Primary care management of substance use

Mentoring, Education, and Clinical Tools for Addiction:
Partners in Health Integration

Authors (alphabetical)

Sarah Clarke, PhD
Katie Dunham, BSc Hons BScN MN NP-PHC
Meldon Kahan, MD CCFP FRCPC
Jennifer Wyman, MD FCFP DABAM MPH

Past contributors

Mark Ben-Aron, MD FRCPC DABPN
Peter Butt, MD CCFP FCFP
Delmar Donald, MD CCSAM
Michael Franklyn, MD CCFP (AM)
Melissa Holowaty, PhD MD CCFP (AM)
Leslie Molnar, MSW RSW
Jessika Schaman, MD CCFP (AM)
Anita Srivastava, MD CCFP MSc

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Introduction

Mentoring, Education, and Clinical Tools for Addiction: Partners in Health Integration (META:PHI) is a provincial initiative to improve the quality of care provided to people who use substances. The purpose of this initiative is to set up and implement care pathways for people with substance use disorders, foster mentoring relationships between addiction clinicians and other health care providers, and create and disseminate tools and educational materials for addiction care. To learn more and access resources, please visit www.metaphi.ca.

Primary care providers have a uniquely important role in the lives of patients, and primary care is an ideal setting for the long-term management of substance use disorders. Controlled trials, cohort studies, and a systematic review have demonstrated that patients with a substance-related medical condition had reductions in hospitalizations, emergency room visits, health care costs, and possibly mortality if their primary care practitioner had addiction medicine training or if addiction treatment was integrated with primary care (1-4). The goal of this handbook is to offer guidance to primary care providers in screening, treating, and supporting patients with respect to their substance use.

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- Adopting Research to Improve Care (Health Quality Ontario & Council of Academic Hospitals of Ontario)
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- Women's College Hospital

Working with patients

All substance use carries risk. In order to make informed choices about substance use, patients must understand the various effects that substance use can have on their health. Primary care providers can empower patients to make these choices by providing them with relevant information, presenting options, and offering help. A strong therapeutic alliance is integral to this process. This section briefly outlines some therapeutic techniques that have been shown to be useful for talking to patients about their substance use.

Talking about substance use

From a patient's first visit, primary care providers should **normalize** discussions about substance use. Clinicians should ask patients about their substance use in non-judgmental ways at baseline, at routine visits, and when the patient shows signs or reports symptoms that could be related to substance use (e.g., poor sleep, increased anxiety). Ask patients whether they use specific substances ("Do you drink alcohol? Do you smoke cigarettes? Do you use cannabis?"), and elicit more information about quantity, frequency, and possible consequences of use.[1]

Brief intervention techniques

For patients with problematic substance use, the role of the care provider is to inform patients of their options and express willingness to help in order to enhance the patient's motivation. The approach taken for each individual patient depends on the patient's current stage of change. The Substance Abuse and Mental Health Services Administration (SAMHSA) recommends using **brief intervention techniques** to engage the patient (5):

1. Give feedback from assessment.
2. Inform patient about safe use and offer help.
3. Assess patient's readiness to change.
4. Negotiate strategies for change.
5. Arrange follow-up.

Feedback from assessment

Give the patient **clear, non-judgmental feedback** from your assessment. Inform the patient of the health consequences of use, citing the patient's own health status whenever possible:

> *You mentioned that you have two or three glasses of wine most evenings. It's likely that this is contributing to your poor sleep and fatigue, and I noticed that your GGT levels are a bit elevated.*
>
> *The fact that your anxiety has been worse lately might be related to your cannabis use; there's a belief that pot helps anxiety, but it can actually make some people feel more anxious.*
>
> *Smoking increases your risk of lung cancer, heart disease, and many other chronic illnesses. Would you like to talk more about your smoking and how we can decrease these risks?*

Offer help

Successful patient engagement relies on the patient seeing the care provider as an ally. Follow up the information from your assessment with a clear offer of help:

> *Staying within the Canadian Low-Risk Drinking Guidelines reduces the risk of short- and long-term harms of alcohol use. If you're interested in doing that, I can help you come up with some strategies.*
>
> *It's likely that your anxiety will improve if you reduce or stop your cannabis use. If that sounds like something you'd like to try, we can work together to come up with a plan.*
>
> *Quitting smoking is the best thing you could do for your health. Can I tell you about some of the supports that are helpful for people who are trying to quit?*

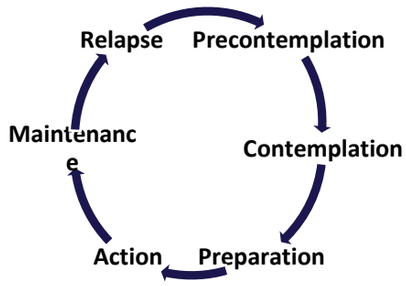
Stages of change

The approach you take with a particular patient depends on the way they view their substance use and how ready they are for change. Patients will all be at different stages, and some will not be ready to make any changes; the role of the clinician is to identify the patient's current stage of change in order to determine the best way to maximize engagement. The transtheoretical model of behaviour change recognizes six stages of change (6):

[1] Screening tools for particular substances are presented in subsequent sections.

Precontemplation	Patient is not ready to change their substance use, and may be unaware that their use is problematic.
Contemplation	Patient is becoming aware of the ways in which their use is problematic and can identify some advantages to change. Contemplative patients may be considering making a change within six months.
Preparation	Patient has committed to change and is planning and goal-setting.
Action	Patient is actively engaged in change and experiencing the consequences of changing their pattern of substance use, both positive (e.g., improved health and finances) and negative (e.g., withdrawal symptoms, loss of social circle).
Maintenance	Patient is working to sustain the new habits they have developed and learning to deal with challenges and setbacks that the change has prompted.
Relapse	Patient is returning to old behaviours. Relapse can be a normal part of the change process; it can be reframed as an opportunity for patients to identify and address triggers and prepare for another attempt at change.

These stages can be conceptualized as a cycle through which patients move in sequence:



The patient's reaction to your assessment and offer of help will be an indication of their current stage of change. A dismissal ("Don't worry, I've got it under control") or deflection ("I'll think about it") indicates that the patient is likely precontemplative or contemplative. If they are more receptive, they may be at the preparation or action stage.

Strategies for change

Once the patient's stage of change is identified, your approach can be tailored to their current state. The Center for Substance Abuse Treatment recommends using different strategies to enhance motivation depending on the patient's stage of change (7):

Precontemplation: Opening the door
Work to establish **trusting relationship**.
Open the door to conversations about substance use: Present facts, express concern, ask how patient sees their substance use, offer help without pressure.

Contemplation: Weighing the options
Acknowledge **difficulty** of change and normalize **ambivalence**.
Explore patient's reasons **for** and **against** making a change.
Explore patient's **values** and **strengths**.
Emphasize patient's free choice.
Reiterate **help** and **support**.

Preparation: Negotiating the details
Work together to create a **concrete plan**: What is your goal? What are your strategies/tools? What is your timeline? Who/what are your supports? What are possible barriers and setbacks? How will you address them?
If the patient is willing, offer feedback and advice.

Action: Providing support
Offer frequent contact for check-in and support.
Acknowledge **successes**, even if minor or temporary. Ask what enabled or contributed to these successes.
Address **setbacks**.
Support change through small steps.

Maintenance: Sustaining change
Acknowledge **successes** and support healthy lifestyle changes.
Work with the patient to create long-term goals.
Maintain **contact**.

Relapse: Re-engaging with treatment
Encourage the patient to **re-enter** the change cycle.
Explore **reasons** for relapse and look for **alternative strategies**.
Maintain **contact**.

Motivational interviewing

Motivational interviewing (MI) techniques can be very helpful in supporting behaviour change, particularly for patients in the contemplative stage. MI is an approach in which clinicians help patients to discover their own motivations and capacity for change by expressing curiosity, respect, and empathy (8). The following core elements underpin the MI approach:

Underlying spirit
Partnership: Collaboration between clinician (expert in facilitating change) and individual (expert in their own experience).
Evocation: Drawing out of patient's inner resources to support change.
Acceptance: Expression of respect, empathy, non-judgment, and understanding.
Compassion: Sincere and active care for patient's well-being.

Core skills
Open questions: Facilitate exploration of patient's beliefs, experiences, and perspectives.
Affirmation: Build patient's confidence in their ability to change by acknowledging their strengths and efforts.
Reflection: Demonstrate active listening by repeating back what patient has said and expressing what patient may have left unsaid.
Summarizing: Ensure shared understanding between clinician and patient.

Fundamental processes
Engaging: Building a productive working relationship.
Focusing: Structuring discussion around a shared purpose.
Evoking: Exploring the patient's reasons for and against change.
Planning: Exploring how to make change.

There are many online resources for developing MI skills, including the following:

- Motivational Interviewing for Promoting Behavioural Change (RxFiles): https://www.cfp.ca/highwire/filestream/33594/field_highwire_adjunct_files/0/584_Chart_Motivational_Interviewing.pdf
- Motivational Interviewing Core Skills, Resources, and Training (Centre for Addiction and Mental Health): https://www.porticonetwork.ca/treatments/treatment-methods/motivational-interviewing

Arranging follow-up

Once a treatment plan is negotiated, it is important to have regular follow-up for monitoring and maintaining patient engagement, ideally integrated with other primary health care needs. Determine what methods you will use to monitor the patient's progress (e.g., regular blood tests, urine drug screens, self-report) and arrange a follow-up appointment within a month or two. If the patient chooses not to engage in treatment, let them know that you will be willing to help if and when they are ready to make a change.

Discussing a substance use disorder diagnosis

Being diagnosed with a substance use disorder is a difficult experience. It is likely that many patients will have internalized the belief that they should be able to moderate their use and that their inability to do so is a sign that they are weak; previous unsuccessful attempts to quit may be a source of shame. Stigma around substance use is pervasive, including in the health care system. It is important to present the diagnosis in a clear, non-judgmental way[2] and to emphasize that there are strategies that can help people feel better and meet their goals. We recommend addressing the following points (9):

[2] Clinicians should avoid using terms like *addict* or *alcoholic* when talking to patients; these terms are highly stigmatizing and can reinforce patients' shame.

Addiction as a medical condition
*A substance use disorder is a **chronic illness**, not a weakness or a failing. There are **effective treatments**, and **people can and do recover**.*

Neurological factors
*Substance use can have a long-term effect on the brain because of the way our nervous systems respond to **pleasure**. All mammals have a reward pathway that drives survival activities, such as eating and sex. These activities cause the brain to release **dopamine**, which makes us feel good. Substances like alcohol and opioids also make us feel good by triggering the release of dopamine. If our brains become used to the excess amount of dopamine stimulated by substance use, we no longer feel good from normal activities, and can experience urges to keep using to sustain dopamine levels.*

Biopsychosocial factors
*There are multiple factors that can contribute to developing a substance use disorder. Two of these factors are **traumatic experiences** and a **family history** of addiction. Traumatic things that happen to us, such as abuse or neglect, have been shown to have long-term effects on relationships, mood, and substance use. People who have had experiences like this may start drinking or using drugs as a way of **coping** with these traumas. People with a strong family history of addiction are also more likely to develop problems with substance use. We don't know how much is because they react to substances differently than others or because they have grown up in an environment where substance use was present. **Chronic pain** is also a risk factor for developing substance use disorder.*

Influence of concurrent mental illness
*Mental health conditions like PTSD, anxiety, or depression **often contribute to the onset and continuation of substance use**; using substances relieves the symptoms of these conditions temporarily but makes things worse in the long run. Treating one disorder is likely to help the other (i.e., addressing your substance use disorder will likely improve your mental health, and addressing your mental health will likely improve your substance use), but it is **best to treat them both at the same time**.*

Spectrum of care

Because substance use disorder is a complex illness with multiple contributing factors, it is important to take a multidisciplinary approach to treatment. **Pharmacological treatment** and **psychosocial care** can work together in patients' recovery; taking medication can provide relief from the physical and mental distress of withdrawal symptoms and cravings, assisting the patient to manage their substance use and engage more fully in psychosocial treatment. While many issues related to substance use can be managed in a primary care setting, for patients requiring intensive medical management, consider a consultation with or referral to an **addiction specialist**.

Pharmacological treatment

There are safe and effective medications that reduce withdrawal symptoms and cravings for alcohol, opioids, and nicotine; these agents should be offered to all patients for whom they are indicated. Patients may be reluctant to try pharmacotherapy due to stigma; they may have internalized negative messages such as "I should be able to stop on my own" or "Medications like methadone just substitute one addiction for another". Emphasize to patients that medication is a **tool** that can help them effect change in their lives; when they have relief from withdrawal symptoms and cravings, they will be better able to focus on activities that support recovery, including participation in psychosocial care. Provide patients with information about their medication options[3] and let them know that pharmacotherapy has been shown to be safe and effective.

Psychosocial care

Psychosocial care, including addressing mental health, trauma, relationships, triggers, and strategies for managing stress and cravings, is an important part of substance use disorder treatment; however, accessing it can be very difficult for patients. Help your patients navigate the options based on their resources, treatment needs, and individual considerations; let them know that different approaches work for different people, and that if something is not working for them, they can always try something else.

A **withdrawal management centre** is often a good first step for patients in an immediate crisis who lack social supports; these programs provide a safe place to stay in the early days of treatment, can offer support for acute withdrawal, and often facilitate transitions to longer-term programs. Some withdrawal managements are medically supported by nurse practitioners and/or physicians, allowing residents to go through withdrawal under medical supervision and start pharmacotherapy onsite. **Residential treatment programs** typically last for weeks or months, giving clients the opportunity to focus entirely on their recovery with the support of trained staff. Some (but not all) programs include medical professionals who can initiate pharmacotherapy. Clients spend most of their time participating in program activities, including individual and group work. Some programs are fully or partially covered by provincial funding, while others require private payment. These programs

[3] Some patient pamphlets about pharmacotherapy can be downloaded from http://metaphi.ca/patient-resources.html.

sometimes have long waiting lists and may be difficult to attend for people with family or work responsibilities. **Outpatient treatment programs** usually have shorter waiting lists and are less costly. They are also less intensive, with a range of options from daily to weekly programming, meaning that clients are able to work and participate in their regular family life while attending. **Support groups**, such as twelve-step programs (Alcoholics Anonymous, Narcotics Anonymous etc.), SMART Recovery, Seeking Safety, or Women for Sobriety, are usually free and easily accessible. Most of these programs now have online options in addition to in-person meetings, making them much more accessible. These groups can provide support for people at all stages of recovery. Some people benefit from the structure of regular attendance at meetings and from having a sponsor.

Historically, some psychosocial programs did not support the use of pharmacotherapy (e.g., methadone, buprenorphine, naltrexone). We recommend that, in the absence of a compelling reason, patients should be advised against discontinuing beneficial pharmacotherapy in order to attend a particular treatment program.

Specialist care

As with any health condition, a substance use disorder may be beyond the ability or capacity of a primary care provider to treat independently. In these cases, a consultation with or referral to an addiction specialist may be helpful. Specialists may be able to assist with medication selection, initiation, and titration (particularly more complicated medications, such as methadone or slow-release oral morphine); provide clinical support for acute withdrawal management; recommend local psychosocial treatment programs; and offer ongoing mentorship.

Here are some resources for finding local specialists:

- The META:PHI website (http://metaphi.ca/raam-clinics/) provides a list of rapid access addiction medicine (RAAM) clinics across Ontario. RAAM clinics are staffed by clinicians with expertise in addiction care.
- The Ontario Telehealth Network (https://www-origin.otn.ca/providers/primary-care/) allows primary care providers to connect with specialists online for consults and referrals.
- The Health Line (https://www.thehealthline.ca/) is a directory of health care services organized by Local Health Integration Network.

