

# Approach to cannabis use disorder in primary care

## Focus on youth and other high-risk users

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### Abstract

**Objective** To review the clinical features and complications of at-risk cannabis use and cannabis use disorder, and to outline an office-based protocol for screening, identifying, and managing this disorder.

**Sources of information** PubMed was searched for controlled trials, observational studies, and reviews on cannabis use among adolescents and young adults; cannabis-related medical and psychiatric harms; cannabis use disorder and its treatment; and lower-risk cannabis use guidelines.

**Main message** Physicians should ask all patients about cannabis use. They should ask adolescents and young adults and those at highest risk of cannabis-related harms (those with concurrent psychiatric or substance use disorders) more frequently. Physicians should also ask about cannabis use in patients who have problems that could be caused by cannabis, such as mood disorders, psychosis, and respiratory symptoms. In patients who report cannabis use, physicians should inquire about frequency and amount, tolerance and withdrawal symptoms, attempts to reduce use, and cannabis-related harms. Lower-risk cannabis users smoke, inhale, or ingest cannabis occasionally without evidence of school, work, or social dysfunction; those with problematic use often use cannabis daily or almost daily, have difficulty reducing their use, and have impaired school, work, or social functioning. Physicians should offer all patients with problematic use brief advice and counseling, focusing on the health effects of cannabis and setting a goal of abstinence (some higher-risk groups should not use cannabis at all) or reduced use, and they should provide practical strategies to reduce cannabis use. Physicians should incorporate simple motivational interviewing techniques into the counseling sessions. They should refer those patients who are unable to reduce use or who are experiencing harms from cannabis use to specialized care, while ensuring those patients remain connected to primary care. As well, physicians should give information on lower-risk cannabis use to all cannabis users.

#### EDITOR'S KEY POINTS

- There are harms associated with cannabis use, particularly for youth and for regular users. Harms include addiction, social dysfunction, psychosis, cognitive impairment, cardiorespiratory ailments, and motor vehicle collisions.
- Physicians should screen all patients in their practices at least once for cannabis use. Groups with higher rates of use and groups at higher risk of harm should be screened more often, at least annually.
- Physicians should assist those patients who are using cannabis with setting goals and provide them with practical strategies to reach those goals. They should refer patients who have ongoing problematic use to specialized care, while ensuring such patients remain connected to primary care. As well, physicians should give information on lower-risk cannabis use to all cannabis users.



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**Conclusion** Physicians should screen all patients in their practices at least once for cannabis use, especially those who have problems that might be caused by cannabis. Physicians should screen those at higher risk more often, at least annually. Lower-risk cannabis use should be distinguished from problematic use. Brief counseling should be provided to those with problematic use; these patients should be referred to specialists if they are unable to reduce or cease use.

Cannabis use is very common in Canada, especially among youth. In 2011, the Canadian Alcohol and Drug Use Monitoring Survey found that 21.6% of youth aged 15 to 24 had used cannabis in the past year, compared with 6.7% of those older than 24 years.<sup>1</sup> A 2013 United Nations International Children's Emergency Fund study on a younger age group (11- to 15-year-olds) found even higher rates of use among Canadian youth; an estimated 28% had used cannabis at least once in the past year, the highest rate in the Western world.<sup>2</sup> Of concern, a high number of youth who used in the

past year admitted to regular weekly or daily use (22% of males and 10% of females).<sup>3</sup>

## Case description

*A.N., a 21-year-old university student, is booked for a routine annual checkup. As part of your assessment you inquire about her cannabis use. She tells you she smokes marijuana. On further questioning she reveals that she smokes about 1 joint per day during the week and 2 or more joints per day on the weekend. She does not smoke tobacco and only drinks a few beers a week. She does not use any other substances. She is single, lives with a few friends, and sees her parents a few times a month. She is failing several classes this year but was an excellent student in the past. She does not have a driver's licence but has been a passenger in a car with a friend who was "high." Her mood is "OK." She reports a high level of anxiety and has recently had a few episodes of overwhelming anxiety, shortness of breath, and chest pain. She went to the emergency department and was diagnosed with a panic attack. Her electrocardiogram and laboratory test results, including thyroid-stimulating hormone level, were normal. You believe that her cannabis use is problematic and is likely causing or contributing to some of her school difficulties and medical conditions. What should you do?*

## Sources of information

PubMed was searched for controlled trials, observational studies, and reviews on cannabis use among adolescents and young adults; cannabis-related medical and psychiatric harms; cannabis use disorder and its treatment; and lower-risk cannabis use guidelines.

