Clinical Best Practices in Addiction Medicine

A guide for RAAM clinicians

Mentoring, Education, and Clinical Tools for Addiction: Primary Care–Hospital Integration

METAPHI
MENTORING, EDUCATION, AND CLINICAL TOOLS FOR ADDICTION: PRIMARY CARE – HOSPITAL INTEGRATION

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Introduction

Mentoring, Education, and Clinical Tools for Addiction: Primary Care–Hospital Integration (META:PHI) is an ongoing initiative to improve the experience of addiction care for both patients and providers. The purpose of this initiative is to set up and implement care pathways for addiction, foster mentoring relationships between addiction clinicians and other health care providers, and create and disseminate tools and educational materials for addiction care.

The practice of addiction medicine can be incredibly satisfying, as it sometimes allows us to make a profound difference in our patients' lives. As addiction clinicians, we have the privilege and responsibility to provide care to people who have often been let down by the health care system. In addition to the physical, psychological, and social challenges that individuals with substance use disorders struggle with, these patients very often also face discrimination due to stigma when they seek medical help. Addressing the damage done by this stigma is a crucial part of our role, in addition to providing medical support.

Although we hope that the information in this guide will be useful to clinicians in a variety of settings, it is primarily intended for clinicians operating within a rapid access addiction medicine (RAAM) clinic. RAAM clinics are designed to be **low-barrier**, **walk-in**, and **patient centred**, allowing people struggling with substance use disorders to access care when they need it. The purpose of this guide is to provide information that goes beyond the basics of addiction medicine and addresses some of the more complicated clinical challenges we might face. Unfortunately, addiction research tends to move slowly, and much of the literature is made up of relatively small trials, meaning that the recommendations presented in this guide are based on uncertainty. We have used focused literature reviews to summarize the available evidence for the topics covered here, and have otherwise based our suggestions on our clinical experience and discussion with colleagues. We are indebted to our patients for their courage, their trust, and all they have taught us over the years, and to our colleagues, especially those on the META:PHI Community of Practice, for sharing their knowledge and experience with us.

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Approach to RAAM practice

How do you create patient engagement?

Tell the patient that addiction is a treatable condition. Negotiate a treatment plan.

For many patients, their first visit to an addiction clinic is their only visit. Therefore, it is critical to make every initial appointment worth the patient's while: Assume that you will never see the patient again, and help them leave with something concrete.

For most medical visits, patients usually have an idea of what they are hoping for; however, most patients visiting a RAAM clinic for the first time are not at all sure how the clinic can help them. Many feel their substance use disorder is mainly their own fault rather than a medical condition amenable to intervention. Therefore, on the first visit, it is important to explain what addiction is: a chronic biopsychosocial condition that is complicated by powerful neurological reinforcement. Patients should understand the following key aspects of addiction:

- It is not the patient's fault that they have a substance use disorder. It does not make them weak, stupid, or a bad person.
- Substance use disorders have predictable causes or *risk factors*. The two most important are a family history of substance use and psychiatric conditions (e.g., anxiety, PTSD caused by difficult childhood experiences). People with these risk factors are more likely to use substances to cope with powerful negative emotions so they can function.
- The cycle of tolerance, dose escalation, and withdrawal makes it very difficult for people to stop their substance use on their own.
- Treatment is available and is often very effective. With treatment, the patient's mood, energy, sleep, relationships, and overall functioning generally improve quickly and dramatically.
- Treatment usually involves medication to address the biological component of addiction and counselling to address the psychosocial component (including anxiety, depression, PTSD, etc.).

During the initial visit, some patients may be ambivalent about stopping their substance use. Others may be desperate for change but doubtful that they can achieve it. Whatever stage the patient is at, listen to them without judgment and work with them to come up with a plan that addresses the needs that they have identified. The patient should leave with an understanding of what addiction is and a clear idea of what to do next.

How long should a RAAM clinic appointment be?

Allow up to an hour for initial appointments and up to half an hour for follow-ups. Flexibility is important.

The length of the initial appointment depends on the needs of the patient. In most cases, an initial appointment will include an intake assessment and substance use history, which may involve a social worker, addictions counsellor, nurse, and/or physician. We suggest allowing at least an hour for an initial appointment.

There is also variation in the length of follow-up appointments. A patient's first follow-up appointment tends to be longer than subsequent follow-ups. During this visit, check in with the patient about their response to medication, their substance use, their mood, progress on their treatment plan, and any referrals or arrangements that need to be made. Follow-up appointments become shorter as the patient becomes more stable; patients who are doing well often just need a quick check-in and medication renewal. Longer follow-up appointments (i.e., first follow-ups, follow-ups for patients who are very complex and/or unstable) may take up to half an hour; follow-ups for stable patients may take as little as ten or fifteen minutes.

We do not suggest imposing a time limit on appointments. When patients know from the start that they have your undivided attention during their appointment and that they can have as much time as they need with you, they may be less likely to be angry about having to wait a long time to see you.

How long should we be following individuals for?

Follow the patient until they are stable, then transfer them back to their primary care provider.

Ideally, the patient is followed until they are stable, indicated by good response to medication, decreased substance use, resolution or improvement of problems or conditions related to substance use, and improved relationships. In most cases, this will take about three to nine months, depending on individual patient characteristics (e.g., length and severity of the substance use disorder, social determinants of health, etc.). Once the patient is stable, long-term care (including prescribing addiction medications) should ideally be transferred to the primary care provider. This creates room for the RAAM clinic to see new patients and increases the confidence and capacity of primary care providers to manage patients with substance use disorders.

Transferring addiction care to the primary care provider (PCP) is more complicated for patients being maintained on methadone. Even though an exemption is no longer required to prescribe methadone in Canada, many PCPs will not have the necessary confidence and skills to take this on. It may therefore be necessary to follow patients on methadone maintenance therapy for

longer than other patients. We recommend against discharging patients to clinicians you are unfamiliar with who work at high-volume methadone clinics, as some of these clinics provide inadequate care and impose burdensome program requirements (such as frequent visits and urine drug screens), the combination of which may contribute to treatment drop-out (1). Patients who are stable on methadone but cannot be sent to their PCP for ongoing care should only be discharged to a methadone clinic if you are very confident that the patient will receive care that is at least as good as what they receive at the RAAM clinic.

Some patients may feel anxious about their primary care provider learning about their substance use, especially at the beginning of their treatment; they may be afraid that their PCP will be angry with them or refuse to see them again. They may also worry that their PCP will not be willing or able to manage their substance use. Tell them that when they are stable, you will send their PCP a transfer letter that summarizes the treatment plan and invites the PCP to contact you at any time with any questions, concerns, or problems. To help the patient feel supported, reassure them that they can reconnect with you if they ever want to.

How do you engage PCPs in patients' addiction care?

Build strong relationships and encourage referral pathways. Encourage PCP involvement in patients' management as early as possible.

The best way to engage primary care providers in patients' addiction care is to make them aware that having addiction medicine skills will make their jobs easier. PCPs may feel frustrated or guilty for not knowing how to help their patients with substance use disorders; emphasize that learning these skills will make their appointments with these patients much more effective and satisfying.

There are many ways to reach out to PCPs:

- Talk informally with PCPs you already know and offer your expertise.
- Give rounds at local primary care clinics and hospitals.
- Offer addiction in-services to groups of practitioners. This can be done a variety of ways: informal sessions, consultations, regular shared-care days, etc.
- Invite interested PCPs to observe you in your clinic.
- Sign up for a mentoring service, such as Project ECHO (https://www.echoontario.ca/) or Medical Mentoring for Addictions and Pain (https://www.ontariofamilyphysicians.ca/education/collaborative-mentoring-networks/medical-mentoring-for-addictions-and-pain-mmap), and encourage PCPs to sign up as mentees.

During initial appointments, always ask patients for permission to send a consult note with their treatment plan to their PCP. Bringing the PCP into the patient's addiction management at the beginning of treatment makes the eventual transition back to primary care easier for both the

patient and the PCP: It opens communication between you and the PCP, makes the PCP aware of the plan, and encourages the patient to think of you and their PCP as their care team.

Building strong relationships with local PCPs will also enable you to connect unattached stable patients to primary care. Negotiate relationships with PCPs in which you assess their patients who are struggling with substance use and they take over primary care for RAAM clinic patients who are stable and ready to be discharged.

How do you set up a RAAM clinic for best patient outcomes and experience?

Ensure a safe, non-judgmental, non-stigmatizing environment. Centre the patient and their needs. Facilitate connections to other social and health services.

How a patient is greeted when they arrive at the RAAM clinic sets the tone for the entire encounter. Patients who are seeking help for a substance use disorder for the first time may be feeling frightened, guilty, or ashamed, and they may also be very sensitive to feeling judged. It is therefore vital to create an environment that is safe, non-judgmental, and non-stigmatizing. Ensure that clinic receptionists understand the importance of making patients feel welcome. Make the registration procedure as straightforward as possible so that patients do not feel overwhelmed, and make the waiting room and clinical areas as welcoming and comfortable as possible.

Every clinician that the patient interacts with during their RAAM clinic visit should be empathetic, attentive, and non-judgmental. Practice active listening and speak to the patient's specific needs and concerns. At the end of the visit, the patient should feel that they were heard, that their concerns and questions were addressed, and that they had a full explanation of what addiction is and what their treatment options are. They should leave with a sense of optimism and hope, and also relief that they do not have to endure shame and guilt over their substance use.

Depending on your clinic resources, it may be feasible to provide patients with some degree of routine health screening and treatment and/or case management. However, if this is not possible, patients should be referred to other health and social supports according to their needs. To facilitate making appropriate referrals, we recommend putting together a list of local resources to offer to patients:

- FHTs, CHCs, and drop-in primary care clinics
- ID clinics
- Community agencies providing case management and counselling
- Drop-in community programs
- Drop-in meal programs
- Sexual health clinics
- Smoking Treatment for Ontario Patients (STOP) programs
- HIV and hepatitis C clinics
- Shelters and crisis beds
- Public Health Units

How do you create good team-based care balanced between a medical approach and counselling?

Foster ongoing positive communication between all members of the care team. Reinforce a common understanding of the different facets of addiction care.

Different members of a clinical team will have different areas of expertise. Addiction physicians and nurse practitioners are usually very familiar with addiction medications, while addiction nurses, counsellors, and outreach workers often have strong counselling skills. It is important to recognize that both medications and counselling have a role to play in addiction treatment. Medication helps control physical cravings, which makes patients more able to participate in counselling, and counselling helps patients get at the root of their substance use.

Team-based care is most effective when team members work collaboratively. Arrange regular team meetings for case reviews and discussions about clinic issues. This keeps all members of the team engaged with one another and allows the group to build a shared understanding of what addiction treatment looks like.

What clinical resources for addiction are available?

Visit resource websites. Look for local education and mentorship opportunities.

If you or your colleagues are looking for clinical, educational, or mentorship resources, there are several organizations that provide online materials and opportunities:

- The META:PHI website has a section on tools for providers, including some resources specifically for use in a RAAM clinic setting (http://metaphi.ca/provider-tools.html). There is also a collection of educational resources (http://metaphi.ca/provider-education.html).
- The British Columbia Centre on Substance Use has produced a number of clinical resources, including treatment agreements for buprenorphine, methadone, and slow-release oral morphine, withdrawal scales, and information sheets (https://www.bccsu.ca/clinical-care-guidance/). They also offer a free online training program in addiction care and treatment (https://www.bccsu.ca/about-the-addiction-care-and-treatment-online-certificate/), which is eligible for credits from both the College of Family Physicians of Canada and the Royal College of Physicians and Surgeons of Canada.
- The Portico Network website has a collection of clinical tools (https://www.porticonetwork.ca/tools/clinical-tools) as well as a dedicated toolkit aimed at family physicians for managing addictions (https://www.porticonetwork.ca/web/portico/tools/toolkits/pcat).
- The Centre for Addiction and Mental Health offers many training courses and programs to health care providers, some of which are delivered entirely online (https://www.camh.ca/en/education/continuing-education-programs-and-courses).
- The Machealth Opioids Clinical Primer offers a three-course module on managing opioid use disorder along with several clinical resources and tools (https://machealth.ca/programs/opioids_clinical_primer/p/oud).
- The Collaborative Mental Health Network and the Medical Mentoring for Addictions and Pain program are mentorship networks offered through the Ontario College of Family Physicians (https://www.ontariofamilyphysicians.ca/education/collaborative-mentoring-networks).
- ECHO Ontario offers an online mentorship program for addiction medicine and psychosocial interventions (https://camh.echoontario.ca/program-ampi/).

We also encourage providers to engage in local education and mentorship opportunities, such as observerships and preceptorships, lunch-and-learn sessions, hospital rounds, or huddles. This facilitates the development of supportive relationships within your local network of care providers.

Alcohol

How do I determine the appropriate setting for managing alcohol withdrawal for a particular patient?

Consider your resources. Ensure that patient receives aggressive treatment and appropriate follow-up. Avoid sending patients home with large benzodiazepine prescriptions.

Withdrawal can be treated as a planned, elective intervention in the RAAM clinic. Planned withdrawal is indicated for patients who are committed to abstinence but have difficulty achieving it because of daily withdrawal symptoms. The patient should be instructed to have the last drink ten to twelve hours before attending the RAAM clinic, so that withdrawal symptoms will emerge when the patient arrives.

It will be challenging to fully treat withdrawal if the RAAM clinic is only open for a few hours at a time. Before the withdrawal intervention is arranged, patients should be advised that they may need to go to the emergency department (ED) or withdrawal management if they are still in significant withdrawal when the RAAM clinic closes.

Patients in alcohol withdrawal need to be treated aggressively and confidently and need very close (ideally daily) follow-up, either in person or by phone, for four to seven days, depending on the severity of the withdrawal. The patient should be assessed every hour using the Clinical Institute Withdrawal Assessment for Alcohol, Revised (CIWA-Ar) scale (2) or the Sweating, Hallucination, Orientation, Tremor (SHOT) scale (3); order diazepam 20 mg or lorazepam 4 mg for CIWA-Ar ≥ 10 or SHOT ≥ 2[1]. Treatment is complete when the CIWA-Ar score is below eight or SHOT score is zero or one on two consecutive occasions and the patient has minimal or no tremor. Patients should be sent to the emergency department if they are still in moderate to severe withdrawal after three or four doses of benzodiazepines; if they are disoriented, agitated, or hallucinating; if they have repeated vomiting, profuse sweating, tachycardia, or rising blood pressure; or if they have medical conditions that put them at risk of complications (e.g., liver failure, COPD, sleep apnea, heart disease, on medications that prolong the QT interval, or on high doses of opioids). On treatment completion, the clinician should tell patients that they are now ready to achieve abstinence because they no longer have a biological need to drink to ward off withdrawal symptoms. The treatment plan should be reviewed with the patient: anti-craving medications, follow-up with the RAAM clinic, attendance at a mutual aid group and/or other community services, and strategies to avoid alcohol.

[1] 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.

If the patient is still in mild withdrawal when the RAAM clinic closes, the optimal treatment setting depends on a number of factors. For some patients, a three-day outpatient diazepam prescription may be indicated, to be either taken at home under the supervision of a family member, daily dispensed by a nearby pharmacy, or dispensed at a withdrawal management centre. Outpatient prescriptions for benzodiazepines should be scheduled, not PRN, and only taken if definite physical withdrawal symptoms are present; this should be written explicitly on the prescription (e.g., diazepam 10 mg q 4 H for tremor on the first day, 10 mg q 6 H for tremor on the second day, 10 mg q 12 H for tremor on the third day). Patients should be advised to attend the next RAAM clinic for follow-up; if the next clinic is several days away, consider checking in by phone if possible to see how the patient is doing.

