



THE COLLEGE OF
FAMILY PHYSICIANS
OF CANADA



LE COLLÈGE DES
MÉDECINS DE FAMILLE
DU CANADA

Practical Approach to Substance Use Disorders for the Family Physician

Addiction Medicine Member Interest Group
The College of Family Physicians of Canada

May 2021



© 2021 The College of Family Physicians of Canada

All rights reserved. This material may be reproduced in full for educational, personal, and non-commercial use only, with attribution provided according to the citation information below. For all other uses permission must be acquired from the College of Family Physicians of Canada.

How to cite this document: College of Family Physicians of Canada. *Practical Approach to Substance Use Disorders for the Family Physician*. Mississauga, ON: College of Family Physicians of Canada; 2021.

Authors

Melissa Holowaty, PhD, MD, MS, CCFP (AM), CISAM
Lecturer, University of Ottawa, Department of Family Medicine
Adjunct Assistant Professor, Queen's University, Department of Family Medicine
Chair, Addiction Medicine Member Interest Group, College of Family Physicians of Canada

Financial disclosures (last two years): Allergan, Knight Therapeutics

David Martell, MD, CCFP (AM), FCFP, CISAM, CCSAM
Assistant Professor, Dalhousie University, Department of Family Medicine
Vice-Chair, Addiction Medicine Member Interest Group, College of Family Physicians of Canada

Financial disclosures (last two years): none

Erin Knight, MD, CCFP (AM), CISAM
Assistant Professor, University of Manitoba, Departments of Psychiatry and Family Medicine
Associate Vice-Chair, Addiction Medicine Member Interest Group, College of Family Physicians of Canada
Financial disclosures (last two years): none

Reviewers

Rebecca Coish, MD, CCFP
Monty Ghosh, MD, FRCPC
Lydia Hatcher, MD, CCFP, FCFP
Tally Mogus, MD, CCFP (AM)

Disclosure Statement

This resource is produced by members of the College of Family Physicians of Canada (CFPC) Addiction Medicine Member Interest Group. It is intended to assist family physicians with caring for patients with problematic use of substances, recognizing that care provided needs to be individualized based on patient characteristics and guided by the standard of practice in the jurisdiction of practice.



Table of Contents

Introduction	2
Purpose	2
Background	2
Screening and brief intervention	3
Nicotine	5
Screening for problematic use	5
Pharmacotherapy	5
Non-pharmacological treatments	8
Patient resources	8
Provider resources	8
Alcohol	9
Screening for problematic use	9
Pharmacotherapy	10
Non-pharmacological treatments	11
Withdrawal management	11
Patient resources	12
Provider resources	12
Opioids	13
Screening for problematic use	13
Recommendations for managing OUD in patients on long-term opioid therapy	13
Pharmacotherapy	14
Non-pharmacological treatments	16
Patient resources	17
Provider resources	17
Endnotes	18



Introduction

Purpose

This document is an open-source, quick reference booklet designed to help family physicians at all stages recognize and treat the most common substance use disorders that also cause the greatest population health effects—nicotine, alcohol, and opioids.¹

Background

The American Society of Addiction Medicine defines addiction as “a treatable, chronic medical disease involving complex interactions among brain circuits, genetics, the environment, and an individual’s life experiences. People with addiction use substances or engage in behaviors that become compulsive and often continue despite harmful consequences. Prevention efforts and treatment approaches for addiction are generally as successful as those for other chronic diseases.”² Despite this, substance use disorders continue to be a leading cause of death and disability in Canada and around the world.

The *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5) defines substance use disorders on a spectrum, from mildly to severely problematic. The 11 criteria are the same for all substances. Meeting two to three criteria indicates a mild disorder, four to five indicates a moderate disorder, and six or more indicates a severe disorder. The severity of the disorder informs the treatment approach.³

Below is an example of the Diagnostic Criteria in the DSM-5 for Alcohol Use Disorder.

A problematic pattern of alcohol use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period:

1. Alcohol is often taken in larger amounts or over a longer period than was intended.
2. There is a persistent desire or unsuccessful efforts to cut down or control alcohol use.
3. A great deal of time is spent in activities necessary to obtain alcohol, use alcohol, or recover from its effects.
4. Craving or strong desire to use alcohol.

5. Recurrent alcohol use resulting in failure to fulfill major role obligations at work, school, or home.
6. Continued alcohol use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of alcohol.
7. Important social, occupational, or recreational activities are given up or reduced because of alcohol use.
8. Recurrent alcohol use in situations in which it is physically hazardous (such as swimming or driving).
9. Alcohol use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by alcohol.
10. Tolerance, as defined by either of the following:
 - a) A need for markedly increased amounts of alcohol to achieve intoxication or desired effect.
 - b) A markedly diminished effect with continued use of the same amount of alcohol.
11. Withdrawal, as manifested by either of the following:
 - a) The characteristic withdrawal syndrome for alcohol.
 - b) Alcohol (or a closely related substance, such as benzodiazepine) is taken to relieve or avoid withdrawal symptoms.

Reprinted with permission from the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, (Copyright ©2013). American Psychiatric Association. All Rights Reserved.