## Background

*Cannabis* is a global term that refers to a variety of preparations from the *Cannabis sativa* plant.<sup>4</sup> The most commonly used recreational form of cannabis is marijuana (the dried flowers and leaves of the *C sativa* plant). It is often rolled into a "joint" and smoked, or heated with a vaporizer and inhaled. A joint usually contains about 0.5 to 1 g of cannabis. Delta-9-tetrahydrocannabinol (THC) is the psychoactive component responsible for the intoxicating effects of cannabis preparations. The THC concentration of marijuana typically varies from 5% to 15%. Hashish and hash oil, also from the *C sativa* plant, have higher THC concentrations. The terms *cannabis* and *marijuana* are used largely interchangeably in this article given the ubiquitous use of the marijuana preparation in Canada. In this article, the term *cannabinoids* refers to synthetic THC-like compounds that are present in pharmaceutical-grade products such as dronabinol and nabilone. Other synthetic cannabinoids that contain multiple THC-like compounds are sprayed on inert herbs and sold under names such as "spice" and "K2."<sup>5</sup>

These nonpharmaceutical cannabinoids often cause a very intense psychoactive effect in the user. The different cannabinoid preparations can also be ingested.

**Psychoactive effects.** Cannabis induces a mild euphoric state in most users. It reduces anxiety, improves mood, and stimulates appetite. It impairs judgment, problem solving, and learning; distorts sense of time; and heightens visual and auditory perceptions. For some users, especially at higher doses of THC, it can cause dysphoria and anxiety. The onset of effect depends on the route of intake, varying from a few minutes when smoked to up to several hours when ingested. The euphoric effect typically dissipates within 1 to 2 hours, depending on the preparation used.<sup>4,6</sup> Cognitive functioning, particularly executive functioning, can be affected for as long as 6 hours, with residual effects sometimes seen as long as 20 days after use.<sup>7</sup>

**Withdrawal.** Daily cannabis users often show a predictable withdrawal syndrome, characterized by symptoms of hypersomnia or insomnia, fatigue, anxiety, depression, and cravings.<sup>8</sup> Symptoms typically appear about 24 to 48 hours after the last cannabis use, and resolve quickly with resumed use. The negative reinforcing effect of withdrawal makes relapse common in this period.

**Harms.** Among those older than 15 years who reported cannabis use, approximately 90% reported no problems related to their cannabis use.<sup>9</sup> However, there are well established harms from cannabis use, and regular users are at much higher risk of these harms.

**Addiction and problematic use:** Approximately 9% of those who try cannabis go on to develop an addiction (compared with 11% of those who try alcohol, 15% of those who try cocaine, and 24% of those who try heroin).<sup>10</sup> Additionally, many users who do not meet the criteria for addiction still have problems associated with their cannabis use. The 2004 Canadian Addiction Survey found that among a sample of 1800 past-year cannabis users, 4.9% reported that their cannabis use had caused health, social, or legal problems in the past 3 months, while 6.9% reported failed expectations in the past 3 months.<sup>9</sup>

**Schizophrenia and psychosis:** Case-control and cohort studies have found an association between cannabis use and the development of psychosis.<sup>11,12</sup> One meta-analysis gives an odds ratio of 1.41 of developing psychosis for those who had ever used cannabis and an odds ratio of 2.09 for frequent users.<sup>13</sup>

**Respiratory and cardiac ailments:** Although past studies were inconclusive, newer evidence suggests there are respiratory and cardiac harms associated with smoking cannabis. In a 40-year retrospective cohort study of 50 000 Swedish male subjects, regular cannabis smoking

was associated with a 2-fold increased risk of lung cancer, even after controlling for tobacco use and other factors.<sup>14</sup> Further, in a systematic review regular cannabis smoking was associated with increased risk of bronchitis, wheezing, and shortness of breath.<sup>15</sup> Smoking cannabis also appears to precipitate angina and myocardial infarction in the short term.<sup>16</sup>

