Primary care management of alcohol use disorder and at-risk drinking

Part 1: screening and assessment

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Abstract

Objective To provide primary care physicians with evidence-based information and advice on the screening and assessment of at-risk drinking and alcohol use disorder (AUD). A companion article outlines the management of at-risk drinking and AUD.

Sources of information We conducted a nonsystematic literature review, using search terms on primary care, AUD, alcohol dependence, alcohol abuse, alcohol misuse, unhealthy drinking, and primary care screening, identification, and assessment.

Main message Family physicians should screen all patients at least yearly for unhealthy drinking with a validated screening test. Screen patients who present with medical or psychosocial problems that might be related to alcohol use. Determine if patients who have positive screening results are at-risk drinkers or have AUD. If patients have AUD, categorize it as mild, moderate, or severe using the *Diagnostic and Statistical Manual of Mental Disorders,* 5th edition, criteria. Share this diagnosis with the patient and offer assistance. Do a further assessment for patients with AUD. Screen for other substance use, concurrent disorders, and trauma. Determine whether there is a need to report to child protection services or the Ministry of Transportation. Determine the need for medical management of alcohol withdrawal. Conduct a brief physical examination and order laboratory tests to assess complete blood count and liver transaminase levels, including γ-glutamyl transpeptidase.

Conclusion Primary care is well suited to screening and assessment of alcohol misuse.

EDITOR'S KEY POINTS

- Alcohol is a considerable cause of morbidity and mortality in Canada. Patients with at-risk drinking or alcohol use disorder (AUD) are in frequent contact with the primary health care system, providing opportunities for screening, identification, and assessment.
- Several brief and practical screening instruments have been shown to be valid and feasible in primary care settings. Factors that affect outcomes for patients with at-risk drinking or AUD should be assessed.
- A companion article in this issue explores management of at-risk drinking and AUD in primary care.

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An *at-risk drinker* is someone who consumes more than the amounts recommended in the Canadian low-risk drinking guidelines (LRDGs)[1] but who does not meet clinical criteria for alcohol use disorder (AUD). Alcohol use disorder is a psychiatric illness defined in the *Diagnostic and Statistical Manual of Mental Disorders,* 5th edition (DSM-V), as alcohol use causing clinically significant impairment or distress. It is characterized by impaired control over drinking, ongoing drinking despite knowledge of consequences, and neglect of responsibilities. The DSM-V diagnostic manual classifies AUD as mild, moderate, or severe. Physicians might be more familiar with the diagnostic categories from the previous DSM edition: *alcohol abuse* and *alcohol dependence*. Alcohol abuse corresponds to milder AUD and alcohol dependence to more severe AUD.

The Canadian LRDGs advise that long-term harms of drinking can be minimized if adult women drink no more than 2 standard drinks per day or 10 per week, and if adult men drink no more than 3 drinks per day or 15 per week. The acute harms of alcohol can be minimized by drinking no more than 3 drinks per occasion for women or 4 drinks per occasion for men. Reduced drinking or abstinence is advised for individuals at higher risk of harm (eg, patients taking sedating medications, pregnant women, youth).

Alcohol misuse is common in Canadian society; approximately 14% of those aged 15 and older exceed the LRDG for chronic risk

and 10% exceed the guideline for acute risk.[2] As well, about 2.6% of the population meets the criteria for alcohol dependence, equivalent to moderate to severe AUD.[3]

Alcohol misuse is a leading preventable cause of death and disability in Canada.[4] Individuals who misuse alcohol (and their families) suffer from physical, mental, and social harms including motor vehicle collisions, intimate-partner violence, injuries, addiction, many cancers, liver disease, cardiac disease, mental illness, and fetal alcohol spectrum disorder.[5] The costs to Canadian society are also substantial: one study estimated the total costs of alcohol misuse in 2002 to be $14.6 billion, with $3.3 billion in direct health costs.[6]

Patients with AUD have high rates of other disorders and psychosocial problems including other substance use disorders, mental health problems, intimate-partner violence, unstable housing, poverty, and chronic diseases. They also have high rates of posttraumatic stress disorder as a result of adverse childhood events such as abuse, neglect, and family disruption.[7]

Case description: initial visit

H.M., a 43-year-old woman, comes to see you for a health maintenance checkup. As part of the checkup you ask her the validated single-item screening test[8] for unhealthy alcohol use: "How many times in the past year have you had 4 or more drinks on one occasion?"