Example questions for tolerance and withdrawal:

- Have you had to drink/use much more than you once did to get the effect you want? Or found that your usual number of drinks/joints/hits had much less effect than before?
- Have you found that when the effects of alcohol were wearing off, you had withdrawal symptoms, such as trouble sleeping, shakiness, irritability, anxiety, depression, restlessness, nausea, or sweating? Or sensed things that were not there?

Screening and brief intervention

Because of the high prevalence of substance use disorders, their impacts on health and social outcomes, and the availability of harm reduction and evidence-based treatment options, we suggest substance use screening be added to the periodic health exam. Screening can be a conversation about substance use that takes place routinely at periodic health exams, or is triggered in the event of a potentially substance related outcome (e.g., recent traumatic injuries, absences from work, social problems, legal problems, dermatologic problems, arrhythmia, hypertension, sleep disturbance, persisting pain, liver disease). Several screening tools have been designed and validated for this purpose.

The 2018 American College of Cardiology Expert Consensus Decision Pathway on Tobacco Cessation Treatment provides a framework for assessing and treating smoking.⁴ This framework for brief intervention can be easily adapted to all substances.

Adaptation

Ask: Ask all appropriate patients if they currently smoke, drink alcohol, or use opioids, or if they have in the past. Use non-judgmental language. Normalize this by asking regularly at appropriate encounters and seek permission first before asking these more sensitive questions. For example, "I ask all patients about substance use. There are no right or wrong answers here, it just helps me to provide you with the best care. Would that be ok?"

Assess: Determine number of drinks per day, cigarettes smoked per day, type of opioid used and how it is used (chewed, insufflated (snorted), injected, swallowed, inhaled), and determine pattern of use. Ask about previous attempts to reduce use of the substance or stop using.

Advise: Advise the patient of the harms and consequences of use, work to elicit change, talk, and set goals together.

Assist: Offer treatment options in the forms of pharmacotherapy and behavioural interventions. If a patient is not ready to set a goal or remains contemplative, explore and address barriers in a non-judgmental manner.

Arrange: If the patient accepts treatment, follow up as indicated by the course of treatment chosen. If the patient remains contemplative, ask permission to explore treatment at a future appointment.

Reprinted from the Journal of the American College of Cardiology, 72(25), Rajat et al., 2018 ACC Expert Consensus Decision Pathway on Tobacco Cessation Treatment: A Report of the American College of Cardiology Task Force on Clinical Expert Consensus Documents, Copyright (©2021), with permission from Elsevier.

Nicotine



Nicotine

In 2017, smoking was the second biggest risk factor for death and disability adjusted life years globally. It accounted for 12.7 per cent of all deaths worldwide. Nicotine binds to nicotine acetylcholine receptors, located throughout the brain. Their stimulation causes the release of dopamine, norepinephrine, glutamate, serotonin, GABA, and endorphins.⁵

Screening for problematic use

Ask all patients if they currently smoke or if they have in the past. Ask them if they wish to know more about ways of cutting back or quitting. Refer to the Introduction for intervention information.

Pharmacotherapy

Varenicline					
How it works	Dosing	Effectiveness	Common side effects	Contra-indications	Length of treatment
Partial agonist/antagonist at nicotine acetylcholine receptors.	Start one to four weeks prior to quit date. 0.5 mg/d for 3 d, then 0.5 mg orally twice daily for 4 d, then 1 mg orally twice daily for 11 wk. Note: Sustained abstinence is increased with longer treatment times. ⁶	The NNT is 11. ⁷ Varenicline is more effective than single NRT, but not more effective than combination NRT.	Nausea and vivid dreams. Note: Previous black box warning regarding suicidal ideation removed. No significant impact on mental health or cardiac events. ^{8,9}	Allergy, pregnancy, breastfeeding.	12 weeks but can be repeated.

Nicotine Replacement Therapy (NRT)					
How it works	Dosing	Effectiveness	Common side effects	Contra-indications	Length of treatment
Long-acting NRT (patches).	<p>The 7, 14, and 21 mg patches provide a steady level of nicotine over 24 hours.</p> <p>It is safe and effective to combine patches in higher doses for those with strong cravings on the 21 mg patch (e.g., 21 mg plus 14 mg patches or higher if needed based on ongoing cravings or nicotine use).</p> <p>It is also safe for patients to continue smoking while using NRT but need to assess clinically to see if a higher dose or other treatment is needed.</p>	NRT has an NNT of 15 and is superior to placebo with an odds ratio of 1.84.	Skin reactions can be treated with cortisone products and rotation of patch sites. Vivid dreams and sleep issues can occur.	<p>NRT has been shown to be safe in pregnancy and in patients with heart disease.</p> <p>NRT is associated with non-anginal chest pain and palpitations, but not with any significant harms.</p>	As needed.
Short-acting NRT (nasal spray, inhaler, lozenge, and gum). Gum and lozenges are absorbed through the buccal mucosa, so patients must be advised to park the chewing gum/lozenge between their cheek and their teeth to get effect.	One 2–4 mg lozenge every 1–2 h as needed.	NRT has an NNT of 15 and is superior to placebo with an odds ratio of 1.84.	Irritation of the nasal mucosa can occur with the nasal spray, causing upper respiratory symptoms. Buccal mucosa may become irritated. Vivid dreams and sleep issues can occur.	<p>NRT has been shown to be safe in pregnancy and in patients with heart disease.</p> <p>NRT is associated with non-anginal chest pain and palpitations, but not with any significant harms.</p>	As needed.