Emergency departments and other inpatient medical settings are well resourced, allowing patients to have 24-hour care and rapid access to procedures such as ECGs or IV fluids and medications. However, the withdrawal treatment that patients receive in medical settings is often not aggressive enough, which can lead to the patient leaving before treatment is complete and relapsing to alcohol immediately. Additionally, patients who have had negative experiences receiving treatment for withdrawal may not be willing to consider an emergency department visit or hospital admission. Sometimes these problems can be avoided or minimized if the RAAM clinic calls or sends a letter with the patient with treatment recommendations for the ED.

We recommend against writing large prescriptions for benzodiazepines for patients to take at home. Patients who continue to drink while taking benzodiazepines are at increased risk for respiratory depression. Additionally, people can become physically and psychologically dependent on benzodiazepines within a few weeks of regular use, compounding the problem. Aggressive benzodiazepine loading should only be done under medical observation, and outpatient prescriptions should be limited to modest scheduled doses for a maximum of three days. Ensure the patient understands that they should discontinue the medication if they resume drinking.

What are some benzodiazepine-sparing regimens for alcohol withdrawal in an outpatient setting?

Gabapentinoids have preliminary evidence for being effective in reducing symptoms of alcohol withdrawal, and are preferred to benzodiazepines for treating post-acute withdrawal. Aggressive benzodiazepine loading is still preferred for patients in severe withdrawal and/or at risk for withdrawal seizures.

Although benzodiazepines are still the first-line treatment for alcohol withdrawal, there is some preliminary evidence that gabapentin and pregabalin are effective alternatives for mild to moderate symptoms (see lit review). They also treat post-acute withdrawal symptoms and have lower abuse potential than benzodiazepines. Trials have shown that gabapentin 1200 mg/day or pregabalin 450 mg/day are effective at reducing CIWA-Ar scores for patients in withdrawal. In the authors' experience, gabapentin 600 mg tid is effective at relieving patients' withdrawal symptoms without significant sedation or impairment.

Lit review: Gabapentinoids

Myrick et al. (4) conducted a four-day randomized double-blind trial of 100 outpatients with alcohol use disorder (AUD) and CIWA-Ar scores of at least 10. Participants were randomized to receive gabapentin 900 mg/day, gabapentin 1200 mg/day, or lorazepam 6 mg/day (there was initially a group receiving gabapentin 600 mg/day, but this group was discontinued when two patients had seizures). Participants in all groups showed CIWA-Ar score reduction; the high-dose gabapentin group showed the greatest reductions, and the low-dose gabapentin group and the lorazepam group showed the same reductions. Participants in the lorazepam group had a higher chance of drinking as the lorazepam dose was decreased, and both gabapentin groups had less probability of drinking during the post-treatment period and lower scores for cravings, anxiety, and sedation.

A literature review (5) on the effectiveness of pregabalin for treating alcohol use disorder reviewed three trials (6-8) on its use in the management of alcohol withdrawal. Two of the three trials suggest that pregabalin is effective in the treatment of withdrawal, and the review suggests that the results of the third trial may be explained by participant selection.

Martinotti et al. performed a randomized single-blind comparison trial (ITT population study) in which 111 participants with consumption of more than 80 g of alcohol in the past 24 hours with CIWA-Ar score of 10+ were enrolled to receive either pregabalin (n=37, max dose 450 mg/day), tiapride (n=37, max dose 800 mg/day), or lorazepam (n=37, max dose 10 mg/day). Participants in all three groups showed a reduction of CIWA-Ar score, but the pregabalin group showed greater reductions in their scores for headache and orientation. Treatment retention was similar for the pregabalin and lorazepam groups (lower in the tiapride group), and the number of subjects remaining abstinent was higher in the pregabalin group.

Because the evidence for gabapentinoids as an alcohol withdrawal agent is still preliminary, this recommendation is conditional on the provider's experience and individual patient characteristics. Additionally, it is important to note that gabapentinoids are not as effective as benzodiazepines at preventing withdrawal seizures; patients in severe alcohol withdrawal, especially those who have a history of or are at risk for DTs or withdrawal seizures, should be treated with benzodiazepines. As mentioned above, we recommend aggressive symptom-triggered treatment in which patients receive diazepam 20 mg or lorazepam 2 mg every hour for a CIWA-Ar score of ten or more; treatment should not be discontinued until the score is below eight on two consecutive occasions. This dosing regimen lowers the chances of DTs, and an outpatient prescription for benzodiazepines will likely not be necessary if the patient's withdrawal is fully treated before they leave.

Lit review: Gabapentinoids (cont'd)

Di Nicola et al. conducted an open prospective study to evaluate the safety and effectiveness of pregabalin for outpatient alcohol withdrawal. Forty participants with a diagnosis of AUD and a CIWA-Ar score between 10 and 20 received 150 mg pregabalin bid on the first day, a flexible dose (200–450 mg/day, mean dose 289 mg) for six days, and then tapered for seven days. Participants showed significant reduction in withdrawal symptoms and cravings, significant quality of life improvement by day 14, an improvement in comorbid psychiatric symptoms, and decreased GGT and ALT.

Förg et al. conducted a six-day randomized double-blind controlled trial on 41 inpatients with AUD comparing the amount of diazepam administered as a rescue medication between the pregabalin group (n=20) and the placebo group (n=21). The pregabalin group was not found to be superior to the placebo group according to this measure, and the rates of dropout were similar for both groups. However, the review (5) points out that participants had lower baseline CIWA-Ar scores (8.1 for the pregabalin group, 8.3 for the placebo group) than the participants in the other two trials, meaning the benefit may not have been as obvious (there were also demographic differences between the two groups; the pregabalin group had a significantly higher mean age).

What bloodwork or tests are important in AUD patients?

Order CBC, GGT, ferritin, AST, ALT, albumin, INR, and bilirubin. Test for hepatitis C.

Liver function tests will show signs of alcoholic liver disease: Elevated AST indicates liver inflammation, high bilirubin/INR or low albumin indicates liver dysfunction from cirrhosis, and low platelets indicate liver dysfunction from splenomegaly (confirmed by ultrasound) due to portal hypertension (confirmed by endoscopy with measurement of portal pressures). If you find evidence of alcoholic liver disease, inform patients that continuing to drink at the same rate will lead to worsening disease, and that abstinence will prevent further liver damage.

The results of liver function tests are also important for medication safety. Disulfiram is contraindicated for patients with cirrhosis, and other medications should be used with caution (see below).

GGT is a good monitor of treatment progress and is a motivator for reduced drinking. The half-life of GGT is two to four weeks, and elevated levels usually return to normal within two to three months of abstinence. Patients feel proud when GGT declines.

It is also a good idea to test for hepatitis C, as patients who drink heavily have it at a higher rate, especially if they have a history of polysubstance use. Patients who have hepatitis C should be prescribed antiviral medication and told that alcohol and hepatitis C act synergistically to damage the liver, and that abstinence or minimal consumption is the safest course.

At what point during treatment should anti-craving medications be considered?

When indicated, anti-craving medications should be prescribed on the first visit. Bloodwork can be ordered on the first visit but should not delay initiation.

Starting an anti-craving medication can have both physical and psychological benefits for a patient. In addition to the pharmacological effects of the drug, the patient's act of taking a medication for their AUD reinforces that they have a medical condition and that they are treating it. Leaving the initial appointment with a treatment plan that includes medication may help the patient feel more in control of their recovery.

Many patients are ambivalent about starting an anti-craving medication due to the pervasive belief that AUD is a purely psychosocial condition; they may feel that they should be able to get better on their own. Provide patients with education about the biological component of addiction: Explain that cravings and subacute withdrawal symptoms come from a deep part of the brain related to appetite and motivation, and that these impulses are very hard to overcome. Anti-craving medications target these impulses directly, enabling the patient to engage in counselling and other psychosocial processes that are crucial to recovery.

Some anti-craving medications may cause elevations in AST and ALT, and bloodwork should be ordered at baseline and follow-ups so that levels may be monitored. However, unless the patient has clinical evidence of cirrhosis, we recommend against insisting on bloodwork before giving the patient a prescription. The liver enzyme elevations caused by anti-craving medications are reversible, and in our experience, some patients will drop out of treatment if they are told they must do a blood test before receiving their medication. The one exception to this is disulfiram; bloodwork should be obtained before starting this medication (see below).

What clinical considerations go into the choice of an anti-craving medication? What should be tried first?

Consider the patient's goals and clinical factors. If patient has an inadequate response to a medication, a supplementary medication may increase the benefit.

The choice of an anti-craving medication for a particular patient depends on several different factors, including the patient's drinking goals (abstinence versus reduced drinking), concurrent medical or psychiatric conditions (e.g., cirrhosis, anxiety), and Ontario Drug Benefit (ODB) plan coverage. Here we present some of the considerations that may go into the clinical decision.

Naltrexone is one of the first-line medications for AUD. It has been studied extensively and has strong evidence of benefit (9-13). It works by blocking the opioid receptor, reducing the euphoric effects of alcohol. Patients do not need to be abstinent while taking it, making it effective whether the patient's goal is abstinence or reduced drinking. It is not necessary to check bloodwork results before initiating naltrexone unless there is clinical evidence of cirrhosis. If the patient has pre-existing liver disease, order AST and ALT at baseline and at three to four weeks post-initiation; discontinue the naltrexone if levels rise more than three times the baseline level. Because it is an opioid antagonist, it will trigger opioid withdrawal in patients who take opioids. Naltrexone is covered by ODB with LU code 532; patients must meet the clinical criteria for AUD, express a commitment to reduce or abstain from alcohol, and confirm participation in AUD treatment. Prescribe 25 mg OD for three days to reduce GI side effects, then 50 mg OD; titrate to 100–150 mg OD if 50 mg does not provide sufficient relief of cravings.

Acamprosate is the other first-line medication for AUD. It is a glutamate antagonist and relieves sub-acute withdrawal symptoms, such as insomnia, dysphoria, and cravings. It is of similar effectiveness to naltrexone (10, 12, 13), but it is only indicated for patients who have abstinence as a goal; it is a good choice for patients who want to stop drinking but experience dysphoria or insomnia on cessation. Because acamprosate is not metabolized by the liver, it is safe for patients with liver disease; bloodwork is not necessary prior to initiation. Acamprosate is covered by ODB with LU code 531; patients must meet the clinical criteria for AUD, express a commitment to abstain from alcohol, be abstinent for at least three days prior to initiation, and confirm participation in AUD treatment. Prescribe 666 mg tid (or 333 mg tid if the patient has renal impairment).

Gabapentin works by modulating dopamine. It has been shown to relieve both acute (4) and sub-acute (14, 15) withdrawal symptoms. An advantage of this is that it can be used to treat alcohol withdrawal and then provided as a prescription on discharge. In addition to relieving cravings and reducing drinking, gabapentin also helps to relieve anxiety (4), and is therefore a good option for patients with a concurrent anxiety disorder. Gabapentin can cause sedation, and higher doses have been associated with pedal edema, particularly in elderly patients (16, 17). Because gabapentin has abuse potential, patients should be monitored to ensure that their use does not become problematic. Gabapentin is covered by ODB. Start at 300 mg bid or tid; the optimal dose is 600 mg tid.

Disulfiram is an aversive medication that causes a toxic reaction when combined with alcohol. It is very effective at preventing drinking when it is given under the supervision of a family member or partner, and is a good choice for patients for whom relapse would lead to serious social harm (e.g., loss of job or spouse). Very few patients test it once they have taken a tablet, and once it is in their system they stop ruminating about whether or not they should have a

drink. It is also reassuring for the person dispensing the medication, since they know that the patient is not drinking as long as they continue to take the medication. Disulfiram should not be prescribed to patients with cirrhosis. In rare cases, disulfiram can cause severe toxic hepatitis. Perform a baseline liver function test and repeat after two months; discontinue if AST or ALT is three times above baseline level. Disulfiram is not covered by ODB, and is only available as a compounded medication. Prescribe 125 mg OD; increase to 250 mg OD if the patient reports that alcohol consumption does not cause a reaction.

Topiramate is an anticonvulsant that has some evidence of benefit for AUD; some small trials have shown it to be superior to placebo in improving drinking outcomes (18-20). Topiramate can cause glaucoma, renal stones, or weight loss. Topiramate is covered by ODB. Start patients with 50 mg OD, and titrate by 50 mg to a maximum daily dose of 200–300 mg.

Baclofen is a muscle relaxant, and can be used as an anti-craving medication. It is the only anti-craving medication that is known to be safe in cirrhosis; however, the evidence for its effectiveness is uncertain (21-25). Baclofen is covered by ODB. Use doses of 20 mg tid or more and monitor patient for evidence of benefit.

Varenicline is a nicotine receptor partial agonist used for smoking cessation that may also be useful in reducing alcohol consumption. Although the results of randomized controlled trials are mixed (26-28), there is some evidence that varenicline reduces heavy drinking days in men who smoke. Varenicline is covered by ODB with LU code 423; patients must take it as a smoking cessation aid, in conjunction with smoking-cessation counselling. The controlled trials started patients on 0.5 mg OD for three days, then 0.5 mg bid for four days, then 1 mg bid.

Ondansetron, a serotonin 5-HT_3 receptor antagonist, may be used as a second-line drug in patients with early-onset alcoholism (i.e., patients who developed AUD before the age of 25). Early-onset alcoholism has been associated with a genetic defect in the serotonin transporter system that increases dopamine and thus increases the euphoric effect of alcohol. Ondansetron modulates the serotonin system, reducing alcohol's reinforcing effects in patients with this genetic defect. One controlled trial has shown that ondansetron reduced alcohol consumption in patients with early-onset alcoholism (29). ODB only funds ondansetron for chemotherapy-induced nausea. The controlled trial used a daily dose of 0.5 mg; ondansetron comes in 4 mg and 8 mg formulations, so compounding will be required.

Although evidence is limited, anti-craving medications that work on different neurophysiological systems and therefore do not interact may be combined in order to increase the benefit to the patient. A randomized controlled trial by Anton et al. (30) found that patients randomized to receive both gabapentin and naltrexone had improved drinking outcomes (i.e., a longer delay to heavy drinking, fewer heavy drinking days, and fewer drinks per drinking day), better self-

reported sleep, and more self-reported control over drinking urges than patients randomized to receive naltrexone alone.

How should I administer or prescribe thiamine?

Evidence for thiamine dosing regimens is unclear. Less rigorous evidence suggests that patients at risk for Wernicke's encephalopathy (WE) should be given 200 mg IM or IV OD for three to five days. After parenteral treatment, consider giving a prescription for 100 mg PO OD for at least one month.

AUD is a significant risk factor for Wernicke's encephalopathy (WE); other risk factors include malnourishment, trauma, and conditions involving recent vomiting. While thiamine is often administered to AUD patients to prevent or treat WE, there is not yet an evidence-based protocol for its use. A 2013 Cochrane review (31) found that RCT evidence for the use of thiamine for prevention of WE in AUD patients was insufficient to recommend a dose, route, frequency, or duration. Only a single study (32) identified in this review could be analyzed; this trial, in which IM thiamine was administered to 107 AUD inpatients once daily for two days in five different doses (5 mg, 20 mg, 50 mg, 100 mg, 200 mg), found that patients receiving the highest dose performed significantly better on a delayed alternation test than patients receiving the lowest dose, but found no other significant differences between the groups. Furthermore, the reviewers found the study to be methodologically flawed, leaving little evidence on which to base a clinical recommendation.

Guidelines based on expert opinion and uncontrolled trials (33-35) and hypotheses drawn from retrospective chart reviews (36, 37) broadly agree that high doses of thiamine are indicated for AUD patients with or at risk of WE, and that the IM or IV route is recommended over the oral route due to thiamine's reduced oral bioavailability for unhealthy patients. The recommendations of these sources converge at 200 mg IM or IV daily for three to five days for patients at risk of WE. One guideline (35) recommends IV administration over IM because the volume of the IM dose may be painful for the patient; however, IM administration may be more practical for both patients and practitioners.