Trauma-informed care

Trauma occurs when an individual is in a situation that overwhelms their ability to cope. This can cause the amygdala, the part of the brain that perceives threats of danger, to become dysregulated and perceive threats everywhere. Many patients with a substance use disorder have a trauma history; there is a strong correlation between adverse childhood events (ACEs) and development of risk factors for disease, including substance use disorders, with the risk increasing with the number of ACEs experienced (10). While it is beyond the scope of primary care to provide focused trauma therapy, clinicians should make sure that they are providing trauma-informed care.

Roots and effects of trauma

Trauma can have a profound effect on people's lives: it can cause loss of stability, interfere with neurodevelopment, and lead to mental health problems (e.g., PTSD, depression, anxiety). Intergenerational trauma, where children are affected by trauma experienced by their parents, can also lead to these consequences. The effects of intergenerational trauma can be particularly widespread when they are experienced at a collective level: for example, in the case of Holocaust survivors (11, 12) or survivors of the Canadian residential school system (13), the trauma is felt by entire communities. Substance use is a common coping mechanism that allows temporary relief from the effects of trauma.

Principles of trauma-informed care

Trauma-informed care is built on a set of core principles (14):

Trauma awareness	Trauma is **pervasive** and should be **assumed**. Explain the link between trauma and substance use (or other relevant coping mechanisms). Provide referrals to local trauma treatment.
Safety and trustworthiness	Ensure physical safety: Well-lit office, safe building, comfortable environment. Ensure emotional safety: Avoid re-traumatizing the patient. Be honest about your knowledge, skills, and limitations as a care provider. Enforce consistent **boundaries**.
Choice, collaboration, and connection	Identify the patient's needs and explore implications for care. Provide **transparency** and **shared power** in decision making. Use language that acknowledges the patient's **choice and control**.
Strengths-based and skill-building	Acknowledge **resilience**. Elicit the patient's strengths, interests, and resources. Help the patient develop **coping skills** (e.g., grounding techniques).

Trauma-informed practices

Practicing trauma-informed care means recognizing the role that trauma may be playing in a patient's current health condition. The primary care clinician should define trauma, explain the link between trauma and substance use, and give the patient an opportunity to reflect on whether past trauma could be affecting them currently. We recommend an approach like the following:

> *Trauma can occur when we see or experience things that are very violent, frightening, or overwhelming. There is lots of research to show that experiences like these can have an impact on our physical and mental health.*
>
> *Memories of traumatic experiences can cause a lot of overwhelming emotions, and a lot of people use drugs or alcohol as a way to cope with those emotions.*
>
> *You don't have to tell me any details, but I'm wondering if you've ever experienced any difficult life events, either in childhood or as an adult, that you think might be related to some of the things you are struggling with now.*

If a patient chooses to disclose details about their trauma, ensure a supportive environment, listen attentively, and validate the patient's experience with the following actions:

> **Acknowledge disclosure**
> *I appreciate you sharing this with me. I know it's not easy to do.*
>
> **Acknowledge impact**
> *That sounds like a really difficult experience. It must have been really hard for you.*
>
> **Express compassion**
> *I'm so sorry that happened to you. It wasn't your fault, and nobody deserves to be treated that way.*
>
> **Normalize reactions**
> *I can understand how substance use (or other coping mechanisms) keeps you from having to think about difficult memories. It makes a lot of sense that you would try to protect yourself that way.*

Talking about a past trauma can be a profoundly emotionally difficult experience; if a patient becomes distressed while discussing a traumatic experience, end the discussion and help the patient to reconnect to the present moment through grounding exercises (e.g., box breathing, focusing on sights/sounds/smells in the room, etc.). Signs that a patient is becoming distressed include rocking, sweating, shaking, a loss of focus, or sudden changes in affect.

If a patient is suffering ongoing impact from a past trauma, they should be referred to specialized treatment. There are several treatment modalities that have some evidence of benefit for victims of trauma, including trauma-focused cognitive behavioural therapy (15, 16), eye movement desensitization and reprocessing (15, 16), and Seeking Safety (17). Publicly funded trauma therapy programs often have long waiting lists; provide the patient with ongoing support while they are awaiting trauma treatment. Consider prescribing medication to help with PTSD symptoms if indicated; the first-line pharmacological treatments are SSRIs/SNRIs, specifically fluoxetine, paroxetine, sertraline, and venlafaxine (18). Additionally, prazosin has been found to reduce nightmares and flashbacks for patients with PTSD (19). Benzodiazepines are generally not recommended for people with PTSD, especially when PTSD and substance use disorders co-occur.

Alcohol

Alcohol has a unique position in Canadian culture; in addition to being legal, its use is expected and encouraged in many public social settings. Alcohol is the most widely used substance in Canada, with approximately 78% of Canadians aged 15 or older consuming it at least once in 2017 (20). It is also associated with the highest cost; in 2017, the estimated overall cost (including health care, lost productivity, criminal justice, and other direct costs) of alcohol use in Canada was $16.6 billion, up from $14.6 billion in 2014 (21), representing 36.2% of the total cost of all substance use (22). In spite of alcohol's prevalence, the public is generally unfamiliar with guidelines regarding its use (23-25) and thus may be unaware of the risks associated with their level of consumption. Primary care providers should be sure to speak to all patients about their alcohol use, provide education on guidelines for low-risk consumption, and offer treatment to patients with alcohol use disorder.

Harms associated with alcohol use

The effects of alcohol use are multi-systemic and can be direct or indirect. When a patient presents with any of the following conditions, primary care providers should look for signs that the condition may be related to alcohol consumption:

Presenting complaint	**Clue that problem may be alcohol-related**
Trauma	Recurrent Not related to sports activities Occurs during/after social event
Gastritis and esophagitis	Not associated with fatty meals, NSAIDs Morning nausea Resolves with abstinence or reduced drinking
Hepatic conditions (e.g., fatty liver, signs of liver dysfunction)	Not explained by other conditions (e.g., medication, diabetes, viral hepatitis)
Hypertension	At least three standard drinks consumed daily Relatively resistant to anti-hypertensive medication Blood pressure improves with abstinence or reduced drinking
Sleep disturbances (e.g., sleep apnea, insomnia)	Vivid dreams or waking in the middle of the night and/or early morning Not feeling rested on waking Resolves with abstinence or reduced drinking
Anxiety and depression	Rapid improvement in anxiety or mood with first one to three drinks, often followed by decline with subsequent drinks Worse during periods of drinking, better with reduced drinking or abstinence Relatively unresponsive to medical or counselling interventions
Social problems	Failure to meet work and/or family obligations because of drinking or recovering from drinking Argumentative, emotionally labile after drinking

Screening and assessment

All patients should be asked about their alcohol use at baseline and at routine visits. If the patient drinks, take an alcohol history and perform further assessments if indicated.

Consider developing an approach to all patients that begins with a **screening tool** (e.g., CAGE, single screening question, or the AUDIT). If a patient screens negative, review the Canadian Low-Risk Drinking Guidelines (26) and encourage them to continue drinking in lower risk ways. If a patient screens positive, proceed to taking a fulsome **alcohol history** including quantities and patterns of drinking and potential consequences of their drinking.

Screening

Validated screening questionnaires include the CAGE (27-29), the National Institute on Alcohol Abuse and Alcoholism single screening question (30, 31), and the Alcohol Use Disorders Identification Test (AUDIT) (32-34). All of these tests have comparable sensitivity and specificity for detecting alcohol use disorder. The CAGE and the single screening question have the advantage of being shorter and simpler to administer, while the longer AUDIT questionnaire is more able to detect a range of problematic drinking (35).

Tool A: CAGE questionnaire

*Have you ever felt you ought to **CUT DOWN** on your drinking?* *Have people **ANNOYED** you by criticizing your drinking?* *Have you ever felt bad or **GUILTY** about your drinking?* *Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover (**EYE-OPENER**)?*

A positive screen is one out of four. The CAGE questionnaire is retrospective; it may indicate past (rather than current) alcohol use disorder.

Tool B: Single screening question

For people assigned male at birth (AMAB):[4] *How many times in the past year have you had five or more drinks in one day?* *For people assigned female at birth (AFAB): How many times in the past year have you had four or more drinks in one day?*

A positive screen is once or more.

Tool C: AUDIT

	0	**1**	**2**	**3**	**4**
How often do you have a drink containing alcohol?	Never	Monthly or less	2–4 times a month	2–3 times a week	4+ times a week
How many drinks containing alcohol do you have on a typical day when you are drinking?	1–2	3–4	5–6	7–9	10+
How often do you have six or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Almost daily
How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Almost daily
How often during the last year have you failed to do what was expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Almost daily
How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Almost daily
How often during the last year have you had a feeling of guilt/remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Almost daily
How often during the last year have you been unable to remember what happened the night before because you had been drinking?	Never	Less than monthly	Monthly	Weekly	Almost daily
Have you or someone else been injured because of your drinking?	No (0)		Yes, but not in the past year (2)		Within the past year (4)
Has a relative, friend, doctor, or other health worker been concerned about your drinking or suggested that you cut down?	No (0)		Yes, but not in the past year (2)		Within the past year (4)

A score of 8–14 indicates at-risk drinking; a score of 15+ indicates alcohol use disorder (32).

Alcohol history

If a patient has a positive screen, take an alcohol history; elicit specific quantities that the patient drinks on a daily and weekly basis, and convert their responses to standard drinks (12 oz. of beer, 5 oz. of wine, 1.5 oz. of spirits)[5]. Ask about maximum recent consumption as well; many patients do not mention periodic heavy consumption when asked about "average" or "typical" drinking. If the patient's responses are vague, prompt them to give more specific answers by offering a range; this normalizes the higher end, making it easier for patients to admit their actual level of consumption. We suggest using a script like the following:

[4] We use the terms *AMAB* and *AFAB* because these limits are based on assigned birth sex rather than gender. As AFAB people generally tend to be smaller, have lower body water content, and have less effective alcohol metabolism, they usually experience alcohol impairment at a lower consumption level than AMAB people. The National Institute on Alcohol Abuse and Alcoholism does not mention people who are intersex, for whom there is insufficient research on the impact of alcohol. We recommend that care providers use the limits for AFAB people when screening patients who are intersex, as these limits are lower and thus safer.

[5] We recommend showing patients a visual reference to clarify drink sizes; the Canadian Centre on Substance Use and Addiction Low-Risk Drinking Guidelines brochure (https://www.ccsa.ca/canadas-low-risk-alcohol-drinking-guidelines-brochure) and poster (https://www.ccsa.ca/canadas-low-risk-alcohol-drinking-guidelines-poster) are both freely available for download and printing.

How many days a week do you usually drink? Is it closer to one or two days a week, or to five or six days a week?

How much do you drink on a typical day?

How frequently do you buy a bottle of wine/a six-pack of beer/a bottle of vodka? If you're not sure, what would be your best guess?

I understand that you usually have just one or two drinks in a day, but what's the most you've had on a single day in the past couple of months? Would it be five or six drinks? Ten? Closer to fifteen?

Criteria for alcohol use disorder

Based on the screening results and the patient's history, determine whether the patient has alcohol use disorder (AUD). The DSM-V defines AUD as a "problematic pattern of alcohol use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period" (36):[6]

1. Alcohol taken in larger amounts or over a longer period of time than intended.
2. Repeated unsuccessful efforts to reduce use.
3. Significant amount of time spent obtaining or using alcohol, or recovering from its effects.
4. Strong cravings or urges to drink.
5. Recurrent use resulting in a failure to fulfill responsibilities.
6. Continued use despite alcohol-related social or interpersonal problems.
7. Reduction of major activities because of alcohol (e.g., missing work, spending less time with children or spouse).
8. Repeatedly drinking in situations or activities where intoxication is dangerous.
9. Continued use despite knowledge of alcohol-related physical or psychological problems.
10. Tolerance (need to drink more to achieve the same effect, or diminished effects with continued use of the same amount of alcohol).
11. Withdrawal (e.g., tremors, sweating and/or anxiety as effects of alcohol wear off, relieved by drinking; withdrawal seizures).

2–3 criteria: **Mild AUD**
4–5 criteria: **Moderate AUD**
6+ criteria: **Severe AUD**

Managing alcohol use

Low-risk drinking

The Canadian Centre on Substance Use and Addiction released these low-risk drinking guidelines in 2010 (26):

Tool D: Canada's Low-Risk Drinking Guidelines

Note: These guidelines are not intended to encourage people who choose to abstain for cultural, spiritual or other reasons to drink, nor are they intended to encourage people to commence drinking to achieve health benefits. People of low bodyweight or who are not accustomed to alcohol are advised to consume below these maximum limits.

Guideline 1: When to avoid alcohol

Do not drink in these situations:

- When operating any kind of vehicle, tools, or machinery
- Using medications or other drugs that interact with alcohol
- Engaging in sports or other potentially dangerous physical activities
- Working
- Making important decisions
- If pregnant or planning to be pregnant
- Before breastfeeding/chestfeeding
- While responsible for the care or supervision of others
- If suffering from serious physical illness, mental illness, or alcohol use disorder

[6] Please refer to the DSM-V pp.490–491.

Guideline 2: Reducing long-term health risks

If you drink, reduce *long-term* health risks by staying within these average levels:

Assigned female at birth (AFAB)[7]**:** 0–2 standard drinks*/day, no more than 10 drinks/week
Assigned male at birth (AMAB): 0–3 standard drinks*/day, no more than 15 drinks/week

Always have some non-drinking days per week to minimize tolerance and habit formation. Do not increase drinking to the upper limits as health benefits are greatest at up to one drink per day. Do not exceed the daily limits specified in Guideline 3.

Guideline 3: Reducing short-term risks

If you drink, reduce *short-term* risks by choosing safe situations and restricting your alcohol intake:

- Risk of injury increases with each additional drink in many situations. For both health and safety reasons, it is important not to drink more than three standard drinks* in one day for AFAB people and four standard drinks* in one day for AMAB people.
- Drinking at these upper levels should only happen *occasionally* and always be consistent with the *weekly* limits specified in Guideline 2. It is especially important on these occasions to drink with meals and not on an empty stomach; to have no more than two standard drinks* in any three-hour period; to alternate with caffeine-free, non-alcoholic drinks; and to avoid risky situations and activities. Individuals with reduced tolerance, whether due to low bodyweight, being under the age of 25 or over 65 years old, are advised to never exceed Guideline 2 upper levels.

Guideline 4: When pregnant or planning to be pregnant

The safest option during pregnancy or when planning to become pregnant is to not drink alcohol at all. Alcohol in the bloodstream can harm the developing fetus. While the risk from light consumption during pregnancy appears very low, there is no threshold of alcohol use in pregnancy that has been definitively proven to be safe.

Guideline 5: Alcohol and young people

Uptake of drinking by youth should be delayed at least until the late teens and be consistent with local legal drinking age laws. Once a decision to start drinking is made, drinking should occur in a safe environment, under parental guidance, and at low levels (i.e., one or two standard drinks* once or twice per week). From legal drinking age to 24 years, it is recommended AFAB people never exceed two drinks per day and AMAB people never exceed three drinks in one day.

*A **standard drink** is defined as a 341 ml (12 oz.) bottle of 5% strength beer, cider, or cooler; a 142 ml (5 oz.) glass of 12% strength wine; or a 43 ml (1.5 oz.) shot of 40% strength spirits.