Bupropion					
How it works	Dosing	Effectiveness	Common side effects	Contra-indications	Length of treatment
Believed to work through its effect on the dopamine reward pathway and is an antagonist at the nicotine acetylcholine receptors.	Start one week prior to anticipated quit date. 150 mg/d for 3 d, then 150 mg orally twice daily for 12 wk.	Bupropion is superior to placebo with an odds ratio of 1.82. The NNT is 10.	Insomnia and dry mouth.	Decreases the seizure threshold, so do not use if there is a history of seizures, serious head injuries, eating disorders, or current use of other seizure lowering medications. Can be used along with SSRIs and TCAs but is contraindicated for patients on MAOIs.	12 weeks, but can be safely extended as needed.
Nortriptyline					
How it works	Dosing	Effectiveness	Common side effects	Contra-indications	Length of treatment
Tricyclic anti-depressant that affects levels of serotonin and norepinephrine.	Start at 25 mg/d, gradually increase to 75–100 mg/d. Patients do not need to stop smoking before starting this medication.	Nortriptyline increases the chances of quitting (RR 2.03) comparable to bupropion. The NNT is 10. ¹⁰	Dry mouth, postural hypotension, sedation.	Post acute myocardial infarction (theoretically due to QT prolongation and tachycardia), current or recent (within 14 days) use of an MAOI.	Optimal length of treatment has not been established.
Cytisine					
How it works	Dosing	Effectiveness	Common side effects	Contra-indications	Length of treatment
Plant-based nicotine receptor partial agonist, labelled as a natural health product in Canada. ¹¹	1 capsule every 2 h (up to 6/d) for 4 d; then 1 capsule every 2.5 h (up to 5/d) for 9 d; then 1 capsule every 3 h (up to 4/d) for 4 d; then 1 capsule every 5 h (up to 3/d) for 5 d; then 1–2 capsules daily for 4 d.	Cytisine substantially improves cessation compared to placebo with a NNT of 6.	GI and sleep disturbance, generally mild.	Hypertension, pregnancy, breastfeeding.	Length is generally 25 days.

Combination therapy

Combination of first line treatments is common, especially the use of short-acting NRT products to assist with cravings while using the long-acting therapies. Long-acting therapies have also been used together effectively (e.g., varenicline and NRT).

Harm reduction: Vaping and the use of e-cigarettes

There is some evidence that e-cigarettes can reduce smoking rates, but the long-term effects of e-cigarette use are still unknown.¹² Recommend offering first line therapies instead, which currently have more evidence of efficacy and safety.

Non-pharmacological treatments

- Brief advice from a physician has a positive risk ratio of 1.66 compared to control¹³
- There is no benefit to targeting treatment options to a patient's stage of change¹⁴
- There is only a small increased benefit with the addition of follow-up visits
- There is a small but real benefit of more intensive individual counselling (10 minutes) compared to brief advice
- Group counselling has a similar effect as intensive individual therapy
- Telephone counselling and hotline use increase rates of abstinence¹⁵

Patient resources

- Canadian Cancer Society, Smokers' Helpline: <https://www.smokershelpline.ca>

Provider resources

- CFPC Addiction Medicine Member Interest Group MiGroups online forum
 - Portico Network, Primary Care Addiction Toolkit: <https://www.porticonetwork.ca/tools/toolkits/pcat>
-

Alcohol



Alcohol

In 2017 the rate of hospitalizations entirely caused by alcohol (249 per 100,000) was comparable to the rate of hospitalizations for heart attacks (243 per 100,000). This rate was 13 times higher than that for opioids.¹⁶

Screening for problematic use

- Most patients with alcohol use disorder (AUD) are not recognized early. Every appropriate patient should be screened with a validated tool such as the AUDIT-C.¹⁷
- Indicators of additional reasons to screen: recent traumatic injuries, absences from work, social problems, legal problems, dermatologic problems, arrhythmia, hypertension, sleep disturbance, persisting pain, liver disease.
- Be discrete. Avoid stigmatizing language. Explain why screening is important.¹⁸

AUDIT-C: A score of 4 or more (male) or 3 or more (female) indicates hazardous drinking and is an opportunity to review the Canadian Low Risk Drinking Guidelines.^{19,20}

AUDIT-C Questions	Scoring system					Your score
	0	1	2	3	4	
1) How often did you have a drink containing alcohol in the past year?	Never	Monthly or less	2–4 times per month	2–3 times per week	4+ times per week	
2) How many drinks containing alcohol did you have on a typical day when you were drinking in the past year?	1–2	3–4	5–6	7–9	10+	
3) How often did you have six or more drinks on one occasion in the past year?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
TOTAL:						

Refer to the Introduction for intervention information.

Diagnosis of AUD uses standard DSM-5 criteria.