Vaporizers, devices that heat instead of combust marijuana, might minimize harms associated with smoking cannabis. Small short-term studies have found improvement in some self-reported respiratory symptoms and found reduced expired carbon monoxide levels.<sup>17</sup> However, long-term outcome studies are needed.<sup>18</sup>

**Cognitive effects:** Cannabis use causes difficulties with attention, problem solving, judgment, decision making, and learning. The acute effects of cannabis on executive function typically resolve within 6 hours, although some individuals have impaired executive function for up to 3 weeks after abstinence. However, cognitive decline might be long-lasting in those who were regular users before age 18.<sup>7</sup>

**Driving risks:** Cannabis intoxication increases the risk of motor vehicle collision-related morbidity and mortality by 1.5- to 3-fold,<sup>19,20</sup> and as serum THC concentration increases, so do the odds of a collision.<sup>4,21-23</sup> While this increase in risk is lower than in alcohol-intoxicated drivers, it is still substantial. Of concern, in the 2004 Canadian Addiction Survey, 4.6% of Canadians who had tried cannabis reported using cannabis before driving at least once.<sup>3</sup>

**Reproductive effects:** Cannabis use in pregnancy has been consistently linked with subtle neurodevelopmental harms in offspring, such as attention deficit disorder. Daily smoking has a stronger association than infrequent smoking. While these studies attempted to control for known confounders, it is possible that unidentified maternal and social factors influenced this association.<sup>24-26</sup> Some studies have linked cannabis use in pregnancy to a higher rate of stillbirth; however, these results might be confounded by higher rates of alcohol and tobacco use among cannabis users.<sup>27</sup> In some studies, cannabis exposure led to lower birth weights, neonates small for gestational age, and premature delivery; however, there is controversy as to whether these results are statistically significant and concern regarding possible confounders.<sup>28,29</sup> Overall, the effects of cannabis use in pregnancy on the developing fetus are largely unknown owing to a lack of high-quality studies.<sup>30</sup> Pregnant patients and patients planning or at risk of pregnancy should be counseled as to the possibility of the above effects, with particular emphasis on adverse neurodevelopmental harms.

**Youth.** Youth could be at particularly high risk of specific types of cannabis-related harm. This might be

related to a developing neurologic system that is more vulnerable to the psychoactive effects of cannabis. Unlike other substances (alcohol, cocaine, opioids), the typical individual seeking treatment for a cannabis problem in Ontario is a male younger than 20 years and in high school.<sup>31</sup> In a survey of a community sample of 2500 young adults, 30% used cannabis, and 35% of cannabis users reported at least 1 criterion for cannabis dependence, such as withdrawal (17%) or continued use despite a health problem (13%).<sup>32</sup> In patients at high risk of psychosis, younger age of initiating cannabis use is associated with younger age of onset of prodromal psychotic symptoms, with cannabis use usually preceding symptom onset.<sup>33</sup> Youth might be more sensitive to the cognitive effects of cannabis; regular users younger than 18 years might experience persistent lifelong cognitive effects from regular cannabis use.<sup>7</sup> A prospective cohort study of more than 1000 individuals found that those who used cannabis regularly in their teen years had persistent cognitive decline that did not resolve with cessation.<sup>34</sup> The effect was correlated with earlier age of initiation and with the cannabis total dose. Other researchers have looked at these data and challenged the results.<sup>35</sup> However, even if the decline is not persistent, adolescence is such a crucial period of development that cognitive impairment during this period can have substantial lifelong consequences.<sup>36</sup> Additionally, there is a strong correlation in adolescents between regular cannabis use and high rates of social dysfunction, anxiety, depression, and use of alcohol and illicit drugs.<sup>37-39</sup> This association might not be causal but it is concerning.