She answers, "I don't know. Pretty often. Maybe once a week?"

You inquire more about her alcohol use. She typically drinks most days a week and has about 3 drinks per sitting. However, on weekends she often drinks 5 or more drinks a night. She usually drinks beer but occasionally hard liquor. You are concerned about the amount she is drinking and share this with her. You briefly review the Canadian LRDG[1] with her and give her a handout.[9] You mention that cutting back or quitting can be difficult but there are ways you, as a physician, can help.

You ask her to book back for a further assessment. She agrees.

Sources of information

We conducted a nonsystematic literature review, using search terms on primary care, AUD, alcohol dependence, alcohol abuse, alcohol misuse, unhealthy drinking, and primary care screening, identification, and assessment.

Main message

Screen all patients, at least yearly, for unhealthy drinking with a simple validated single-item screening test. Screen patients who present with medical or psychosocial problems that might be related to alcohol use. Primary care physicians should use a validated screening test to screen for unhealthy drinking. They should consider using the validated single-item screening test recommended by the National Institute on Alcohol Abuse and Alcoholism: How many times in the past year have you had 4 or more drinks for women or 5 or more drinks for men on one occasion?[8,10,11] If the answer is once or more, the screening result is positive. This single-item screening test has a sensitivity of 82% and a specificity of 79% for detecting unhealthy drinking.[8] It has a higher sensitivity (87%) for detecting AUD but a lower specificity (67%). It is a very simple screening test and will enable physicians to detect most cases of at-risk drinking and AUD in their patients.

Another commonly used screening test is the Alcohol Use Disorders Identification Test (AUDIT). The longer 10-question AUDIT-10 (**www.integration.samhsa.gov/AUDIT_screener_for_alcohol.pdf**) has a sensitivity and a specificity of 92% and 94%, respectively, for the detection of AUD. The shorter 3-question AUDIT-C (**www.integration.samhsa.gov/images/res/tool_auditc.pdf**) has a sensitivity of 86% and a specificity of 72%. These are excellent screening tests; however, they do take more time to complete. The CAGE questionnaire will identify most patients with AUD but will miss many with at-risk drinking.[12]

Physicians should also screen all patients who present with health problems that might be related to alcohol use (**Table 1**). If clinical suspicion of AUD is high, physicians should consider screening with the AUDIT-10 instead of the single-item screening test for increased sensitivity and specificity. However, physicians should not rely on case identification alone. Studies show that unless providers employ universal screening with a validated test, many patients with at-risk drinking and milder AUD are missed and others are falsely labeled as having a disorder.[13-15]

Determine if patients with positive screening test results have at-risk drinking or AUD. Physicians should ask specific questions about the duration of problematic alcohol use, the number of drinks, and the frequency of drinking. They should ask about cravings and attempts to cut back or quit. They should determine if alcohol has had an effect on the social, physical, or mental health of the patient. Physicians should inquire about withdrawal and tolerance. Patients often mistake withdrawal for anxiety. They might also be reluctant to acknowledge withdrawal because of its strong association with "alcoholism." Therefore, the physician should avoid the term *withdrawal*, but can ask instead: "What time of day is your first drink? How are you feeling before the first drink? Do you find that your hands shake a bit when you reach for a coffee cup or other object? Is the shaking relieved by the first drink?" Physicians can determine tolerance by asking how many drinks it takes to feel "high" or to have an effect on mood.[16]

At-risk drinkers are typically not drinking much above the LRDG. Their alcohol use has minimal harmful effects on their lives. Those with mild AUD are often drinking more heavily but usually not daily. They typically drink fewer than 40 drinks per week and do not have serious