Pharmacotherapy

Naltrexone					
How it works	Dosing	Effectiveness	Common side effects	Contra-indications	Length of treatment
Opioid antagonist that inhibits euphoria associated with alcohol use. It has been shown to assist with abstinence and harm reduction through decreasing heavy drinking days and overall number of drinks.	<p>25 mg/d for 3 d, then 50 mg orally daily.</p> <p>Usual effective dose 50 to 100 mg; maximum dose is 150 mg/d in one or divided doses.</p> <p>Can start at 12.5 mg/d for 3 d to reduce GI side effects or if the patient is in early withdrawal and GI side effects are more likely.</p>	Helps patients achieve abstinence (NNT 12) and can help reduce harms related to heavy drinking (NNT 12).	GI upset.	<p>Caution in liver disease (greater than five times the upper limit of normal) and extremely limited data in pregnancy.</p> <p>Liver function should be checked prior to initiation and monitored periodically while on treatment.</p> <p>However, not having initial lab work should not preclude a trial of medication unless the patient is obviously cirrhotic.</p> <p>Contraindicated in patients taking opioids, as it will cause severe opioid withdrawal.</p>	Typically, 3–12 months.
Acamprosate					
How it works	Dosing	Effectiveness	Common side effects	Contra-indications	Length of treatment
N-Methyl-D-aspartate (NMDA) receptor antagonist that makes it easier not to drink.	333 mg orally three times per day; typical effective dose is 666 mg orally three times per day	Helps support patients to maintain continuous abstinence after detoxification (NNT 9).	GI upset and nervousness.	Caution with renal dysfunction (requires dose adjustment).	Typically, 3–12 months.

Other medications

Other medications that may be considered are disulfiram, topiramate, gabapentin, and baclofen.²¹

Non-pharmacological treatments

Employ motivational interviewing to start the process of setting goals. Focus on reducing harms related to drinking:

- Cognitive behaviour therapy: trigger recognition and coping skills
- Motivational enhancement therapy: short therapy to develop coping skills
- Marital and family counselling: increase family support
- Community reinforcement therapy: group peer-led self-support

Consider referral to an addiction specialist when a patient has psychotic symptoms, other active addictions, PTSD, significant liver disease (more than five times the upper limit of normal), or is at risk of withdrawal from other substances.

Withdrawal management

Outpatient management can be used if no risk factors are present (see below), the patient has support available at home, and the patient can be reassessed within a few days.^{22,23,24,25} The Prediction of Alcohol Withdrawal Severity Scale (PAWSS) may be useful to guide decisions of inpatient versus outpatient treatment.^{26,27,28} Alternatively, the Severity of Alcohol Dependence Questionnaire (SADQ) can be used instead of the PAWSS.^{29,30}

A typical outpatient pharmacotherapy protocol would be the following (consider lorazepam if contraindications to diazepam exist such as cirrhosis, severe respiratory disease, etc.):

Day 1: Diazepam 10 mg every 4 to 6 hours as needed based on symptoms

Day 2: 10 mg every 6 to 8 hours as needed

Day 3: 10 mg every 12 hours as needed

Day 4: 10 mg at bedtime as needed

Day 5: discontinue benzodiazepine

To this end, counsel patients regarding increased risk of respiratory depression and overdose when combining alcohol with benzodiazepines. Consider involving a trusted support person when creating a treatment plan and/or dispensing daily from a pharmacy.

Defer alcohol withdrawal to hospital when patient has risk factors such as a history of seizures or delirium tremens (withdrawal psychosis), cannot keep fluids down, has advanced heart, lung or liver disease, when the withdrawal is severe, or if the patient is withdrawing from other substances as well.

The CIWA-Ar is the most commonly used scale for assessing severity of alcohol withdrawal, and can be used to guide symptom triggered dosing of medications, generally in a hospital setting.³¹ In some situations (language barrier, confusion, psychosis, etc.) a more objective alcohol withdrawal scale may be more helpful based on the clinical presentation.²⁵

Patient resources

- Centre for Addiction and Mental Health, Alcohol: <https://www.camh.ca/en/health-info/mental-illness-and-addiction-index/alcohol>
- Peer support
 - Alcoholics Anonymous: <https://www.aa.org>
 - SMART Recovery, SMART Recovery: <https://www.smartrecovery.org>
- In The Rooms: <https://www.intherooms.com/home>
- Health Canada, Get help with problematic substance use: <https://www.canada.ca/en/health-canada/services/substance-use/get-help/get-help-problematic-substance-use.html>

Provider resources

- CFPC Addiction Medicine Member Interest Group, MiGroups online forum
 - Centre for Effective Practice, Alcohol Use Disorder: <https://cep.health/clinical-products/alcohol-use-disorder>
 - Portico Network, Treatments: <https://www.porticonetwork.ca/treatments>
 - META:PHI: <https://www.metaphi.ca/provider-education.html>
 - Canadian Centre on Substance Use and Addiction: <https://www.ccsa.ca>
 - Centre for Addiction and Mental Health: <http://www.camh.ca>
 - British Columbia Centre on Substance Use, Alcohol Use Disorder: <https://www.bccsu.ca/alcohol-use-disorder>
-

Opioids



Opioids

Opioid related harms are at an epidemic level across Canada, with 4,614 apparent opioid-related deaths and 5,349 hospitalizations for poisoning in 2018.³² More than one third of opioid related deaths and more than half of opioid related hospitalizations occur in people with an opioid prescription.^{33,34} Family physicians can play an important role in managing opioid use disorder (OUD) and opioid related harms.³⁵

Screening for problematic use

OUD is a potential negative outcome from long-term opioid therapy for chronic non-cancer pain. It is important to screen for problematic opioid use in all patients receiving long-term opioid therapy and have conversations/discussions about this possibility. You should use DSM-5 criteria to guide diagnosis and establish severity.