After the patient has received parenteral treatment, consider giving them a prescription for 100 mg thiamine PO daily for at least one month. Oral thiamine is more readily absorbed in healthy patients, and this dose will help to resolve lingering thiamine deficiency.

How should I manage patients with AUD + comorbid mood or anxiety disorder?

Naltrexone combined with sertraline has some evidence of benefit for AUD patients with depression or anxiety. Gabapentinoids have evidence of benefit but also have abuse potential.

Many patients with AUD also suffer from a comorbid psychiatric condition, such as a mood or anxiety disorder. Because substance use disorders and mood/anxiety disorders tend to exacerbate each other, it is important to treat both concurrently. However, there is not yet much high-quality evidence for interventions that improve both conditions (see lit review).

To date, pharmacological options that have the best evidence of benefit for both drinking outcomes and psychiatric symptoms include (a) naltrexone combined with sertraline, (b) gabapentinoids, and (c) buspirone.

Naltrexone is one of the first-line medications for AUD, and sertraline has been found to be effective and well tolerated as a treatment for depression and anxiety (50). A randomized controlled trial found that using the two in combination is successful at improving both drinking outcomes and mood than placebo or either agent alone (51). As noted above, gabapentinoids (gabapentin, pregabalin) have been found to relieve both alcohol cravings and anxiety (4); pregabalin has rapid absorption and faster onset of action. Because gabapentinoids have abuse potential, patients should be monitored to ensure that their use does not become problematic. Although the evidence is limited, the anxiolytic buspirone has been shown in one small double-blind trial to be superior to placebo at reducing anxiety scores and alcohol cravings without adverse effects (52).

Lit review: AUD + psychiatric conditions

Reviews of the literature on pharmacological treatment of concurrent AUD and mood/anxiety disorder (as opposed to treatment of AUD in patients with a mood/anxiety disorder or treatment of mood/anxiety disorder in patients with AUD) have found the evidence to be inconclusive (38-42). Agents that have been studied include antidepressants (sertraline, paroxetine, desipramine) and anxiolytics (buspirone, gabapentinoids).

A Cochrane review of five RCTs found no high-quality evidence for any of the agents tested (38). One trial (43) found buspirone to be significantly superior to placebo at reducing symptoms of general anxiety disorder, but the evidence was of low quality; the study did not report on drinking outcomes. A synthesis of two studies (44, 45) found that paroxetine was superior to placebo at lowering symptoms of social anxiety disorder and reducing drinking, but the evidence was of very low quality. Desipramine was found to be superior to paroxetine at reducing drinking in veterans with concurrent PTSD and AUD, but no difference was found between the two agents at lowering symptoms of PTSD (46). Sertraline was found to be marginally superior to placebo at reducing symptoms of PTSD but no different from placebo at reducing drinking in one trial (47).

A review of treatments for comorbid AUD and anxiety disorder found that buspirone, pregabalin, and gabapentin had some evidence of benefit for reducing both anxiety symptoms and alcohol cravings (39).

A review of eight double-blind controlled trials of the effectiveness of antidepressants in patients with concurrent depression and AUD (42) reported that antidepressants were found to improve symptoms of depression in six of the trials, but drinking outcomes only improved in two trials: Desipramine (48) and fluoxetine (49) were both found to reduce both depressive symptoms and drinking.

All of the reviews concluded that the evidence is lacking for effective treatments of comorbid AUD and mood or anxiety disorders. More and higher-quality RCTs are needed to draw conclusions about the effectiveness of these treatments.

Although benzodiazepines provide rapid anxiety relief and are generally well tolerated by patients, we do not recommend them as anxiolytics for patients with AUD; people can become dependent on them quickly, and they increase the risk of respiratory depression if the patient continues to drink.

What are the considerations when managing AUD in special populations?

When treating elderly (65+) patients, consider the psychosocial reasons (e.g., loneliness) that might contribute to increased drinking. When treating women, bear in mind that substance use is more highly stigmatized in women, which can often lead to intense feelings of guilt and shame.

There are many patient groups that require special consideration during treatment, and the communities that are most prevalent in an individual practice vary from setting to setting. However, all RAAM clinics are likely to serve patients with AUD from two groups with particular needs: elderly patients (65 years and older) and women.

Older people are more sensitive to alcohol, and they are also likely to be on medications that may interact with alcohol. For these reasons, the low-risk drinking guidelines for elderly people are slightly lower than for non-elderly people: It is recommended that elderly people have no more than two standard drinks in one day, that men not exceed nine standard drinks per week, and that women not exceed seven standard drinks per week. When providing counselling to older adults about their drinking, keep in mind the psychosocial factors that may contribute to increased drinking: loneliness, isolation, boredom, grief over loss of a partner or friends, decreased mobility and activity, etc. (53) Patients should be encouraged to seek support for these issues from family and community services, and referrals to ongoing counselling should be made when indicated.

Women face unique challenges in seeking substance use disorder treatment. Women who use substances are more highly stigmatized than men who use substances (54); as a consequence, they often experience intense feelings of guilt and shame, which are barriers to recovery. It is important to help your patients overcome these feelings by ensuring that your clinic is a welcoming and non-stigmatizing environment and by explaining in a non-judgmental way how people develop substance use disorders, highlighting the role that trauma can play. Explain that many people use alcohol (or other substances) as a way to cope with feelings of anxiety or being overwhelmed, but that the relief it provides is temporary. Deliver a clear message that alcohol use disorders can be treated successfully, and that tools such as medication and counselling can greatly improve one’s mood and function.

How should I treat patients on opioids who drink heavily?

Consider a trial of gabapentin, but use caution. Starting patients on buprenorphine is likely to reduce their alcohol consumption.

Patients who use both alcohol and opioids are at increased risk of respiratory depression and death. It can be challenging to find an appropriate pharmacological treatment plan for patients on opioids who do not have abstinence as a drinking goal: Because naltrexone is an opioid antagonist, it is contraindicated in patients who use opioids, and because acamprosate relieves sub-acute withdrawal symptoms, it is not effective in patients who continue to drink. Two options that may be effective are gabapentin and buprenorphine.

Gabapentin may be a good option for some patients who use both alcohol and opioids. In addition to improving drinking outcomes, gabapentin is effective at treating some types of neuropathic pain (55). This means that some patients who use opioids to manage chronic neuropathic pain may find that gabapentin decreases their need for opioids in addition to reducing their drinking. However, concurrent use of opioids and gabapentinoids has been found to increase the risk of opioid overdose (56). If you prescribe a trial of gabapentin, watch closely for sedation and carefully monitor the patient's drinking outcomes; reduced drinking with gabapentin may lower the risk of opioid-related harms compared to continuing to drink at the same rate while on opioids. Discontinue if the medication does not help the patient reduce their drinking.

Consider starting patients who use both alcohol and opioids on buprenorphine. Because buprenorphine is a partial opioid agonist with a ceiling effect, it is less likely to cause respiratory depression than other opioids, making it less dangerous in combination with alcohol. In addition, buprenorphine is likely to decrease drinking in patients who use alcohol to cope with opioid withdrawal symptoms; buprenorphine's long duration of action will prevent patients from going through opioid withdrawal several times a day.

When is a managed alcohol program indicated?

Consider a managed alcohol program for patients who regularly drink non-palatable alcohol, who have not responded to anti-alcohol medications, and who are unstably housed.

Managed alcohol programs (MAPs) are facilities that dispense measured quantities of alcohol to clients at regular intervals. At the time of writing, MAPs are still relatively rare in Canada. Some preliminary evidence has shown that MAP participants have improved outcomes with respect to negative medical, legal, and social consequences of drinking (57). A MAP may be a good option for harm reduction for patients with severe and intractable AUD. The following traits may be indications for a MAP:

- Drinks 10+ standard drinks per day.
- Regularly drinks non-palatable alcohol (e.g., mouthwash, hand sanitizer, cooking wine).
- No response to an adequate trial of anti-alcohol medication.
- Frequent emergency department visits.
- Unable to participate in AUD treatment.
- Unstably housed or homeless.

The Canadian Managed Alcohol Program Study (CMAPS) at the University of Victoria maintains a list of MAPs in Canada (58). Please visit https://www.uvic.ca/research/centres/cisur/projects/map/index.php for current information.

Opioids

How can I reliably identify opioid use disorder in patients with chronic pain?

Look for risk factors, clinical features, and patterns of behaviour. An opioid rotation, taper, or trial of buprenorphine might be beneficial even for patients without opioid use disorder (OUD).

Even for experienced clinicians, it can be difficult to determine whether a patient taking opioids for a chronic pain condition has developed OUD. A major difficulty in making this determination is the fact that patients are very likely unaware that they have developed OUD; in many cases, patients do not realize that they are taking the opioids partly for the psychoactive effect rather than purely for the analgesic effect, and they may interpret their symptoms of withdrawal as a worsening of their chronic pain. The following indicators may help identify patients with OUD:

Risk factors	Personal or family history of addiction Underlying psychiatric disorder (particularly an anxiety disorder) Social factors: Boredom, isolation, unemployment, sex work, 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)

The behaviours of chronic pain patients with OUD are in particular contrast to patients without OUD, who use opioids for analgesia alone; because analgesic tolerance develops much more slowly than psychoactive tolerance, patients do not escalate their dose in the same way, and do not have to engage in aberrant behaviours in order to obtain the desired effect.

If a chronic pain patient does not have clear OUD but is not receiving sufficient improvement in pain and functioning from an adequate opioid dose, consider a modification of the opioid therapy (59, 60), either through switching the opioid, tapering, or initiating a trial of buprenorphine. **We strongly recommend against abrupt cessation of long-term opioid therapy for any reason, as this increases the patient’s risk of overdose.**

Once OUD has been diagnosed, what considerations go into the choice of what to use for opioid agonist therapy?

Buprenorphine is the first-line option for opioid agonist therapy (OAT); use methadone if buprenorphine is contraindicated, not tolerated, or not preferred by patient. Consider slow-release oral morphine if methadone and buprenorphine are not tolerated or not effective.

Systematic literature reviews have found that both buprenorphine (either alone or combined with naloxone) and methadone are effective at reducing illicit opioid use and retaining patients in treatment (61-63). The Canadian Research Initiative in Substance Misuse (CRISM) National Guideline for the Clinical Management of Opioid Use Disorder (64) recommends that buprenorphine be the first choice of OAT whenever possible, primarily due to its safety profile and flexibility. However, methadone may be chosen over buprenorphine in some situations:

- The patient experiences intolerable withdrawal symptoms and cannot abstain from opioids long enough to initiate buprenorphine (although see below for discussion of microdosing).
- The patient is at high risk of treatment drop-out (i.e., young, transiently housed, injection opioid use).
- The patient has had a previous adverse experience with buprenorphine (although if adverse experience was due to precipitated withdrawal caused by premature initiation, consider explaining precipitated withdrawal to the patient and seeing if they are willing to try again).
- The patient requests to try methadone instead of buprenorphine, or the patient has done well on methadone in the past.

The CRISM guideline recommends that slow-release oral morphine (SROM) be used as a third-line option, if both buprenorphine and methadone are contraindicated or ineffective for the patient. The evidence for the effectiveness and safety of SROM as an OAT option is of lower quality than the evidence for buprenorphine and methadone, and therefore SROM should be used with caution as a treatment for OUD. We recommend that, unless the patient is intolerant to both medications, SROM only be initiated if the patient has ongoing, problematic opioid use despite the following:

- A two- to three-month trial of an adequate dose of buprenorphine (up to 24 mg)
- A two- to three-month trial of at least 100 mg of methadone (unless the patient is on sedating medications[2])
- Participation in a patient-centred OAT program

[2] SROM is less risky than methadone if the patient is on sedating medications due to its shorter half-life.

Because prescribing methadone or SROM is riskier than prescribing buprenorphine, inexperienced practitioners should seek out education and/or mentorship before prescribing either of these agents in a RAAM setting (see Approach to RAAM Practice above).

How do I initiate buprenorphine treatment?

Avoid precipitated withdrawal. Consider home induction or microdosing. Have frequent appointments to assess patient's response.

The biggest risk of initiating buprenorphine treatment is triggering precipitated withdrawal, which is extremely uncomfortable for the patient and will make them reluctant to try buprenorphine again. It is therefore important to ensure that the patient has no opioids in their serum before initiating buprenorphine. The most effective way to do this is to use the Clinical Opioid Withdrawal Scale (COWS) to gauge the patient's degree of withdrawal (65):[3]

Resting heart rate	0	1	2		4	
Sweating	0	1	2	3	4	
Restlessness	0	1		3		5
Pupil size	0	1	2			5
Bone/joint aches	0	1	2		4	
Runny nose/tearing	0	1	2		4	
GI upset	0	1	2	3		5
Tremor	0	1	2		4	
Yawning	0	1	2		4	
Anxiety/irritability	0	1	2		4	
Goosebumps	0			3		5
TOTAL	**5–12 Mild** **13–24 Moderate**			**25–36 Moderately severe** **37+ Severe**		

Table 1: Clinical Opioid Withdrawal Scale (COWS)

Once the patient has a COWS score of at least twelve (including at least some definite physical signs in addition to more subjective ones) and at least twelve hours have passed since the patient's last use of an IR opioid, give an initial dose of 4 mg. Reassess the patient after two

[3] This scale can be downloaded from http://metaphi.ca/provider-tools.html.

hours and give an additional 2–4 mg if the patient is still in withdrawal. Repeat until withdrawal symptoms are relieved, up to a maximum of 12 mg. The dose should be titrated upwards until the patient is experiencing relief from withdrawal and cravings for a full 24 hours, to a maximum daily dose of 24 mg. Because buprenorphine does not accumulate in the serum, the dose can be titrated quickly, with daily increases if necessary, in order to control the patient's withdrawal; however, adjuvant medications can also be added if necessary for symptom control (e.g., NSAIDs, loperamide, trazodone, dimenhydrinate). For patients who are elderly or on benzodiazepines, start at a lower dose (i.e., 2 mg) and titrate upwards more slowly.

Although precipitated withdrawal can usually be avoided by ensuring that the patient's COWS score is greater than twelve before starting buprenorphine, there are some barriers to this. Patients will not necessarily be in withdrawal when you see them in clinic, and they may not be willing or able to attend the clinic when they are in withdrawal. As well, the risk of precipitated withdrawal is increased in certain circumstances; patients who have been using long-acting opioids such as methadone are at risk of precipitated withdrawal for up to 24 hours after their last use, and in our clinical experience, patients who are using fentanyl or its analogues sometimes go into precipitated withdrawal during initiation even if it has been over 24 hours since their last use and their COWS scores are sufficient. In these cases, wait for clear and definite physical symptoms of withdrawal (e.g., vomiting, myalgias) before administering buprenorphine, regardless of COWS score. The risk of severe precipitated withdrawal can be minimized by giving an initial dose of 1 mg rather than 4 mg, followed by larger doses every one to two hours. If mild precipitated withdrawal occurs, wait until it is resolved and try again in six to eight hours; severe precipitated withdrawal should be treated with aggressive buprenorphine dosing (24 mg or more given in divided doses in one day).