Table 1. Alcohol-related problems commonly seen in primary care

SYSTEM	PRESENTING COMPLAINT	CLUE THAT PROBLEM MIGHT BE ALCOHOL RELATED
Musculoskeletal	Trauma	• Recurrent • Due to violence or assault (as perpetrator or victim) • Not related to sports activities • Not consistent with mechanism of injury • Occurs during or after a social event
GI	Gastritis and esophagitis	• Resolves with abstinence or reduced drinking • Not triggered by usual risk factors such as fatty meal, NSAIDs
Hepatic	Fatty liver Elevated GGT or AST Signs of liver dysfunction	• Not explained by other conditions (eg, obesity, diabetes, viral hepatitis, medication use)
Cardiovascular	Hypertension	• Relatively resistant to antihypertensive medications • Improvement in blood pressure within weeks of abstinence or reduced drinking
Neurologic	Gait instability	• Often improves within several months of abstinence
Neurologic	Tremor	• Onset 8-12 h and peak 2-3 d after last drink • Intention and postural (but not resting) • Resolves immediately with resumption of drinking • Often accompanied by other alcohol withdrawal symptoms such as sweating and anxiety
Neurologic	Peripheral neuropathy	• Affects vibration and position sense • Occurs distally and bilaterally
Reproductive health	STIs, unplanned pregnancy	• Recurrent STIs and unplanned pregnancies • Repeated requests for emergency contraception advice
Sleep	Insomnia Sleep apnea	• Alcohol-induced insomnia: no trouble falling asleep but sleep disturbed by vivid dreams in the middle of the night or early morning • Resolves within 1-2 mo of abstinence or reduced drinking • Alcohol-induced sleep apnea: central or exacerbation of obstructive sleep apnea
Social	Problems with relationships at home and work	• Fails to meet work or family obligations because of drinking or recovering from drinking • Is argumentative, emotionally labile, or sleepy after 4 or more drinks
Psychiatric	Anxiety, depression	• Rapid improvement in anxiety or mood with first 1-3 drinks (although mood often worsens with 4 or more drinks) • Worse during periods of drinking, improves within 2-4 wk of reduced drinking or abstinence • Relatively unresponsive to medical or counseling interventions to improve anxiety or mood

AST—aspartate aminotransferase, GGT—γ-glutamyl transpeptidase, GI—gastrointestinal, NSAID—nonsteroidal anti-inflammatory drug, STI—sexually transmitted infection.

withdrawal symptoms. Alcohol has some harmful effects on their lives. Those with moderate AUD are usually drinking daily and might have some withdrawal symptoms. They might be drinking daily or drinking intermittently but heavily (binge drinking). Those with severe AUD are typically drinking daily and consuming more than 40 drinks per week. They often have severe withdrawal symptoms and substantial life consequences.

Physicians should refer to the DSM-V criteria to make a diagnosis of mild, moderate, or severe AUD (**Box 1**).

Physicians should, clearly but sensitively, share the diagnosis with their patients. They should acknowledge that reducing or quitting can be very difficult. It is very important that physicians mention that they can provide effective treatments to encourage patients to follow up (**Box 2**). The approach is similar to that of any newly diagnosed, serious medical condition.

Do a further assessment for patients with AUD

Alcohol withdrawal: All patients with more severe AUD should be asked about past and current withdrawal symptoms that are relieved by drinking. Unless withdrawal symptoms are very mild, alcohol withdrawal should not be managed with a prescription for at-home treatment of alcohol withdrawal; this is unsafe.

Patients with a history of severe withdrawal or alcohol withdrawal seizures should be admitted for medical management of withdrawal to a hospital or a medical withdrawal unit (or, in an urgent situation, treated in the emergency department). Patients with substantial

Box 1. ***Diagnostic and Statistical Manual of Mental Disorders,*** **5th edition, criteria for AUD:** *A score of 2 to 3 represents mild AUD, 4 to 5 represents moderate AUD, and 6 or more represents severe AUD.*

Each positive response scores 1 point:

- Alcohol is taken in larger amounts or for a longer period than intended
- There is a persistent desire or unsuccessful efforts to cut down or control alcohol use
- A great deal of time is spent in activities necessary to obtain alcohol, use alcohol, or control alcohol use
- There are cravings or a strong desire to use alcohol
- There is recurrent alcohol use resulting in a failure to fulfil important role obligations at work, school, or home
- There is continued use despite persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of alcohol
- Important social, occupational, or recreational activities are given up or reduced because of alcohol use
- There is recurrent alcohol use in situations where it is physically hazardous
- Alcohol use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is caused or exacerbated by alcohol
- Tolerance: There is either a need for markedly increased amounts of alcohol to achieve intoxication or desired effect or there is a markedly diminished effect with continued use of the same amount of alcohol
- Withdrawal: There is either characteristic withdrawal syndrome for alcohol or alcohol is taken to relieve or avoid withdrawal symptoms

AUD—alcohol use disorder.