Refer to the Introduction for intervention information.

Recommendations for managing OUD in patients on long-term opioid therapy

Consider the following options:^{36,37,38}

- Discuss concerns about OUD diagnosis with the patient
- Offer take-home naloxone training information and kit
- Offer harm reduction advice
- Offer transition to opiate agonist therapy (OAT) with buprenorphine (preferred) or methadone
- Put measures in place to reduce potential harms if OAT is declined or not accessible. These may include rotation to a long-acting opioid that can be dispensed more frequently, including up to daily witnessed, and consideration of a structured opioid taper. Given the risks of increased morbidity and mortality after opioid withdrawal, tapers should generally be done slowly, with the option of transitioning to OAT at any time. However, you may choose to taper more quickly (one to three months) with daily dispensing if suspected injection, diversion or illicit use, particularly with obvious harms (e.g., repeated episodes of overdose, obvious sedation).

- Discuss clinical pearls:
 - Frequent (up to daily) dispensing, no early refills
 - Close monitoring using urine drug screens, pill counts, office visits
 - Goal to taper off opioid completely
 - If the patient has a pain condition warranting opioid therapy, consider maintenance on once daily long-acting morphine (Kadian), daily dispensed at a maximum dose of 50 mg
 - Revisit harm reduction counselling and option of OAT during taper
- For those who do not wish to be on OAT, you can consider oral naltrexone (or sustained release naltrexone once readily available) for relapse and overdose prevention once the patient is off opioids. Note that naltrexone should not be initiated until after a period of abstinence (generally three to seven days, though may be longer in the case of long-acting formulations) ensuring that no residual opioids are present; otherwise, it will cause opioid withdrawal.

Pharmacotherapy

Buprenorphine/naloxone					
How it works	Dosing	Effectiveness	Common side effects	Contra-indications	Length of treatment
Buprenorphine is a partial agonist/antagonist at the opioid receptor that acts as an opioid replacement. Naloxone is present as a deterrent to aberrant use. The naloxone is not active if swallowed or used sublingually but does become active if someone insufflates ("snorts") it or injects it.	Initial induction (starting) dose is 2–4 mg sublingual. The usual maintenance dose is 16–24 mg, with the maximum dose of 32 mg/d.	NNT 4 for retention.	Drowsiness, dizziness, respiratory depression, pruritus, nausea, and constipation.	Caution in cirrhosis, concurrent sedative use including alcohol and over-the-counter (OTC) medications; however, safer with these than methadone and slow release oral morphine.	Treatment length is as needed and is generally long term.
Methadone					
How it works	Dosing	Effectiveness	Common side effects	Contra-indications	Length of treatment
Methadone is a long acting full agonist opioid that is used for OAT.	Initial dosing is 10–30 mg/d orally. Usual dosing is 60–120 mg/d. There is theoretically no maximum dose but most guidelines advise using caution above 120 mg/d.	NNT 2 for retention.	Side effects include drowsiness, dizziness, respiratory depression, pruritus, nausea, and constipation. It takes three to five half-lives to achieve maximum serum concentration.	Caution in liver disease, respiratory depression, QT prolongation (caution > 450 ms, discuss risks/lower dose if ≥ 500 ms), concurrent sedative use, including alcohol and OTC medications.	Treatment length is as needed and is generally long term.

Sustained Release Oral Morphine (SROM)

How it works	Dosing	Effectiveness	Common side effects	Contra-indications	Length of treatment
SROM is a long-acting full agonist opioid (morphine) that acts as an opioid replacement.	Initial dosing depends on the patient's current opioid intake but can be 60–200 mg/d orally. The usual dosing is 60–1,200 mg/d. Theoretically, there is no maximum dose.	Effectiveness information is not available. It is generally provided by specialists and at this time has lower quality evidence.	Side effects include drowsiness, dizziness, respiratory depression, pruritus, nausea, and constipation. It takes five half-lives to achieve maximum serum concentration.	Caution in renal disease and cirrhosis, respiratory depression, and concurrent sedative use, including alcohol and OTC medications.	Treatment length is as needed and is generally long term.

Naltrexone

How it works	Dosing	Effectiveness	Common side effects	Contra-indications	Length of treatment
Naltrexone is a medium acting opioid antagonist that blocks opioid receptors. Note: Not recommended due to poor evidence, but can consider as protection against overdose in cases of abstinence-based treatment.	Initial dosing is 12.5–25 mg/d orally; usual dosing is 50–100 mg/d orally, with a maximum dose of 150 mg/d in a single or divided doses.	NNT 13 for retention.	GI upset.	Caution in significant liver disease, pregnancy (little evidence regarding safety) and contraindicated with concurrent opioid use.	Typically 3–12 months.