## Main message

**Apply the Screening, Brief Intervention and Referral to Treatment model.** Screening, Brief Intervention and Referral to Treatment is a well established, evidence-based approach to case finding and intervening in substance use disorders. It has the most robust evidence for application in treatment of alcohol use disorders; however, the evidence for application in other drug use disorders is growing.<sup>40</sup> This model was specifically developed as a public health approach to case finding in non-substance abuse treatment settings. Interventions with those who have positive screening results for possible substance use disorders should last 5 to 30 minutes (as described below). These characteristics make it an ideal model for use by family physicians.

**Ask all patients about cannabis use.** Screen youth and other groups at higher risk of cannabis-related problems more frequently. As a baseline, physicians should ask all patients in their practices if they have smoked marijuana (or used cannabis in any form) in the past year. We do not recommend general questions such as "Have

you used street drugs?” or “Have you used illicit drugs?” because many patients do not view cannabis as a street or illicit drug. Physicians should monitor patients who report using cannabis, even if their use is only occasional and not problematic.

Physicians should ask patients at higher risk of cannabis-related harms more frequently about their use, particularly if the presenting complaint could be related to cannabis use.<sup>41</sup> Higher-risk groups include adolescents and young adults; patients with mood, anxiety, or psychotic disorders; patients who drink heavily, smoke tobacco, or misuse other substances; and patients with poor functioning at work or school. These patients should be asked annually about cannabis use and during routine visits for these presenting complaints. Patients with poorly controlled chronic pain should be asked about cannabis use for analgesia.

**Ask about cannabis use in patients who have problems that could be caused by cannabis.** Physicians should also ask about cannabis use in patients with symptoms and conditions known to be caused or exacerbated by cannabis (**Box 1**). While the list in **Box 1** is not exhaustive, these problems are commonly seen in primary care and should serve as a starting point for screening of cannabis use disorder. Common problems caused by cannabis use are anxiety, mood, and psychotic disorders; respiratory infections and chronic cough; sleep disturbances; relationship difficulties; and impaired performance at work or school. Nausea and vomiting can be associated with cannabis consumption. Cannabis hyperemesis syndrome is postulated to arise from chronic cannabis consumption and has been the subject of several recent case reports.<sup>42-44</sup>

### Box 1. Common problems associated with cannabis use

Common problems associated with cannabis use include the following:

- Depression and anxiety
- Psychosis
- Recurrent respiratory tract infections
- Chronic cough
- Sleep disturbances
- Poor school or work performance
- Relationship difficulties
- Nausea and vomiting

**Distinguish lower-risk use from problematic cannabis use.** Patients who acknowledge past-year use should be asked about the quantity and frequency of use. Quantity can be expressed in the number of joints smoked per day or week, or the number of grams of dried cannabis purchased per time interval. This

information will be less precise than for alcohol consumption, because the potency of dried cannabis varies and the biological dose of THC varies according to the size of the joint and the user's smoking practices. As well, joints are often shared.

Patients with problematic use usually smoke (or inhale or ingest) cannabis daily or almost daily. They are generally using cannabis to experience the mood-leveling effects (relaxation and relief of anxiety). They often find it difficult to stop or reduce their use because abrupt cessation can cause withdrawal symptoms or distressing rebound anxiety. As well, they often have marked impairment in their psychosocial functioning. Therefore, problematic use should be considered if the patient reports any of the following: daily or near daily use, social dysfunction, poor function at work or school, repeated unsuccessful attempts to stop or reduce use, and expressions of concern from family or friends (**Box 2**).

### Box 2. Clinical indicators of problematic cannabis use

Clinical indicators of problematic cannabis use include the following:

- Daily or almost daily use
- Reports relief of anxiety as primary reason for using cannabis
- Repeated unsuccessful attempts to reduce or stop use
- Medical, social, legal, or financial harms from cannabis use
- Expressions of concern from family or friends

A cannabis use screening questionnaire such as the Severity of Dependence Scale can be used for those patients who use cannabis at least weekly to quickly determine the severity of their psychological or physical dependence (**Box 3**).<sup>45</sup> A formal diagnosis of cannabis addiction, termed *cannabis use disorder*, is based on the criteria in the *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition, and depending on the severity of symptoms, can be moderate or severe in nature (**Box 4**).<sup>46</sup>

Physicians should have a high degree of suspicion for problematic cannabis use in patients (particularly youth) who have mood or psychotic disorders or who drink heavily or use other substances. Physicians should consider using a validated screening questionnaire, such as the CRAFFT questionnaire (**Box 5**),<sup>47</sup> to identify problematic use, particularly if the physician has a practice with a large volume of adolescents and young adults.

