

# Cannabis Education Toolkit



FOR PARENTS AND  
ADULT MENTORS

# Table of Contents

- pg3 Section 1: OVERVIEW**
- pg4 Section 2: YOUR ROLE IN PREVENTING TEEN CANNABIS USE**
- pg5 Section 3: CANNABIS 101**
- pg6-7 Section 4: THC & YOUTH HEALTH RISKS**
- pg8 Section 5: TIPS FOR TALKING WITH YOUTH ABOUT CANNABIS**
- pg9-10 Section 6: HOW TO ANSWER TRICKY QUESTIONS ABOUT CANNABIS**
- pg11-12 Section 7: SOURCES/RESOURCES**

## Cannabis safety information and tips

LEARN ABOUT TEEN USE AND HOW TO DISCUSS IT WITH TEENS



Reducing teen health risks means having access to trustworthy cannabis information. From parents to adult mentors—like teachers, youth workers, coaches, counselors, and faith leaders—this toolkit provides evidence-based facts and advice on how to have positive conversations with teens about the risks and consequences of use on teens' health.

**Questions? Please contact:**

The Maine Office of Cannabis Policy at (207) 287-3282 or visit [maine.gov/dafs/ocp](http://maine.gov/dafs/ocp).

# Overview

## WHAT DO YOU NEED TO KNOW ABOUT YOUTH CANNABIS USE?

### WEED CAN AFFECT TEEN BRAIN DEVELOPMENT

You might have laughed at your own parent's warning that "smoking weed kills brain cells," but research is starting to show just how vulnerable the brain is before we're in our mid-20s. Because teen brains are still growing, cannabis can negatively impact the parts of the brain responsible for memory formation, attention, coordination, and emotional regulation.

#### How can using cannabis affect teens?



- **It can impact school performance** by making it harder to learn, remember, and pay attention.<sup>1</sup>
- **It can increase the risk of lung health problems** like chronic coughing, bronchitis, and asthma.<sup>2</sup>
- **It can affect the development of natural reflexes** and throw off coordination, balance, and reaction time.<sup>1,3</sup>
- **Using as a teen can increase the risk of experiencing mental health challenges as an adult,** especially for those already at risk due to genetics.<sup>1</sup>

Get a deeper understanding of how cannabis affects the brain on page 6.

# Your Role in Preventing Teen Cannabis Use

## WHAT CAN YOU DO TO HELP?

IT MIGHT BE HARD TO BELIEVE AT TIMES, BUT YOU ARE THE NUMBER ONE INFLUENCE ON YOUR TEEN'S BEHAVIOR

Research shows that teens are less likely to try cannabis and illegal drugs when adults talk with them about the risks and harms of teen use.<sup>3,4</sup> Parents, aunts and uncles, grandparents, teachers, coaches, counselors, and faith leaders can all make a difference in a teen's choices. Even if they act like they're not paying attention, what you say and do matters and can have an impact. Being there for the youth in your life—and giving them real, science-based facts about cannabis—helps them make informed choices about using weed.

## WHERE YOU CAN START

### Prepare by learning the facts

Before getting into a conversation, it's important to get educated about teen weed use. Over the last 25 years, cannabis has more than tripled in potency,<sup>5</sup> and the way it affects teens has changed too. Keep reading our toolkit to get up to speed on science-based facts that can help you and your teen understand the risks.

### Talk with them before social media does

Most teens get their news from social media these days,<sup>6</sup> but that can mean a whole lot of misinformation about cannabis. Hearing the facts from you before they're exposed to mixed messages from friends or influencers can help them understand the real risks of weed.

### Keep the conversation going

As the youth in your life gets older, it's important to maintain an open dialogue with them about how THC affects their developing bodies, brains, and mental health. Continuing to talk with teens often can result in less cannabis use<sup>7</sup> when they start making independent decisions.

### Model safe and healthy behaviors

Even when it seems like they're ignoring you, teens get their cues from you. Be sure to use responsibly and practice safe storage by keeping cannabis products, alcohol, and other substances in a lockable, odor-proof container that's hidden out of reach and out of sight. Consider using a safe or lockbox with a combination lock and storing it in a high cabinet or locked drawer. You can buy stash bags at local and online cannabis retailers statewide.