Box 2. Sharing the diagnosis of AUD

The physician should, clearly but sensitively, share the diagnosis of AUD with the patient:

- I am concerned about your alcohol use. It is above levels recommended by the low-risk drinking guidelines and appears to be causing you harm (Describe specific harms if possible)
- Based on my assessment, you have alcohol use disorder
- Alcohol use disorder has many different causes. One of the main causes is trauma (such as overwhelming or terrible things in childhood or adulthood like abuse, neglect, or sexual assault). Genetics and mental health problems can also play a large role, as can life stressors such as a relationship breakup or job loss
- I know that it can be difficult to cut back or stop alcohol use
- We have some treatments that can help you (medications, counseling), and I can help connect you to treatment programs, counseling, or support groups
- Often a few months after quitting or reducing drinking, people feel much happier, have more energy, and sleep better
- I am hoping you will come back and talk to me some more. How do you feel about that?

AUD—alcohol use disorder.

medical or psychiatric comorbidities, who lack social supports, or who are pregnant should also be admitted for management of withdrawal.[17]

Patients without these risk factors might be able to have elective treatment of withdrawal in the physician's office.[18] Patients need to be motivated, reliable, and committed to abstinence following withdrawal treatment. They should also have a treatment plan in place. Office detoxification is within the scope of practice for primary care practitioners. Physicians who do not have experience with office detoxification can consult an addiction specialist for assistance with management. A detailed description of office-based management of alcohol withdrawal is available from **CFPlus**.*

Patients who are able to go at least 3 to 4 days without drinking and only have mild withdrawal symptoms likely do not need medical management for withdrawal. However, as withdrawal can be unpredictable, consider having patients check in with you the day after their quit date either in person or on the telephone. Also, physicians should advise all patients to go to the emergency department if they develop more serious symptoms. For reliable patients, it is reasonable to give a few doses of diazepam to use at home under the supervision of a partner or staff at a nonmedical detoxification centre.

Concurrent substance use and mental health problems: Patients with AUD frequently misuse other substances. Physicians should inquire about each substance of abuse and determine if the patient has at-risk use or a substance use disorder. Patients with AUD also have high rates of mood and anxiety disorders.[17] Physicians should determine if the mood and anxiety symptoms are part of an underlying mood disorder or secondary to the AUD. With an underlying disorder, the anxiety or depression symptoms usually predate the AUD and remain substantial even during periods of abstinence. There is also a strong association between AUD and other mental health problems including schizophrenia, personality disorders, bipolar disorders, posttraumatic stress disorder, and addictions.[19] Primary care physicians might need assistance in making these diagnoses.

Trauma: Primary care physicians should understand and acknowledge the strong causal link between interpersonal childhood trauma (eg, abuse, neglect, family dysfunction) and substance use.[7] Patients with AUD

*A detailed description of office-based management of alcohol withdrawal is available at **www.cfp.ca**. Go to the full text of the article online and click on **CFPlus** in the menu at the top right-hand side of the page.

also have high rates of adulthood interpersonal trauma. Physicians should ensure AUD patients' environments are physically and emotionally safe.[20] They should demonstrate transparency and trustworthiness and provide clear boundaries. Physicians should screen all patients with AUD for trauma with a sensitive, gradual, staged approach (**Box 3**) and offer to connect patients to trauma-specific services. They should make clear to their patients that they have choice and control over disclosure and over their treatment in general. Physicians should not inquire about details of the trauma, as studies have shown this is unhelpful.[20]

Child protection services: Physicians should ask all patients if they care for children. Contact child protection services to report (or for advice) if there is a suspicion of child abuse or neglect or if a child is likely to suffer abuse or neglect (eg, the patient has been intoxicated while caring for a child).

Drinking and driving: Physicians should ask all patients with AUD or at-risk drinking about drinking and driving. Physicians should be aware that long-term alcohol use can have cognitive effects and impair driving ability as well. Physicians are required to report patients whose ability to operate a motor vehicle might be impaired by alcohol use (**Box 4**). The physician should explain to the patient the legal obligation to report, emphasizing that the reporting requirements apply to all medical conditions, not just alcohol misuse. The physician should also inform the patient about the requirements for licence reinstatement. These vary among provinces. Most require the individual to attend a treatment program and provide evidence of abstinence or reduced drinking for 6 months to 1 year, confirmed through self-report and measurement of liver transaminase levels.