Advice for patients

Patients who exceed the low-risk drinking guidelines but do not meet the criteria for AUD are most likely at-risk drinkers: while they are not experiencing major consequences from alcohol use, their drinking puts them at increased risk of short- and long-term harms. All at-risk drinkers should be given advice about reducing the harms associated with alcohol use:

- Do not drive while drinking or after drinking.
- Do not get in a vehicle operated by someone who has been drinking.
- Avoid large groups of intoxicated people; leave parties/events if they become chaotic.
- Attend social events with someone who will support your sobriety.
- Do not get into an argument with someone who has been drinking.

Brief interventions (e.g., motivational interviewing, cognitive behavioural therapy techniques) have been shown to be effective at helping at-risk drinkers reduce their alcohol intake (37). Spithoff and Kahan (38) suggest providing the following tips to patients willing to change their alcohol use:

- Set a reduced drinking goal: Decide on a set number of drinking days per week and specify the amount (e.g., no more than three drinks) and circumstances (e.g., no drinking alone) of each drinking day.
- Keep a record of your drinking.
- Arrive and leave drinking events at a pre-determined time (e.g., only stay at a pub or party for three hours). If this is unlikely to work, avoid drinking events altogether.
- Eat before and while drinking.
- Wait until later in the evening or night to start drinking.
- Switch to a less preferred alcoholic drink.

[7] As above, we use the terms *AFAB* and *AMAB* because these limits are based on assigned birth sex rather than gender. The Canadian Centre on Substance Use and Addiction guidelines do not mention people who are intersex, for whom there is insufficient research on the impact of alcohol. We recommend that care providers advise their intersex patients to stay within the limits for AFAB people, which are lower and thus safer.

- Pace your drinking (e.g., no more than one drink per 45–60 minutes).
- Sip drinks slowly.
- Alternate alcoholic drinks with non-alcoholic drinks.
- Dilute drinks with mixer.
- Wait for 20 minutes between deciding to drink and actually having a drink.

At follow-up appointments, check in with the patient about their progress and ask about any changes in mood, sleep, and well-being. Laboratory measures (e.g., gamma-glutamyl transferase, mean corpuscular volume) may also be taken and compared to baseline levels; this type of observable change may be motivating for patients. If the patient is not able to meet their drinking goals, consider re-assessing and escalating treatment if indicated.

Managing alcohol use disorder

AUD treatment can be made up of several components, including management of withdrawal, anti-craving medication, and psychosocial interventions (e.g., counselling, inpatient rehabilitation). When you present your diagnosis, tell the patient about all the available options and work with them to determine what would be best for them. Have regular follow-up with the patient and monitor their progress through self-report and laboratory testing.

Managing alcohol withdrawal

Managing alcohol withdrawal is a critical first step in the path to recovery. Patients who have been drinking at least five to six drinks daily for at least a week are at risk of going through acute withdrawal when they stop drinking. Withdrawal usually starts six to twelve hours after the last drink, peaks within 24 to 72 hours, and resolves after three to ten days. The severity of a patient's withdrawal depends on how much they have been drinking and for how long, and the risk of severe withdrawal is greater for patients who have experienced severe withdrawal previously. Withdrawal management should be offered to patients who drink at least five drinks daily, report daily withdrawal symptoms that are quickly relieved with alcohol, and have an AUD treatment plan in place.[8] The best setting for managing withdrawal depends on available clinical resources as well as the patient's history, health status, social stability, and treatment plan:

- **Hospital management** of withdrawal is indicated for patients with a recent history of severe or complicated withdrawal (i.e., seizures, arrhythmias, hallucinations, delirium tremens), with complicating health conditions (e.g., cirrhosis, unstable comorbidities, elderly, opioid or benzodiazepine use), or who are showing signs of severe withdrawal (marked tremor, sweating and vomiting, seizures) in the office.
- **Office management** of withdrawal (see protocol below) is safe and feasible if the patient has no history of severe withdrawal, no complicating health conditions, and if your clinical setting allows patients to be observed hourly for at least three to four hours. This works best if you have an available exam room and allied health professionals to assist with monitoring the patient throughout the day.
- **Home management** of withdrawal (see protocol below) should be considered for patients with no history of severe withdrawal or complicating health conditions when office management is not possible (e.g., insufficient clinical resources for hourly observation, patient unable to attend clinic while in withdrawal, etc.). This is particularly suitable for patients who plan to use gabapentin as an anti-craving medication.
- A **withdrawal management centre** should be considered for patients who do not have social supports or safe housing, or who would benefit from monitoring and support during the first few days of withdrawal. If the facility does not have medical support, you will need to provide prescriptions and instructions for medication to be dispensed on a schedule (see instructions for home management with benzodiazepines below).

Office management of withdrawal

Before the appointment, give the patient a prescription for 20 tablets of diazepam 10 mg or lorazepam 2 mg and tell them to bring the tablets to the appointment with them. Advise patients to time their last drink before their appointment based on how long it usually takes for them to start experiencing withdrawal symptoms, which could be anywhere from four to twelve hours; this should ensure that the patient is not intoxicated when they arrive and that they are beginning to experience withdrawal symptoms but are not yet in major distress.

Assess the patient's withdrawal every hour using the Clinical Institute Withdrawal Assessment for Alcohol, Revised (CIWA-Ar) scale (39) or the Sweating, Hallucination, Orientation, Tremor (SHOT) scale (40):[9]

[8] Note that simply prescribing benzodiazepines for withdrawal is of little value in the absence of a complete treatment plan. Patients are at increased risk of CNS depression if they drink while taking benzodiazepines, and even if the benzodiazepine helps them stop drinking for a day or two, it is unlikely that this alone will lead to long-term recovery.

[9] The SHOT scale is an alternative to the CIWA-Ar. The SHOT has not yet been validated for serial use outside of the ED setting, but has the advantage of being faster to administer than the CIWA-Ar.

Tool E: CIWA-Ar scale

TREMOR: 0–7 Arms extended and fingers spread apart 0 No tremor 1 Not visible, but can be felt fingertip to fingertip 2 3 4 Moderate, with patient's arms extended 5 6 7 Severe, even with arms not extended	**NAUSEA AND VOMITING: 0–7** "Do you feel sick to your stomach? Have you vomited?" 0 No nausea and no vomiting 1 2 3 4 Intermittent nausea with dry heaves 5 6 7 Constant nausea, frequent dry heaves/vomiting
PAROXYSMAL SWEATS: 0–7 0 No sweat visible 1 Barely perceptible sweating, palms moist 2 3 4 Beads of sweat obvious on forehead 5 6 7 Drenching sweats	**ORIENTATION/CLOUDING OF SENSORIUM: 0–4** "What day is this? Where are you? Who am I?" 0 Oriented and can do serial additions 1 Cannot do serial additions or is uncertain about date 2 Disoriented for date by maximum two days 3 Disoriented for date by more than two days 4 Disoriented for place and/or person
AGITATION: 0–7 0 Normal activity 1 Somewhat more than normal activity 2 3 4 Moderately fidgety and restless 5 6 7 Paces back and forth during most of the interview, or constantly thrashes about	**ANXIETY: 0–7** "Do you feel nervous?" 0 No anxiety, at ease 1 Mildly anxious 2 3 4 Moderately anxious, or guarded so anxiety is inferred 5 6 7 Equivalent to acute panic states as seen in severe delirium or acute schizophrenic reactions
TACTILE DISTURBANCES: 0–7 "Have you any itching, pins and needles sensations, any burning or numbness, or do you feel bugs crawling on your skin?" 0 None 1 Very mild itching, pins and needles, burning or numbness 2 Mild itching, pins and needles, burning or numbness 3 Moderate itching, pins and needles, burning or numbness 4 Moderately severe hallucinations 5 Severe hallucinations 6 Extremely severe hallucinations 7 Continuous hallucinations	**VISUAL DISTURBANCES: 0–7** "Does the light appear to be too bright? Is its colour different? Does it hurt your eyes? Are you seeing anything that is disturbing to you? Are you seeing things you know are not there?" 0 Not present 1 Very mild sensitivity 2 Mild sensitivity 3 Moderate sensitivity 4 Moderately severe sensitivity 5 Severe hallucinations 6 Extremely severe hallucinations 7 Continuous hallucinations
AUDITORY DISTURBANCES: 0–7 "Are you more aware of sounds around you? Are they harsh? Do they frighten you? Are you hearing anything that is disturbing to you? Are you hearing things you know are not there?" 0 Not present 1 Very mild harshness or ability to frighten 2 Mild harshness or ability to frighten 3 Moderate harshness or ability to frighten 4 Moderately severe hallucinations 5 Severe hallucinations 6 Extremely severe hallucinations 7 Continuous hallucinations	**HEADACHE, FULLNESS IN HEAD: 0–7** "Does your head feel different? Does it feel like there is a band around your head?" Do not rate for dizziness or light-headedness. 0 Not present 1 Very mild 2 Mild 3 Moderate 4 Moderately severe 5 Severe 6 Very severe 7 Extremely severe

Tool F: SHOT scale

SWEATING	
0 No visible sweating 1 Palms moderately moist	2 Visible beads of sweat on forehead
HALLUCINATIONS: "Are you feeling, seeing, or hearing anything that is disturbing to you? Are you seeing or hearing things you know are not there?"	
0 No hallucinations 1 Tactile hallucinations only	2 Visual and/or auditory hallucinations
ORIENTATION: "What is the date, month, and year? Where are you? Who am I?"	
0 Oriented 1 Disoriented to date by one month or more	2 Disoriented to place or person
TREMOR: Extend arms and reach for an object. Walk across the hall.	
0 No tremor 1 Minimally visible tremor 2 Mild tremor	3 Moderate tremor 4 Severe tremor

Protocol

- Diazepam 20 mg or lorazepam 4 mg CIWA-Ar ≥ 10 or SHOT ≥ 2[10]
- Repeat q1h; hold dose if patient is sedated
- Maximum dose 80 mg
- Discontinue treatment when CIWA-Ar < 8 or SHOT < 2 on two consecutive occasions and patient has minimal or no tremor
- Send to ED if patient is disoriented, agitated, or hallucinating; if they have repeated vomiting, profuse sweating, tachycardia, or rising blood pressure; or if CIWA-Ar ≥ 10 or SHOT ≥ 2 after three or four doses
- On discharge:
    - Give prescription if indicated
    - Review treatment plan
    - Book follow-up appointment within a few days, ensuring that prescription will last until appointment if applicable
    - If withdrawal symptoms have not entirely resolved or if patient has experienced protracted withdrawal in the past, give a three-day prescription for diazepam 10 mg or lorazepam 2 mg q6h on day 1, q8h on day 2, q12h on day 3 (not to be taken if patient resumes drinking)

Home management of withdrawal

The first choice of agent for home withdrawal is **gabapentin**, provided that the patient does not have a seizure history. Patients may also be offered home withdrawal with **benzodiazepines**, provided they are committed to abstinence during the withdrawal process and have someone (e.g., a partner/family member or friend) who is able to support them.

Home management with gabapentin

Although benzodiazepines are the first-line agent for management of alcohol withdrawal, gabapentin has preliminary evidence of effectiveness (41, 42). The advantages of gabapentin over benzodiazepines are that it has lower potential for non-medical use and is less dangerous when combined with alcohol, and it can be used as an anti-craving medication once acute withdrawal has resolved (see below). However, it has not been shown to be effective for withdrawal-related seizures, and thus is contraindicated for people with any seizure history.

For patients who plan to stop drinking immediately, give them a prescription for 20 gabapentin 300 mg capsules and thiamine 100 mg PO OD, and provide them with the following written and verbal instructions:

> *You should have your last drink the night before your quit date. On your quit date, once you're experiencing withdrawal symptoms like tremor, nausea, sweating, and headache, start taking one 300 mg capsule of gabapentin every four or five hours up to four times a day (maximum 1200 mg per day) for five days. Don't take it if you're feeling sedated or dizzy.*
>
> ***You need to go to the hospital immediately if your tremor and sweating gets worse despite gabapentin, or if you become agitated, start experiencing hallucinations, or can't stop vomiting or sweating.***

Plan for follow-up in person or by phone within three days to evaluate the patient's response and review the treatment plan. Once acute symptoms have resolved, gabapentin can be continued as an anti-craving medication at a maintenance dose of 300–600 mg TID (see below) or tapered to zero.

For patients who plan to reduce their drinking and work towards a quit date but not stop immediately, an alternative approach begins with gabapentin at 100 mg TID. The dose may be increased by 100 mg every two to three days, depending on the extent of withdrawal symptoms, to a maximum of 300 mg TID as long as the patient is not experiencing sedation. The use of gabapentin in this situation can help to reduce withdrawal symptoms and assist patients with their planned taper without the risks of combining benzodiazepines and alcohol. Once the patient stops drinking, the dose can be titrated to 600 mg TID.

Home management with benzodiazepines

The safety of home withdrawal with benzodiazepines depends on giving clear, explicit instructions for dispensing benzodiazepines; on ensuring that the patient understands that they cannot drink while taking the benzodiazepines; and on ensuring the patient and their support person knows the conditions under which medical attention is required. Give the patient a prescription for 25 diazepam 5 mg tablets or lorazepam 1 mg tablets, an appropriate anti-craving medication (naltrexone, acamprosate, or gabapentin; see below), and thiamine 100 mg PO OD, and provide them with the following written and verbal instructions:

[10] Diazepam is the first-line medication for treating alcohol withdrawal. Lorazepam should be used instead if the patient is at least 60 years old, is on opioids or other sedating medications, has low serum albumin, or has liver dysfunction.

You should have your last drink the night before your quit date. On your quit date, when you start to experience withdrawal symptoms, like tremors, nausea, sweating, and headache, your support person will start giving you tablets until you are no longer shaky according to the following schedule:

Day 1: *Two tablets every four hours, with the option of an additional two doses if necessary, for a maximum of twelve tablets (diazepam 60 mg or lorazepam 12 mg)*

Day 2: *Two tablets every eight hours*

Day 3: *Two tablets every twelve hours*

Day 4: *Two tablets once in the morning*

Day 5: *One tablet once in the morning*

It's very important that you not drink while you're taking the medication; the combination of alcohol and benzodiazepines is very dangerous. You shouldn't take the medication if you are very sleepy. ***If you become agitated, start experiencing hallucinations, or can't stop vomiting or sweating, you need to go to the hospital immediately.***

Plan for follow-up in person or by phone within three days to evaluate the patient's response and review the treatment plan.

Once benzodiazepine treatment of acute withdrawal has been completed, gabapentin 300–600 mg TID can be used to treat residual subacute withdrawal symptoms such as dysphoria, anxiety, insomnia, and craving (43) and/or as long-term therapy (see below). Gabapentin is preferred over benzodiazepines for residual symptoms; it has been shown to reduce alcohol consumption, is less reinforcing, and has less risk of dependence with long-term use than benzodiazepines.

Pharmacotherapy

Anti-alcohol medications should be discussed with all patients with AUD and offered whenever indicated. The two first-line medications for AUD, **naltrexone** and **acamprosate**, both have strong evidence of benefit (44-48); **gabapentin** (50, 51) and **disulfiram** (49, 50) are additional options. The choice of medication depends on the patient's goals, concurrent conditions and medications, social support, and other considerations.[11]

Naltrexone

Action	Opioid antagonist
Effect of use	Reduces euphoric/pleasurable effect of alcohol by blocking opioid receptor
Side effects	Nausea, headache, dizziness, insomnia, anxiety, sedation
Considerations	Compatible with both abstinence and reduced drinking Patient does not need to be abstinent before initiation Can cause reversible elevations in AST and ALT; order AST and ALT at baseline and at three weeks, and discontinue if levels rise more than three times baseline (results of baseline not required before initiating) Blocks analgesic effect of opioids Coverage, cost, and availability (see below) May be combined with gabapentin (51) Pregnancy category C: Limited research in humans
Contraindications	Taking opioids (will trigger severe withdrawal)
Dose	50 mg OD Titrate to 100–150 mg if 50 mg has minimal effect on consumption

[11] Naltrexone and acamprosate are classified as pregnancy risk category C, and use of gabapentin during the third trimester of pregnancy is associated with an increased risk of preterm labour; these risks should be weighed against the risk of ongoing alcohol use. Consider referring pregnant patients with AUD to an addiction specialist.

