

Canada's Lower-Risk Cannabis Use Guidelines (LRCUG) – An Evidence-Based Population Health Initiative



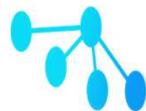
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CANADIAN RESEARCH
INITIATIVE IN
SUBSTANCE MISUSE

INITIATIVE CANADIENNE
DE RECHERCHE
EN ABUS DE SUBSTANCE



Authors and disclosures

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No Conflicts of Interest



Cannabis Use, Legalization & Health

- Use: 10 – 15% of adults, 25 – 30% of adolescents/young adults
- Cannabis use associated with a multitude of acute & chronic adverse health outcomes (see key reviews)
 - Cognitive, memory, psychomotor control impairment
 - Mental health problems (e.g., psychosis, depression)
 - Respiratory system problems (e.g., bronchitis, lung cancer?)
 - Cannabis-impaired driving & related injuries/fatalities
 - Maternal/neo-natal and cardio-vascular outcomes
- Substantial burden-of-disease/public health burden (yet only about 1/5 for alcohol/tobacco due to less exposure and limited mortality)
- However: Acute/severe cannabis problems (e.g., disorders) only materialize in a limited sub-population (~25-30% of users) => 'blackbox' of diverse mediators between use and adverse outcomes



Why Lower-Risk Cannabis Use Guidelines?

- Legalization aims to improve ‘public health & safety’
 - (=> reduce cannabis use risks & harms in population)
- Increasing cannabis risks pre-legalization;
 - potential further increases with legalization =>
 - (e.g., easier access, ‘normalization’ of cannabis use)
- Legalization allows regulations etc to promote ‘safer’ use => ‘targeted prevention’
- evidence-based education/risk reduction for users
- Examples of similar risk-reduction efforts elsewhere:
 - sexual, nutrition,
 - cardio-vascular health;
 - ‘Low-Risk Drinking Guidelines’!



LRCUG: How?

- Original LRCUG (CJPH, 2011) under prohibition
- ***Assumed: Risks for cannabis harms can be modified by users***
- Update/revision of LRCUG (2016):
 - International (3-continent) team experts
- Methods:
 - => Systematic searches and reviews of modifiable risk factors
 - => Evidence reviews, summaries and quality grading
- => Development of evidence-based ‘Recommendations’ by expert panel consensus
- Publication: ‘Lower-Risk Cannabis Use Guidelines’, [American Journal of Public Health](#) in June/2017



Recommendation 1

- The most effective way to avoid any risks of cannabis use is to abstain.
- *[Evidence Grade: None required].*

2. Avoid early initiation

- 2. Initiation of cannabis use before age 16 is associated with multiple subsequent adverse health and social effects in young adult life.
- Pronounced in early-onset users who are intensive/frequent users
- Possibly because frequent cannabis use affects the developing brain.
- The later cannabis use is initiated, the lower the risks of adverse effects on the user's health and welfare in later life.
- *[Evidence Grade: Substantial. The evidence is based on systematic reviews of well-designed non-randomized cohort and case-control studies.*
- *In addition, there are some randomized controlled trials in animals but the overall evidence was still graded as substantial].*

3. Avoid high THC content cannabis

- 3. High THC-content products are associated with higher risks for acute and chronic mental and behavioral problem outcomes.
- Users should know the composition of the cannabis products that they use, and ideally use products with low-THC content.
- Given that CBD attenuates effects of THC, it is advisable to use cannabis with high CBD:THC ratios.
- *[Evidence Grade: Substantial.*
- *This recommendation, especially on the CBD:THC ratio is based on systematic reviews and RCTs in humans and animals.]*

4. Avoid using synthetic cannabinoids

- Synthetic cannabinoids produce more acute and severe adverse health effects (including deaths). Their use should be avoided.
- *[Evidence Grade: Limited.]*
- *Systematic reviews show that for synthetic cannabinoids there is heterogeneous and limited evidence, based on weakly designed studies and case evidence.]*