Naloxone

How it works	Dosing	Effectiveness	Common side effects	Contra-indications	Length of treatment
Naloxone is a fast-acting opioid antagonist that blocks opioid receptors and is used to reverse opioid toxicity (overdose). Note: It is an emergency medication, not a treatment for OUD.	Dosing is 0.4 mg intramuscularly or via intranasal spray; may be repeated as needed; there is no maximum dose.	NNT 54–412 (prevent death). ^{39,40}	Opioid withdrawal side effects	There are none as this is an emergency treatment for opioid overdose.	Emergency use only.

Example of a standard buprenorphine/naloxone initiation—can be done in the office with a prescription the patient has, or at home with take-home buprenorphine/naloxone:

Day 1: [Patient should not be driving this day]

1. Do not start buprenorphine until the patient is:
 - a) At least 12 hours from their last opioid use (fentanyl and methadone excluded; see comment on microdosing)
 - b) In moderate opioid withdrawal as per the Clinical Opioid Withdrawal Scale (COWS > 12)⁴¹
 2. First dose = 4 mg sublingual
 3. Consider lower 2 mg initial dose if low tolerance, recent abstinence, or significant concurrent sedative use.
 4. Reassess after minimum 60 minutes from previous dose.
 - a) If withdrawal symptoms are improved but not resolved:
 - i) Give an additional 2 mg or 4 mg
 - ii) Repeat as needed, up to maximum total dose of 12 mg on day one
 - b) If withdrawal symptoms are significantly worse after first dose equal precipitated withdrawal
 - i) Consider treatment with non-opioid adjuncts (clonidine, ibuprofen, loperamide)
 - ii) Provide the option to stop induction and try again tomorrow
- OR
- iii) Continue the induction. Note: there is not any danger if the patient proceeds to use opioids after the induction, but continued fentanyl use may lead to further withdrawal symptoms. Consider Bernese method (below) for persons using fentanyl regularly.

Day 2 +:

1. Morning dose equals the total daily dose from the previous day.
2. Increase by 2 mg to 4 mg per day as needed for ongoing withdrawal symptoms.

The target dose prevents withdrawal for a full 24 hours between doses, while avoiding problematic side-effects including sedation.

For patients using fentanyl or methadone, recommend microdosing/Bernese Method for initiating buprenorphine/naloxone; see the META:PHI website for details.⁴²

Non-pharmacological treatments

Opioid withdrawal management (i.e., detoxification) or abrupt cessation of long-term opioid therapy is **not recommended** due to associated increases in morbidity and mortality. This is due to the high relapse rates post-detoxification, in combination with the rapid loss of tolerance to opioids, resulting in high overdose rates.⁷

Conflicting evidence exists as to whether psychosocial interventions, in addition to OAT, improve outcomes for patients with OUD, and there is limited evidence available on the benefit of residential treatment. Psychosocial interventions (counselling, cognitive behavioural therapy, contingency

management, peer support, treatment) should be offered. However, given the paucity of evidence, patients who decline psychosocial interventions should not be excluded from OAT.

Patient resources

- Peer support
 - SMART Recovery: <https://www.smartrecovery.org>
 - Narcotics Anonymous: <https://www.na.org>
- In The Rooms: <https://www.intherooms.com/home>
- Health Canada, Get help with problematic substance use: <https://www.canada.ca/en/health-canada/services/substance-use/get-help/get-help-problematic-substance-use.html>

Provider resources

- Portico Network, Treatments: <https://www.porticonetwork.ca/treatments>
 - Temerty Faculty of Medicine, University of Toronto, Safer Opioid Prescribing: <https://www.cpd.utoronto.ca/opioidprescribing>
 - META:PHI: <https://www.metaphi.ca/provider-education.html>
 - British Columbia Centre on Substance Use, Alcohol Use Disorder: <https://www.bccsu.ca/alcohol-use-disorder>
 - Alberta Health Services, Alberta Opioid Dependency Treatment (ODT) Virtual Training Program: <https://www.albertahealthservices.ca/info/page16083.aspx>
 - Machealth, Opioids Clinical Primer: https://machealth.ca/programs/opioids_clinical_primer
 - Collaborative Mentorship Network for Chronic Pain and Addiction: <https://cmnalberta.com>
-

