

If a patient undergoes ED treatment for alcohol withdrawal, the clinician should ensure that the CIWA-Ar < 10 for two consecutive measurements at least one hour apart, the patient is comfortable with minimal or no tremor, and vital signs have returned to their baseline before discharge.

G2. Consider an outpatient gabapentin prescription for patients being discharged with ongoing mild withdrawal symptoms.

Patients who have had adequate withdrawal treatment in the ED are unlikely to require outpatient prescriptions for ongoing withdrawal. However, for patients who are still in mild withdrawal after treatment (i.e., CIWA-Ar 1–10), an **outpatient prescription** for gabapentin may be given at discharge to complete treatment. Gabapentin has several advantages over benzodiazepines as a discharge medication; it is less sedating, has a lower misuse potential, appears to be non-lethal in overdose, and can be used as a long-term anti-craving medication, particularly in patients who experience anxiety and/or ongoing mild withdrawal symptoms (49, 50). The recommended dose for gabapentin in the context of alcohol withdrawal is 300 mg three times daily. Gabapentin can be increased to 600 mg three times daily and 600–1200 mg at bedtime if required and as long as there is no sedation, to a maximum of 3600 mg daily. Gabapentin can cause sedation or dizziness, and the risk is increased when combined with other sedating medications or alcohol; consider a lower dose (100 mg three times daily) for patients who are elderly, on other sedating medications, or with renal dysfunction.

Whenever possible, withdrawal should be fully managed in the ED, and benzodiazepines should not be required upon discharge. Patients being discharged with benzodiazepines is discouraged, as some patients resume drinking while taking them. Consider reserving this treatment for patients being discharged to a setting where it is clear that they will not be drinking, such as a withdrawal management service. Dispensing to a reliable support person or daily pharmacy dispensing can also be considered if the patient is being discharged to a home setting. A rapid taper is recommended, e.g., diazepam 10 mg or lorazepam 2 mg four times daily on day 1, three times daily on day 2, and twice daily on day 3. The patient should be advised that if they resume drinking, they should stop the benzodiazepines and follow up at outpatient addiction service, even if their withdrawal symptoms have resolved.[4]

G3. Ensure underlying medical conditions are ruled out prior to discharge.

Patients must be reassessed once the intoxication is resolved and withdrawal is treated to ensure other medical conditions are treated. Ensure vitals are repeated and stable prior to discharge. A complete assessment can be difficult while a patient is in withdrawal or intoxicated, but these patients are at risk of harm if their health conditions go unaddressed at discharge.

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[4] The author group could not come to full consensus about whether a benzodiazepine prescription is ever appropriate on discharge.

G4. Arrange referrals to outpatient treatment services.

Before discharge, patients should be given connections to outpatient alcohol use disorder treatment. Research indicates that treatment engagement is maximized if follow-up occurs rapidly (51), ideally within 48 hours of referral from the ED (52). **Rapid access addiction medicine (RAAM) clinics**, which provide low-barrier addiction care including pharmacotherapy, brief counseling, and referrals to community services, are available in many cities and towns across Ontario, and patients can attend during drop-in hours without an appointment or formal referral. Clinicians should inform patients about the location and drop-in hours of the nearest RAAM clinic (and/or other local services) and advise them to attend (i.e., "You should go to the clinic tomorrow at 9:00").

Withdrawal management services are an appropriate bridge from hospital to community services. They offer a safe place to stay and staff to monitor their condition, and so can be appropriate for patients without a fixed address, a safe place to stay, a supportive environment, or support persons. They may be able to provide ongoing pharmacological support for withdrawal, mental health, and other minor health conditions. They often provide social work, peer support, and counselling services.

Other local addiction resources can be found at **ConnexOntario**.

Patients should also be advised to follow up with their primary care providers.

G5. Offer a prescription for an anti-craving medication such as naltrexone, acamprosate, and/or gabapentin.

For patients with moderate to severe alcohol use disorder, pharmacotherapy in addition to psychosocial interventions is the most evidence-based approach to care. There is growing consensus that medications for substance use disorders should be implemented in any setting where patients seek care.

The first-line medications for alcohol use disorder are naltrexone and acamprosate (53). Naltrexone is a competitive opioid antagonist that blunts the euphoric, reinforcing effects of alcohol. Acamprosate acts on the glutamate system to minimize symptoms of ongoing mild alcohol withdrawal, such as cravings, insomnia, and dysphoria. Naltrexone is preferred for most patients in the ED setting; naltrexone is effective even if the patient continues to drink, whereas acamprosate is most effective if the patient is abstinent. Naltrexone can be prescribed to patients with elevated transaminases in the absence of hepatic dysfunction. Naltrexone should be prescribed as 50 mg once daily for 14 days to ensure medication access in case the patient does not attend early follow-up; a longer prescription should be provided if there is a lack of available community follow-up (e.g., with a primary care provider or a RAAM clinic). Naltrexone is available on the Ontario Drug Benefit (ODB) formulary with LU code 532. Acamprosate should be offered to patients with advanced liver disease, intolerance or contraindications to naltrexone, or who are taking opioids. Acamprosate should be prescribed as 666 mg (two 333 mg tablets) three times daily for 14 days; patients can start on a lower dose of one tablet three times daily to minimize diarrhea. For patients with creatinine clearance between 30 and 50 ml/min, prescribe 333 mg (one tablet) three times daily Acamprosate is available on the ODB formulary with LU code 531.