5. Avoid smoking cannabis

- Regular cannabis smoking adversely affects respiratory health.
- Alternative delivery methods come with risks but better to avoid smoking cannabis, e.g., by using vaporizers or edibles.
- Edibles eliminate respiratory risks, but delayed onset of effects may deliver larger doses and increase acute adverse effects.
- *[Evidence Grade: Substantial. There are well-designed epidemiological studies on respiratory effects of cannabis smoking.*
- *More limited evidence on risks of alternative cannabis delivery methods, smaller studies without weak designs.*
- *The overall evidence grade is substantial given the risks of tobacco smoking.]*

6. Avoid deep inhalation

- Users should avoid ‘deep inhalation’, breath-holding, or the Valsalva maneuver to increase psychoactive effects of cannabis.
- These practices increase the intake of toxic material into the pulmonary system.
- *[Evidence Grade: Limited.*
- *There are no systematic reviews or rigorous studies supporting this recommendation; Evidence was based on case studies and expert opinion].*

7. Avoid daily or near daily use

- Daily or near-daily cannabis use is strongly associated with adverse health and social outcomes.
- Users should keep their own cannabis use – and that of peers - occasional (e.g., use 1 day/week, weekends only).
- *[Evidence Grade: Substantial.*
- *The evidence is based on systematic reviews of well-designed cohort and case-control studies.*
- *There is less evidence on benefits of reducing frequency of use but the dose-response principle probably applies as other psychoactive substances.]*

8. Avoid driving while cannabis impaired

- Users should refrain from driving (or operating machinery) for at least 6 hours after using cannabis.
- This time may need to be longer for regular users and after using more potent cannabis products.
- Users need to observe locally applicable legal limits on cannabis impairment and driving.
- The use of both cannabis and alcohol increases impairment and risks for driving, and should be avoided.
- *[Evidence Grade: Substantial.*
- *There is experimental evidence on the impact of cannabis use on cognitive and psychomotor abilities and meta-analyses of epidemiological studies of cannabis use and MVA risks].*

9. High risk populations

- Populations at probable higher risk should refrain from using cannabis.
- These include:
 - individuals with a first degree family history of psychosis and substance use disorders
 - pregnant women (to avoid adverse effects on the fetus or newborn)
 - These recommendations are, in part, precautionary.
- *[Evidence Grades:*
- *Substantial, both for predisposition for mental health/substance use disorder problems based on genetic/twin studies and for pregnancy outcomes.]*

10. Avoid combining risky use patterns

- Data are sparse but combining risk behaviors will probably magnify the risk of adverse outcomes of cannabis use.
- For example, early-onset frequent use of high-potency cannabis is likely to greatly increase the risks of acute and/or chronic problems.
- Preventing these combined high-risk patterns of use should be a policy focus.

- *[Evidence Grade: Limited.*
- *There are no systematic reviews supporting this recommendation;*
- *Evidence was based on inconsistent epidemiological studies and expert opinion].*

Knowledge Translation

- ‘Science’ insufficient => ‘knowledge translation’ to key audiences required for impact: Key KT steps
- Official launch of LRCUG (Ottawa June 2017)
- Formal endorsement 10 national Canadian organizations
- Development of suite of KT products (with PHAC, CAMH, Regional Public Health Institute Montreal, National Youth Advisory Council, etc.)
 - ‘Evidence brief’ (for health professionals)
 - ‘User brochure’/pamphlet
 - Poster/card (recommendations only)
 - Youth version
 - Webinars/Slide presentation



LRCUG: Organizational Endorsements

In addition to the following Canadian organizations, LRCUG are endorsed by several provincial governments.



Canadian Society of Addiction Medicine
La Société Médicale Canadienne sur l'Addiction



Council of Chief Medical Officers of Health (CCMOH)



Cannabis & Your Health

10 WAYS to Reduce Risks When Using

Cannabis use is now legal for adults, but it does have health risks. If you use non-medically, you can make informed choices for safer use.

Delay using cannabis as late as possible in life, ideally not before adulthood.



Avoid using if you're pregnant, or if you or family members have a history of psychosis or substance use problems.

Choose low-potency products — those with low THC and/or high CBD content.