Acamprosate

Action	Glutamate antagonist
Effect of use	Relieves subacute withdrawal symptoms (e.g., insomnia, dysphoria)
Side effects	Diarrhea
Considerations	Appropriate for patients with a goal of abstinence, especially those who experience cravings on alcohol cessation Works best if started after three or four days of abstinence Safe in liver dysfunction Coverage, cost, and availability (see below) Pregnancy category C: Limited research in humans
Contraindications	Renal insufficiency (CrCl < 30 mL/min)
Dose	666 mg TID; 333 mg TID if CrCl = 30–50 mL/min or body weight < 60 kg

Gabapentin

Action	Not clear; thought to be effective through modulation of GABA
Effect of use	Reduces subacute withdrawal symptoms (dysphoria, craving, insomnia)
Side effects	Somnolence, dizziness May exacerbate depression and suicidal ideation (rare) Higher doses (1800+ mg) associated with pedal edema
Considerations	Also treats acute withdrawal Good option for patients with concurrent anxiety May be combined with naltrexone (51) Coverage, cost, and availability (see below)
Contraindications	Renal insufficiency Do not administer in third trimester of pregnancy; use with caution earlier in pregnancy Use with caution in elderly patients; with other sedating medications, especially higher-dose benzodiazepines or opioids; and in patients with severe depression/suicidal ideation Potential for non-medical use and diversion/dependence
Dose	Ranges from 100 mg TID to 600 mg TID Use lower dose in renal impairment (eGFR < 60)

Disulfiram

Action	Enzyme inhibitor
Effect of use	Acetaldehyde accumulates when alcohol is consumed, causing a toxic reaction (vomiting, flushed face, headache)
Side effects	Headache, anxiety, fatigue, garlic-like taste, acne, peripheral neuropathy (rare; seen after years of use) May cause depression
Considerations	Appropriate for patients with a goal of abstinence and a compelling reason to avoid drinking (i.e., relapse will have serious consequences) Daily dispensing by pharmacist or family member may be beneficial for some patients May trigger psychosis at very high doses (500 mg); recommended dose appears safe in schizophrenia Can cause toxic hepatitis; perform a baseline liver function test and repeat after two months, and discontinue if AST or ALT is three times above baseline level (obtain results of baseline before initial prescription) Coverage, cost, and availability (see below)
Contraindications	Cirrhosis Pregnancy Unstable cardiovascular disease
Dose	125 mg OD; increase to 250 mg if patient reports no reaction to alcohol To avoid reaction, wait at least 24–48 hours between last drink and first pill, and seven to ten days between last pill and first drink

Coverage, cost, and availability may be other factors in choosing a medication for a patient. The public formulary status of naltrexone and acamprosate varies in Canada; for current information, clinicians should check their provincial/territorial formularies or, for patients who are registered First Nations persons or recognized Inuit, the Non-Insured Health Benefits (NIHB) program. Disulfiram is only available in Canada as a compounded medication; it costs approximately $150 per year plus pharmacy compounding fees. Because AUD is not an approved indication for gabapentin, it is not covered by public plans; depending on dose, the yearly cost is approximately $130–$200.

Patients may be reluctant to start on an anti-alcohol medication, believing that they should be able to stop drinking on their own. Explain that alcohol cravings and subacute withdrawal symptoms come from deep within the brain and can be extremely powerful, and taking a medication that controls these feelings will allow them to focus on their recovery.

Managing co-occurring conditions

Patients who have been drinking heavily for a long time may have alcohol-related conditions that need to be addressed. Some of these conditions improve or resolve with abstinence, while others may require additional management.

Mood and anxiety disorders

AUD and psychiatric conditions like anxiety or depression frequently co-occur and tend to exacerbate each other, and the two conditions should be treated concurrently. If a patient's mood or anxiety disorder is alcohol induced, it is likely to resolve within a few weeks of abstinence or reduced drinking. However, if the psychiatric condition predates the AUD, if the patient is unable to reduce their drinking, or if psychiatric symptoms persist after four weeks of abstinence or reduced drinking, consider a trial of antidepressant medication. Sertraline has been shown to improve depression and anxiety symptoms (52), and a randomized controlled trial found that the combination of sertraline and naltrexone is superior to either agent alone at improving drinking outcomes and mood (53). Another option is to prescribe gabapentinoids (gabapentin, pregabalin), which relieve both alcohol cravings and anxiety (54); however, patients should be monitored for problematic use. We recommend against prescribing benzodiazepines as anxiolytics for patients with AUD; in addition to potentially causing dependency, they increase the risk of respiratory depression if the patient resumes drinking.

Alcohol-associated liver disease

All patients with AUD should be tested for liver injury. Early-stage alcohol-associated liver diseases are often asymptomatic and reversible with abstinence, but the prognosis is much worse as the disease progresses. Early detection is therefore crucial. The practice guideline produced by the American Association for the Study of Liver Diseases (55) recommends the following diagnostic and management measures for alcohol-associated liver disease:

Steatosis (fatty liver disease)	Patients often asymptomatic; can be diagnosed through palpation (enlarged liver), ultrasound, or MRI. Managed through abstinence.
Hepatitis	Broad range of presentations; symptoms may be absent or very severe. Signs include jaundice, vomiting, AST > 50, ratio of AST/ALT > 1.5, bilirubin > 3.0 mg/dL. Liver biopsy may be needed to confirm diagnosis if patient has confounding factors: possible ischemic hepatitis, metabolic liver disease, or drug-induced liver disease; uncertain alcohol use; or atypical laboratory results. Mild liver damage reversible with abstinence if diagnosed early. Corticosteroids may be indicated for patients with more severe hepatitis, although there are a number of contraindications. Tell patient that repeated hepatitis can lead to cirrhosis.
Cirrhosis	Signs include spider nevai, ascites, hepatomegaly, splenomegaly (portal hypertension), bruits, caput medusa, gynecomastia, gonadal atrophy, asterixis, peripheral edema. Liver biopsy may be needed to confirm diagnosis. Abstinence slows disease progression. Liver transplant is most effective treatment.[12] Treat complications: Nadolol for portal hypertension, lactulose for encephalopathy, low sodium/diuretics for ascites.

[12] Canadian liver transplant programs require patients to be abstinent for at least six months before being put on the transplant list.

Reporting to the Ministry of Transportation

Canadian provinces and territories have different rules for health care providers about mandatory and discretionary reporting of patients with AUD who drive to the Ministry of Transportation; requirements for your jurisdiction can be verified with your regulatory body.

Conversations with patients about driving and alcohol use should be used as an opportunity to engage in care. A patient who presents requesting assistance with managing their problematic alcohol use without overt evidence of at-risk drinking should be reminded that driving with alcohol in their system is risky, regardless of whether they feel intoxicated. Patients who are engaged in treatment and are not engaging in unsafe drinking do not need to be reported to the Ministry, but should be made aware that if their condition worsens or they disengage from care then a report will be made.

When you make a report to the Ministry of Transportation, focus your conversation with the patient on treatment; explain that they will feel and function better with treatment, and that you will work with them to get their license reinstated.

For patients with suspended licenses, monthly appointments are recommended. At each appointment, ask the patient about their alcohol consumption, medication compliance, and psychosocial treatment attendance (if applicable and appropriate, ask the patient's partner for corroboration). Laboratory measures can also provide corroborating evidence of alcohol use and be used as a progress measure during AUD treatment. Biomarkers that are consistent with heavy, sustained alcohol use include elevated levels of gamma-glutamyl transferase (GGT); increased aspartate aminotransferase (AST) and alanine aminotransferase (ALT), especially in a ratio of AST/ALT > 2; increased mean corpuscular volume (MCV); and elevated carbohydrate-deficient transferrin (CDT) (56, 57). Andresen-Streichert et al. (57) provide a summary of the specificity and sensitivity of these (and other) biomarkers, given here:

Parameter	**Sensitivity**	**Specificity**
GGT	37–95%	18–93%
AST	25–60%	47–68%
ALT	15–40%	50–57%
MCV	40–50%	80–90%
CDT	46–90%	70–100%
CDT, MCV, GGT combined	88%	95%

(Andresen-Streichert et al., 2018, p.310, from their Table 1)

Liver enzymes (GGT, ALT, AST), MCV, and urine tests for ethanol and ethyl glucuronide should be monitored. Regular follow-up with the patient will allow you to track their progress and provide updated reports regarding license reinstatement as appropriate.

Opioids

While opioids have long been an important tool in the treatment of acute and chronic pain, they have also caused serious harm to the Canadian population. The illicit opioid market has been flooded with fentanyl and its derivatives in recent years, which has had a devastating effect on the overdose rate. It is estimated that there were 16,364 opioid-related deaths in Canada between January 2016 and March 2020, with rates significantly increasing between January 2016 and June 2017; of the 1018 opioid-related deaths occurring between January and March 2020, 77% involved fentanyl or fentanyl analogues (58). Use of prescribed opioids is also associated with risk (59-63), and clinicians need to be vigilant in order to mitigate possible harms to their patients.

In addition to knowing how to appropriately prescribe opioids for acute and chronic pain,[13] primary care providers should also be equipped to manage opioid use disorder. In the past decade, national evidence-based guidelines have been developed to assist health care professionals in the identification and management of opioid use disorder (64-67). While medication-assisted treatment of opioid use disorder has historically been delivered in specialized clinics, primary care providers have an important role in helping patients with this illness. **Like all other chronic conditions, opioid use disorder requires treatment; discharging patients from your practice for having this illness is unethical and puts them at grave risk of harm.**

Effects of opioid use

Opioids are powerful analgesics indicated for episodes of moderate to severe acute pain that have not responded to other pharmacological and non-pharmacological agents. When opioids are indicated, the Health Quality Ontario standard on opioids for acute pain (68) recommends using the least potent opioid possible, restricting doses to a maximum of 50 mg morphine equivalents (MEQ) daily, and keeping prescriptions to a maximum of three days in most cases. Opioids are also approved for use in some chronic pain conditions, such as arthritis, although patients should be selected carefully. The Health Quality Ontario standard on opioids for chronic pain (69) recommends starting a trial of opioids only after non-opioid therapies have been tried, keeping doses below 50 mg MEQ daily in most cases with a maximum dose of 90 mg MEQ daily, and periodically offering to taper the dose.[14]

Both prescribed and recreational opioid use is associated with risk; the extent of this risk depends on many factors, including type of opioid, route of administration, dose, and length of use. Any opioid use may cause sedation, fatigue, and constipation. Injection use of opioids increases the risk of respiratory depression, as does concurrent use of alcohol, benzodiazepines, or other sedating substances; injection use also puts individuals at risk of infection. Because illicit opioids are sometimes contaminated with fentanyl analogues, the risk of overdose is significantly higher than it is with opioids obtained from a pharmacy. People who have developed tolerance to opioid effects may experience deeply distressing withdrawal symptoms towards the end of a dosing interval, such as myalgias, chills, sweating, nausea/vomiting, diarrhea, and extreme anxiety. Finally, people who use prescribed and/or recreational opioids are at risk of developing opioid use disorder (OUD); this risk is increased in people with chronic pain, trauma, and/or mental health disorders.

Screening and assessment

Ask all patients about their opioid use at baseline and at routine visits. Patients who disclose any opioid use, including prescription use for a diagnosed pain condition, should be assessed for opioid use disorder (OUD).

Assessing patients taking opioids for chronic pain

Chronic pain is a risk factor for developing OUD. All patients being prescribed opioids for chronic pain should be monitored closely. In addition to making sure that the patient is receiving adequate benefit from the prescription, it is important to ensure that they are not suffering opioid-related harms, including OUD. Some patients receive a pleasant psychoactive effect from their opioid medication in addition to analgesia, and tolerance to this psychoactive effect develops much more quickly than analgesic tolerance. In some cases, patients find this effect so reinforcing that they will seek a higher dose that will allow them to overcome the tolerance. Eventually, patients start to experience withdrawal symptoms at the end of the dosing interval, which will cause them to seek more opioids to prevent these symptoms. OUD is particularly challenging to diagnose in chronic pain patients, as they are likely to be **unaware** that their opioid use has become problematic; daily withdrawal symptoms are easily interpreted as worsening pain, and patients may not realize that the effect they are getting from their opioid is partly psychoactive rather than purely analgesic.

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[13] There are many resources on prescribing opioids for acute and chronic pain: the Opioid Wisely campaign (https://choosingwiselycanada.org/campaign/opioid-wisely), the machealth Opioids Clinical Primer (https://machealth.ca/programs/opioids_clinical_primer/p/chronic), and CPD courses run through your local Department of Medicine.

[14] Note that tapering a patient's opioids without their consent can have serious consequences, including marked exacerbation of pain, causing distress and loss of function; withdrawal symptoms that may cause suicidal ideation; a damaged clinician-patient relationship; or turning to illicit opioids, which could cause overdose (70-72). While patients who are on long-term high daily doses of opioids should be assessed regularly for opioid-related harms, there are very few cases in which a patient should be tapered non-consensually.

The META:PHI Clinical Best Practices in Addiction Medicine guide (67) recommends looking for the following risk factors and indicators when determining whether a patient being prescribed opioids for chronic pain has OUD:

Risk factors	Personal or family history of addiction Underlying psychiatric disorder (particularly an anxiety disorder) Social factors: Boredom, isolation, unemployment, etc.
Clinical features	High dose for underlying pain condition Rapid escalation of opioid dose High drug salience in spite of minimal pain relief (i.e., "The drug barely takes the edge off the pain, but I would die without it.")
Behaviours	Escalation of dose to overcome tolerance to psychoactive effects Running out of medication early Altering route of delivery (crushing, injecting) Accessing opioids from other sources Concurrent use of other substances (e.g., cocaine)

Patients taking prescribed opioids for chronic pain who display these features and behaviours are more likely to have developed OUD. Patients who do not display these features and behaviours should be closely monitored to ensure that the benefit that they are deriving from their opioid outweighs any adverse effects.

Taking an opioid history

If a patient discloses any opioid use, take an opioid history. Patients may be reluctant to disclose opioid use due to fear of consequences. It is important to remain neutral and non-judgmental when taking an opioid history. We suggest using a script like the following:

How frequently do you use opioids? Is it closer to monthly, weekly, or daily?

What types of opioids do you use? Oxycodone, hydromorphone, morphine, heroin, fentanyl?

How much do you take on a typical day? What's the most you've ever taken in a day in the past month?

How do you usually take opioids? Swallowing, snorting, smoking, injecting? Do you ever inject opioids?

Have you ever gotten an infection (such as an abscess) from injecting opioids?

Do you ever use opioids at the same time as other sedating substances, like alcohol or benzodiazepines?

Have you ever been prescribed buprenorphine or methadone?