Limited clinic hours can make office inductions practically challenging. If you are seeing a patient for whom buprenorphine treatment is indicated but who is not yet experiencing moderate withdrawal symptoms, or if you will not be able to observe the patient for the duration of an office induction, consider giving the patient instructions on how to initiate buprenorphine at home. Although the evidence for the effectiveness of home induction is still limited, a literature review of ten clinical trials of unobserved buprenorphine initiation found that the process was feasible and that there were few adverse events; the review also noted that this practice seems to have been adopted as a standard of care at some academic hospitals in the United States (66). Precipitated withdrawal remains a risk for this method, as patients may take their first dose before they are in sufficient withdrawal; this risk can be mitigated by providing the patient with clear and explicit instructions about how long to wait after their last opioid dose and what the symptoms of moderate withdrawal are. The Subjective Opioid Withdrawal Scale (67) is a self-administered test that patients can use to determine when they are ready to take their first dose. Another potential consideration of this method is the risk of buprenorphine diversion.

While buprenorphine is much less commonly found in overdose victims than more potent opioids, diverted buprenorphine is still a health risk. We have been unable to find any published statistics on the prevalence of buprenorphine diversion, but personal experience and anecdotal reports suggest that it is a greater problem in rural areas than urban areas, possibly due to availability. However, convenient access to medication is a factor in engagement, and attending the pharmacy while in withdrawal is often a barrier. We recommend that clinicians consider home induction when its potential benefit for a particular patient outweighs the potential harm.

We recommend giving the patient a prescription for six to eighteen 2 mg buprenorphine tablets (depending on when you can see them again) with these written and verbal instructions:

You need to be in withdrawal before you take your first dose. Wait at least **twelve to sixteen hours** after your last opioid use, then take the Subjective Opioid Withdrawal Scale (SOWS). Before taking the medication, make sure you're having **at least three** of these symptoms:

- Bad stomach pains, nausea, and/or diarrhea
- Bone or joint aches
- Yawning
- Sweating
- Nose running or eyes tearing up
- Shaking
- Restlessness, trouble sitting still
- Goosebumps
- Bad anxiety or irritability

If you take the medication too soon, it will make you very sick.

Once you're sure you're in withdrawal, put two tablets **under your tongue (don't swallow them!)** and let them dissolve – it will take about five to ten minutes.

After the tablets have dissolved, wait for **two hours** to see how you feel. If you're still feeling sick, take another one or two tablets (depending on how sick you feel). For the rest of the day, if you keep feeling sick, take one or two tablets every two hours to a maximum of **six tablets (12 mg)**.

If you can see the patient the next day: Come back and see me tomorrow so that I can see how you're doing and give you another prescription.

If you cannot see the patient the next day: The next <day/two days>, take the total amount you took on the first day all at once. Come back and see me in <two/three> days so that I can see how you're doing and give you another prescription.

Subjective Opioid Withdrawal Scale (67)[4]					
Score each of the items below based on **how you feel right now**.					
	Not at all	A little	Moderately	Quite a bit	Extremely
I feel anxious	0	1	2	3	4
I feel like yawning	0	1	2	3	4
I am perspiring	0	1	2	3	4
My eyes are teary	0	1	2	3	4
My nose is running	0	1	2	3	4
I have goosebumps	0	1	2	3	4
I am shaking	0	1	2	3	4
I have hot flushes	0	1	2	3	4
I have cold flushes	0	1	2	3	4
My bones and muscles ache	0	1	2	3	4
I feel restless	0	1	2	3	4
I feel nauseous	0	1	2	3	4
I feel like vomiting	0	1	2	3	4
My muscles twitch	0	1	2	3	4
I have stomach cramps	0	1	2	3	4
I feel like using now	0	1	2	3	4
TOTAL					
If your score is **17+**, it should be safe to take your first dose of buprenorphine. If your score is **16 or less**, wait an hour and then take the test again.					

Table 2: Subjective Opioid Withdrawal Scale (SOWS)

[4] There is a pamphlet with this information available for download at http://metaphi.ca/patient-resources.html.

Microdosing might be an option for patients who are unable to tolerate withdrawal symptoms and thus cannot wait for a sufficient COWS score before starting buprenorphine. The Bernese method of microdosing involves administering very small doses of buprenorphine to a patient while tapering them off of their usual opioid over the course of several days (68). Although this method has only preliminary supporting evidence (see lit review), experienced clinicians may wish to use this method for patients who are interested in trying buprenorphine but are reluctant to stop their usual opioid because of fear of withdrawal. If the patient has been using fentanyl or heroin, it may be advisable to switch them to SROM daily dispense observed during microdosing.

Lit review: The Bernese method

The Bernese method of buprenorphine initiation was developed by Hämmig et al. (68). This method involves administering very small doses of buprenorphine concurrently with ongoing use of a full opioid agonist, which prevents the patient from going through opioid withdrawal.

Buprenorphine has a high affinity for the μ-opioid receptor and separates slowly after binding; because it is a partial agonist, it does not fully activate the receptor when it displaces full opioids, which is what leads to precipitated withdrawal. However, Mendelson et al. (69, 70) found that administering 0.2 mg of intravenous buprenorphine once a day did not precipitate withdrawal in patients maintained on methadone. These properties led Hämmig et al. (68) to hypothesize that repeated very small doses of buprenorphine in patients using a full μ-agonist would lead to an accumulation of buprenorphine at the receptor without triggering withdrawal, eventually completely replacing the full μ-agonist. They present a case study of two patients initiated onto OAT using this method. The first patient was gradually transitioned from 2.5 g/day of sniffed heroin to 12 mg/day of buprenorphine (SL) according to the following schedule:

Day	Buprenorphine (SL)	Heroin (sniffed)
1	0.2 mg	2.5 g
2	0.2 mg	2 g
3	0.8+2 mg	0.5 g
4	2+2.5 mg	1.5 g
5	2.5+2.5 mg	0.5 g
6	2.5+4 mg	0
7	4+4 mg	0
8	4+4 mg	0
9	8+4 mg	0

Hämmig et al. (68), p.101, their Table 1

The second patient was taking 40 mg/day of methadone and 800 mg/day of pharmaceutical heroin tablets, and was transitioned to 24 mg/day of buprenorphine over the course of 33 days. Both patients experienced minimal discomfort and only mild opioid cravings.

This method has not yet been tested in randomized clinical trials and therefore cannot be recommended as an evidence-based practice. However, experienced clinicians may in some cases consider it as a way of inducing a patient who is not able to tolerate opioid withdrawal or of transitioning a patient on methadone maintenance who is interested in trying buprenorphine.

The British Columbia Centre on Substance Use wrote a microdosing protocol that is in use in Vancouver-area care settings (71)[5]:

Day 1	0.5 mg
Day 2	0.5 mg
Day 3	1.0 mg
Day 4	1.0 mg
Day 5	1.5 mg
Day 6	1.5 mg
Day 7	2 mg
Day 8	4 mg
Day 9	6 mg
Day 10	8–12 mg
Day 11	16 mg

Table 3: Vancouver buprenorphine microdosing protocol

Doses of 0.5 mg can be achieved by cutting a 2 mg tablet into quarters. Buprenorphine patches can also be used to achieve smaller doses, although this is more expensive.

Whether buprenorphine is started through office induction, home induction, or microdosing, it is important to have frequent follow-up during initiation to ensure that the patient's withdrawal symptoms and opioid cravings are adequately managed. Regular urine drug screens to confirm the presence of norbuprenorphine and absence of other opioid metabolites are recommended; however, these screenings should be used to gauge the patient's response to the treatment rather than as a coercive or punitive measure. If the patient continues to use illicit opioids in the early stages of buprenorphine therapy, the dose should be increased until the patient experiences relief from cravings and withdrawal for a full 24 hours.

How do I initiate methadone treatment?

Initiate conservatively to prevent overdose. Ensure that patients take daily observed doses for at least the first two months of treatment.

Patients are at high risk of overdose during the first few days of methadone treatment. Because methadone has an extremely long half-life, especially in patients who have not taken it before, the onset of withdrawal is slow and insidious, and the window between a therapeutic dose and a fatal dose is very small; a dose that is insufficient to manage the patient's withdrawal on the first day could cause overdose by the third day. The College of Physicians and Surgeons of

[5] We usually prescribe divided doses: 0.5 mg bid on the third and fourth days, 1 mg AM + 0.5 mg HS on the fifth and sixth days, 1 mg bid on the seventh and eighth days, etc.

Ontario (CPSO) Methadone Maintenance Treatment Program Standards and Clinical Guidelines (72) present the following dosing schedule for the first two weeks of treatment:

Patient factors	Maximum initial dose	Dose increase	Frequency
Recent abstinence from opioids	10 mg	5 mg or less	Every 5+ days
Higher risk for methadone toxicity[6]	20 mg	5–10 mg	Every 3–5 days
No risk factors or recent abstinence	30 mg	10–15 mg	Every 3–5 days

(p. 40, Tables 05 and 06)

Prior to initiation of methadone treatment, a urine drug screen should be performed to check for benzodiazepines or other sedating medications; patients who take sedating drugs should be titrated more carefully due to the increased risk of overdose.

Standard S6.3 (p. 36) requires that prescribers not provide any take-home doses during the first four weeks of treatment, and there is also a recommendation that patients not receive any take-home doses during the first eight weeks of treatment under most circumstances (72). This is intended to reduce the risk of overdose to both the patient (from taking doses early) and to the public (from diversion). In 2017, methadone was present in 16.7% of Ontario overdose deaths, making it the third most frequently-appearing opioid on post-mortem toxicology tests after fentanyl and morphine (73). Take-home doses are an important step in methadone treatment, but they should be restricted to patients who have become stable because of the risk that methadone poses when it is not closely monitored; most methadone deaths are due to diverted methadone, i.e., patients who give or sell their take-home methadone dose to others who are methadone-naïve.

How do I initiate SROM treatment?

Use the once-daily 24-hour formulation. Patients should have daily supervised dispensing. Start with a daily dose of 60–120 mg.

If both buprenorphine and methadone are ineffective or contraindicated as outlined above, we recommend a trial of SROM using the once-daily 24-hour formulation. It is important to note that this is an off-label use of SROM, and patients on this therapy should be monitored carefully in order to ensure clinical benefit.

[6] The CPSO standards and guidelines list the following risk factors for methadone toxicity: recent use of benzodiazepines or other sedating drugs, heavy drinking, age 60+, respiratory illnesses, use of drugs that inhibit methadone metabolism, lower opioid tolerance, and decompensated hepatic disease (p. 32, Table 03).

Patients on SROM therapy should have their medication dispensed daily with witnessed ingestion. Opening the capsules and crushing or chewing the pellets causes the morphine to be released rapidly, which puts the patient at risk of intoxication or overdose, and daily supervised dispensing mitigates this risk. The CRISM guideline (64) recommends that carries be restricted to patients who have achieved a high and sustained degree of stability.

There is some variation in the recommended starting dose of SROM as OAT (see lit review). We recommend an initial dose of 60–120 mg; the patient does not need to be in withdrawal prior to initiation. Titrate the dose upwards until the patient is comfortable, with dose increases spaced out by at least 48 hours due to SROM's sustained-release properties (76). Patients who are taking benzodiazepines should be titrated more carefully due to the increased risk of overdose.

The CRISM guideline states that the mean daily dose of SROM reported in the literature ranges from 235–791 mg (64). Because the risk of harm increases with higher doses, we recommend that extra caution be used for patients on doses above this range.

Lit review: Initial SROM dose

The use of SROM as a treatment for OUD has not been as extensively studied as methadone and buprenorphine have. The body of evidence supporting its use and informing clinical guidelines is therefore less robust. A Cochrane review on the effectiveness of SROM treatment for OUD (74) included only three studies, and only two of those included initial dosing information: one study (75) started participants on 200 mg, and the other (60) used an initial dose of 60–180 mg. A multi-site open-label randomized cross-over non-inferiority study comparing methadone maintenance to SROM maintenance (70) used a conversion rate of 1:6–1:8 for the SROM dose and included a one-week adjustment period to a maximum dose of 1200 mg, but did not provide the range of initial doses.

The Guideline for the Clinical Management of Opioid Use Disorder (76) recommends titrating the dose over the course of a week, with 48 hours between dose increases. If the patient is transitioning from methadone to SROM, the Guideline recommends an initial dose equivalence of 1:4 (e.g., 60 mg methadone = 240 mg SROM), to be titrated up to a stabilization dose equivalence of 1:7.75; if the patient is transitioning from another opioid, the Guideline recommends an initial dose of 30–60 mg, to be titrated up until withdrawal symptoms are managed (Appendix 3, p. 51). The CRISM guideline (64) cites the current literature as giving a full daily dosing range of 60–1200 mg, with the mean dose ranging from 235–791 mg, but does not provide information about the starting doses in the literature.

In our view, an initial dose equivalence of methadone to SROM of 1:4 is risky, as the actual serum level of methadone shows a wide variation; a guide on opioid conversions (77) recommends a conversion ratio of 1:3. For patients transitioning to SROM from opioids other than methadone, an initial dose of 30 mg is likely to be too low to be effective, which increases the risk of early patient drop-out. In the absence of more robust evidence, we recommend an initial dose of 60–120 mg, which in our clinical experience is an acceptable balance between safety and efficacy.

How should I manage pain in patients on OAT?

Ask patients on OAT about chronic pain. As with all patients, maximize non-opioid interventions (e.g., NSAIDs) for mild to moderate acute pain, and prescribe short-acting opioids for severe acute pain. Do not decrease the patient's OAT dose. If opioids are required for an episode of acute pain, the patient may need higher doses for adequate pain relief.

Chronic pain is very common among patients on OAT, and has been associated with higher rates of illicit opioid use (78-81). All OAT patients should be asked about any chronic pain and how it affects their lives; patients experiencing chronic pain that interferes with their mood or functioning should be connected with their PCP or a pain clinic for comprehensive pain management (i.e., non-opioid pharmacotherapy, mindfulness, exercise, etc.).

Prescribers may be reluctant to give opioids for acute pain to a patient on OAT for fear of exacerbating the patient's OUD. However, while acute pain in all patients should be managed whenever possible with non-opioid interventions, such as NSAIDs, **patients on OAT should not be denied opioids for acute pain when indicated.** Alford et al. (82) state that there is no evidence that opioid management of acute pain for patients on OAT increases rates of relapse, and suggest that inadequately managed pain is more likely to trigger a relapse than short-term opioid therapy for acute pain. Another possible reason for reluctance to prescribe a patient on OAT opioids for acute pain is a belief that the patient's daily maintenance dose of buprenorphine or methadone should provide sufficient analgesia. Although buprenorphine and methadone both have analgesic properties, a daily maintenance dose does not provide sufficient pain relief for an acute injury; it relieves the patient's withdrawal and eliminates cravings for a full 24 hours, but the duration of the analgesic effects is much shorter.

If an opioid is prescribed for acute pain, the patient's OAT dose should not be changed. Because buprenorphine has a high affinity for the μ-opioid receptor, it has previously been recommended (83) that patients on buprenorphine who require opioids for acute pain have their buprenorphine discontinued to avoid attenuation effects. However, it has since been found that the evidence does not support this recommendation (84-86). A decrease in the patient's maintenance dose will cause withdrawal, heightening the patient's perception of pain; as well, patients who have been on OAT for many months have developed tolerance to their analgesic effects. One review of strategies for acute pain management in patients who are opioid-tolerant (87) suggests dividing a patient's OAT dose in order to extend the analgesic effects, but notes that an additional opioid may still be necessary for adequate pain relief.

The issue of perioperative pain management for patients taking buprenorphine has received particular attention (see lit review). As yet there is no evidence-based best practice recommendation; however, the general consensus among addiction physicians is that there is no need to discontinue buprenorphine perioperatively, and that doing so puts patients at risk of relapse. We advise that patients on buprenorphine be maintained perioperatively; the buprenorphine dose can be adjusted and/or divided for more consistent analgesia, and additional agents can be added to achieve adequate pain control.