Use cannabis in ways that don't involve smoking — choose less risky methods of using like vaping or ingesting.

Stay away from synthetic cannabis products, such as K2 or Spice.

If you do smoke, avoid deep inhalation or breath-holding.

Occasional use, such as one day per week or less, is better than regular use.



Your actions add up. The more risks you take, the more likely you are to harm your health.

Don't operate a vehicle or machinery while impaired by cannabis. Wait at least 6 hours after using. Remember that combining alcohol and cannabis makes you more impaired.

Not using cannabis at all is still the best way to protect your health (unless you use with a medical recommendation).

When using cannabis, be considerate of the health and safety concerns of those around you. Don't hesitate to seek support from a health professional if you need help controlling your cannabis use, if you have withdrawal symptoms or if your use is affecting your life.

Le Cannabis et Votre Santé

10 façons de réduire les risques lors de la consommation

La consommation de cannabis est maintenant légale pour les adultes, mais elle comporte des risques pour la santé. Si vous ne le consommez pas pour des raisons médicales, vous pouvez faire des choix éclairés pour une consommation plus sûre.

Retardez la consommation de cannabis jusqu'au plus tard possible dans la vie et ce, idéalement, après que vous aurez atteint l'âge adulte.



Évitez la consommation si vous êtes enceinte ou si vous ou des membres de votre famille avez des antécédents de psychose ou de problèmes liés à l'utilisation de substances.

Choisissez des produits de faible puissance, c.-à-d. ceux à faible teneur en THC ou qui contiennent une proportion plus élevée de CBD par rapport au THC.



Adoptez des modes de consommation sans fumer du cannabis en choisissant ceux qui comportent moins de risques, tels que le vapotage ou l'ingestion.

Évitez les produits de cannabis synthétiques tels que K2 ou Spice.

Si vous fumez du cannabis, évitez de l'inhaler profondément ou de retenir votre respiration.

La consommation occasionnelle, par exemple pendant une journée ou moins par semaine, est meilleure pour vous que la consommation régulière.



Les effets s'accumulent. Plus vous prenez de risques, plus vous êtes susceptible de nuire à votre santé.

Ne conduisez pas de véhicule ou ne faites fonctionner des machines lorsque vous avez les facultés affaiblies par le cannabis. Attendez au moins 6 heures après la consommation. N'oubliez pas que la combinaison d'alcool et de cannabis affaiblit davantage vos facultés.

Ne pas consommer de cannabis demeure la meilleure façon de protéger votre santé (à moins que la consommation soit recommandée sur le plan médical).

Lorsque vous consommez de cannabis, veuillez respecter les préoccupations liées à la santé et à la sécurité de votre entourage. N'hésitez pas à obtenir l'appui d'un professionnel de la santé si vous avez besoin d'aide pour limiter votre consommation de cannabis, si vous avez des symptômes de sevrage ou si votre consommation a des répercussions sur votre vie.

Cannabis and Health

Using cannabis is a personal choice, but it can have short- and long-term effects on your health. Cannabis can affect your thinking, physical co-ordination and control, and increase your risk of accidents, injuries, reproductive issues and mental health problems, including dependence. Smoking cannabis can increase your chances of having lung problems.

Endorsements

The LRCUG have been endorsed by the following organizations:



Council of Chief Medical Officers of Health

Acknowledgment

The Lower-Risk Cannabis Use Guidelines (LRCUG) are an evidence-based intervention project by the Canadian Research Initiative in Substance Misuse (CRISM), funded by the Canadian Institutes of Health Research (CIHR).

10 WAYS

to Reduce Risks to Your Health When Using Cannabis

Canada's Lower-Risk Cannabis Use Guidelines (LRCUG)

Revised 2018

Reference

Fischer, B., Russell, C., Sabioni, P., van den Brink, W., Le Foll, B., Hall, W., Rehm, J., & Room, R. (2017). Lower-Risk Cannabis Use Guidelines (LRCUG): An evidence-based update. *American Journal of Public Health, 107*(8). DOI: 10.2105/AJPH.2017.303818.