Criteria for opioid use disorder

Based on the patient's history, determine whether the patient has opioid use disorder (OUD). The DSM-V defines an OUD as a "problematic pattern of opioid use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period" (36):[15, 16]

1. Opioids taken in larger amounts or over a longer period of time than intended.
2. Repeated unsuccessful efforts to reduce use.
3. Significant amount of time spent obtaining or using opioids, or recovering from their effects.
4. Strong cravings or urges to use opioids.
5. Recurrent opioid use resulting in a failure to fulfill responsibilities.
6. Continued use despite opioid-related social or interpersonal problems.
7. Reduction of major activities because of opioids (e.g., missing work, spending less time with children or spouse).
8. Repeatedly using opioids in situations or activities where intoxication is dangerous.
9. Continued use despite knowledge of opioid-related physical or psychological problems.
10. Tolerance (need to use more to achieve the same effect, or diminished effects with continued use of the same amount).
11. Withdrawal (e.g., myalgias, chills, sweating, nausea/vomiting, cramps, diarrhea, insomnia, anxiety, dysphoria).

2–3 criteria: **Mild OUD**
4–5 criteria: **Moderate OUD**
6+ criteria: **Severe OUD**

[15] Please refer to the DSM-V p.541.

[16] Criteria 10 and 11 are not considered to be met if the patient takes opioids only as prescribed.

Harm reduction advice

All patients who use opioids, whether they have OUD or not, should be educated on the harms associated with opioid use and given advice on how to mitigate these harms. Patients being prescribed opioids for chronic pain should be reminded to keep their medication secure, limit use of alcohol and other sedatives, and not to take extra doses or alter the route of delivery. Consider the following messaging for patients who use opioids not prescribed to them:

All opioid use is associated with risk. My advice would be to not use any opioids that have not been prescribed to you, as that's the best way to avoid opioid-related harms. However, if you do use opioids, please follow these tips to reduce your risk of infection, overdose, and death:

- *Never use opioids alone; go to a safe consumption site and/or use with a friend.*
- *Make sure you can recognize the signs of overdose: pinpoint pupils, falling asleep, slowed or stopped breathing, bluish skin around lips or under nails.*
- *Always carry naloxone.*
- *If a friend has overdosed:*
  - *Shake them and call their name.*
  - *Call 911.*
  - *Administer naloxone and start chest compressions.*
  - *If they are drowsy and nodding off but not unconscious, don't let them fall asleep; keep talking to them until they are awake and alert for at least an hour without slurred speech/nodding off. If they can't remain alert, call 911.*
- *If you're taking opioids after a period of abstinence of any length, take a much smaller dose than you used to.*
- *Only use drugs obtained directly from a pharmacy. If you obtain drugs from other sources, use drug-checking services to confirm that they are not contaminated:*
  - *Fentanyl, which is much more potent than heroin, is often added to other drugs.*
  - *Fentanyl may be contaminated with etizolam (a benzodiazepine), which increases the risk of respiratory depression.*
- *If you can't get your drugs checked, start with a test dose.*
- *Don't inject opioids.*
- *Don't mix opioids with other substances, especially alcohol or benzodiazepines.*

I'll continue to ask you about your opioid use. If at some point you feel that your opioid use is getting harder to control, please tell me.

We recommend providing this information to patients in written form (e.g., a brochure).

Managing opioid use disorder

The OUD intervention with the strongest evidence is **opioid agonist therapy** (OAT); both buprenorphine and methadone have been found to be effective at reducing illicit opioid use and retaining patients in treatment (73-75).[17] While methadone has been found to be somewhat more effective than buprenorphine at retaining patients in treatment (74), the Canadian Research Initiative in Substance Misuse (CRISM) National Guideline for the Clinical Management of Opioid Use Disorder (66, 78) recommends that **buprenorphine** be the first choice of OAT whenever possible, primarily due to its safety profile and flexibility.[18] Each Canadian province and territory has its own training requirements for prescribers of buprenorphine.[19]

If a patient with OUD is unwilling or unable to start OAT, **structured opioid therapy** (i.e., continued opioid prescribing under conditions that minimize harm) may be considered.

Patients may be confused, scared, or angry at the thought of changing their medication routine, and stigma may make them feel ashamed of being diagnosed with OUD. The following points may be helpful in providing reassurance:

I believe you about your pain. I don't think you're exaggerating or trying to trick me. It's very easy for OUD to develop without the patient or the health care provider realizing it. When someone without OUD is using opioids for chronic pain, they are usually able to get the same amount of relief from the same dose for many

[17] Slow-release oral morphine (SROM) is also used as an OAT agent; however, the current evidence for its effectiveness is not yet as strong as the evidence for methadone and buprenorphine (76, 77). Furthermore, there is not yet a set of evidence-based clinical guidelines for the use of SROM as an agent for OAT, although the Canadian Research Initiative in Substance Misuse (CRISM) has created some preliminary guidelines for experienced practitioners (66).

[18] There are certain situations in which methadone is indicated over buprenorphine: if the patient is known to be intolerant to buprenorphine, if the patient has done well on methadone in the past, or if the patient requires a full mu agonist to overcome withdrawal. In these cases, the patient should be referred to an addiction specialist as quickly as possible.

[19] Please verify the requirements in your jurisdiction with your regulatory body.

*weeks or months. However, a person who has OUD will find that they must **increase** or **alter** their dose (like crushing or biting tablets) in order to get the same amount of relief; this is called **tolerance**. As you become more dependent on opioids, you start to experience **withdrawal symptoms** (like aches, nausea, and sweating) as they wear off. People who develop OUD while taking opioids for pain usually don't know that their use has become problematic or that they are going through withdrawal at the end of each doing interval; instead, they might think that their pain condition has gotten worse, or that the opioids just don't work as well as they used to. This is a very common way for OUD to develop, and OUD doesn't mean that your pain isn't real.*

I know that you're scared about changing your medication because of the pain you experience. However, because you've developed OUD, your opioids are making your pain worse, as well as your mood, your daily functioning, and your relationships. I'm very confident that treating your OUD so that you don't experience withdrawal and don't need to keep using more is going to make you feel and function better than you do now, and if it doesn't, we'll try something else.

Buprenorphine

Buprenorphine is a partial opioid agonist with a ceiling effect. Unlike full agonists, even very high doses of buprenorphine rarely cause respiratory depression unless combined with alcohol or other sedating drugs. Buprenorphine binds very tightly to the opioid receptors, displacing other opioids that occupy the receptor site; this minimizes the psychoactive effect of other opioids taken concurrently. It has a slow onset and long duration of action because it dissociates very slowly from receptors, consequently preventing opioid cravings and withdrawal symptoms for a full 24 hours. Buprenorphine is available as a sublingual tablet, a subcutaneous injection, and a subdermal implant. The instructions given here are for the sublingual formulation; consider a referral to an addiction specialist for patients wishing to try the injection or implant.

Because buprenorphine displaces opioids occupying the receptors, it precipitates severe withdrawal in patients with any opioid in their system. While precipitated withdrawal is not medically dangerous, it is very uncomfortable and frightening, and patients experiencing it are usually reluctant to continue with buprenorphine. It is therefore important to ensure that the patient is in moderate opioid withdrawal before initiating buprenorphine. Office initiation under observation allows the clinician to gauge the patient's level of withdrawal to avoid premature initiation and intervene if precipitated withdrawal does occur. Patients can also be given instructions on starting buprenorphine at home (79, 80).

Office initiation protocol

Use the Clinical Opioid Withdrawal Scale (COWS) to gauge the degree of withdrawal (81):[20]

Tool G: COWS

Resting heart rate	0 HR ≤ 80	2 HR 101–120
	1 HR 81–100	4 HR > 120
Sweating	0 No report of chills/flushing	2 Flushed or observable moistness on face
	1 Subjective report of chills/flushing	3 Beads of sweat on brow or face
		4 Sweat streaming off face
Restlessness	0 Able to sit still	3 Frequent shifting or extraneous movement of arms/legs
	1 Reports difficulty sitting still but able to do so	5 Unable to sit still for more than a few seconds
Pupil size	0 Pupils pinned or normal size for room light	2 Pupils moderately dilated
	1 Pupils larger than normal for room light	5 Only the rim of the iris is visible
Bone/joint pain	0 Not present	2 Reports severe diffuse aching
	1 Mild diffuse discomfort	4 Rubbing joins/muscles plus unable to sit still due to discomfort
Runny nose/tearing	0 Not present	2 Nose running or tearing
	1 Nasal stuffiness or unusually moist eyes	4 Nose constantly running or tears streaming
GI upset	0 No GI symptoms	2 Nausea or loose stool
	1 Stomach cramps	3 Vomiting or diarrhea
		5 Multiple episodes of vomiting or diarrhea
Tremor	0 No tremor	2 Slight tremor observable
	1 Tremor can be felt but not observed	4 Gross tremor or muscle twitching
Yawning	0 No yawning	2 Yawning at least three times during assessment
	1 Yawning once or twice during assessment	4 Yawning several times a minute
Anxiety/irritability	0 None	2 Obvious irritability/anxiety
	1 Reports increasing irritability/anxiety	4 Patient so irritable/anxious that participation in the assessment is difficult
Goosebumps	0 Skin is smooth	3 Piloerection of skin can be felt or hairs standing up on arms
		5 Prominent piloerection
TOTAL	**5–12: Mild**	**25–36: Moderately severe**
	13–24: Moderate	**37+: Severe**

[20] This scale can be downloaded from http://metaphi.ca/point-of-care-tools.html.

Protocol:

- Buprenorphine 4 mg SL (or 2 mg if patient is elderly and/or taking benzodiazepines) for COWS ≥ 13 (including some observable physical signs) and at least twelve hours since last use of an immediate-release opioid
- Reassess after two hours and give an additional 2–4 mg if patient is still in withdrawal
- Repeat q2h to a maximum of 12 mg in the first 24 hours (or 8 mg if patient is elderly and/or taking benzodiazepines)
- On discharge:
    - Give prescription for the total amount taken on the first day
    - Review treatment plan
    - Book follow-up appointment within a few days, ensuring that prescription will last until appointment

Home initiation protocol

When planning a home induction, give the patient a buprenorphine prescription[21] that will last them until your next appointment, and review and fill out the Home Induction Patient Information Sheet (http://www.metaphi.ca/assets/documents/EDToolkit/HomeStartInfo.pdf) with them, clarifying whether their first dose is 2 mg (for patients who are elderly and/or on benzodiazepines) or 4 mg (others) and whether the maximum dose on the first day should be 8 mg or 12 mg. We recommend giving the following verbal instructions while going through the patient information sheet:

*Before starting the buprenorphine, you should wait until it's been **at least twelve hours** since your last opioid use and until you're experiencing **at least five** of the following withdrawal symptoms:*

- *Sweating*
- *Bone or joint aches*
- *Vomiting/diarrhea*
- *Stomach cramps*
- *Restlessness*
- *Runny nose or tearing*
- *Yawning more often*
- *Goosebumps*
- *Muscle twitching*
- *Irritable*

*If you start the medication too early, it could make you feel **very sick**.*

*Once you're ready, drink some water to moisten your mouth (this helps the tablet to dissolve), then put the tablet(s) **under your tongue – don't swallow them.** Wait about ten minutes for the tablet(s) to dissolve completely – don't eat or drink anything during this time. If your withdrawal symptoms start to get **worse** after taking the medication, you should go to the emergency department. You shouldn't take any alcohol or benzos while taking buprenorphine.*

Your first dose should be 2 mg (one tablet)/4 mg (two tablets). You should start feeling better within 30–45 minutes. If you're still experiencing withdrawal symptoms after two hours, take another 2 mg (one tablet)/4 mg (two tablets). Repeat this every two hours until you feel comfortable, up to a maximum of 8 mg/12 mg on the first day. Fill out the chart on the handout as you take your doses, and on the next day, take the total dose that you took on the first day all at once. If you're still feeling withdrawal symptoms, you can increase the dose by 2 or 4 mg (one or two tablets) each day. If you're feeling really sleepy, reduce the dose by 2 or 4 mg (one or two tablets) each day. Come see me on (follow-up date) and we'll review how you're doing.

Dose titration

You should see the patient within a few days of initiation to assess their response. If the patient reports withdrawal symptoms or cravings towards the end of a dosing interval, increase the daily dose by 2–4 mg. Continue to see the patient frequently (every few days to every few weeks) as you titrate to an effective maintenance dose; each dose increase should increase the duration of relief from withdrawal and cravings, and the optimal maintenance dose (usually 8–16 mg, with a maximum dose of 24 mg) should prevent withdrawal symptoms for 24 hours or more without causing significant sedation, intoxication, or other side effects (sweats, constipation, dry mouth).

Observed versus take-home doses

Prescribers may recommend observed buprenorphine dosing for some patients, particularly at the beginning of treatment. Supervised doses can assist with ensuring that the dose is taken properly (i.e., taken sublingually, allowed to fully dissolve). For patients with OUD who take only prescription opioids and do not inject or crush oral tablets, take-home doses are usually safe from the beginning of treatment; daily observed dosing may be preferred for patients who use street opioids or take opioids by injection. As the patient stabilizes, they should gradually be given doses to take at home; take-home doses of buprenorphine can be given on a faster schedule than doses of methadone due to buprenorphine's safety profile (64). It is up to the prescriber to determine an

[21] A template for a home induction prescription can be downloaded at http://www.metaphi.ca/assets/documents/EDToolkit/Rx_Home.pdf.

appropriate schedule of take-home doses for the patient, and several factors should be considered: the patient's social stability, whether they are taking other sedating medications, their work and family responsibilities, etc. Your prescription should specify which day(s) the patient takes an observed dose and which day(s) they take the dose at home. Tell all patients with any take-home doses about the importance of safe storage of all medications and advise them to keep their buprenorphine in a secure location.

Maintenance

Once the patient has been stabilized on an effective dose, they should be assessed at regular intervals. Ask about withdrawal symptoms, cravings, and ongoing opioid and other substance use at each visit; these all indicate that the dose may need to be increased. Ask the patient about any changes to their sleep, mood, and functioning, and check in with them about use of other sedating substances such as alcohol or cannabis.

Urine drug screens are a measure of a patient's clinical status that should be combined with self-report and approached in a patient-centred way. Urine drug screens can and should be used to verify that the patient is taking their buprenorphine and to identify concurrent use of other substances; however, the clinician should use this information as a therapeutic tool rather than to punish or coerce. The Buprenorphine/Naloxone for Opioid Dependence Clinical Practice Guideline (82) advises testing at each appointment, the frequency of which will diminish as the patient becomes more stable. The META:PHI Clinical Best Practices in Addiction Medicine guide (67) recommends using immunoassay strips to test for norbuprenorphine (metabolite of buprenorphine), EDDP (metabolite of methadone), benzoylecgonine (metabolite of cocaine), morphine (detects use of morphine, heroin, and codeine, but not hydromorphone), oxycodone, and fentanyl; other substances should be tested for according to the patient's needs. If a test yields an unexpected result, use that result to inform your treatment plan:

Unexpected result	**Message to patient**
Absence of norbuprenorphine	*The results of your test suggest that you're not taking your medication. Can you talk to me about that?* *Stopping your medication suddenly will cause you to lose tolerance, putting you at risk of relapse and overdose.* *We should discuss whether it would be safer for you to go to the pharmacy more often.*
Presence of opioids or benzodiazepines	*Have you taken any other substances?* *It's not safe for you to take benzodiazepines with your buprenorphine; street benzos are often contaminated with all kinds of other drugs and can put you at risk of a bad reaction or respiratory depression (when you go to sleep you stop breathing).* *If you're using because of withdrawal, we can look at increasing your dose of buprenorphine or referring you to a clinic to discuss other treatment options like methadone.* (If test is positive for fentanyl:) *If the maximum dose of buprenorphine is not controlling your withdrawal symptoms or cravings, I'll refer you to an addiction clinic where you can talk about switching to methadone or slow-release oral morphine. Both of these medications may be more effective at controlling your withdrawal so you won't need to use fentanyl.* (If test is positive for fentanyl but patient denies use:) *Fentanyl has been contaminating the street drug supply. Have you used any cocaine, crystal meth, or heroin?* *If you're using any substances that you bought from the street, it's very important to use with other people and carry naloxone. You should also use a drug-checking service if you can.*
Presence of cocaine or methamphetamine	*There are signs of cocaine/crystal meth in the urine you left, and I'm concerned. Are you concerned about your stimulant use? I'm worried you have a stimulant use disorder.* *Cocaine and crystal meth can both be contaminated with illicit fentanyl. If you're using them, it's very important to use with other people and carry naloxone in case you get a bad supply. You should also use a drug-checking service if you can.* *I'll continue to check in with you about your use of other substances.*

If the patient continues to experience withdrawal symptoms or cravings or if illicit opioid use does not resolve despite a two- to three-month trial of an adequate dose (up to 24 mg) of buprenorphine, it is likely that the patient requires more intensive treatment. Consider a consultation with or referral to an addiction clinic with

experience in prescribing methadone.[22] This timeline should be much shorter if the patient is using fentanyl; titrate to the maximum dose as quickly as possible and refer to an addiction specialist if fentanyl use continues.