Lit review: Perioperative buprenorphine

A systematic review of perioperative strategies and outcomes for patients on buprenorphine (86) found insufficient evidence to make a definitive recommendation on a course of action; the review found only a small number of studies, all providing low-quality evidence and few considering patients' preoperative buprenorphine indication. The adequacy of pain control in patients whose buprenorphine was discontinued was found to be dependent on the patient's preoperative dose; according to the case reports included in the review, all patients experiencing poorly controlled perioperative pain after buprenorphine discontinuation had been taking a dose of at least 16 mg. Additionally, the case reports showed that, with one exception, all patients taking a dose of at least 16 mg of buprenorphine who were maintained perioperatively had adequate pain control. The authors of the review present a list of potential risk factors for perioperative OUD exacerbation, including discontinuation of buprenorphine, preoperative introduction of a full μ agonist in place of buprenorphine, and long duration (20+ months) of OAT. The authors determine from their review that "[t]here is a paucity of circumstances where the benefits of buprenorphine discontinuation (which could lead to relapse) outweigh the risks of continuation" (p. 12). They conclude that while clinicians should consider several factors when deciding whether or not to discontinue a patient's buprenorphine perioperatively, there are few situations in which patients should not be maintained.

If additional opioids are indicated for an episode of acute pain, use a short-acting formulation and titrate to effect. Because long-term opioid use can cause opioid-induced hyperalgesia, it is likely that a patient on OAT will require a higher opioid dose than an opioid-naïve patient in order to achieve sufficient relief.

What considerations go into giving a patient take-home OAT doses?

Take-home schedules can be more flexible for buprenorphine than for SROM or methadone. Clinicians should use their best judgment to determine what schedule works best for a particular patient. Other factors include the patient's urine drug screen results, ongoing substance use, function, risk of treatment drop-out, and stability.

Giving a patient take-home OAT doses as they become clinically stable increases the patient's accountability for their recovery, provides them with an additional incentive for treatment compliance, and builds the therapeutic alliance. Determining a patient's schedule of take-home doses depends on several factors, including urine drug screen results, patient-reported substance use and function, and clinical assessment of stability and status. However, the degree of flexibility of a patient's dosing schedule is largely constrained by the type of OAT medication they are on.

The risk of take-home doses differs significantly for SROM, methadone, and buprenorphine due to their safety profiles; this is reflected in guidelines regarding schedules for take-home doses. Buprenorphine poses a relatively low risk of overdose because it is a partial opioid with a ceiling effect. Because of this, prescribers may be more flexible with respect to take-home doses. Methadone and SROM are both potent opioids, increasing the potential risk of harm to both the patient and the public, and thus the criteria for take-home doses are stricter for these OAT medications.

For SROM, the Guideline for the Clinical Management of Opioid Use Disorder (76) recommends daily witnessed doses for an indefinite period of time, due to both the lack of evidence-based protocols and the high risk of overdose that diverted SROM poses. The Guideline states that individual exceptions to this standard can be made for patients who, based on the prescriber's judgment, are very clinically stable or for whom daily witnessed doses present a significant barrier to treatment; in these cases, take-home doses should be given at a rate of one additional dose per week every one to two months, usually to a maximum of five carries per week (p. 55).

Different provinces have different guidelines for scheduling take-home doses of methadone, though all provinces require that patients be clinically stable and able to store methadone securely before they can receive carries (88). The CPSO's standards and guidelines document for the methadone maintenance treatment program (72) recommends that patients receive their first weekly take-home methadone dose after they have been in the program for at least two months and have had at least one week without problematic substance use (G8.2, p. 51); patients may then receive one additional take-home dose per week every four weeks, up to six doses per week (G8.3, p. 51). The guidelines allow for an accelerated schedule of take-home doses in which a patient may receive their first carry after four weeks in treatment and then receive one additional take-home dose per week every two to three weeks (G8.4, p. 51), but the standards require that this be restricted to patients who are at risk of treatment drop-out due to an extended period of daily pick-ups, are able to store the methadone securely, and do not have an comorbid psychiatric condition that would increase the risk of methadone misuse or diversion (S8.3, p. 50).

Prescribers have a good deal of discretion when determining a take-home dosing schedule for patients on buprenorphine. While the Health Canada monograph for buprenorphine used to specify that patients needed to have supervised daily dosing for the first two months of treatment, more recent monographs do not provide a timeline for observed dosing. The 2019 monographs for all approved Canadian formulations give the following recommendations (p. 32): "Treatment should be initiated with supervised administration progressing to unsupervised administration as the patient's clinical stability permits. During the initiation of treatment, closer supervision of dosing is recommended to ensure proper sublingual placement of the dose and

to observe patient response to treatment as a guide to effective dose titration according to clinical effect." (89) The Guideline for the Clinical Management of Opioid Use Disorder (76) states that sufficient "clinical stability" for take-home dosing could be achieved within a few days of induction for some patients, considering the safety profile of buprenorphine and the lack of evidence that observed daily dosing of buprenorphine improves patient outcomes (90-92). In our experience, providing take-home doses early in treatment facilitates engagement and retention in many cases.

Within these confines, we recommend **more** observed doses for patients who have been using opioids via non-oral routes, who have regularly acquired opioids from sources other than their doctor, and/or who continue to use opioids. This allows the prescriber to intervene quickly if the pharmacy reports concerns such as intoxication or missed doses and allows the patient to become used to taking scheduled doses. **Fewer** observed doses (i.e., weekly or bi-weekly) are recommended for patients whose only source of opioids is their physician, who only take opioids orally, and who do not have concurrent substance use disorders. If the patient has daily work or family responsibilities, or if travel to the pharmacy is very difficult, dispensing two to three times a week may be tried even if the patient acquires opioids from other sources; in most cases, the risks of the patient refusing or dropping out of treatment far outweigh the benefits of daily dispensing. More frequent dispensing may be necessary if the patient is unable to manage take-home doses (e.g., they often lose their medication or prescription). Prescribers should not require patients to attend a particular pharmacy; patients should be allowed to choose their own pharmacy in order to minimize the difficulty and inconvenience of observed dosing.

How frequently should I test an OAT patient's urine?

Urine drug screens should be approached in a patient-centred way. Perform an immunoassay test at every clinic visit. Send samples for chromatography if the patient has legal involvement or if a result differs from a patient's report.

Urine drug screens are an important measure of a patient's clinical status. Their therapeutic purpose is to identify concurrent substance use, to identify relapse, and to motivate change. Point-of-care testing using immunoassay strips allows the practitioner to quickly verify the patient's self-reported substance use, informing clinical decision-making. Urine drug screening should be approached in a patient-centred way rather than as a coercive or punitive measure; the results of a urine test provide the clinician with information that should be used to help the patient's recovery. A strong therapeutic alliance, in which the provider knows and trusts the patient's history and the patient feels respected and heard, is crucial to this part of treatment.

The guidelines governing methadone treatment and buprenorphine treatment differ slightly with respect to their recommended schedules for urine drug screening. The CPSO Methadone Maintenance Treatment Program Standards and Clinical Guidelines (72) recommend one or two

urine samples per week for testing during the first two months of methadone treatment, and the Buprenorphine/ Naloxone for Opioid Dependence Clinical Practice Guideline (93) states that testing during each appointment is generally appropriate. In almost all cases, the simplest and most practical approach is to perform an immunoassay test on every clinic visit; the frequency of visits should be determined by the patient's stability. This will be more frequent (i.e., once or twice a week) for unstable patients early in treatment and less frequent (i.e., once every one to three months) for stable patients. We recommend against requiring patients to leave urine samples between appointments, as this potentially violates the Methadone Maintenance Treatment Program Standards and Clinical Guidelines' recommendation that urine schedules not interfere with patients' work and family obligations (p. 48).

Because chromatography is more sensitive and specific than point-of-care immunoassays, it should be used on samples from patients with legal involvement who may require or benefit from laboratory-confirmed results. It should also be used to confirm point-of-care results that conflict with a patient's report; chromatography has a lower rate of false positives and false negatives than immunoassays do. However, it often takes a long time to get results. If the clinical cost of immunoassay strips presents a logistical challenge, more judicious screening may be possible for some patients: testing during every visit may not be necessary if a patient acknowledges substance use or reports no use and has had negative screens in the past.

What substances should I test a patient's urine for?

Always test for norbuprenorphine, EDDP, benzoylecgonine, morphine, oxycodone, and fentanyl. If a patient discloses use of any substance not obtained directly from a pharmacy, test urine for the presence of fentanyl. Some new fentanyl analogues cannot be detected with current tests.

At a minimum, the urine of OAT patients should be tested for norbuprenorphine (metabolite of buprenorphine), EDDP (metabolite of methadone), benzoylecgonine (metabolite of cocaine), morphine (detects use of morphine, heroin, and codeine), oxycodone, and fentanyl. Detection time for these substances varies between two and five days, depending on the patient's hydration level, dose, and other factors. Other substances should be tested for according to patients' needs. Hydromorphone is not detected by a morphine strip and should be tested for separately if the patient has a history of use; detection time is two to five days. Benzodiazepines have the most variable detection time; diazepam can be detected for weeks in the urine, whereas clonazepam is difficult to detect except at higher doses.

If a patient discloses use of cocaine, crystal methamphetamine, heroin, or any prescription opioid or benzodiazepine not obtained directly from a pharmacy, inform the patient that you need to perform a urine drug screen in order to check for the presence of fentanyl. Health Canada has reported that fentanyl is contaminating Canadian street drugs (94), and alerting

patients that fentanyl is in their urine may encourage them to take harm-reduction measures and/or to engage in treatment. A new and growing concern is the appearance of new fentanyl analogues, such as carfentanil, that cannot be detected by current testing methods. Patients should be told that even if no fentanyl is detected in their urine, they still could be using contaminated drugs, which puts them at very high risk of overdose death. The uncertainty of testing in these cases makes a strong and trusting relationship between the patient and the provider even more important; when urine drug screens cannot reliably identify opioid use, patient-centred history-taking becomes an indispensable tool.

What measures should I take to ensure the integrity of a urine sample?

Supervised sampling is not recommended in most circumstances. Check the sample's creatinine level and specific gravity to test for dilution. If you suspect that a patient has provided an adulterated sample, request another one.

Supervision of urine sampling with cameras or direct observation is not practical in most RAAM clinics. While observation may discourage tampering, patients find it humiliating and demeaning, and it may diminish their trust in their care provider. A less invasive method of ensuring that the sample is authentic is requiring that the patient leave all bags and outerwear behind before entering the bathroom. It is important to emphasize to the patient that urine drug screening is done to ensure their safety and evaluate their status, not to punish or embarrass them. Patients are less likely to provide adulterated samples if they have a positive and open relationship with their provider.

The most common form of urine tampering is adding water to the sample to dilute it below the threshold concentration for detection. Urine can also be diluted by the patient drinking large quantities of liquid before providing a sample. Point-of-care strips measure specific gravity and creatinine; a specific gravity level of <1.003 and/or a creatinine level of <20 mg/dL indicate that the sample has been diluted. If you have reason to suspect that the sample is either diluted or not from the patient, we suggest requesting that they wait a while in order to provide another sample.

How should I manage a slip or relapse?

Identify the reason for the relapse. If the patient has ongoing withdrawal symptoms and cravings, adjust their OAT. If the patient has used for another reason, increase the frequency of their visits and provide counselling as appropriate. Patients experiencing a prolonged relapse should have daily observed dosing until they are stable.

Even stable patients will have slips or relapses on occasion, and appropriate management depends on the reason for the relapse. We do not necessarily recommend revoking take-home doses for patients unless the relapse is an indication of ongoing instability.

One common reason for a slip or relapse is ongoing withdrawal symptoms and cravings, which usually indicates an insufficient OAT dose. Patients who are not getting adequate relief from their OAT may benefit from a dose increase or, in the case of patients on the maximum dose of buprenorphine, switching to methadone. Another reason for a slip or relapse is exposure to someone who offered them drugs. If this was a voluntary encounter (for example, a friend or someone at a party), the patient needs to commit to avoiding people or situations that expose them to drug use. If the patient's exposure to drugs is ongoing and unavoidable (for example, the patient lives in a building where drug use is pervasive), we recommend solution-focused counselling that will allow the patient to come up with some strategies for avoiding and/or dealing with triggers. In both cases, a period of more frequent office visits will allow you to check in with the patient and monitor their progress.

If the patient's relapse is prolonged and does not respond to these interventions, the prescriber should consider limiting the patient's take-home doses until they achieve stability. This will reduce the risk of OAT misuse and diversion, and it may also motivate the patient to "earn" the carries back.

What should I do if the patient repeatedly misses appointments and/or has gaps between prescriptions?

Do not discharge patients for missing appointments. Work with the patient to determine what the barriers are. Fax prescriptions if required so that the patient will not experience withdrawal, but ensure prompt follow-up for monitoring. If the patient is on an optimal dose of buprenorphine and is stable, see them less frequently or transfer their care back to their primary care provider.

It can be frustrating for clinicians when patients frequently miss their appointments. There are several potential reasons why a patient might repeatedly miss appointments, including instability, poor function, or relapse. However, patients should not be discharged from your clinic due to missed appointments, as the known harms of discontinuing treatment, like relapse, loss of tolerance, and overdose, outweigh the potential harms of prescribing to a patient who is difficult to monitor. We recommend instead that you work with the patient to overcome the barriers to clinic attendance and prescribe OAT in a way that encourages re-engagement and minimizes risk.

One potential consequence of missed or cancelled appointments is the patient running out of medication. It is generally not problematic to fax in a prescription for the occasional missed appointment, but you cannot judge a patient's clinical status without regular engagement. If missed appointments become a regular occurrence, consider including a note to the patient with their faxed prescription saying that you need to see them and suggesting an appointment time. You may also need to reduce the number of take-home doses if you are concerned about

the patient's clinical stability. If a patient presents to the pharmacy after their prescription has lapsed for several days or more, arrange to see them immediately and/or talk to them on the phone while they are at the pharmacy. Patients on buprenorphine may need repeat induction if they have been using opioids regularly; patients on methadone should be given a prescription for 30 mg and told to come in as soon as possible for a dose adjustment.

If a patient misses appointments due to relapse, they may feel too guilty or ashamed to come back to see you. We recommend providing strong and consistent messaging from the initial appointment that relapses are common and can be dealt with, and that the patient should reconnect as soon as possible. Here are some clear messages you can deliver to patients:

- If you miss doses of your medication, you need to come and see me – it's not safe for you to stop and start on your own.
- Relapsing is part of recovery. If you use, please come back and see me as soon as possible.
- It's important that I see you regularly in order to check in about how you're doing. If this dose isn't controlling your cravings, we can try increasing it.

If a patient is clinically stable but is missing appointments because their work or life responsibilities are keeping them too busy, they might be ready for less intensive care. If the patient is being prescribed buprenorphine, you should suggest that their primary care provider take over their addiction care (with your support as required). If the patient is being prescribed methadone, consider reducing the frequency of their visits and providing longer prescriptions.

What should I do if a patient wants to stop OAT in order to attend residential treatment?

Advise the patient that OAT has the best medical evidence for OUD recovery, and if the patient is benefitting from OAT they should remain on it. If the patient will be attending a residential facility that does not allow OAT, taper the patient off their dose as slowly as possible and ensure that they have access to naloxone during and after their stay. If possible, reach out to the residential treatment facility to offer education on the effectiveness of OAT.

Addressing the psychological component of substance use disorder is an important part of recovery for many patients, and residential addiction treatment is often a requirement for patients with substance use disorders who are involved with the justice system. There has historically been a sharp ideological and practical divide between OAT and psychosocial treatment of opioid use disorder: Many residential treatment facilities have traditionally not allowed clients to be on OAT, and some OAT clinics provide minimal psychosocial support for their clients. In recent years, efforts have been made to bridge this gap between OAT and psychosocial treatment, and many residential facilities now permit clients to be on methadone

or buprenorphine during their stay; however, several Ontario facilities impose a maximum dose of methadone for their clients, and some still ban OAT altogether.