The following 10 recommendations suggest ways to use cannabis more safely, based on the best available scientific evidence.

- Remember that every form of cannabis use poses risks to your health. **The only way to completely avoid these risks is by choosing not to use cannabis.** If you decide to use cannabis, follow these recommendations to lower risks to your health.
- The earlier in life you begin using cannabis, the higher your risk of serious health problems. Teenagers, particularly those younger than 16, should delay using cannabis for as long as possible. **You'll lower your risk of cannabis-related health problems if you choose to start using cannabis later in life.**
- Higher-strength or more powerful cannabis products are worse for your health. If you use products with high tetrahydrocannabinol (THC) content, the main mind-altering ingredient in cannabis, you're more likely to develop severe problems, such as dependence or mental health problems. Cannabidiol (CBD), another cannabis ingredient, can counteract some of THC's psychoactive effects. **If you use, choose low-strength products, such as those with a lower THC content or a higher ratio of CBD to THC.**
- Don't use synthetic cannabis products.** Compared with natural cannabis products, most synthetic cannabis products are stronger and more dangerous. K2 and Spice are examples of synthetic cannabis products. Using these can lead to severe health problems, such as seizures, irregular heartbeat, hallucinations and in rare cases, death.
- Smoking cannabis (for example, smoking a joint) is the most harmful way of using cannabis because it directly affects your lungs.** There are safer, non-smoking options like vaping or taking edibles that are better for your lungs. Keep in mind that these alternatives aren't risk-free either.
- If you choose to smoke cannabis, avoid inhaling deeply or holding your breath.** These practices increase the amount of toxins absorbed by your lungs and the rest of your body, and can lead to lung problems.
- The more frequently you use cannabis, the more likely you are to develop health problems, especially if you use on a daily or near-daily basis. Limiting your cannabis use to occasional use at most, such as only using once a week or on weekends, is a good way to reduce your health risks. **Try to limit your use as much as possible.**
- Cannabis use impairs your ability to drive a car or operate other machinery. Don't engage in these activities after using cannabis, or while you still feel affected by cannabis in any way.** These effects typically last at least six hours, but could be longer, depending on the person and the product used. Using cannabis and alcohol together further increases your impairment. Avoid this combination before driving or operating machinery.
- Some people are more likely to develop problems from cannabis use. **Specifically, people with a personal or family history of psychosis or substance use problems, and pregnant women should not use cannabis at all.**
- Avoid combining any of the risky behaviours described above.** The more risks you take, the greater the chances of harming your health as a result of cannabis use.

Please note: These recommendations are aimed mainly at non-medical cannabis use.

Cannabis Use and Others

Remember that cannabis use can also harm those around you. Be considerate of other people's health and preferences if you choose to use cannabis.

If You Develop Problems

Some people who use cannabis develop problems and may become dependent. Don't hesitate to seek support if you think you need help controlling your cannabis use, if you experience withdrawal symptoms or if your use is affecting your work, school or social and family life. You can find help online, or through a doctor or other health professional.

Le cannabis et la santé

La consommation de cannabis est un choix personnel, mais peut avoir des effets à court et à long terme sur votre santé. En plus de nuire aux fonctions cognitives, à la coordination et au contrôle des mouvements, le cannabis augmente le risque d'accidents, de blessures, de troubles de la reproduction et de problèmes de santé mentale, y compris la dépendance. Fumer du cannabis accroît aussi les risques de problèmes pulmonaires.

Appuis

Les RUCMR ont fait l'objet d'un avis favorable des organismes suivants :



Conseil des médecins hygiénistes en chef

Remerciements

Les recommandations pour l'usage du cannabis à moindre risque (RUCMR) sont le résultat d'un projet d'intervention fondé sur les connaissances scientifiques les plus fiables en matière de consommation. Ce projet, une réalisation de l'Initiative canadienne de recherche en abus de substances (ICRAS), est financé par les Instituts de recherche en santé du Canada (IRSC). La version française a été rédigée en collaboration avec l'équipe cannabis, direction régionale de santé publique du CIUSSS du Centre-Sud-de-Île-de-Montréal.