**Provide brief counseling sessions to all patients with problematic use.** Brief advice provided by primary care physicians has been shown to be effective in reducing alcohol use in at-risk drinkers.<sup>48</sup> Preliminary research on brief interventions for cannabis users has

**Box 3. Severity of Dependence Scale for cannabis use:** Each item is scored on a 4-point scale (0-3); the total score is the sum of the scores of the individual items. The higher the total score, the higher the level of dependence.

Ask patients to consider the following with regard to the past 3 months:

- Did you ever think your use of cannabis was out of control?
- Did the prospect of missing a smoke make you very anxious or worried?
- Did you worry about your use of cannabis?
- Did you wish you could stop?
- How difficult would you find it to stop or go without?

Adapted from the National Cannabis Prevention and Information Centre.<sup>45</sup>

**Box 4. Diagnostic and Statistical Manual of Mental Disorders, 5th edition, criteria for cannabis use disorder:** The severity of addiction is moderate if 2 to 3 criteria are reported, and severe if 4 or more are reported. The physician should specify whether physiologic dependence (tolerance or withdrawal) is present.

Q—Increase in **quantity**  
 U—**Unable** to control  
 I—Use **interferes** with function  
 T—Spending more **time**

C—**Craving**  
 H—Use in **hazardous** situations (driving, operating heavy machinery)  
 O—**Ongoing** use despite harm  
 P—**Interpersonal problems** that result from use (arguments or fights)

N—**Need more** for same effect (tolerance)  
 O—**Other** aspects of life affected  
 W—**Withdrawal** symptoms if fail to use or use to manage withdrawal

Adapted from the American Psychiatric Association.<sup>46</sup>

had promising results.<sup>49</sup> Therefore, we recommend physicians provide several brief (5 to 30 minutes) counseling sessions to all patients with problematic cannabis use. The sessions can be incorporated into other appointments or booked separately. Physicians should incorporate information sharing and motivational interviewing techniques into the sessions. However, as the most important predictor of outcomes is not the type of counseling but a positive therapeutic relationship, physicians should focus on demonstrating empathy and encouraging self-efficacy.

**Box 5. CRAFFT questionnaire:** Each yes answer scores 1 point; a total score of 2 or higher indicates a need for additional assessment.

C—Have you ever ridden in a car driven by someone (including yourself) who was high or had been using alcohol or drugs?

R—Do you ever use alcohol or drugs to **relax**, feel better about yourself, or fit in?

A—Do you ever use alcohol or drugs while you are **alone**?

F—Do you ever **forget** things you did while using alcohol or drugs?

F—Do your **family** or **friends** ever tell you that you should cut down on your drinking or drug use?

T—Have you ever gotten into **trouble** while you were using alcohol or drugs?

Adapted from Knight et al.<sup>47</sup>

As a first step, the physician should link the patient's cannabis use with medical and social consequences in his or her life. In some patients the consequences might be subtle; it is important to explore areas like work and school performance, mood, focus, concentration, and sleep.

Physicians should help patients determine their goals. Reduction in use is a reasonable goal for most users. However, physicians should strongly encourage some patients to pursue abstinence, including those with cardiovascular disease, those with a personal history of addiction to any substance, those with a personal or family history of psychosis, and pregnant women. As well, youth aged 24 or younger should be strongly encouraged to abstain from or use very little cannabis. Finally, reduction in use will be difficult for patients with cannabis addiction; these patients should also aim for abstinence. However, physicians should remain supportive and encourage a harm-reduction approach for the patients in these categories who are unwilling or unable to achieve abstinence.

Some patients will not be ready to change and will be unwilling to discuss their cannabis use and set goals. Physicians should acknowledge this decision and express concern, but remain supportive.