Endnotes

- ¹ Stanaway JD, Afshin A, Gakidou E, Lim SS, Abate D, Abate KH, et al. Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks for 195 countries and territories, 1990–2017: A systematic analysis for the Global Burden of Disease Study 2017. *Lancet*. 2018;392(10159):1923–1994.
- ² American Society of Addiction Medicine. *Definition of Addiction*. Rockville, MD: American Society of Addiction Medicine; 2019. Available from: <https://www.asam.org/Quality-Science/definition-of-addiction>. Accessed February 9, 2021.
- ³ American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders: DSM-5*. Arlington, VA: American Psychiatric Association Publishing, Inc.; 2013.
- ⁴ Barua RS, Rigotti NA, Benowitz NL, Cummings KM, Jazayeri M-A, Morris PB, et al. 2018 ACC Expert Consensus Decision Pathway on Tobacco Cessation Treatment. *J Am Coll Cardiol*. 2018;72(25):3332–3365.
- ⁵ Miller SC, Fiellin DA, Rosenthal RN, Saitz R. *The ASAM Principles of Addiction Medicine*. Philadelphia, PA: Wolters Kluwer; 2019.
- ⁶ Tonstad S, Tønnesen P, Hajek P, Williams KE, Billing CB, Reeves KR, et al. Effect of maintenance therapy with varenicline on smoking cessation: a randomized controlled trial. *JAMA*. 2006;296(1):64–71.
- ⁷ Cahill K, Lindson-Hawley N, Thomas KH, Fanshawe TR, Lancaster T. Nicotine receptor partial agonists for smoking cessation. *Cochrane Database Syst Rev*. 2016;(5):CD006103.
- ⁸ Williams JM, Anthenelli RM, Morris CD, Treadow J, Thompson JR, Yunis C, et al. A randomized, double-blind, placebo-controlled study evaluating the safety and efficacy of varenicline for smoking cessation in patients with schizophrenia or schizoaffective disorder. *J Clin Psychiatry*. 2012;73(5):654–660.
- ⁹ U.S. Food and Drug Administration. FDA Drug Safety Communication: FDA revises description of mental health side effects of the stop-smoking medicines Chantix (varenicline) and Zyban (bupropion) to reflect clinical trial findings [news release]. Silver Spring, MD: U.S. Food and Drug Administration. 2016. Available from: <https://www.fda.gov/drugs/drug-safety-and-availability/fda-drug-safety-communication-fda-revises-description-mental-health-side-effects-stop-smoking>. Accessed February 23, 2020.
- ¹⁰ Allan GM, Ivers N, Els C. Pharmacotherapy for smoking. *Can Fam Phys*. 2011;57(1):47. Available from: <https://www.cfp.ca/content/57/1/47>. Accessed March 1, 2020.
- ¹¹ Karnieg T, Wang X. Cytisine for smoking cessation. *CMAJ*. 2018;190(19):E596.
- ¹² Prochaska JJ, Benowitz NL. Current advances in research in treatment and recovery: Nicotine addiction. *Sci Adv*. 2019;5(10):eaay9763.
- ¹³ Stead LF, Buitrago D, Preciado N, Sanchez G, Hartmann-Boyce J, Lancaster T. Physician advice for smoking cessation. *Cochrane Database Syst Rev*. 2013;(5):CD000165.
- ¹⁴ Cahill K, Lancaster T, Green N. Stage-based interventions for smoking cessation. *Cochrane Database Syst Rev*. 2010;(11):CD004492.
- ¹⁵ Matkin W, Ordóñez-Mena JM, Hartmann-Boyce J. Telephone counselling for smoking cessation. *Cochrane Database Syst Rev*. 2019;(5):CD002850.
- ¹⁶ Canadian Institute for Health Information. Alcohol Harm in Canada website. 2017. <https://www.cihi.ca/en/alcohol-harm-in-canada>. Accessed November 1, 2019.