All OUD patients should be told that OAT has the best medical evidence for OUD recovery. In many cases, a patient who is doing well on OAT should be advised to remain on their dose, even if that means not attending a particular residential program that requires them to decrease or discontinue their medication; if possible, encourage them to attend a program that allows them to remain on their maintenance dose.[7] If, however, the patient needs to attend a program that requires them to decrease or discontinue their maintenance dose, they should be tapered as slowly as possible, ideally no faster than 5 mg three times per week for methadone or 2 mg once per week for buprenorphine, as rapid tapers are associated with higher rates of relapse, hospitalization, and mortality (95, 96). Consider prescribing clonidine and other adjuvant medication to treat withdrawal symptoms, which are likely to be most severe towards the end of the taper. Patients are at significantly increased risk of overdose death after OAT has been discontinued (97, 98); therefore, it is vital that OUD patients who decline or stop OAT for any reason have access to naloxone, including during and after residential addiction treatment. Tell patients that opioid tolerance is lost within a few days of abstinence and advise them to restart OAT as soon as possible after leaving residential treatment if they experience withdrawal symptoms or cravings. A similar protocol should be followed for all patients who decline or stop OAT for any reason: perform a slow taper,[8] using adjuvant medication to control any withdrawal symptoms, warn patients about lost tolerance, and provide access to naloxone.

One way of effecting change is to reach out to residential treatment facilities that place restrictions on clients' use of addiction medications in order to dispel myths and offer education about the effectiveness of OAT and the ways in which it facilitates psychosocial treatment. Addressing common misconceptions that many people have about OAT (e.g., that patients on methadone are unable to participate in group therapy, that people on OAT are not really drug-free, that there is no real difference between using heroin and using methadone, etc.) may invite dialogue about what it would mean to lift medication restrictions. There is evidence that clients on OAT do just as well in residential treatment as clients not on OAT (99), and clients on OAT are often highly motivated. Both medication and psychosocial interventions can be helpful to people with OUD, and requiring people to choose between the two cuts them off from an important potential tool.

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[7] Please refer to "Serving clients who use substances: A guide for community workers", available online at http://metaphi.ca/provider-tools.html, for a list of Ontario residential treatment facilities and their medication policies.

[8] If the patient has declined long-term maintenance therapy, we recommend tapering them using buprenorphine.

Benzodiazepines

How do I know when a benzodiazepine taper is indicated?

Long-term chronic benzodiazepine use is not indicated for anxiety disorders. The majority of patients on benzodiazepines for more than 12 weeks should be tapered.

Benzodiazepines are recommended as a short-term adjunctive treatment for anxiety and PTSD by the Canadian clinical practice guidelines (100). The first-line agents for most anxiety disorders are SSRIs and SNRIs. Buspirone and pregabalin may also be used.

Benzodiazepines are recommended as adjunctive therapy early in treatment while the first-line agent reaches a therapeutic effect. Pregabalin may also be used for this purpose. Benzodiazepines are also used as a short-term treatment for acute, severe episodes of anxiety. Some of the risks associated with long-term benzodiazepine use include sedation, falls, sleep apnea, and dependence. Elderly patients who take benzodiazepines are at higher risk for falls and cognitive impairment. However, a survey of a Canadian population sample (101) found that more than 80% of subjects reporting benzodiazepine use had been taking benzodiazepines for more than a year.

There are very few instances in which long-term benzodiazepines should not be tapered. Even in patients who do not report side effects, tapering can have therapeutic benefits, such as increased energy and alertness, and avoidance of future adverse events, such as falls. For patients with anxiety that is inadequately managed with pharmacotherapy, psychological approaches, such as cognitive behavioural therapy, are a better long-term solution than ongoing benzodiazepine use. Patients suffering from PTSD should be referred to trauma therapy.

Should a patient be tapered using their regular benzodiazepine or switched to another agent?

If the patient is resistant to tapering or repeatedly runs out early, consider switching to another agent. Diazepam may result in a smoother withdrawal, but clonazepam has lower abuse potential and is less likely to cause adverse effects.

It is generally safest to taper with the patient's regular benzodiazepine. However, in cases where the patient is emotionally attached to their benzodiazepine and resistant to tapering, or when the patient is attempting to taper but frequently runs out of medication early, consider switching to another agent to complete the taper.

There is little clear evidence on the best agent for benzodiazepine tapering. Because diazepam has a long duration of action, the onset of withdrawal is slower and smoother, with fewer breakthrough symptoms; however, clonazepam has lower abuse potential and is less likely to cause prolonged sedation, particularly in patients who are elderly or who have liver impairment.

If switching agents is indicated, start the patient on the equivalent of half the dose of the original agent. Increase the dose until the patient is comfortable, but do not raise the dose of the new agent above the fully equivalent dose of the original agent. Use the following equivalency table to calculate the appropriate dose[9] (102)**:**

Benzodiazepine	**Equivalent to 5 mg diazepam**
Alprazolam	0.5 mg (uncertain)
Bromazepam	3–6 mg
Chlordiazepoxide	10–25 mg
Clonazepam	0.5–1 mg
Clorazepate	7.5 mg
Flurazepam	15 mg
Lorazepam	0.5–1 mg
Nitrazepam	5–10 mg
Oxazepam	15 mg
Temazepam	10–15 mg
Triazepam	0.25 mg (uncertain)

Table 4: Calculating benzodiazepine equivalency

What is the recommended outpatient tapering protocol?

Taper slowly, using scheduled doses. Ensure that patients with underlying anxiety disorders have appropriate pharmacological treatment (e.g., SSRIs) and adequate psychosocial support to manage anxiety and develop coping skills.

Explain to the patient that you are tapering the dose not because they are addicted, but because they will probably have more energy, better clarity of thought, and better functioning if they are off benzodiazepines. Reassure them that you will taper as slowly as they need, and that you will hold the taper if withdrawal symptoms or rebound anxiety are having a negative impact on their daily functioning. Review other options for treating anxiety. At each office visit during the taper, ask about withdrawal symptoms, benefits of the taper, such as improved energy and alertness, and the re-emergence of positive, high-energy emotions such as enthusiasm and joy.

We suggest the following tapering protocol (103):

[9] Equivalences are approximate. Careful monitoring is required to avoid over-sedation, particularly in older adults and those with impaired hepatic metabolism.

Dosing interval	Scheduled doses rather than PRN. Keep dosing interval the same for as long as possible (e.g., bid or tid). Advise patients 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, no more than 5 mg diazepam equivalent/day at each office visit. Can taper 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. Work collaboratively with the patient. Hold the taper during times of high stress.
Dispensing interval	If patient runs out early, increase dispensing frequency to weekly, alternate days, or daily.

Patients with anxiety should have a treatment plan in place before tapering in order to ensure that their anxiety is appropriately managed. The first-line pharmacological treatments for anxiety disorders are SSRIs, SNRIs, and pregabalin (104). A systematic review and network meta-analysis of randomized trials (105) found that duloxetine, pregabalin, venlafaxine, and escitalopram were effective at reducing symptoms of anxiety and acceptable to participants; mirtazapine, sertraline, fluoxetine, buspirone, and agomelatine were also found to be effective and acceptable, although the sample sizes were small. There is good evidence that cognitive behavioural therapy is also an effective treatment for anxiety disorders (106-109). Ensure that the patient has adequate support, including psychological and/or pharmacological treatment, before beginning the taper.

How do I manage benzodiazepine use disorder?

Prescribe daily dispensed clonazepam and taper as above, monitoring with chromatography. Provide counselling for anxiety.

Most patients with long-term benzodiazepines prescriptions do not develop a true benzodiazepine use disorder, even if they develop physical dependence. However, there is a recent trend of people getting addicted to benzodiazepines purchased from the internet, particularly alprazolam. Patients with benzodiazepine use disorder should be switched to clonazepam according to the protocol described above and tapered with daily dispensing. The

patient should be seen frequently and monitored with urine chromatography (110). If the illicit benzodiazepine use started due to underlying anxiety, provide brief counselling focused on CBT techniques and refer to an appropriate therapist.

How can I identify benzodiazepine withdrawal?

The symptoms of benzodiazepine withdrawal are similar to those of alcohol withdrawal. Symptoms of mild withdrawal include anxiety and sleep disturbances, while severe withdrawal can involve seizures or psychosis. The risk of severe withdrawal is greatest if the patient has abruptly stopped a high daily dose of a short-acting agent. If a patient is showing signs of benzodiazepine withdrawal, give lorazepam SL 2–4 mg or send to the emergency department.

Tapering and cessation of therapeutic doses of benzodiazepines can cause a mild benzodiazepine withdrawal syndrome, characterized by anxiety, poor concentration, emotional lability, and sleep disturbances; however, if a patient has been on benzodiazepine therapy for underlying anxiety or insomnia, it can be difficult to tell whether these symptoms are withdrawal-related or the re-emergence of the underlying condition (111). Abrupt cessations of very high daily doses (i.e., 50 mg of diazepam or equivalent) can cause symptoms similar to severe alcohol withdrawal, such seizures, delirium, psychosis, and hypertension, especially with shorter-acting agents such as alprazolam. Because of this, benzodiazepines **should not be stopped abruptly**.

If a patient is showing signs that could indicate severe withdrawal (e.g., confusion, hypertension, tachycardia, sweating), immediately give lorazepam SL 2–4 mg if possible. If this improves the symptoms, resume their regular dose and begin a slow taper with close follow-up; otherwise, send to the emergency department. If a patient has abruptly discontinued a benzodiazepine but is not yet showing signs of withdrawal, consider re-starting their regular dose and then making a plan for a slow taper.

Are there any agents that can be used to help a patient taper off of benzodiazepines?

The evidence for using other agents to help a benzodiazepine taper is unclear. Some agents have been found to have low-quality evidence of benefit for relief of withdrawal symptoms or for rebound anxiety during discontinuation. We suggest tapering the benzodiazepine slowly in order to avoid withdrawal; prescribe an antidepressant or anxiolytic as appropriate for rebound anxiety.

There is not enough evidence to recommend a particular agent to assist a benzodiazepine taper. A Cochrane review on pharmacological interventions for benzodiazepine discontinuation (112) found low-quality evidence that benzodiazepine withdrawal symptoms may be relieved by

pregabalin, captodiame[10], paroxetine, tricyclic antidepressants, and flumazenil, and that rebound anxiety during benzodiazepine discontinuation may be relieved by carbamazepine, pregabalin, captodiame, paroxetine, and flumazenil. The review cautions that flumazenil (a benzodiazepine antagonist) may cause severe precipitated withdrawal, and further notes that more and better-conducted RCTs are needed. As stated above, we recommend against abrupt discontinuation; the benzodiazepine should be tapered at a rate that prevents the patient from experiencing withdrawal. For rebound anxiety, consider prescribing gabapentin, pregabalin, or an SSRI.

Are there circumstances in which a benzodiazepine taper should be stopped?

Slow or reverse the taper if the patient experiences a marked decline in functioning.

In elderly patients who have been on benzodiazepines for many years, tapering can cause a marked exacerbation of anxiety and a decline in daily functioning. In patients with severe concurrent anxiety and depression, tapering can sometimes trigger marked worsening of their anxiety and mood, accompanied by suicidal ideation. In these cases, the dose should be increased until the patient's baseline mood and functioning are restored.

Can I prescribe a short-term benzodiazepine to a patient on OAT?

Consider the stability of the patient. Inform the patient about the increased risk of respiratory depression. Provide only short-term prescriptions for time-limited situations.

The safety of prescribing a benzodiazepine to a patient on OAT depends largely on the stability and history of the patient. Risk factors include being on methadone or SROM (as opposed to buprenorphine); a high methadone or SROM dose; ongoing illicit opioid use; heavy alcohol consumption; and current or past illicit benzodiazepine use. While long-term benzodiazepine prescriptions are not recommended, a short-term lorazepam prescription (i.e., one or two doses) for a patient on a stable dose of buprenorphine with no illicit opioid or benzodiazepine use may be appropriate if there is a discrete and time-limited anxiety-provoking situation that warrants it (for example, an upcoming plane trip for someone with a fear of flying); ensure that this decision is clearly documented in the patient's chart, and explain that taking opioids and benzodiazepines concurrently increases the risk of respiratory depression.

If the request for a benzodiazepine prescription is *related to* the patient's OAT (for example, anxiety about initiating), ensure that the patient has adequate psychosocial support and provide a referral if indicated.

[10] Captodiame is not approved in Canada.

Stimulants

Are there any evidence-based pharmacological approaches to stimulant use disorder?

There are currently no evidence-based pharmacological approaches to stimulant use disorder. There are a few medications that have been found to potentially have beneficial effects on patients with stimulant use disorders, but the evidence for all of them is insufficient to permit a clear recommendation. In our clinical experience, patients are most likely to benefit from a pharmacological approach if they are highly motivated and engaged in treatment but having difficulty abstaining from use due to strong cravings.

There are currently no first-line pharmacological approaches to stimulant use disorder. There have been a number of trials testing the efficacy of long-acting stimulants as agonist therapy for stimulant use disorder (analogous to OAT), as well as the efficacy of anticonvulsants and other agents, all with unclear results. No systematic reviews (113-117) have found sufficient and clear evidence for any agent to recommend use. Many of the trials included in the reviews were small and of short duration, and although some of the trials had positive results, they were of uncertain significance; because substance use disorder is a chronic condition, medications should show that at least some patients are able to achieve sustained abstinence or reduced use for a period of six to twelve months, with corresponding improvements to other areas of life. These caveats aside, the agents that have been found to have potential benefit are listed here:

Modafinil is a eugeroic (i.e., a wakefulness-promoting agent); it has a different mechanism of action and fewer side effects than typical stimulants do. It has been found to be more effective than placebo at reducing cocaine use (118-122) and may help medication-compliant patients reduce their amphetamine use (123-125). (Note that modafinil is potentially a drug of abuse, though the risk is lower than that of typical stimulants (126).)

Lisdexamfetamine has been found to significantly reduce cocaine cravings (but not use) in patients with cocaine use disorder (127), and has less potential for abuse than other stimulants because it is long acting. We could not find any published trials of lisdexamfetamine as a treatment for amphetamine or methamphetamine use disorder.

Bupropion is an atypical antidepressant and smoking cessation aid. There is some evidence that it is more effective than placebo at helping patients achieve sustained abstinence (i.e., at least three weeks) from cocaine, particularly in patients being treated for opioid use disorder with OAT (128-130), and at helping patients reduce methamphetamine use, particularly in men and in people with lighter use (131-134). (Note that bupropion is potentially a drug of abuse.)

Dexamphetamine, a long-acting stimulant, may be effective at helping patients achieve sustained abstinence (i.e., at least three weeks) from cocaine, particularly in patients being

treated for opioid use disorder with OAT (135-137). It may also be effective at reducing methamphetamine use and cravings and at retaining patients with methamphetamine use disorder in treatment (138-140).

Mixed amphetamine salts have been found in a single study to be safe and effective at reducing cocaine use in patients with comorbid ADHD and cocaine use disorder (141).

Methylphenidate, a dopamine agonist, has been found to be better than placebo at reducing amphetamine use and cravings (142-144).

Naltrexone, an opioid antagonist, has weak evidence of lowering amphetamine use, reducing cravings, and retaining patients in treatment (145-147). As it reduces alcohol cravings, it may also reduce cocaine use in patients who use cocaine while drinking. (Note that naltrexone cannot be used by patients on opioid medications.)