# Cannabis 101

WHAT SHOULD YOU KNOW  
ABOUT TODAY'S CANNABIS?

## TIMES HAVE CHANGED, AND SO HAS CANNABIS

**Cannabis** - a mind-altering (psychoactive) substance that comes from a plant. Also known as weed, marijuana, pot, or kush.

**Tetrahydrocannabinol (THC)** - the main psychoactive compound in cannabis that creates a high sensation. It has been shown to affect teen brains.

Modern weed is  
**200%**  
stronger than it  
was in the past<sup>8,9</sup>

Today's cannabis plants contain much higher amounts of THC than even a few decades ago. Because of this, the effects are stronger and longer-lasting and can have a big impact on the teen brain during the sensitive time while it's growing.

## TODAY'S CANNABIS COMES IN MANY DIFFERENT FORMS

### ABSORBED CANNABIS



#### PILLS

Cannabis that is swallowed in the form of a capsule or tablet



#### EDIBLES

Cannabis that is infused in drinks or combined with food (gummies, chocolate, baked goods) and consumed



#### TINCTURES

Cannabis liquids that are mixed with drinks or placed under the tongue with a dropper or syringe



#### LOZENGES/FILMS

Cannabis concentrates that are made to dissolve in the mouth

### INHALED CANNABIS



#### PRE-ROLLS

Rolling papers or smoking papers filled with dried cannabis—also known as flower—that are pre-rolled into cigarette-like shapes



#### CONCENTRATES

Cannabis concentrates—also called dabs, shatter, or wax—that are placed in a smoking device



#### PIPES & BONGS

Devices used for smoking dried flower or cannabis concentrates



#### VAPES

Vaporizing devices that contain concentrated cannabis oil, which is smoked or vaped

# THC & Youth Health Risks

## HOW CAN CANNABIS HARM TEEN HEALTH?

### THE BRAIN IS STILL GROWING AND FINE-TUNING CONNECTIONS UNTIL OUR MID-20S

**When a teen uses weed, it can interfere with the way the brain develops.** The active chemical in cannabis, THC, enters the system that regulates body and brain functions. It overwhelms the brain and prevents it from doing its job, making it harder for teens to form memories, stay focused, manage stress, and more.

### SOMETIMES THE SIGNS STAY HIDDEN, BUT YOU MAY NOTICE A TEEN ...

#### LACKING MOTIVATION

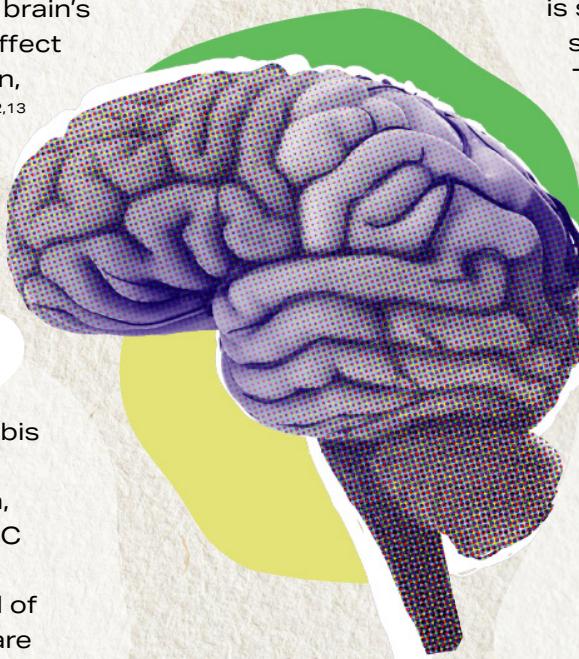
Being checked out might not be teen angst. THC can cause teens to act less like themselves because it reduces the chemicals in the brain's **basal ganglia** that affect pleasure, satisfaction, and motivation.<sup>10,11,12,13</sup>

#### FORGETTING WHAT MATTERS MOST

Struggling to remember even the little things could be a sign of cannabis use. The teen brain is still growing, making it more susceptible to the effects of THC, which can disrupt how memories form in the brain's **hippocampus** and cause forgetfulness.<sup>14</sup>