10 FAÇONS

de réduire les risques pour votre santé quand vous consommez du cannabis

Recommandations canadiennes pour l'usage du cannabis à moindre risque (RUCMR)

Révisé : 2018

Référence

Fischer, B., C., Russell, P., Sabioni, W., van den Brink, B., Le Foll, W., Hall, J., Rehm, J. & Room, R. « Lower-risk cannabis use guidelines (LRCUG): An evidence-based update ». *American Journal of Public Health, vol. 107, n° 8* (2017). DOI: 10.2105/AJPH.2017.303818.

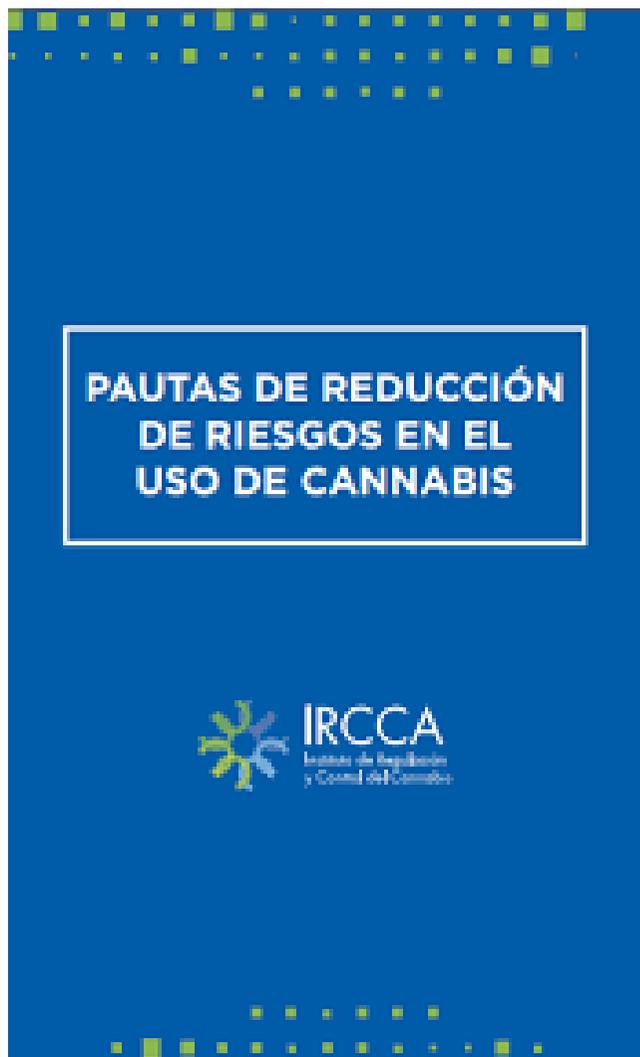


Voici 10 recommandations pour vous aider à consommer du cannabis de manière plus sécuritaire. Elles sont fondées sur les données scientifiques disponibles les plus fiables.