- ¹⁷ Bradley KA, DeBenedetti AF, Volk RJ, Williams EC, Frank D, Kivlahan DR. AUDIT-C as a brief screen for alcohol misuse in primary care. *Alcohol Clin Exp Res*. 2007;31(7):1208–1217.
- ¹⁸ Centre for Effective Practice. Alcohol Use Disorder [tool] website. 2019. <https://cep.health/clinical-products/alcohol-use-disorder/>. Accessed February 26, 2020.
- ¹⁹ Bush K, Kivlahan DR, McDonnell MB, Fihn SD, Bradley KA. The AUDIT alcohol consumption questions (AUDIT-C): an effective brief screening test for problem drinking. Ambulatory Care Quality Improvement Project (ACQUIP). Alcohol Use Disorders Identification Test. *Arch Intern Med*. 1998;158(16):1789–1795.
- ²⁰ Canada's Low-Risk Alcohol Drinking Guidelines [brochure] | Canadian Centre on Substance Use and Addiction. <https://www.ccsa.ca/canadas-low-risk-alcohol-drinking-guidelines-brochure>. Published 2018. Accessed March 1, 2020.
- ²¹ The Primary Care Addiction Toolkit. Dealing with alcohol problems website. 2015. <https://www.porticonetwork.ca/web/alcohol-toolkit?forcedownload=true>. Accessed February 26, 2020.
- ²² Bayard M, McIntyre J, Hill KR, Woodside Jr J. Alcohol withdrawal syndrome. *Am Fam Physician*. 2004;69(6):1443–1450.
- ²³ Centre for Addiction and Mental Health. Alcohol website. 2018. <https://www.camh.ca/en/health-info/mental-illness-and-addiction-index/alcohol>. Accessed February 28, 2020.
- ²⁴ Sullivan JT, Sykora K, Schneiderman J, Naranjo CA, Sellers EM. Assessment of alcohol withdrawal: the revised clinical institute withdrawal assessment for alcohol scale (CIWA-Ar). *Br J Addict*. 1989;84(11):1353–1357.
- ²⁵ Knight E, Lappalainen L. Clinical Institute Withdrawal Assessment for Alcohol–Revised might be an unreliable tool in the management of alcohol withdrawal. *Can Fam Physician*. 2017;63(9):691–695.
- ²⁶ Maldonado JR, Sher Y, Ashouri JF, Hills-Evans K, Swendsen H, Lolak S, et al. The “Prediction of Alcohol Withdrawal Severity Scale” (PAWSS): Systematic literature review and pilot study of a new scale for the prediction of complicated alcohol withdrawal syndrome. *Alcohol*. 2014;48(4):375–390.
- ²⁷ Maldonado JR, Sher Y, Das S, Kelsey Hills-Evans K, Anna Frenklach A, Sermsak Lolak S, et al. Prospective Validation Study of the Prediction of Alcohol Withdrawal Severity Scale (PAWSS) in Medically Ill Inpatients: A New Scale for the Prediction of Complicated Alcohol Withdrawal Syndrome. *Alcohol*. 2015;50(5):509–518.
- ²⁸ MDCalc. Prediction of Alcohol Withdrawal Severity Scale website. 2021. <https://www.mdcalc.com/prediction-alcohol-withdrawal-severity-scale>. Accessed February 9, 2021.
- ²⁹ Stockwell T, Murphy D, Hodgson R. The severity of alcohol dependence questionnaire: its use, reliability and validity. *Br J Addict*. 1983;78(2):145–155.
- ³⁰ MDApp. Severity of Alcohol Dependence Questionnaire (SADQ) website. 2021. <https://www.mdapp.co/severity-of-alcohol-dependence-questionnaire-sadq-calculator-518>. Accessed February 9, 2021.
- ³¹ MDCalc. CIWA-Ar for Alcohol Withdrawal website. 2021. <https://www.mdcalc.com/ciwa-ar-alcohol-withdrawal>. Accessed February 9, 2021.
- ³² Special Advisory Committee on the Epidemic of Opioid Overdoses. National report: Opioid-related Harms in Canada Web-based Report. <https://health-infobase.canada.ca/substance-related-harms/opioids>. Published December 2019. Accessed February 24, 2020.
- ³³ Gomes T, Khuu W, Martins D, Tadrous M, Mamdani MM, Paterson JM, et al. Contributions of prescribed and non-prescribed opioids to opioid related deaths: Population based cohort study in Ontario, Canada. *BMJ*. 2018;362:k3207.

- ³⁴ Gomes T, Khuu W, Craiovan D, Martins D, Hunt J, Lee K, et al. Comparing the contribution of pre-scribed opioids to opioid-related hospitalizations across Canada: A multi-jurisdictional cross-sectional study. *Drug Alcohol Depend.* 2018;191:86-90.
- ³⁵ Korownyk C, Perry D, Ton J, Kolber MR, Garrison S, Thomas B, et al. Managing opioid use disorder in primary care – PEER simplified guideline. *Can Fam Phys.* 2019;65(5):321-330.
- ³⁶ Clarke S, Franklyn M, Kahan M, Leary T, Nikodem P. *Clinical Best Practices in Addiction Medicine – A Guide for RAAM Clinicians*. Toronto, ON: Women's College Hospital; 2019. Available from: http://www.metaphi.ca/assets/documents/provider%20tools/RAAM_BestPractices.pdf. Accessed February 24, 2020.
- ³⁷ Kahan M. *Safe prescribing practices for addictive medications and management of substance use disorders in primary care: a pocket reference for primary care providers*. Toronto, ON: Women's College Hospital; 2019. Available from: http://www.metaphi.ca/assets/documents/provider%20tools/PCP_PocketReference.pdf. Accessed February 24, 2020.
- ³⁸ Canadian Research Initiative in Substance Misuse. *CRISM National Guideline for the Clinical Management of Opioid Use Disorder*. Ottawa, ON: Canadian Research Initiative in Substance Misuse; 2018. Available from: https://crism.ca/wp-content/uploads/2018/03/CRISM_NationalGuideline_OUD-ENG.pdf. Accessed February 24, 2020.
- ³⁹ Coffin PO, Sullivan SD. Cost-effectiveness of distributing naloxone to heroin users for lay overdose reversal in Russian cities. *J Med Econ.* 2013;16(8):1051-1060.
- ⁴⁰ Coffin PO, Sullivan SD. Cost-effectiveness of distributing naloxone to heroin users for lay overdose reversal. *Ann Intern Med.* 2013;158(1):1-9.
- ⁴¹ MDCalc. COWS Score for Opiate Withdrawal website. 2021. <https://www.mdcalc.com/cows-score-opiate-withdrawal>. Accessed February 9, 2021.
- ⁴² Patel P, Dunham K, Lee K. *Buprenorphine/Naloxone Microdosing: The Bernese Method – A Brief Summary for Primary Care Clinicians*. Toronto, ON: META:PHI; 2019. Available from: http://www.metaphi.ca/assets/documents/provider%20tools/PCP_Microdosing_TVFT.pdf. Accessed August 9, 2020.
-