As an alternative or adjunct to naltrexone or acamprosate, numerous studies have shown gabapentin to be effective in treating alcohol use disorder (54), particularly in combination with a first-line agent, although the evidence is less robust than for naltrexone and acamprosate. Gabapentin has been associated with delay in return to heavy drinking, reduced cravings, and improved mood and sleep. Gabapentin also provides benefit for mild alcohol withdrawal symptoms but is not supported in preventing withdrawal seizures and is not indicated for moderate or severe withdrawal. Gabapentin is less expensive than naltrexone and acamprosate and thus may be a good option for patients who do not have drug insurance coverage. Gabapentin can be written as 300 mg three times daily for two weeks; higher doses are likely more effective in supporting abstinence and can be titrated upward after discharge. Lower doses (100 mg three times daily) should be used in patients who are elderly, on other sedating medications, or with renal dysfunction.

H. QUALITY IMPROVEMENT

H1. We recommend the CIWA-Ar as the withdrawal scale with the strongest evidence-base and most widespread use. Other brief monitoring scales can be used in its place. The choice of scale should include nursing input.

The Clinical Institute Withdrawal Assessment for Alcohol, revised (CIWA-Ar) is the original validated withdrawal scale (55), and it has by far the greatest evidence for reliability and validity (56). It is the standard scale used in research studies and in most alcohol treatment centres. However, the CIWA-Ar can be unreliable because six of the ten items are based on subjective symptoms, such as anxiety, headache, and nausea. False negatives can occur if patients underreport their symptoms (15, 57), or if there are language barriers, cognitive deficits, dementia, or impaired consciousness (57, 58).

An alternative to the CIWA-Ar is the Brief Alcohol Withdrawal Scale (BAWS), which is shorter and quicker to administer and thus may be more practical in the ED setting. Patients in moderate to severe alcohol withdrawal require frequent benzodiazepine dosing, and busy ED nurses find it extremely difficult to devote five minutes every hour doing the CIWA-Ar on one patient (15), leading to delays and possible undertreatment. The BAWS consists of five items: sweating, tremor, hallucinations, orientation, and agitation. Each item is graded from 0 to 3; a score of 3 or above indicates the need for treatment. The BAWS was evaluated in a study involving 688 patients admitted to an academic American hospital (59); it was found to have a sensitivity of 85% and a specificity of 66% relative to the CIWA cut-off score. There have been no studies examining BAWS performance in an ED setting.

The choice of withdrawal scale should be made by a committee composed of ED clinicians with adequate representation from ED nurses.

H2. Staff should receive training in the withdrawal scale used by the ED.

Training has been shown to markedly enhance the accuracy and clinical value of the CIWA-Ar scale. Ensuring that all staff receive training in the withdrawal scale used by the ED can improve its accuracy and possibly reduce the time it takes to administer.

H3. Patients with repeat visits for alcohol-related presentations require higher levels of intervention.

There is an increasing risk of one-year mortality with repeated visits to the ED for alcohol withdrawal (7, 8). Clinicians may interpret a patient's repeat alcohol-related ED visits as failure or as drug-seeking behaviour, leading them to provide inadequate treatment. However, not meeting an ED patient's substance-related needs increases the likelihood of return visits, increasing ED burden and overall healthcare costs (9). Undertreatment of withdrawal is one example of this cycle, where a person may return to drinking to alleviate withdrawal symptoms, leading to return ED visits.

Each care episode is an opportunity for positive change. A BNI will help the clinician to explore the patient's reason for the visit, discuss their current goals, and help direct their future actions. Patients that are seen more than once a year for an alcohol-related presentation should have their increased health risks explained to them if necessary. External causes like accidents and suicide are leading causes of mortality in this group (8), and mental health assessments, with suicide screening, should be completed at each visit. Follow-up with a RAAM clinic should be encouraged, as RAAM clinic attendance has been shown to reduce 30-day ED visits (60), and anti-craving medications should be offered at each visit. Repeat visits should also trigger development of a patient-specific care plan including the patient's treatment goals and steps for ongoing care management. Care plans should be developed in consultation with the patient, can be initiated by any team member, and should be shared with all hospital and community care partners.

H4. All EDs should implement policies and practices that are based on the principles of harm reduction, including reducing stigma around alcohol-related presentations.

Patients that return to the ED with a mental health or substance-related concern often do so reluctantly, due to previous experiences of stigma and not having their needs met (61). To improve the patient experience, department-based policies and practices focused on harm and stigma reduction should be introduced. The goal of harm reduction is to mitigate the negative consequences of behaviours (such as substance use) without requiring the cessation of these behaviours (e.g., avoid combining alcohol with other sedating substances such as benzodiazepines, have only one drink per hour, drink in a safe environment, etc.). Harm reduction–based practices reduce the experience of stigma through a lack of judgment and coercion, and they centre the individual in the provision of care. **The principles of harm reduction** should be used to educate ED staff, change the environment, and set a standard for appropriate patient care. There is growing evidence for the benefits of having people with lived experience, such as peer support workers, being directly involved in ED patient care from greeting to discharge and guiding cultural change (62-64).

H5. The ED should have pathways to other local substance use services.

EDs should work to establish relationships with specific local community partners (e.g., withdrawal management, outpatient addiction and support services such as RAAM clinics, etc.) in order to facilitate referral pathways and provide appropriate information and support to patients. Having this information readily available helps ease any clinician stress or uncertainty with a substance-related visit and ensures the patient has access to appropriate support options. A dedicated ED substance-use champion can help build these connections and ensure information is disseminated to staff effectively.

H6. All ED clinicians should undergo training specific to alcohol-related presentations.

Unfortunately, substance use treatment is still largely overlooked by many educational institutions, and EDs should not assume that clinicians have prior training or knowledge in best practices for alcohol-related presentations. All staff should undergo training exploring the top ten alcohol-related presentations, how to identify and (if appropriate) assess alcohol withdrawal, how to conduct a BNI, and what local resources are available for referral. This training should include an emphasis on **stigma-reducing language and practices**.

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