Some patients think about making a change but remain ambivalent (contemplative stage). Physicians should help patients explore the pros and cons of cannabis use. This often helps patients to move forward to the planning stage and setting goals.

For patients who are ready to make changes and set goals (planning stage), physicians should provide assistance in developing plans. Physicians should encourage patients to set specific goals with respect to amount and frequency of use and a timeline to accomplish these goals (**Box 6**). Physicians should also encourage this group of patients to record their cannabis consumption

in a calendar or day planner. Physicians should provide assistance with strategies to reduce their use, such as a time-out between joints (**Box 7**). As well, physicians should ask this group of patients to identify and problem solve around barriers to change and possible triggers for relapse (**Box 8**). Physicians should provide advice on ways to minimize withdrawal symptoms (**Box 9**). The BC Partners for Mental Health and Addictions provides an excellent handout with information for patients on reducing their use.<sup>50</sup> Specific tips for working with adolescent cannabis users are outlined in **Box 10**.

### Box 6. Example of specific goals

The following are examples of specific goals:

- This month: no more than 1 (0.5-g) joint per day on weekends and up to 1 additional joint at a party
- Next month: only 1 (0.5-g) joint per weekend and up to 1 additional joint in social situations

### Box 7. Sample strategies to reduce cannabis use

The following are examples of strategies to reduce cannabis use:

- Record consumption on calendar or day planner
- Purchase smaller amounts
- Prepare smaller amounts (eg, smaller joints)
- Wait 10 minutes between inhalations
- Use a 20-minute time-out between joints or use a bong or vaporizer
- Have a certain number of days per week without any cannabis use
- Only use cannabis on weekends
- Avoid deep inhalations

### Box 8. Solutions to barriers and triggers

The following are examples of solutions provided by patients to barriers and triggers:

- Avoid high-risk situations and individuals, at least initially
- Find ways to cope with stress without substances—eat, exercise, talk with non-using friends, find a sponsor

For patients who have already made changes (action stage) physicians should reinforce their success and provide affirmations even if they have not met their goals. The physician should continue to help patients problem solve around barriers and triggers. At follow-up appointments, physicians should review patients' goals, stages of change, and progress. Many patients are able to make meaningful changes with just a few counseling sessions.

### Box 9. Minimizing withdrawal symptoms

The following are suggestions for how to minimize withdrawal symptoms:

- Taper use slowly
- Consider admission to detox facility for severe symptoms
- Consider tapering with oral cannabinoids

### Box 10. Tips on working with adolescents

The following are tips on how to work constructively with adolescents who use cannabis:

- Establish rapport—this is the most important aspect of the encounter
- Clarify confidentiality (eg, "What is said in this room, stays in this room, unless there is a serious risk to you or another young person")
- Encourage self-efficacy by eliciting the adolescent's thoughts, goals, and motivation for change. Highlight his or her strengths and previous successes
- Roll with resistance. Do not lecture or judge. Attempt to eliminate discrepancy between the adolescent's goals and values and the choices he or she is making
- Ask permission to address the subject at another time if the adolescent is not ready to change

It is important to continue to monitor the patients who are successful; substance use problems are often chronic conditions with periods of alternating relapse and remission. Patients who relapse should be encouraged to re-engage in treatment. Physicians should emphasize that relapse is common and does not mean that they will be unable to achieve long-term recovery.

**Refer patients to addiction medicine physicians or other specialized care.** Refer all patients who are unable to cease or reduce use, especially those who are already experiencing harms, to an addiction physician or other specialized care. Some cannabis users will require more intensive treatment, particularly if they have not responded to brief advice, are heavy daily cannabis users, have experienced harms from cannabis use, have problematic use of other substances, or have concurrent mood, anxiety, or psychotic disorders. Referral to an addiction medicine specialist should be considered in these cases. However, if addiction medicine expertise is not available, psychiatrists with an interest in addiction, detoxification facilities, addiction counselors, narcotics anonymous programs, and residential or day addiction programs can all be sources of specialized care and support.