Tapering buprenorphine

Buprenorphine can be continued as long-term treatment, especially if the patient also has a chronic pain condition. Patients who choose to taper tend to be more successful when they have had period of at least a year of stability and without any problematic substance use, have good supports and strategies for managing stress, and are not experiencing acute mental health challenges. The taper should be done slowly and gradually, in a patient-directed manner; doses should generally not be decreased by more than 1–2 mg at a time, with at least two weeks between decreases. Hold the taper if the patient experiences withdrawal symptoms or cravings, and return to the original dose if the patient begins using opioids again, even in small amounts or intermittently. Emphasize that it is not a "failure" if the taper has to be held or reversed, and reinforce that it is safe and acceptable to be on buprenorphine as long as necessary.

Structured opioid therapy

Structured opioid therapy is an approach to prescribing that includes more tightly controlled dispensing intervals to reduce the risk of medication overuse, with monitoring for side effects and adverse effects. Structured opioid therapy often involves a plan to taper and/or switch opioids. Although OAT is the first-line treatment for OUD, structured opioid therapy may be considered as a first step for patients who have developed OUD while receiving prescribed opioids for pain and who are reluctant to try OAT. Some prescribers might feel uncomfortable continuing to prescribe opioids to patients with OUD, but **rapid tapering and/or discontinuation are potentially far riskier** than continued prescribing under conditions that minimize harm.[23] Rapid tapering will cause withdrawal and a pain flare, leading some patients to seek illicit opioids, which may contain fentanyl. Opioid tolerance declines within days, so patients whose opioids are abruptly stopped are at higher risk for overdose once they find another source.

The approach to structured opioid therapy depends on the level of the patient's risk of serious opioid-related harm.

Lower-risk OUD

Patients with lower-risk OUD have developed OUD to a prescription opioid and are not at high risk for serious harm from their opioid use. They may run out of their opioid early and are often on a higher opioid dose than is indicated for their underlying pain condition, but do not alter the route of delivery of their opioids or access opioids from another source. The following strategies can be employed to reduce patient harms:

- Arrange frequent dispensing (i.e., weekly or more often).
- Consider a rotation to a different opioid or an attempt at a slow taper (see below) for patients with dose-related side effects or doses above a safe threshold.
- If the patient is taking immediate-release opioids, consider switching them to a controlled-release preparation.
- Decrease the risks of overdose by reducing or eliminating other risky medications such as benzodiazepines, zopiclone, or gabapentinoids.
- Ask about other substance use, including alcohol.
- Advise patients that if they run out of their medication for more than a few days they must be restarted on a lower dose due to loss of tolerance.
- Optimize non-opioid and non-pharmacologic pain management strategies.
- Address concurrent anxiety and mood disorders.
- Give naloxone kit to keep at home.

Patients should be encouraged to reconsider OAT if they continue to have difficulty managing their opioid use; it may be helpful to explain that they may have better pain control and fewer side effects on buprenorphine because of its mechanism of action.

Moderate-risk OUD

Patients with moderate-risk OUD exhibit behaviours that put them at risk for overdose and other harms. Behaviours associated with moderate-risk OUD include biting, crushing, or snorting oral tablets, which causes

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[22] Canadian prescribers are no longer required to hold an exemption under section 56 of the *Controlled Drugs and Substances Act* in order to prescribe methadone. However, we recommend that methadone only be prescribed by clinicians with training and experience; methadone's long half-life makes induction and titration challenging, and patients are at high risk of overdose during the first few weeks of methadone treatment.

[23] The 2017 Canadian opioid guidelines (83) present very rapid or immediate cessation of opioid therapy as an alternative method of tapering; however, we strongly recommend against this practice. The guidelines advise that this be done in a medically supervised withdrawal centre, but this does not mitigate the risk of subsequent relapse and overdose due to loss of tolerance. If a patient needs to discontinue their opioids more rapidly than a standard taper allows, they should first be switched to buprenorphine.

serum opioid levels to rise more rapidly, as well as buying opioids from the street, which may contain fentanyl. The following strategies will help reduce the risk of overdose:

- Arrange for at least some of the doses to be dispensed under the observation of a pharmacist to prevent alterations to the route of delivery.
- Switch all or most of the opioid dose to a controlled-release opioid (e.g., a once-daily agent such as slow-release oral morphine or a twice-daily preparation of morphine, hydromorphone, or oxycodone). This will minimize the number of times the patient must attend the pharmacy and minimize the need for take-home opioid doses. It might be helpful to have support from an addiction medicine clinician.
- If PRN take-home doses are required, consider short-acting acetaminophen-codeine or acetaminophen-oxycodone preparations. Avoid prescribing hydromorphone products, as they are easily injected and very potent.
- If the patient is experiencing dose-related side effects such as depression, fatigue, sleep apnea, or GI effects, consider a rotation to a different opioid or attempt a slow taper (see below).
- Use non-opioid pain strategies.
- Address concurrent anxiety and mood disorders.

Continue to encourage the patient to try OAT, especially if they have difficulty complying with the structured opioid therapy protocol.

High-risk OUD

Patients who inject opioids, especially fentanyl or heroin, are at high risk of overdose, injection-related infections, and other harms. If a patient with high-risk OUD refuses OAT, **the clinician should not taper or abruptly stop the opioid prescription**; this could markedly increase the risk of overdose by causing the patient to rely completely on illicit opioids. The following strategies are recommended:

- Try to arrange for most or all of the opioid dose to be dispensed under the observation of a pharmacist.
- If possible, switch the opioid dose to slow-release oral morphine, which is administered once daily. Specify on the prescription that the pharmacist should open the capsules and sprinkle the granules on yogurt or juice.

Structured opioid therapy for patients with high-risk OUD should be viewed as a temporary harm-reduction intervention, and efforts should be made to initiate OAT as soon as possible (with the support of an experienced addiction clinician if needed).

Opioid tapering[24]

Opioid tapering may be attempted as a structured opioid therapy strategy if the patient is suffering from a complication of high-dose opioid use, such as depression or fatigue. The goal is not to discontinue the opioid but to mitigate dose-related complications and make the patient feel and function better. The dose should be decreased very slowly, no more than 10% of the total daily dose every one to two weeks, and the taper should be held if the patient experiences withdrawal symptoms or a pain flare. See the patient frequently during the taper (i.e., every one to two weeks) to ask them about pain, function, withdrawal symptoms, and cravings. If the patient experiences difficulty with the taper, **ask them to reconsider buprenorphine treatment or switching to a different opioid.**

Morphine equivalency (84)

Morphine (reference)	30 mg
Codeine	200 mg
Oxycodone	20 mg
Hydromorphone	6 mg
Tapentadol	100 mg
Transdermal buprenorphine	No equivalence established
Transdermal fentanyl	25 µg/hour = 60–134 mg oral morphine/day

[24] The Centre for Effective Practice Opioid Tapering Template (https://cep.health/media/uploaded/CEP_Opioid_Tapering_Template_2018.pdf) is a useful tool for planning and implementing an opioid taper.

Tobacco[25]

Tobacco smoking has an enormous cost for the Canadian population both financially and medically. In 2017, tobacco was responsible for 47,707 deaths and $6.1 billion in direct health care costs in Canada (22). Although the percentage of Canadians who are current (daily or occasional) smokers has decreased from 17.7% in 2015 to 14.8% in 2019 (85), the health risks for these individuals are many and potentially life-threatening. Primary care providers can make a significant difference to patients' health outcomes by helping them decrease or stop their tobacco use.

Harms associated with tobacco use

Smoking is by far the most common way of consuming tobacco in Canada (86) and is a major risk factor for many health conditions:

Respiratory	COPD, lung cancer, pneumonia
Cardiovascular	Heart disease, heart attack, stroke, arteriosclerosis, high blood pressure
Reproductive	Menstrual irregularities, decreased fertility, erectile dysfunction, miscarriage, low birth weight, premature birth, SIDS
Oral	Oral cancer, periodontitis, tooth loss
Psychiatric	Addiction, stress, can exacerbate anxiety/depression
Other	Bladder cancer, pancreatic cancer

Other methods of tobacco consumption, such as chewing, are not as well studied as smoking; however, these methods are also associated with some of the same health risks as smoking.

Managing tobacco use

The Tobacco Use and Dependence Guideline Panel recommends a five-step approach (87) to smoking cessation:

The 5A's for smoking cessation	1. **Ask** about tobacco use. 2. **Advise** to quit. 3. **Assess** willingness to make a quit attempt. 4. **Assist** in quit attempt. 5. **Arrange** follow-up.

Ask about tobacco use

All patients should be asked about their use of tobacco at baseline and at routine visits. Ask patients if they smoke **currently** and if they have **ever** smoked. Keep track of each patient's smoking status.

Advise to quit

Advise all patients who smoke to quit. Review the health risks of smoking as well as other harms of smoking (e.g., financial impact, social issues), linking them to the patient's own life whenever possible. Inform the patient that quitting smoking would be the **best thing they can do for their health**, and let them know that you can help them quit if they are interested in trying.

Assess willingness to make a quit attempt (88)

Assess the patient's state of change (6) by asking them when they would be willing to consider quitting smoking. Tailor your approach to their response (89):

Never/in six months or more: Precontemplation
Ask how patient feels about smoking (without judgment).
Follow up at subsequent visits.

In one to six months: Contemplation
Explore patient's motivation to quit.
Explore what patient gets out of smoking and consider alternatives.
Inform patient about treatment options.
Offer assistance.
Follow up at subsequent visits.

[25] In this document, we use the term "tobacco" to refer to commercially produced consumable products, such as cigarettes and cigars. Tobacco has deep ceremonial and medicinal importance for many First Nations in North America; the statements in this document are not intended to apply to these uses of tobacco.

Within a month: Preparation
Offer assistance.
Set quit date.
Review treatment options.
Recommend smaller goal before quit date: stop smoking in certain settings (e.g., in the car, during the evening).
Follow up within two weeks.

Now: Action
Assist in quit attempt.
Arrange follow-up within a week to review progress.

Assist in quit attempt

For patients who are in the preparation or action phase, the Clinical Practice Guideline for Treating Tobacco Use and Dependence (87) recommends working with the patient to create a **quit plan**:

- Set a firm quit date, ideally within the next two weeks.
- Tell family and friends in order to increase accountability and ask for support.
- Prepare for challenges that will arise early in the quit attempt and come up with solutions.
- Create a tobacco-free environment.

Pharmacotherapy

The three medication options for smoking cessation pharmacotherapy are nicotine replacement therapy (NRT), bupropion SR, and varenicline; numerous clinical trials and meta-analyses have shown all three medications to be superior to placebo in facilitating smoking abstinence (90-96). Select a pharmacotherapy based on patient preference and on the considerations below:

NRT

Action	Nicotinic receptor agonist
Effect of use	Relieves nicotine withdrawal symptoms and reduces harms of inhalation Available in five formulations: gum, lozenge, patch, inhaler, nasal spray
Side effects	*Gum:* Bad taste, tingling sensation, hiccups, nausea, jaw pain *Lozenge:* Nausea, hiccups, headache, heartburn, flatulence *Patch:* Skin rash, sleep disturbances *Inhaler:* Cough, throat irritation nausea *Nasal spray:* Nausea, tingling sensation, hiccups, dry mouth, heartburn
Considerations	Choice of formulation depends on patient's preference Different formulations can be combined (e.g., patch + inhaler), and can also be combined with bupropion or varenicline Not covered by drug benefits but available without a prescription and can be covered by certain smoking cessation programs (e.g., STOP) Use with caution in patients who have acute cardiovascular disease, are pregnant or breastfeeding/chestfeeding, or are under 18 years old
Dose	Depends on formulation and number of cigarettes smoked per day 21 mg patch usual starting dose for people smoking one pack per day Titrate to effect

Buproprion SR

Action	Norepinephrine–dopamine reuptake inhibitor and nicotinic receptor antagonist
Effect of use	Inhibits dopamine reuptake following lowering of nicotine intake
Side effects	Agitation, insomnia, headache, dry mouth, rash, nausea, dizziness Similar to nicotine withdrawal symptoms
Considerations	Use with caution in patients that are elderly, have liver/renal deficiencies, are pregnant or breastfeeding/chestfeeding, or are on medications that lower seizure threshold
Contraindications	History of seizure, bipolar disorder, or eating disorder
Dose	150 mg OD x 3 days; then 150 mg BID x 7–12 weeks Patient should stop smoking after one week of taking the medication

Varenicline

Action	Nicotinic receptor partial agonist
Effect of use	Reduces nicotine cravings and withdrawal
Side effects	Nausea, headache, insomnia, sleep disturbances Severe psychiatric events have been experienced by some patients; however, there is not conclusive evidence that these events were caused by varenicline
Contraindications	Pregnancy and breastfeeding/chestfeeding Severe renal dysfunction
Dose	0.5 mg OD x 3 days; then 0.5 mg BID x 4 days; then 1 mg BID x 12 weeks Patient should stop smoking between day 8 and day 14

Counselling

Adding behavioural interventions to pharmacotherapy has been shown to increase patients' chance of succeeding in their quit attempt by 10–20% (97). Provide patients with brief counselling during their appointments (87):

- Encourage the patient to identify situations that increase their risk of smoking (e.g., stress, being around smokers).
- Strategize about ways to cope with triggers:
  - Avoid situations that could lead to smoking.
  - Make lifestyle changes that reduce stress.
  - Make a list of activities to do when struggling with a craving (e.g., go for a walk, listen to music, call a supportive friend, etc.).
  - Make a list of supportive people to call when triggered.
- Engage the patient in the quitting process by asking about positive benefits gained, milestones, and challenges.
- Remind the patient that a setback does not need to become a relapse.
- Offer support and encouragement throughout the process.

Arrange follow-up

Arrange to see the patient frequently during the quitting process in order to monitor their medication; engage them in counselling; acknowledge their victories and discuss setbacks; and provide support and accountability throughout. Patients should also be encouraged to participate in support groups, group or individual counselling, or other forms of psychosocial treatment. There are a number of publicly funded psychosocial resources that patients may find helpful:

- Health Canada's Quit Smoking program: https://www.canada.ca/en/health-canada/services/smoking-tobacco/quit-smoking/tips-help-someone-quit-smoking/you-can-quit-smoking-we-can-help.html
- Cancer Care Society's Smokers' Helpline: 1-877-513-5333
- Provincial/territorial initiatives: Check your Ministry of Health website

Cannabis

Cannabis is currently the most widely used drug worldwide (98). In Canada, cannabis is second only to alcohol as the most widely used psychoactive substance. Recreational use of cannabis was legalized in Canada in late 2018, and this change continues to have an impact on use patterns. The 2019 Canadian Cannabis Survey reported significant increases in past twelve-month cannabis use compared to the previous year, especially among people under 25; 25% of all respondents reported using cannabis, compared to 22% in 2018, with rates in youth aged 16 to 19 and 20 to 24 rising from 36% and 44% respectively to 44% and 51% (99). It is estimated that 9% of people who use cannabis will develop a cannabis use disorder (100).