Although anticonvulsants have been investigated as potentially beneficial for cocaine use disorder, a Cochrane review (117) found no significant difference from placebo with respect to any outcome for any of the agents studied (carbamazepine, tiagabine, gabapentin, phenytoin, lamotrigine, topiramate, and vigabatrin). The reviewers note, however, that anticonvulsants are a heterogeneous group and that the agents tested have very different pharmacodynamics; they recommend more and larger clinical trials in order to acquire more relevant data.

A therapeutic trial of one of these medications may be indicated if the patient is highly motivated and engaged in treatment but still struggling with cravings. In our opinion, modafinil and lisdexamfetamine are the first and second choices respectively in most cases due to their safety profiles and low abuse potential; naltrexone is the first choice for patients who use alcohol and cocaine concurrently (but do not use opioids). Before initiating any of these agents, tell the patient that no medication for stimulant use disorder has met the standard of evidence of multiple RCTs showing safety and clinically important benefit, and document the discussion and the patient's consent. Because of their higher potential for misuse, methylphenidate and mixed amphetamine salts should be prescribed in their sustained release form, and daily dispensing under pharmacist observation is recommended. Follow the patient closely and monitor with urine drug screens, and discontinue the medication if the patient is not improving.

How should I approach a patient with stimulant use disorder?

Focus on engagement and building rapport. Have a detailed discussion about the underlying cause of use. If possible, consider offering contingency management. Refer the patient to ongoing therapy.

A major challenge in managing patients with stimulant use disorders is the absence of effective pharmacotherapy, particularly during the withdrawal period. As patients are very likely to be

tempted to use in order to relieve withdrawal and cravings, engaging the patient early in treatment is paramount. During your initial appointment with a patient with a stimulant use disorder, focus on developing rapport and assessing the patient's stage of change. Find out about the underlying cause of the patient's use and their motivation for change. Empathic listening should be tempered with observations and questions that challenge any unrealistic plans or rationalizations that the patient may have. Work with the patient to come up with a plan that enables them to focus on their motivation and addresses their underlying reason for stimulant use. As with all patients with substance use disorders, patients should be given behavioural strategies for coping with cravings and encouraged to engage with positive social influences, such as family and friends who do not use drugs.

If resources are available, consider offering patients contingency management (i.e., rewards such as gift cards or increased prescription lengths for negative urine drug screens) as an incentive for abstinence. This may be particularly helpful for patients who are pre-contemplative or contemplative: external motivation may facilitate abstinence and treatment retention in those without strong internal motivation, which both enables the patient to establish new habits and gives the clinician more time to establish a strong therapeutic alliance. A Cochrane review (148) found that of six different psychosocial interventions for stimulant use disorder (contingency management, CBT, motivational interviewing, twelve-step facilitation, interpersonal therapy, and psychodynamic therapy), contingency management has the strongest evidence of benefit for treatment retention and length of abstinence.

Patients are likely to benefit from additional counselling. In the Cochrane review mentioned above (148), all psychosocial interventions were found to be more effective than no intervention for patients with stimulant use disorders. A subsequent network meta-analysis (149) found that contingency management combined with community reinforcement approach, a structured behavioural intervention involving analysis of the consequences of substance use, skill development, and emphasis on all dimensions of life, has the strongest evidence of benefit. The mode of therapy recommended for a particular patient should be determined by available resources and by the patient's needs. Like all substance use disorders, stimulant use disorders have a high rate of co-occurrence with other psychiatric disorders, including depression, PTSD, and psychosis. It is important to address these mental health needs simultaneously with the substance use.

How should I manage patients with concurrent stimulant use disorder and ADHD?

If possible, confirm the ADHD diagnosis. Consider a trial of methylphenidate ER or mixed amphetamine salts in cases where the potential benefits outweigh the potential harms. Long-acting formulations probably have a lower abuse potential than immediate-release formulations.

A correlation has been established between substance use disorder and ADHD. Adult ADHD is not an easy diagnosis to make, and comorbid stimulant use disorder complicates the diagnosis further, given that the behaviours associated with ADHD and with stimulant use are very similar: executive dysfunction, impulsivity, inattention, and hyperactivity. If you suspect that an undiagnosed patient who uses stimulants may have ADHD, or if the patient suspects that they have it, consider administering a validated test, such as the Adult ADHD Investigator Symptom Rating Scale (150). Ideally, the patient's history of symptoms would be confirmed by a partner or a family member, but this is often not possible.

In most cases, the first-line treatment for ADHD is stimulant pharmacotherapy, usually with methylphenidate or mixed amphetamine salts, although non-stimulant medications can also be used. The evidence for this treatment in patients with concurrent stimulant use disorder is uncertain; a Cochrane review of thirteen studies on the pharmacological management of ADHD in patients with concurrent substance use disorder (151) found that none of the tested interventions (atomoxetine, methylphenidate, bupropion, lisdexamfetamine, and pemoline) improved ADHD symptom severity in patients with psychostimulant dependence. Furthermore, clinicians may be concerned that treating ADHD with stimulants will worsen the patient's addiction. However, there have been two randomized placebo-controlled trials that have had positive results for both ADHD symptoms and stimulant use. One trial (141) found that high doses of mixed amphetamine salts (60 mg and 80 mg) were better than placebo at reducing both the severity of ADHD symptoms and cocaine use in patients with co-occurring ADHD and cocaine use disorder, and the other trial (152) found that high doses of osmotic release oral system methylphenidate (up to 180 mg) were better than placebo at reducing ADHD symptoms, reducing illicit substance use, and retaining participants in treatment among incarcerated men with concurrent ADHD and amphetamine use disorder. Both trials were small and had non-zero rates of attrition, but the results suggest that high doses of methylphenidate or mixed amphetamine salts may be beneficial for patients with concurrent ADHD and stimulant use disorder.

A review of clinical strategies for managing co-occurring ADHD and substance use disorder (153) advises that clinicians weigh the potential risk of stimulant medications for ADHD against their potential benefit. Although non-stimulant therapies are generally not as effective as stimulant therapies, they may be preferable (at least initially) for some patients, particularly in those who have been using prescription stimulants as opposed to cocaine or crystal methamphetamine. In all cases, but particularly when prescribing stimulant medications, follow the patient closely and monitor their stimulant use with urine drug screens. If the illicit use does not stop or significantly reduce, discontinue the medication.

What do I have to be aware of when screening the urine of patients with stimulant use disorder?

Amphetamine immunoassays are highly cross-reactive. If a patient tests positive for amphetamine but denies illicit use, take a detailed medication history to identify any cross-reactive agents and send the sample for confirmatory chromatography. Always test for the presence of fentanyl.

Cocaine immunoassays test for the presence or absence of benzoylecgonine, its primary metabolite, which is not known to be cross-reactive with any other agents. However, the antibody used to detect amphetamine use has poor specificity; the assay reacts to amphetamine, methamphetamine, their isomers, and other compounds that contain amines, making amphetamine immunoassays very challenging to interpret. Bupropion, chlorpromazine, desipramine, DMAA, doxepin, ephedrine, labetalol, metformin, ofloxacin, phenylephrine, promethazine, pseudoephedrine, ranitidine, selegiline, thioridazine, and trazodone have all been found to give positive results on amphetamine immunoassays (154-156). A clinical guide (156) recommends that immunoassays that are positive for amphetamines be considered alongside a detailed medication history, including all supplements, herbal agents, and over-the-counter medications; stimulants, weight-loss aids, and decongestants are particularly likely to cross-react with the amphetamine immunoassay. Samples should also be sent for confirmatory chromatography if the patient denies use; although gas chromatography/mass spectrometry can provide false positives for methamphetamine if the patient is taking an agent containing the *l*-methamphetamine isomer, chiral chromatography, a type of column chromatography, can differentiate this isomer from the *d*-methamphetamine isomer, which is the compound that produces central nervous system effects (156).

As mentioned previously, the presence of fentanyl and its analogues in Canadian street drugs is causing opioid overdose deaths. People who use street stimulants should always have their urine tested for fentanyl and should be informed about the serious risks of contaminated drugs (see below).

What can I do to encourage harm reduction in patients who use stimulants?

Provide harm reduction supplies. Ensure that patients are aware of the risk of fentanyl-contaminated drug supplies and advise them on how to avoid opioid overdose. Always recommend safer sex practices.

Clinicians should always recommend and facilitate the use of harm reduction practices and supplies appropriate to the patient's usual substance. To promote safer crack smoking, the Working Group on Best Practice for Harm Reduction Programs in Canada (157) recommends that harm reduction kits minimally contain a Pyrex stem (to prevent burns and breakage), a

mouthpiece (to prevent burns), push sticks made of smooth wood that are appropriate in size relative to the Pyrex stem, and screens made of a heat-resistant and non-reactive substance, such as steel or brass. They also recommend including alcohol swabs, antiseptic wipes, matches or a lighter, lip balm and chewing gum (for keeping the mouth hydrated and preventing lip cracks), packets of ascorbic acid (to make substances water-soluble), and bandages. The Working Group found that the evidence of benefit for harm reduction kits for people who smoke crystal methamphetamine is less clear (158); more research is needed to determine how best to facilitate safer use for these patients. Advise patients who use intranasal cocaine to snort using small spoons or plastic straws, rather than dollar bills or keys, to reduce the risk of infection. For patients who inject drugs, the Working Group recommends providing patients with needles and syringes, cookers, filters, sterile water, alcohol swabs, and tourniquets (157). Connect with your local Public Health Unit to find out how to obtain supplies for your patients.

As previously mentioned, people who use any street drugs are at high risk for opioid overdose due to the possible presence of fentanyl or its analogues. Thus, in addition to facilitating safer use practices associated with the patient's usual substance, clinicians should also provide all patients who use stimulants with information about and supplies for reducing the risk of opioid overdose: always test patients' urine for fentanyl, tell patients to never use alone, and distribute take-home naloxone kits. Consider prescribing naltrexone if a patient who uses cocaine or methamphetamine has a positive urine screen for fentanyl or one of its analogues but denies intentional opioid use; naltrexone has a longer duration of action and a higher affinity for the opioid receptor than naloxone does, making it effective in preventing overdose.

There is an association between stimulant use and high-risk sexual behaviours, particularly in men who have sex with men (159-161). A survey of outpatients being treated for substance use disorder (162) found that individuals being treated for methamphetamine or cocaine use disorder had a strong association between drug use and sexual behaviours; furthermore, 44.6% of cocaine-using respondents and 53.8% of methamphetamine-using respondents indicated that they were more likely to engage in riskier sex practices during drug use (compared to 5.1% of opioid-using respondents). In addition to the potential health consequences of high-risk sexual activity, the authors of this study point out that a strong connection between substance use and sex can be a challenge in treatment: if substance use contributes to sexual pleasure, the patient will likely find it difficult to abstain from use, and if the patient has a strong mental association between sex and drugs, then sexual desire or activity may cause cravings. Washton and Zweben (2009) recommend asking patients about their stimulant-sex connection (163): for example, whether there are particular sexual practices (such as unprotected insertive sex, sexual activities that carry a risk of physical harm, etc.) that they are more likely to engage in while using. The purpose of these questions is to generate a discussion with the patient about the connections they make between stimulants and sex; this will allow you to help the patient to identify

potential sexual triggers for drug use and ways to deal with those triggers. Washton and Zweben (2009) suggest that a time-limited period (e.g., one month) of sexual abstention may be beneficial for some patients: if sexual behaviours are associated with stimulant use, temporarily abstaining from those behaviours will obviate triggers arising from those contexts (163). In all cases, patients should be given advice on safer sex practices: for example, use barriers, engage in activities that do not involve fluid transmission, only use sterile sex toys, and get regular STI testing. When appropriate and possible, offer patients safer-sex supplies (e.g., condoms, gloves, dental dams) and/or refer them to sexual health clinics.

What can be done for amphetamine-induced psychosis?

There are no evidence-based guidelines yet for managing amphetamine-induced psychosis. Case studies suggest that benzodiazepines should be administered in a quiet, non-stimulating environment. Antipsychotics may be used if the psychotic symptoms are severe, or if they persist for more than a few days after the last use.

There have been few large randomized controlled trials on the management of stimulant-induced psychosis, meaning that there are no evidence-based guidelines yet. A review of case studies (168) found that patients with amphetamine-induced psychosis should be provided with a quiet, calm environment to minimize stimulation. Benzodiazepines are recommended to minimize agitation and anxiety; in the case of severe psychosis, antipsychotics may be used (see lit review).

Lit review: Antipsychotics for amphetamine-induced psychosis

There is a limited amount of evidence that olanzapine, risperidone, haloperidol, aripiprazole, and quetiapine are all effective in reducing the symptoms of amphetamine-induced psychosis. Based on a small number of trials, olanzapine and risperidone appear to have the greatest evidence of benefit while causing the fewest adverse effects.

A Cochrane review (117, 164) found only one trial meeting their inclusion criteria. This trial compared olanzapine and haloperidol for their effectiveness in treating symptoms in patients experiencing psychosis caused by amphetamines; both were found to be effective, but olanzapine was better tolerated and was associated with fewer extrapyramidal symptoms (165).

A small double-blind randomized controlled trial (published after the Cochrane review was last updated) compared quetiapine and haloperidol, and found quetiapine to be as effective in treating methamphetamine-induced psychosis as haloperidol (166). Another small randomized controlled trial compared aripiprazole and risperidone in methamphetamine-induced psychosis (132, 144, 167); while both medications were found to reduce psychotic symptoms, risperidone was associated with significantly superior treatment retention and significantly reduced cravings for methamphetamine.

Use caution when giving antipsychotics to children and adolescents, as they are more vulnerable to adverse effects.

Counselling

How should I approach counselling in a RAAM clinic setting?

Focus on developing a good therapeutic rapport with patients. Explain how substance use disorders develop and offer a message of hope that recovery is possible. Provide harm reduction advice and supplies. Inform patients that relapse is common in early recovery and let them know that they should keep working at treatment even if they have a slip.

The strength of the therapeutic alliance has been found to be an important predictor of patient engagement and retention in substance use disorder treatment (169). Some RAAM clinics have access to a dedicated counsellor or caseworker, meaning that the prescriber may not be solely responsible for patients' psychosocial management. However, no matter how the counselling is divided among clinicians, it is crucial for prescribers to develop a strong, supportive therapeutic rapport with patients.

Patients attending a RAAM clinic for the first time may be feeling scared, angry, ashamed, or hopeless. It is likely that many will have internalized the ideas that their substance use disorder is their own fault and that they should be able to stop on their own; previous unsuccessful attempts to quit may be a source of shame. A guide on providing psychosocial support to patients in a RAAM clinic setting (170) recommends giving patients the following information about substance use disorder in an initial appointment:

Main messages
Substance use disorder is **a chronic illness, not a weakness or a moral failing**. There are **effective treatments**, and **people can and do recover**.

Influence of the brain
The **reward centre** in the brain releases **dopamine** when we perform an activity that is essential for survival (e.g., eating), which makes us feel good. The dopamine spike registers in the **memory** and the **command centre**, so we **remember** the pleasure of the activity and are **motivated to repeat it**. Drinking and using drugs cause an **even bigger** release of dopamine, reinforcing substance use even when it is harmful.

Influence of trauma
People with a **history of trauma or adverse childhood events** have abnormal neuro-development, resulting in dysfunction in dopamine and serotonin pathways; problems with affect-regulation, attachment, identity, relationships, and sense of meaning; and high levels of anxiety, depression, and suicidality. Using substances can help people to cope with these feelings and allow them to feel at ease and relaxed.

Influence of concurrent mental illness
Mental illnesses like PTSD, anxiety, or depression **often contribute to the onset and continuation of substance use**. 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**.

Written patient materials (e.g., pamphlets) reinforce these messages and give patients something to bring home and refer to. Some materials that might be useful to patients are available for download at http://metaphi.ca/patient-resources.html.