However, even after referral, primary care physicians should have an ongoing role in monitoring and relapse prevention. At regularly scheduled office visits,

physicians should inquire about cannabis use, encourage patients to attend specialized care, and encourage participation in work, school, and social activities. Physicians should draw attention to successes and link reductions in use to a positive change in health and functioning.

**Provide lower-risk cannabis use guidelines to all users.** Like alcohol, cannabis use has its risks, even for occasional users. Therefore, all users should be offered advice on lower-risk cannabis use.

Fischer and colleagues proposed lower-risk cannabis use guidelines in 2011.<sup>51</sup> These guidelines specify patient groups that should either abstain completely from cannabis or use it rarely and in small amounts. It also lists strategies for preventing cannabis intoxication and reducing long-term harms. It outlines strategies for reducing exposure to the toxic by-products of cannabis smoke. **Box 11** provides a summary of the lower-risk guidelines.<sup>51</sup>

### Box 11. Lower-risk cannabis use guidelines

The following is a summary of lower-risk cannabis use guidelines:

- Delay starting cannabis use until older age, ideally older than age 18, because of increased risk of addiction, schizophrenia, and other harms when started at younger age
- Daily or near-daily use is associated with increased risk of addiction, psychosis, impairments in memory and learning, and other harms
- To minimize respiratory harms, avoid smoking with tobacco; avoid deep inhalation or breath holding; and consider using a vaporizer
- Take care with higher-potency cannabis, as it can increase the risk of psychosis
- Wait at least 4 hours after smoking before driving or longer if symptoms persist (driving while "high" increases risk of a motor vehicle accident 1.5 to 3 times)
- Some groups should not use cannabis at all: pregnant women, people with heart disease, and people with history of psychosis or family history of psychosis

Adapted from Fischer et al.<sup>51</sup>

Vancouver Coastal Health<sup>52</sup> produces an excellent patient handout with the same information that is available online.


### Case resolution

*You talk to A.N. about the possible link between her poor school performance and anxiety symptoms and her cannabis use. She admits to having some of the same concerns. You also express concern for the possible legal ramifications of ongoing consumption of an*

*illegal substance. A.N. has tried to cut back in the past but found that she was unable to sleep and felt more restless. You reassure her that this is likely withdrawal and the symptoms should settle down with time. She feels ready to try to reduce her use again. You discuss with her the benefits of abstinence; however, she is only willing to reduce her use at this time. To further your therapeutic alliance you recognize the need to meet the patient where she is at in terms of her goal of reduction. Her goal is to smoke only on weekends in the evenings. With your assistance she writes down a plan of how to taper gradually over the next month. She plans to record her use in her day planner. She will discuss her plan with her roommates as well and ask for their support.*

*You review the lower-risk use guidelines with her, including not driving in a car with someone who is intoxicated. You encourage her to use a vaporizer to minimize respiratory harms. You review her use of contraception. You offer her a follow-up appointment in 2 weeks.*

### Conclusion

Cannabis use is very common in Canada; approximately 22% of those aged 14 to 24 and 6% of those aged 25 and older have used cannabis in the past year. There are harms associated with cannabis use, particularly for youth and for regular users. Harms include addiction, social dysfunction, psychosis, cognitive impairment, cardiorespiratory ailments, and motor vehicle collisions. Physicians should screen all patients in their practices at least once for cannabis use. Those groups with higher rates of use and groups at higher risk of harm should be screened more often, at least annually. For patients who do use cannabis, physicians should distinguish between lower-risk use and problematic cannabis use. They should also identify higher-risk patients who should not use cannabis at all. They should offer brief counseling sessions to all patients with problematic use. The sessions should incorporate simple motivational interviewing techniques and information sharing. Physicians should assist their patients in setting goals (abstinence or reduced use with specific targets) and provide them with practical strategies to reach those goals. They should refer those patients who have ongoing problematic use to specialized care, while ensuring those patients remain connected to primary care. As well, physicians should give information on lower-risk cannabis use to all cannabis users. 

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#### Contributors

All authors contributed to the literature review and interpretation, and to preparing the manuscript for submission.

**Competing interests**

Dr Kahan has received payment from Reckitt Benckiser for presentations on suboxone.

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