Physical examination and laboratory tests: Primary care physicians should conduct a focused physical examination looking for signs of liver dysfunction. They should order a complete blood count and measure liver transaminase levels (aspartate aminotransferase, alanine aminotransferase, and γ-glutamyl transpeptidase) for all patients with AUD. If a patient's liver transaminase levels or mean corpuscular volume are elevated, physicians should repeat these tests every 2 to 3 months to monitor response to treatment. They should also share the results with their patient. Feedback on γ-glutamyl transpeptidase and mean corpuscular volume results helps motivate patients who have reduced drinking by providing objective confirmation that the liver is healing. Physicians should order more extensive investigations for patients with evidence of liver dysfunction or changes in liver transaminase levels not explained by alcohol use.

Box 3. Sample statements acknowledging childhood trauma as an important risk factor for substance use disorders

The following might be helpful for acknowledging the importance of childhood trauma as a risk factor:

- Many patients with an addiction have a history of difficult things happening in their childhood or adult life such as sexual abuse or violence
- Patients with trauma often use alcohol to cope with distressing symptoms such as anxiety and flashbacks. Getting treatment for trauma helps individuals cope with these symptoms without having to use alcohol
- If there is something that has happened to you, and you would like to talk about it or get treatment, I can help. However, I realize these are difficult things to talk about and we don't need to discuss this today

Box 4. Suggested criteria for reporting to the Ministry of Transportation

The following criteria might be useful for deciding whether to report a patient to the Ministry of Transportation:

- The patient admits to drinking and driving
- A family member informs you that the patient is drinking and driving
- The patient drinks steadily throughout the day and regularly drives
- The patient drove to your clinic while intoxicated
- The patient has experienced an alcohol withdrawal seizure and continues to drink
- The patient has other substance-related complications that impair driving ability (eg, alcohol-related cerebellar ataxia)

Case description: follow-up visit for a complete assessment

At H.M.'s follow-up visit you ask her about consequences of her drinking. She had several blackouts in the past year from heavy drinking; on one occasion she fell and injured her wrist. She does not start drinking until the evening and denies ever drinking and driving. She is married but does not have children. She has frequent arguments with her partner over her drinking. She denies experiencing withdrawal symptoms and has gone days without drinking. However, she does notice that she sleeps poorly and feels more anxious when she does not drink.

You tell her you are concerned about her drinking and the short- and long-term effects it has on her health. You discuss the link between heavy drinking and anxiety and poor sleep. She says she is concerned too. She has tried to cut back many times but has not been successful. She has not been able to make any changes since the last appointment.

You complete the rest of the checkup including a focused physical examination. She does not have signs of liver dysfunction. You give her a requisition for

bloodwork that includes measurement of liver transaminase levels and a complete blood count. Again, you mention that cutting back or quitting can be difficult but there are ways that you, as a physician, can help.

You ask her to book back in 1 week for a 30-minute appointment to review the results and discuss her drinking. You record your diagnosis as moderate to severe AUD.

Conclusion

Primary care is an important setting for the screening, identification, and assessment of at-risk drinking and AUD. Family physicians should screen all patients at least yearly for unhealthy drinking with a validated screening test. They should also screen patients who present with medical or psychiatric problems commonly associated with alcohol use. For patients who have positive screening results, physicians should determine if they are at-risk drinkers or if they have AUD. Physicians should assess for concurrent mental health problems, trauma, other substance use disorders, and socioeconomic stressors in those with AUD. Physicians should also determine if those with more severe AUDs need medical management of alcohol withdrawal. Physicians should report to child protection services and the Ministry of Transportation when indicated. A companion article (**page 515**) outlines the management of at-risk drinking and AUD in primary care.[21]

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Contributors
Both authors contributed to the literature search and interpretation, and to preparing the manuscript for submission.

Competing interests
Dr Kahan has received honoraria from Reckitt-Benckiser for continuing medical education events on Suboxone (buprenorphine-naloxone).

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