Offering harm reduction advice and supplies helps to create an environment that welcomes patients at any stage of substance use disorder treatment. All patients should be given advice on how to reduce harms related to substance use and tips for coping with cravings, and RAAM clinics should provide harm reduction supplies (i.e., naloxone kits, safer crack use kits, safer sex supplies, drug-testing kits) to all patients whenever possible.

Avoiding opioid overdose	Never use alone. Always carry naloxone. Do not inject. If you are using opioids after any period of abstinence (even just a few days), take a much smaller dose than usual. Take a test dose of any drug you did not get directly from a pharmacy and/or use a drug-testing kit. Do not mix opioids with alcohol or benzodiazepines. If someone appears drowsy, has slurred speech, or is nodding off: • Do not leave them alone. • Do not let them sleep, even if someone watches them overnight. • Shake them and call their name. • Call 911. • Administer naloxone and start CPR.

Reducing alcohol harms	Eat before and while drinking. Drink a less preferred drink. Sip drinks rather than gulping them. Alternate alcoholic drinks and non-alcoholic drinks. Start drinking later in the day. Avoid non-palatable alcohol. Do not drive while or after drinking. If you are attending an event where there will be intoxicated people, either avoid becoming intoxicated yourself or go with someone who will avoid intoxication. Have a plan to leave early if necessary.
Reducing harms related to stimulants	Test stimulants before using to make sure they are not contaminated with fentanyl. Do not share pipes, especially if you have sores or cuts on your mouth. Carry safer-sex supplies, like condoms and dental dams. Clean your hands and equipment with an alcohol swab before using. Make sure you have food and a safe place to sleep after use.
Techniques for coping with cravings	**Delay:** "I will not act on this craving right away. I will wait five (or ten or fifteen) minutes to decide whether to act on this craving." **Distract:** Prepare a list of distractions ahead of time (e.g., call a friend or sponsor, go for a walk or run, listen to music, watch your favourite TV show, have something good to eat). Select from the list of distractions when having a craving. **Urge surfing:** Picture the urge as an ocean wave and imagine yourself surfing, using your breath as the surfboard. Ride this wave through its peak and its decline, without being submerged or wiped out by its enormity.

A patient who has a slip may feel too ashamed to come back to treatment. From the initial appointment, emphasize that relapses are very common in early recovery, and that they can provide valuable information about gaps in the treatment plan. Let the patient know that you will not be angry or disappointed if they have a slip, and that they should come back so that you can work together to adjust the treatment plan.

What are some specific techniques or principles that work in a RAAM clinic setting?

Use brief intervention techniques to assess patients' stage of change and enhance their motivation, and work with them to create reasonable and realistic substance use goals. Motivational interviewing principles can be helpful as a therapeutic stance. Ensure that your practice is trauma informed and culturally sensitive.

RAAM clinics are generally not conducive to structured psychotherapy; patients are not intended to stay there long-term, and many may only visit once. It is therefore a good strategy to use brief intervention techniques in order to maximize the utility of a single session. Motivational interviewing techniques are helpful in resolving patients' ambivalence about change. Because many patients are likely to have a history of trauma (personal and/or intergenerational), it is crucial that your practice be trauma informed and culturally safe.

Brief intervention techniques (171) are intended to encourage and facilitate behaviour change by providing information and support and by enhancing the patient's motivation. RAAM clinic patients will all be at different points in their substance use and recovery; the clinician's role is to assess the patient's current stage of change and tailor the intervention to the patient's current state. The transtheoretical model of behaviour change recognizes six stages (172):

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 advantages to change. Contemplative patients are 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 is a normal part of the change process; it offers patients an opportunity to identify and address triggers and recommit to change.

Identifying the patient's stage of change enables you to help them develop realistic goals. The Center for Substance Abuse Treatment recommends different strategies for enhancing patients' motivation, depending on their current stage of change (173). These strategies are summarized here:

Precontemplation: Opening the door
Focus on relationship building.
Make space for discussion by asking the patient how they see their substance use and what role it has in their life.
Present facts, express concern, and offer help without pressure.

Contemplation: Weighing the options
Discuss the pros and cons of substance use and change.
Find alignments between change and the patient's values.
Acknowledge the difficulty of change and normalize hesitation and ambivalence.
Emphasize the patient's choice.
Express your willingness to help.

Preparation: Negotiating the details
Keep the patient's goals and desires as the driving force of change.
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.
Work with the patient to create long-term goals.

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

Motivational interviewing (MI) is a brief intervention technique designed to be used in short-term therapeutic relationships, typically for four sessions or fewer. The goal of MI is to provide space for a precontemplative patient to discuss their ambivalence about changing their substance use and to explore and reinforce their identified reasons for change (174). Even in settings where structured psychotherapy is not practical, the principles underlying MI can be used as a therapeutic position, and its techniques can be helpful for increasing patient engagement, fostering collaboration, and drawing out patients' own motivations for change. The main techniques of MI are open-ended questions, affirmations, reflections, and summaries, which enhance the patient's feeling of agency in the process of behavioural change. The elements making up the "spirit of MI" (p. 15) are partnership, acceptance, compassion, and education (174). By avoiding a directive stance and instead approaching the patient as a partner in the therapeutic process, MI techniques allow you to guide a precontemplative patient towards their own realizations of the benefits of change.

For contemplative patients, a decisional balance table can be a very helpful tool for exploring the reasons for and against changing their substance use. The patient fills out a two by two table with their own reasons in favour of and against continued use versus change:

Pros of substance use	**Cons of substance use**
1. 2. 3.	1. 2. 3.
Pros of stopping substance use	**Cons of stopping substance use**
1. 2. 3.	1. 2. 3.

Table 5: Decisional balance table

As you go through the cells with the patient, emphasize the positive aspects of change and strategize around dealing with the challenges of change. Find alignment between the patient's beliefs and values and their motivations for stopping their substance use. Offer practical advice and problem-solving ideas to help tip the balance in favour of change.

It is crucial for clinicians to be culturally competent when treating special populations; this is particularly important with respect to Indigenous patients. Indigenous people in Canada continue to experience systemic barriers to health care; in many cases, past experiences of

racism in health care settings dissuade people from seeking care at all (175). Non-Indigenous clinicians should educate themselves on providing culturally safe care to Indigenous patients; the Ontario Indigenous Cultural Safety Program (https://soahac.on.ca/ics-training/) offers a series of CFPC- and RCPSC-accredited courses to provide training to Ontario health care providers. If your clinic has a large proportion of Indigenous patients but few Indigenous practitioners, consider hiring a specialized service provider, such as an Aboriginal Patient Navigator, in order to make your setting safer for Indigenous patients.

The RAAM clinic is generally not a good setting for trauma therapy; RAAM clinics are not intended to be long-term therapy settings, and RAAM clinicians will not necessarily have the required training to provide trauma therapy. Nevertheless, clinicians should be mindful of the fact that many of their patients are very likely to have a trauma history. Your practice should reflect the principles of trauma-informed care:

Acknowledgment	Listen, empathize, normalize, validate.
Trust	Be honest about your knowledge, skills, and limitations as a care provider. Provide **transparency** and **shared power** in decision making. Enforce consistent boundaries.
Collaboration	Emphasize the patient's **choice** and **control** in determining treatment.
Compassion	**Reframing**: Not "What's wrong with you?" but "What happened to you?" Identify the patient's needs and explore the implications of those needs for care.
Strength-based	Acknowledge the patient's **resilience** in survival. Acknowledge that coping mechanisms, like substance use, are an **understandable** and **logical** response to trauma.
Safety	Ensure that your space is **physically safe**: Provide a comfortable and well-lit office in a safe building. Ensure that your practice is **emotionally safe**: Avoid **re-traumatizing** the patient.

How do I address current domestic abuse?

Always ask patients about domestic abuse. Explain the ways in which substance use can be used to exploit victims of domestic violence. Facilitate connections to treatment.

A meta-analysis of 85 studies found that substance use was a risk factor for both perpetrators and victims of intimate partner violence (176). The connection between alcohol use and intimate partner violence perpetrated by men against women is particularly well studied; for example, meta-analyses have shown that alcohol use in men is correlated with greater aggression and higher rates of intimate partner violence towards women (177), and that there is a bidirectional correlation between women's alcohol use and intimate partner violence victimization (178).

In our clinical experience, substance use can be used to exploit victims of domestic violence in several ways. An abusive partner may sabotage their victim's recovery (and potential escape) by supplying alcohol or drugs, discouraging treatment attendance, or cutting the victim off from their supports; they may involve the victim in drug dealing; they may use the victim's substance use to threaten to take the children away; they may use the victim's substance use as a justification for violence or as a way to demean the victim and keep them dependent; or they may use their own substance use as an excuse for violence. All patients should be asked if they are experiencing physical, verbal, or sexual abuse from a partner or a member of their family; patients who disclose abuse should be told about these strategies and helped to challenge them.

Patients who are in a dangerous living situation should be encouraged to leave; if possible, secure a place for them at a withdrawal management centre or a shelter, and reassure them that their abuser will not be able to find them. Encourage the patient to report the abuse to the police. If the patient is afraid of getting the abuser in trouble, explain that making a report now will help prevent the abuser from doing something that will put them in prison for a long time. Even if the patient is not able to leave the situation yet, offer practical advice that will help them start preparing to leave:

- Start documenting the abuse (e.g., photograph injuries, keep text messages, record threats) to show police.
- Build a support network that is separate from the abuser.
- Keep any plans and contact information in a secret place (e.g., create a new e-mail account and password that the abuser does not know about).
- Keep coming to the RAAM clinic; reducing or stopping substance use will make it much easier to make the necessary decisions.

The Ontario Network of Sexual Assault/Domestic Violence Treatment Centres (https://www.sadvtreatmentcentres.ca/) has a map of treatment centres that offer health care and counselling to victims of domestic violence, and the Victim Services Directory (https://www.justice.gc.ca/eng/cj-jp/victims-victimes/vsd-rsv/index.html) allows people to search for services by postal code. The Government of Canada website provides specific

information and resources for victims of domestic abuse who are not Canadian citizens (https://www.canada.ca/en/immigration-refugees-citizenship/services/immigrate-canada/family-sponsorship/abuse.html). Patients may be too scared to access these websites from home; if the patient is willing to reach out to one of these services, find an appropriate service during the appointment and give the patient the number, and facilitate them making the call if possible.

What is the landscape for psychosocial treatment options?

Consider the type of psychosocial treatment that would work best for the patient. For patients on addiction medications (e.g., naltrexone, buprenorphine, methadone), recommend programs that do not require them to taper or discontinue their dose.

Psychosocial treatment is an important part of recovery for most patients, and different people have different treatment needs; the duration, intensity, and focus of treatment should suit the patient's work and family responsibilities, their available resources, and their goals, along with any individual considerations (e.g., faith-based, Indigenous-focused, women-focused, etc.). Patients who are in crisis and need immediate support, especially those who are underhoused or in an unsafe environment, may benefit from immediate referral to a residential withdrawal management centre; these programs often offer transitions to longer-term residential programs or day treatment. Residential treatment programs may be suitable for people who have the time and resources to attend, and are sometimes required for patients who are involved with the justice system. However, there are often wait times and/or costs associated with residential treatment programs, which can be a significant barrier; in 2011, 83% of publicly funded residential addiction treatment programs in Ontario reported having a waiting list, and the wait time between assessment and admission to treatment ranged from a couple of days to seven months (179). Lower-intensity programs, such as community addiction treatment, often have shorter waiting periods; a report by Health Quality Ontario and the Institute for Clinical Evaluative Sciences found that while the average wait time for a residential treatment program was 42 days in the 2012/13 fiscal year, the average wait time for a community treatment program was sixteen days (180). Many individuals find mutual aid groups, such as twelve-step programs, to be supportive and helpful to them in their recovery; these groups are usually immediately accessible.

The ConnexOntario services directory (https://www.connexontario.ca/addictions-mental-health-services-search) allows you to search for services based on location, patient demographics, type of service, and/or type of disorder. As previously mentioned, some psychosocial programs do not permit patients to be on addiction medications. In most cases, if a patient is benefitting from an addiction medication, they should be advised against discontinuing that medication to attend a particular treatment program and encouraged to

attend a program that will allow them to remain on their current dose.[11] Similarly, not all mutual aid groups are welcoming to individuals on addiction medications (particularly OAT). Patients taking pharmacotherapy should be encouraged to find a group that will not make them feel that they are "cheating" or "not really sober".

What are some helpful apps that I can recommend to patients?

Consider the apps listed below. Encourage patients to look for other apps that might help them reach their goals.

Apps are a convenient and accessible way to help patients stay motivated, accountable, and on track. They can be used for goal-setting, tracking, journaling, connecting with others in recovery, and sharing progress with family. There are many apps to choose from, and patients will have their own criteria and priorities (i.e., operating system, cost, focus, features, etc.).

The following apps are free, can be used on any mobile device, and have been found to be useful by some of our patients:

I Am Sober	Community of people in recovery App users renew their sobriety pledge every day Facilitates connections between app users based on substance and length of sobriety
SoberTool	Twelve-step–based messages to encourage and motivate App users can select from a list of themes (e.g., *lonely*, *higher power*, *urges*) in order to read messages related to that theme Forum for connecting with other app users Note: This app uses language that clinicians should avoid (e.g., *addict*, *dirty*, *clean*), but patients who are involved in twelve-step programs may be used to and connect with this terminology.
Nomo	Keeps track of sober days Features include journal, motivational exercises, and sharing with accountability partners
Saying When	Alcohol-specific app that allows users to track their drinking and urges App users set goals and can monitor progress over time Not intended for people with moderate to severe AUD

[11] Please refer to "Serving clients who use substances: A guide for community workers", available online at http://metaphi.ca/provider-tools.html, for a list of Ontario residential treatment facilities and their medication policies.

There are many other apps designed to help people with substance use disorders maintain sobriety and meet their goals. Encourage patients to look at what is available to them and try different apps in order to see what they find helpful.

What resources can I offer to patients and their families?

Print and share patient resources on the META:PHI website. Tell patients to explore the Centre for Addiction and Mental Health's health information library and the Canadian Mental Health Association website. Provide information about patient and family support groups.

There is a wealth of information and resources on substance use disorders and recovery available online for free. The META:PHI website has a collection of patient resources, including pamphlets about alcohol and opioid use disorder and a list of books and podcasts about addiction and recovery, that can be printed and given out (http://metaphi.ca/patient-resources.html). The Centre for Addiction and Mental Health has an online health information library that includes handouts, guides, and tutorials on many topics (https://www.camh.ca/en/health-info/). The Canadian Mental Health Association is another hub of information and resources (https://ontario.cmha.ca/).

Patients may be interested in trying mutual aid groups as a way to add structure and social support to their lives. You can refer them to the following organizations:

- Alcoholics Anonymous (https://www.aa.org/)
- Narcotics Anonymous (https://www.orscna.org/english/index.php)
- Crystal Meth Anonymous (https://crystalmeth.org/index.php)
- Secular Organizations for Sobriety (http://www.sossobriety.org/)
- Women for Sobriety (https://womenforsobriety.org/)
- SMART Recovery (https://www.smartrecovery.org/)

Some of your patients may be accompanied by family members, who may also be seeking support. Here are some resources and support groups you can recommend to your patients' loved ones:

- Al-Anon/Alateen (www.al-anon.org)
- Canadian Mental Health Association (www.cmha.ca)
- Psychology today (www.psychologytoday.com)
- ConnexOntario (www.connexontario.ca)
- Families for Addiction Recovery (www.farcanada.org)
- The Sashbear Foundation Family Connections program (www.sashbear.org/en/family-connections)
- Family Association for Mental Health Everywhere (www.fameforfamilies.com)

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