Harms associated with cannabis use

Cannabis products may contain tetrahydrocannabinol (THC), the primary psychoactive cannabinoid of the cannabis plant, and/or cannabidiol (CBD), a non-intoxicating cannabinoid. The harms of cannabis use vary based on the route of delivery and the makeup of the product. Smoking, the most common route (101), creates hundreds of chemical by-products, some of which are carcinogenic and atherogenic. Vaporizing avoids these toxic by-products; however, there are other dangers associated with vaporizer use. The Centers for Disease Control and Prevention have recommended against the use of THC-containing e-cigarette, or vaping, products due to several reported cases of associated lung injury (102); preliminary data suggest that vitamin E acetate in some vaporizing products has a role in these incidents of lung injury (103). With both smoking and vaporizing, THC rapidly enters the central nervous system in high concentrations, increasing the risk of cognitive impairment. THC absorption is slow with the oral route, but food products (e.g., gummies, chocolate) sometimes contain large amounts of THC, which can cause severe intoxication. By contrast, the World Health Organization's Expert Committee on Drug Dependence reported that CBD has a good safety profile and is not associated with intoxication (104).

With any route of delivery, use of cannabis products containing THC can have long-term effects and complications (100, 105-117):

Cognitive impairment	Can impact impulse control, working memory, decision-making, and executive function.
Psychiatric effects	Can trigger and exacerbate psychosis. Risk of cannabis use disorder. Associated with anxiety, mood disorders, and suicidality. Risks are greater under the age of 25.
Cannabis hyperemesis syndrome	Characterized by cyclical vomiting relieved by hot bathing; can also be accompanied by reduced oral intake, abdominal pain, weight loss, and dehydration. Condition resolves within one to three months of cannabis cessation.
Respiratory effects	Can cause chronic bronchitis and is a possible risk factor for lung cancer.
Cardiac effects	Can cause tachyarrhythmias; very high doses can precipitate myocardial infarction.
Reproductive risks	People using cannabis during pregnancy have an increased risk of anemia. Infants exposed to heavy daily doses of cannabis in utero have lower birth weight and are more likely to need intensive care. In-utero exposure to cannabis is also associated with subtle neurological deficits.

It is important to note that these effects are true of medical cannabis products in addition to commercial cannabis products. Medical cannabis clinics commonly prescribe cannabis for conditions for which it is not indicated, often at doses that exceed the maximum dose of **400 mg with maximum 9% TCH** recommended in the College of Family Physicians of Canada guidance document (118). If a patient is using cannabis that has been authorized by a prescriber at a medical cannabis clinic, determine the indication for the authorization and ask about the amount and the concentration of cannabinoid. If the patient's authorization exceeds this amount, you should advise the patient to tell the cannabis prescriber to lower the dose and/or switch to a product with a lower THC and higher CBD concentration. If the patient gives you permission, you might consider expressing your concerns directly to the cannabis prescriber.

Screening and assessment

Ask all patients about their use of cannabis at baseline and routine appointments. If the patient uses cannabis at all, including prescribed use for a medical condition, take a cannabis history.

Cannabis history

When taking a cannabis history, ask about routes of delivery, amounts, TCH and CBD concentrations, and frequencies. While commercially prepared food and drink products and pre-rolled joints usually specify the exact amounts of THC and/or CBD they contain, the amount of THC and CBD consumed through smoking dried

cannabis prepared at home is more variable. An average joint contains about 500 mg of dried cannabis, and an average bowl contains about 250 mg of dried cannabis; use these weights and the reported concentration that the patient uses to estimate the amount of cannabinoid.

We suggest using a script like the following:

Do you use cannabis?
How many days a week do you usually use cannabis? Is it closer to one or two days a week, or to five or six days a week?
How do you take cannabis? Do you smoke, vape, take edibles? What do you do most often? What concentrations of THC and CBD do you usually use?
How many joints/bowls do you smoke in a typical day?

Patients who use cannabis more than three times per week and/or smoke more than 2 g of cannabis containing THC per day should be assessed for cannabis use disorder.[26]

An alternative structured approach to taking a cannabis history is the Cannabis Use Disorder Identification Test-Revised (CUDIT-R), which has been found to have high sensitivity and specificity as a screening tool (119):

Tool H: CUDIT-R

	0	**1**	**2**	**3**	**4**
How often do you use cannabis?	Never	Monthly or less	2–4 times a month	2–3 times a week	4+ times a week
How many hours were you stoned on a typical day when you had been using cannabis?	< 1	1–2	3–4	5–6	7+
How often during the past six months did you find that you were not able to stop using cannabis once you had started?	Never	Less than monthly	Monthly	Weekly	Almost daily
How often during the past six months did you fail to do what was normally expected of you because of using cannabis?	Never	Less than monthly	Monthly	Weekly	Almost daily
How often in the past six months have you devoted a great deal of your time to getting, using, or recovering from cannabis?	Never	Less than monthly	Monthly	Weekly	Almost daily
How often in the past six months have you had a problem with your memory or concentration after using cannabis?	Never	Less than monthly	Monthly	Weekly	Almost daily
How often do you use cannabis in situations that could be physically hazardous, such as driving, operating machinery, or caring for children?	Never	Less than monthly	Monthly	Weekly	Almost daily
Have you ever thought about cutting down, or stopping, your use of cannabis?	No (0)		Yes, but not in the past six months (2)		Within the past six months (4)

A score of 8–11 indicates hazardous cannabis use; a score of 12+ indicates possible cannabis use disorder (119).

Cannabis withdrawal

Heavy cannabis use is associated with a distinct withdrawal syndrome (120). Symptoms start within one to three days of abstinence, peak on days four to six, and resolve by days twelve to sixteen; symptom severity correlates with the dose of THC consumed. Psychological symptoms include extreme anxiety, insomnia, vivid dreams, irritability, depression, and craving for cannabis. Physical symptoms include loss of appetite, headache, abdominal discomfort, nausea, and sweating. All symptoms are quickly relieved when cannabis is resumed. Ask the following questions to determine whether the patient experiences cannabis withdrawal symptoms:

What's the longest you've gone without cannabis in the past year?
How did you feel during that period? Did you have cravings, anxiety, insomnia? How long did those feelings last? Did taking cannabis make you feel better?

[26] This applies to medical cannabis in addition to recreational cannabis.

Criteria for cannabis use disorder

Based on the patient's history, determine whether the patient has cannabis use disorder (CUD). The DSM-V defines CUD as a "problematic pattern of cannabis use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period" (36):[27]

1. Cannabis taken in larger amounts or over a longer period of time than intended.
2. Repeated unsuccessful efforts to reduce use.
3. Significant amount of time spent obtaining or using cannabis, or recovering from its effects.
4. Strong cravings or urges to use cannabis.
5. Recurrent use resulting in a failure to fulfill responsibilities.
6. Continued cannabis use despite recurrent social or interpersonal problems.
7. Reduction of major activities because of cannabis use (e.g., missing work, spending less time with children or spouse).
8. Continued cannabis use in situations or activities where it is dangerous.
9. Continued use despite knowledge of cannabis-related physical or psychological problems.
10. Tolerance (need to use more cannabis to achieve the same effect, or diminished effects with continued use of the same amount of cannabis).
11. Withdrawal (e.g., irritability, anxiety, sleep difficulty, decreased appetite, abdominal pain, sweating, headache).

2–3 criteria: **Mild CUD**
4–5 criteria: **Moderate CUD**
6+ criteria: **Severe CUD**

Managing cannabis use

All patients who use cannabis, whether they have CUD or not, should be educated on the Lower-Risk Cannabis Use Guidelines (121):

Tool I: Lower-Risk Cannabis Use Guidelines

Abstinence 1. The most effective way to avoid the risks of cannabis use is to abstain from use.
Age of initial use 2. Delaying cannabis use, at least until after adolescence, will reduce the likelihood or severity of adverse health outcomes.
Choice of cannabis products 3. Use products with low THC content and high CBD: THC ratios. 4. Synthetic cannabis products, such as K2 and Spice, should be avoided.
Cannabis use methods and practices 5. Avoid smoking burnt cannabis and choose safer inhalation methods including vaporizers, e-cigarette devices, and edibles. 6. If cannabis is smoked, avoid harmful practices such as inhaling deeply or breath-holding.
Frequency and intensity of use 7. Avoid frequent or intensive use, and limit consumption to occasional use, such as only one day a week or on weekends, or less.
Cannabis use and driving 8. Do not drive or operate other machinery for at least 6 hours after using cannabis. Combining alcohol and cannabis increases impairment and should be avoided.
Special-risk populations 9. People with a personal or family history of psychosis or substance use disorders, as well as pregnant people, should not use cannabis at all.
Combining risks or risk behaviours 10. Avoid combining any of the risk factors related to cannabis use. Multiple high-risk behaviours will amplify the likelihood or severity of adverse outcomes.

[27] Please refer to the DSM-V pp.509–510.

Encourage patients to follow these guidelines in order to lower their risk of cannabis-related harms. Further harm-reduction advice should also be offered:

- Do not combine cannabis with alcohol or opioids.
- Be very careful with edibles, as THC is absorbed slowly when taken orally; give yourself at least 90 minutes to see how you feel before taking more.
- Set a weekly goal for cannabis use and keep a daily record of the amount used.
- Purchase smaller amounts and make smaller joints.
- Wait 10 minutes between puffs and 20–30 minutes between joints.

Regular cannabis use should be **strongly discouraged** in the following patients:

- Under the age of 25
- Pregnant or trying to become pregnant
- Current, past, or strong family history of psychosis
- Current, past, or strong family history of problematic substance use
- Current anxiety or mood disorder
- Respiratory or cardiac illness

For patients whose cannabis use is causing or exacerbating physical or mental symptoms (e.g., anxiety, COPD), the provider should carefully explain the link between cannabis use and their symptoms and emphasize that these symptoms will improve if they stop or reduce their cannabis use. Patients with smoking-related symptoms should be encouraged to try vaping. Patients with psychiatric symptoms should be encouraged to switch to low-THC, high-CBD cannabis products. For patients who experience challenges reducing their use, use the counselling techniques described below.

Managing cannabis use disorder

All patients with CUD should be offered treatment. Currently, the CUD interventions with the strongest evidence of benefit are psychosocial, but there are some pharmacological options that may reduce cannabis cravings and withdrawal symptoms. When you present your diagnosis, tell the patient about all the available options and work with them to determine what would be best for them.

Patients who use cannabis for relief of anxiety are likely to have concerns about changing their cannabis use. The following points may be helpful in providing reassurance:

> *I understand that using cannabis relieves your anxiety. However, while it makes you feel less anxious right after you take it, it could well be making your mood, functioning, and relationships worse in the long term. I can give you medications to help you through the withdrawal period, and once that period is over, you are likely to feel much better, with more energy, less anxiety, and improved mood and function.*

Psychosocial interventions

The psychosocial interventions with the greatest evidence of benefit for people with CUD are motivational enhancement therapy, cognitive behavioural therapy, and contingency management (122). Consider incorporating these strategies into your sessions with patients.

For patients who are ambivalent about treatment, **motivational interviewing** is a non-confrontational, patient-centered approach that elicits higher levels of change talk and lower levels of resistance in patients than other approaches (123). Ask patients about the role of cannabis use in their life in order to explore and reinforce the patient's reasons for change:

- What are some of the good things about using cannabis? What are some of the not-so-good things?
- How does using cannabis fit in with your goals?
- What are some of the good things about **not** using cannabis? What are some of the not-so-good things?
- How would you like your life to be different? Where do you go from here?

Reflect patients' own motivations back to them in order to strengthen their commitment to change.

For patients who are ready to make a change, negotiate a concrete goal of abstinence or reduced use, and suggest **behavioural strategies** that will help them meet their goals:

- Encourage the patient to identify situations that increase their risk of using cannabis (e.g., boredom, being with people who are using).
- Strategize about ways to cope with triggers:
  - Avoid social situations involving cannabis use.
  - Make a list of activities to do when struggling with a craving (e.g., exercise, call a supportive friend, etc.).
  - Make a list of supportive people to call when triggered.
- Encourage the patient to quit tobacco if applicable.

Contingency management, in which patients are given small rewards (e.g., gift cards, vouchers) for negative urine drug screens, has been shown to reduce cannabis use (122); this is a useful technique for clinics with the necessary resources.

Pharmacotherapy

There is not yet an approved first-line agent for CUD; however, recent reviews (124, 125) have suggested that some agents may help patients with withdrawal symptoms (such as anxiety, irritability, depression, insomnia, decreased appetite, abdominal discomfort, sweating, and headache) and cravings. These options should be discussed and offered where indicated.

The two medications with the greatest evidence of benefit are **nabiximols** and **oral cannabidiol**; both have been shown to be more effective than placebo in reducing the frequency of cannabis use in patients with CUD (126, 127). **Gabapentin** and **nabilone** also have preliminary evidence of effectiveness at relieving withdrawal symptoms and cravings and at reducing cannabis use. Patients should be told that CUD is not an approved indication for any of these medications; be sure to obtain and document informed consent before proceeding with any of these therapies.

Nabiximols

Action	Cannabinoid agonist Buccal spray containing 2.7 mg THC and 2.5 mg CBD
Side effects	Minimal; may cause dizziness or drowsiness
Considerations	Not covered for CUD by provincial drug benefit plans
Contraindications	Pregnancy or breastfeeding/chestfeeding
Dose	Titrate to relieve withdrawal symptoms (average of 19 sprays daily used by participants in clinical trial (126))

Oral cannabidiol

Action	Cannabinoid agonist
Side effects	Minimal
Considerations	Cost; not covered by provincial drug benefit plans
Contraindications	Pregnancy or breastfeeding/chestfeeding
Dose	Titrate to relieve withdrawal symptoms (doses of 400 mg and 800 mg were both found to be effective for participants in clinical trial (127))

Gabapentin

Action	GABA analogue
Side effects	Somnolence, dizziness May exacerbate depression and suicidal ideation (rare)
Considerations	Higher doses (1800+ mg) associated with pedal edema
Contraindications	Renal insufficiency Do not administer in third trimester of pregnancy; use with caution earlier in pregnancy Use with caution in elderly patients; with other sedating medications, especially higher-dose benzodiazepines or opioids; and in patients with severe depression/suicidal ideation Potential for non-medical use and diversion/dependence
Dose	1200 mg daily in divided doses

Nabilone

Action	Cannabinoid agonist
Side effects	Sleepiness, dry mouth, ataxia
Considerations	Slower onset and longer duration of action than smoked cannabis
Contraindications	Pregnancy or breastfeeding/chestfeeding Use with caution in patients with renal or hepatic disease
Dose	Starting dose 1 mg TID; titrate to effect to a maximum of 6 mg/day

Benzodiazepines

Benzodiazepines are commonly prescribed for a range of clinical indications, including anxiety, insomnia, and seizures; however, long-term use (typically defined as more than twelve weeks (128)) is associated with harms, such as falls, sedation, sleep apnea, cognitive impairment, and dependence. Although Canadian benzodiazepine prescribing rates have declined since 2012 (129), a significant percentage of people being prescribed benzodiazepines receive long-term prescriptions (130). Furthermore, the highest incidence of benzodiazepine prescriptions in Canada is among elderly people (20), who are also the most vulnerable to the medication's adverse effects. Non-prescription use of benzodiazepines can also cause serious harm. Potent benzodiazepines and benzodiazepine-like drugs, such as alprazolam and etizolam, are increasingly available through the illicit market; they are also contaminating the street supply of opioids, increasing the risk of respiratory depression. Patients' use of both prescription and non-prescription benzodiazepines should be reviewed carefully, and primary care providers should be prepared to initiate a taper when indicated.