- Sachez que toute forme de cannabis présente des risques pour la santé. **La seule manière d'éviter tout risque, c'est de ne pas en consommer.** Si vous choisissez de consommer du cannabis, réduisez les risques pour votre santé en respectant les recommandations suivantes.
- Plus jeune vous commencerez à en consommer, plus vous augmenterez vos risques de problèmes de santé graves. Les adolescents, en particulier ceux de moins de 16 ans, devraient repousser le moment de leur première consommation de cannabis le plus longtemps possible. **Retardez le plus longtemps possible le moment de votre première consommation de cannabis pour diminuer le risque de problèmes de santé liés à cette substance.**
- Un produit de cannabis qui est puissant ou concentré est plus nocif pour votre santé. En consommant des produits à haute teneur en tétrahydrocannabinol (THC), principal ingrédient psychoactif du cannabis, vous devenez plus vulnérable à l'apparition de problèmes graves, tels que la dépendance ou d'autres troubles de santé mentale. Le cannabidiol (CBD), autre ingrédient du cannabis, module certains des effets psychoactifs du THC. **Si vous choisissez de consommer, optez pour des produits moins puissants, c'est-à-dire à plus faible teneur en THC ou qui contiennent une proportion plus élevée de CBD par rapport au THC.**
- Évitez les cannabinoides synthétiques.** La plupart d'entre eux sont plus puissants et plus dangereux que le cannabis naturel. K2 et Spice en sont des exemples. Leur consommation peut entraîner de graves problèmes de santé, comme des convulsions, des troubles du rythme cardiaque, des hallucinations et, dans de rares cas, la mort.
- Fumer du cannabis brûlé (dans un joint par exemple) est le mode de consommation le plus nocif parce qu'il touche directement les poumons.** D'autres options sont moins dommageables pour les poumons, comme la vaporisation et l'ingestion d'aliments contenant du cannabis, mais gardez à l'esprit qu'elles ne sont pas non plus sans risque.
- Si vous décidez de fumer du cannabis, évitez de prendre de grandes bouffées ou de retenir votre respiration.** Ces pratiques d'inhalation augmentent la quantité de substances toxiques absorbée par les poumons et le corps, et peuvent entraîner des problèmes pulmonaires.
- Plus fréquemment vous consommez du cannabis, plus vous courez le risque de problèmes de santé, surtout si vous en consommez chaque jour ou presque. Limiter votre consommation à un usage occasionnel au plus, par exemple une fois par semaine ou le week-end, est une bonne façon de réduire les risques pour votre santé. **Essayez autant que possible de limiter votre usage du cannabis.**
- Le cannabis réduit votre capacité à conduire un véhicule ou à faire fonctionner des machines. Ne faites pas ces activités après avoir consommé du cannabis et tant que vous en ressentez les effets.** Ces effets durent généralement au moins six heures, mais ce temps varie d'une personne à l'autre et selon le produit utilisé. La prise conjointe de cannabis et d'alcool affaiblit encore plus vos facultés. Évitez cette combinaison avant de conduire ou de vous servir de tout type de machine.
- Certaines personnes sont plus vulnérables à l'apparition de problèmes de santé liés à la consommation de cannabis. **Évitez de consommer du cannabis si vous avez des antécédents personnels ou familiaux de psychose ou de problèmes liés à l'utilisation d'une substance. Les femmes enceintes devraient aussi l'éviter complètement.**
- Évitez de combiner les comportements à risque décrits ci-dessus.** Lorsque vous prenez du cannabis, plus vous cumulez de risques, plus vous risquez de faire du tort à votre santé.

Notez que ces recommandations visent principalement l'usage non thérapeutique du cannabis.

'Lower Risk Cannabis Use Guidelines' (LRCUG) - Internationalization



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SPECIAL ARTICLE

Introducing the evidence-based population health tool of the Lower-Risk Cannabis Use Guidelines to Brazil

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LRCUG: Caveats & Next Steps

- ⇒ LRCUG's principal focus on 'recreational/non-medical' (notwithstanding blurry boundaries for medical use)
- ⇒ LRCUG are *not* a substitute or guidelines for 'treatment'!
 - ⇒ (Those with cannabis disorders need professional help)
- ⇒ 'LRCUG require review in light of evolving knowledge
 - ⇒ LRCUG's evidence-base requires systematic review and updating (pending plans)
- ⇒ Need for evaluation of uptake and impact & additional tailored KT efforts/products



Scientific Reference

Fischer, B., Russell, C., Sabioni, P., van den Brink, W., Le Foll, B., Hall, W., Rehm, J. & Room, R. (2017). [Lower-Risk Cannabis Use Guidelines \(LRCUG\): An evidence-based update](#). American Journal of Public Health, 107(8). DOI: 10.2105/AJPH.2017.303818.

Additional KT Materials

The LRCUG KT materials are available online (English/French) in different formats (e.g., [poster](#), [postcard](#), [brochure](#), [evidence brief](#), and youth booklet) from <https://www.canada.ca/en/public-health/services/publications/drugs-health-products/cannabis-10-ways-reduce-risks.html> and other KT partners.

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