Effects of benzodiazepine use

Benzodiazepines are effective anxiolytics, sedatives, hypnotics, anticonvulsants, and muscle relaxants. They have a number of short-term clinical indications, such as alcohol withdrawal, acute anxiety episodes, seizures, and pre-procedure sedation, and are also often prescribed as a long-term treatment of anxiety, PTSD, or insomnia.

Benzodiazepines are indicated as adjunctive therapy early in treatment of anxiety or PTSD, to be discontinued when the first-line agent (SSRIs, SNRIs, buspirone, or pregabalin (18)) reaches a therapeutic effect. Benzodiazepines are not recommended as first-line agents because, once started, they are difficult to stop. Unlike the first-line agents, benzodiazepines provide immediate relief of anxiety, which is often highly valued by patients. Furthermore, discontinuation of moderate doses of benzodiazepines are accompanied by a withdrawal syndrome (see below), making discontinuation even more difficult.

While benzodiazepines are indicated as a short-term treatment for insomnia, they tend to lose their sedating and sleep-inducing effects after three weeks of continuous use. Furthermore, benzodiazepines suppress the deep and REM stages of sleep, so patients experience a disturbed sleep with vivid dreams when they are discontinued after several weeks of continuous use. They are therefore not recommended as a daily long-term treatment of insomnia.

Despite their limited role, long-term benzodiazepine prescriptions are common (130). Long-term use can be hazardous, especially in patients who are elderly, who are on moderate to high doses of opioids or other sedating medications, or who have substance use disorders. Long-term use of benzodiazepines can have the following adverse effects, which can be exacerbated by certain factors, as summarized below:

Effect	**Factors that increase risk or severity**
Depression, suicidal ideation	High doses Concurrent use of alcohol/opioids Underlying mood disorder
Falls and fractures	Elderly Neurological/cognitive impairment Long-acting agents Concurrent use of alcohol/opioids
Confusion, worsening dementia	Elderly Dementing condition
Motor vehicle accidents	Concurrent use of other sedating agents
Decreased respiratory drive	Respiratory illness/dysfunction Sleep apnea Concurrent use of other sedating agents
Sleep apnea	Underlying risk factors Concurrent use of other sedating agents
Blackouts, parasomnias	Triazolam or alprazolam High doses

Screening and assessment

Screening

All patients should be asked about their use of prescribed and non-prescribed benzodiazepines at baseline and at routine visits. Patients who disclose any benzodiazepine use, including prescription use for a diagnosed condition, should be assessed for problematic long-term use and/or benzodiazepine use disorder.

Prescription benzodiazepine use

Benzodiazepines are very seldom indicated for long-term use. All patients with a benzodiazepine prescription that has lasted for more than twelve weeks should have the prescription reviewed to consider its appropriateness and determine whether a taper is indicated. Ask patients about sleep, mood, energy, falls, and confusion; if possible, ask the patient's partner or family member to corroborate. Ask about concurrent use of other sedating agents, such as alcohol or opioids, and consider other risk factors, such as the dose, the patient's age, and underlying mood or cognitive disorders.

If a patient has a long-term prescription from another provider, consider a consultation for a medication review, particularly if the patient has risk factors for benzodiazepine-related harms, such as older age or concurrent use of alcohol or opioids.

Taking a benzodiazepine history

If a patient discloses any benzodiazepine use, take a benzodiazepine history. Patients may be reluctant to disclose benzodiazepine use due to fear of consequences. It is important to remain neutral and non-judgmental when taking a history. We suggest using a script like the following:

> *How frequently do you use benzodiazepines? Is it closer to monthly, weekly, or daily?*
>
> *How much do you take on a typical day? What's the most you've ever taken in a day in the past month?*
>
> *What types of benzodiazepines do you use?*
>
> *Do you ever order benzodiazepines from the internet or buy them from the street?*
>
> *Do you ever use benzodiazepines at the same time as other sedating substances, like alcohol or opioids?*

Criteria for benzodiazepine use disorder[28]

Based on the patient's history, determine whether the patient has benzodiazepine use disorder. The DSM-V defines a sedative, hypnotic, or anxiolytic use disorder as a "problematic pattern of sedative, hypnotic, or anxiolytic use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period" (36):[29, 30]

1. Sedatives, hypnotics, or anxiolytics taken in larger amounts or over a longer period of time than intended.
2. Repeated unsuccessful efforts to reduce use.
3. Significant amount of time spent obtaining or using the sedative, hypnotic, or anxiolytic, or recovering from its effects.
4. Strong cravings or urges to use the sedative, hypnotic, or anxiolytic.
5. Recurrent use resulting in a failure to fulfill responsibilities.
6. Continued use despite use-related social or interpersonal problems.
7. Reduction of major activities because of sedative, hypnotic, or anxiolytic use (e.g., missing work, spending less time with children or spouse).
8. Repeatedly using the sedative, hypnotic, or anxiolytic in situations or activities where intoxication is dangerous.
9. Continued use despite knowledge of related physical or psychological problems.
10. Tolerance (need to use more to achieve the same effect, or diminished effects with continued use of the same amount).
11. Withdrawal (e.g., tremors, anxiety, insomnia, sweating, seizures).

> 2–3 criteria: **Mild use disorder**
> 4–5 criteria: **Moderate use disorder**
> 6+ criteria: **Severe use disorder**

Managing benzodiazepine use

Prescribers should strive to avoid initiating benzodiazepines for anxiety or sleep given their known harms and the advantages of therapeutic alternatives. Ideally, benzodiazepines should be prescribed for short-term use only with a time-limited prescription and an understanding that these medications will not be renewed.

All patients who use benzodiazepines (prescribed or not, long-term or short-term) should be educated on the **harms** associated with benzodiazepine use and given advice on how to mitigate these harms. For patients who

[28] The DSM-V recognizes the broader category of "sedative, hypnotic, or anxiolytic use disorder" rather than "benzodiazepine use disorder" specifically. We refer to "sedative, hypnotic, or anxiolytic use disorder" when quoting the DSM-V and use "benzodiazepine use disorder" for brevity otherwise.

[29] Please refer to the DSM-V pp.550–551.

[30] Criteria 10 and 11 are not considered to be met if the patient if the patient takes the medication only as prescribed.

have been taking benzodiazepines daily for more than twelve weeks, a benzodiazepine **taper** should be attempted rather than abrupt cessation of treatment. Clinicians should provide additional supports to patients who meet the criteria for **benzodiazepine use disorder**, such as referral to an addiction specialist and/or counselling services.

Harm reduction advice

It is important to educate patients on how to reduce their risk of benzodiazepine-related harm. Patients who are being prescribed benzodiazepines should be reminded to keep their medication in a secure location, limit use of alcohol, opioids, and other sedatives, and not to take extra doses or alter the route of delivery. Consider using the following messaging for patients who use benzodiazepines not prescribed to them:

I'd advise you not to use any medication that hasn't been prescribed to you. Street benzodiazepines, like Xanax bars, may contain any number of medications and contaminants. If you use street drugs, please consider the following strategies:

- *Use drug-checking services (if available) to confirm that they are what you expect. If you cannot get your drugs checked, start with a test dose in case your product is not what you expect it to be.*
- *Do not use alone.*
- *Do not snort, smoke, or inject benzodiazepines.*
- *Do not mix benzodiazepines with other substances, especially alcohol or opioids.*

I'll continue to ask you about your benzodiazepine use. If at some point you feel that your benzodiazepine use is getting harder to control, please tell me.

Tapering

Patients who have been taking their benzodiazepines as prescribed are unlikely to have benzodiazepine use disorder, but physiologic dependence, including tolerance and withdrawal, often develops with long-term regular use. Because of the risks of long-term benzodiazepine use, it is a good idea to attempt to taper most patients who have been on a daily dose for more than twelve weeks, especially if they have experienced or are at risk of an adverse effect. Evidence suggests that voluntary tapering is well tolerated and beneficial, with resolution of benzodiazepine-related side effects, improved quality of sleep, and stable anxiety symptoms (131, 132). Even if a patient has experienced no benzodiazepine-related adverse effects, they may find that they feel more alert and energetic as they reduce the dose.

Approach to tapering

Before initiating a taper, it is important to ensure that patients who have been taking benzodiazepines for anxiety have begun alternate pharmacological and/or psychological treatment. If a medication for anxiety, such as an SSRI, is initiated, wait until the medication has had enough time to reach a clinical effect (i.e., six weeks) and the patient has responded to the new therapy before beginning the taper.

We recommend the following guidelines for tapering:

Dosing interval	Scheduled doses rather than PRN. Keep dosing interval the same for as long as possible (e.g., BID or TID). Advise patient not to skip or delay doses (in an attempt to speed up the taper), as this can cause a sharp increase in anxiety.
Rate of taper	Taper slowly. Reduce the daily dose by no more than 5 mg diazepam equivalent per week; can taper the daily dose as slowly as 1–2 mg diazepam equivalent/month. Can taper according to proportional dose remaining: Taper by 10% of dose every visit until at 20% of original dose, then taper by 5%. Let patient choose which dose is decreased (AM, PM, or HS). Adjust rate of taper according to patient response. Slow pace of taper once daily dose below 20 mg diazepam equivalent.
Dispensing interval	If patient runs out early, increase dispensing frequency to weekly, alternate days, or daily.
Collaboration with patient	Have frequent appointments with patient to monitor mood, anxiety levels, and functioning. Hold taper if patient experiences a decline in daily functioning due to rebound anxiety. If patient experiences suicidal ideation due to worsening mood/anxiety, increase the dose and do not resume the taper until baseline mood and functioning are restored.

Benzodiazepines can be tapered using the patient's usual benzodiazepine, particularly if they are using medication only at night or are on a long-acting medication (e.g., diazepam, clonazepam). For patients on short-

acting benzodiazepines (e.g. lorazepam, alprazolam) through the day, converting to a long-acting benzodiazepine can help to reduce the wearing on and off effect that can be associated with withdrawal and anxiety. The evidence on the best agent for tapering is not clear. While diazepam has a longer duration of action and therefore may result in a smoother withdrawal, clonazepam is less likely to cause prolonged sedation in the elderly and has a lower risk of euphoria; the best agent for a particular patient will depend on individual characteristics. When switching a patient in order to begin a taper, the initial dose should be lower than that of the usual agent, as the patient may not be tolerant to the new agent. To determine the initial dose, convert the total daily dose of the original agent to the new agent and divide in half; this initial daily dose should be divided into BID or TID scheduled dosing. Increase the dose until the patient is comfortable, but do not exceed the fully equivalent dose.

Benzodiazepine equivalencies are not yet well established by the evidence, and prescribers should be cautious in their estimates. Monitor patients carefully to avoid over-sedation, particularly in older adults and those with impaired hepatic metabolism. The Ashton manual (133) provides the following equivalencies:

Benzodiazepine equivalency estimates (133)

Diazepam (reference)	**10 mg**
Alprazolam*	0.5 mg
Bromazepam	5–6 mg
Chlordiazepoxide	25 mg
Clonazepam	0.5 mg
Clorazepate	15 mg
Flurazepam	15–30 mg
Lorazepam	1 mg
Nitrazepam	10 mg
Oxazepam	20 mg
Temazepam	20 mg
Triazolam*	0.5 mg

*Equivalency uncertain.

For examples of detailed tapering schedules with particular agents, please refer to the Ashton manual (133).

Patient education

Studies have consistently shown that patient education improves the likelihood of a successful taper (134). Patients who have been on a long-term benzodiazepine prescription may be afraid at the thought of tapering. When discussing a taper, explain the benefits of tapering (improved energy, mood, and function, reduced risk of falls, etc.), and emphasize that the taper will be slow and flexible. Consider providing the following message to patients when initiating a taper:

You haven't done anything wrong; I believe you that you've been taking your benzodiazepine as prescribed. The longer you take benzodiazepines, the more you start to develop tolerance to their effects, until they don't have any benefits for you anymore. Even though you started taking this medication to help you with anxiety or insomnia, it's probably not doing that any longer, and is putting you at risk of harms, such as excessive sedation, cognitive impairment, and respiratory depression. Tapering your dose will actually make you feel better; you're likely to have more energy and feel more alert.

I know you're worried about your original symptoms coming back as you taper off the medication. We'll proceed as slowly as necessary, and if you experience withdrawal symptoms or anxiety that make it hard for you to function, we'll adjust the rate of the taper to keep you as comfortable as possible.

During follow-up appointments, ask the patient about any improvements in their mood, energy, and concentration; if possible, involve the patient's partner or family member, as others often notice improvement before the patient does.

Withdrawal and rebound symptoms

As the benzodiazepine dose is lowered, patients may experience an increase in anxiety, as well as poor concentration or sleep disturbances that are either withdrawal-related or rebound symptoms of the patient's underlying condition. Ensuring that the underlying condition is appropriately managed (SSRIs, CBT, trauma therapy, etc.) will help rebound symptoms, while a slow and gradual taper will mitigate symptoms of withdrawal.

The symptoms of benzodiazepine withdrawal are similar to those of alcohol withdrawal. Abrupt discontinuation of a high daily dose (i.e., 50 mg of diazepine or equivalent), especially of a short-acting agent such as alprazolam or etizolam, is likely to cause severe withdrawal symptoms, including tremor, delirium, acute hypertension, psychosis, or seizures, within two to four days of cessation. For this reason, **benzodiazepines should never be stopped abruptly**. Severe benzodiazepine withdrawal should be treated immediately with lorazepam SL 2–4 mg;

once the withdrawal is resolved, resume the patient's regular dose and proceed with a slow taper as described above. Some patients experience withdrawal symptoms even with very small incremental dose decreases; in these cases, doses may be decreased less frequently than daily, i.e., 1–2 mg every two to three days.

Managing benzodiazepine use disorder

Indications that a patient has developed benzodiazepine use disorder include a dose well above the usual therapeutic range, frequently running out of medication early and/or accessing medication from other sources, and engaging in a pattern of binge use with recurrent intoxication and withdrawal. Patients suffering from benzodiazepine use disorder may benefit from some additional structure and support during the taper.

Patients experiencing significant intoxication, characterized by sedation, emotional lability, and impulsive or dangerous behaviour, should initially be tapered quickly (i.e., 5 mg diazepam equivalent every three to seven days); the taper should be slowed to the rate described above once the intoxication has resolved. Switch the patient to clonazepam as described above, order frequent dispensing (i.e., every one or two days) to help the patient stick to the taper, and see the patient frequently to ask about withdrawal symptoms, mood and functioning, and use of other substances such as alcohol or opioids. Urine drug screens may be used to corroborate the patient's self-report of their substance use. If the patient is not able to stop using their regular benzodiazepine despite a slow tapering regimen, consider a referral to an addiction clinic. Patients who are on very high doses may benefit from an admission to an inpatient medical detoxification unit, if one is available; consultation with an addiction specialist is recommended.

As for any patient with a substance use disorder, refer the patient to appropriate psychosocial supports, such as residential treatment, individual or group therapy, or mutual aid (e.g., twelve-step groups, Secular Organizations for Sobriety).

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