#### GETTING OFF-BALANCE

Athletic or not, cannabis can affect a teen's balance, coordination, and reaction time. THC can affect the brain's **cerebellum**, where all of our motor functions are developed and managed.<sup>14</sup>



#### FEELING MORE STRESS

Some teenage stress is normal, but cannabis use could be making it worse. That's because THC affects the brain's **amygdala**, which can impact a teen's ability to manage their emotions and cause anxiety.<sup>15</sup>

## STUDIES SHOW THAT CANNABIS CAN HARM TEEN MENTAL HEALTH

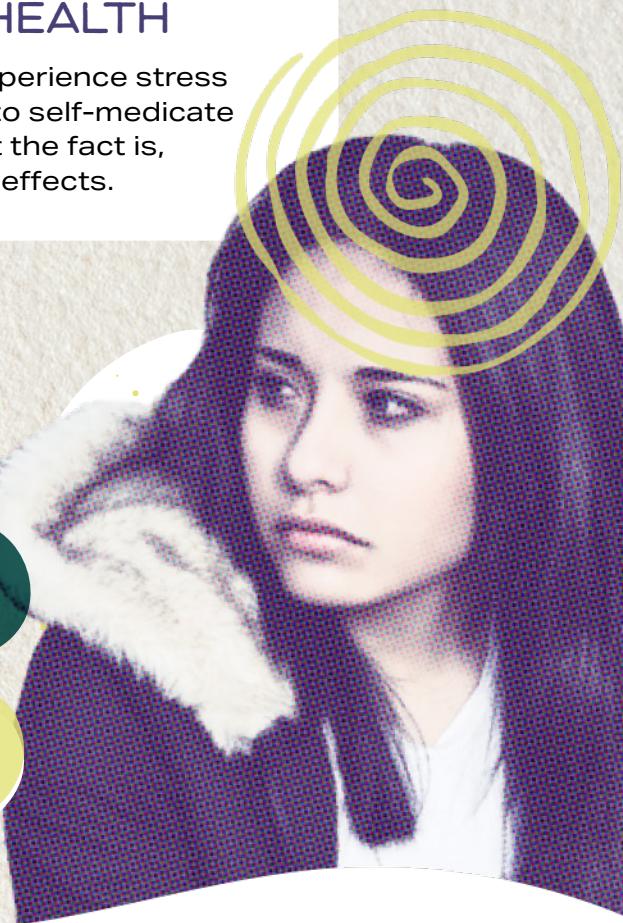
From school to social media, teens often experience stress and anxiety on a regular basis. Using weed to self-medicate has become a common coping method. But the fact is, teen use is linked to negative mental health effects.

**2X** more likely to have depression

Using weed can increase a teen's chance of developing mental health issues like depression, anxiety, and even thoughts of suicide.<sup>16,17,18</sup>

**4-7X** more likely to become dependent

Teens who start using before age 18 are at higher risk of developing cannabis use disorder and may find it difficult to quit later in life, even if they experience negative impacts from cannabis.<sup>19</sup>



### Cannabis can have long-lasting effects on teenage lungs

We all know smoke is harmful to lung health because of the toxins and carcinogens that are released. Even cannabis smoke contains chemicals like ammonia, hydrocyanic acid, nitrosamines, and many of the components of tar. When teens inhale all of that, they increase their risk of developing lung problems like chronic cough, bronchitis, and asthma.<sup>20</sup>

### Self-medicating with cannabis can come with risks

If you think a teen would benefit from medically prescribed cannabis, talk to a licensed healthcare professional before allowing them to use it. They will assess your child, discuss the possible risks, efficacy, and goals of the treatment, and track any progress or setbacks.<sup>21</sup>

**Encourage teens to read about the risks of early cannabis use.  
A simple conversation can help protect their health.**

# Tips for Talking with Youth About Cannabis

SHOULD I TALK WITH A TEEN ABOUT CANNABIS?

NO MATTER HOW AWKWARD THE TALK MAY BE, TEENS REALLY ARE LISTENING

**Use these tips to start the conversation:**



## Start early

Normalize talking about cannabis as children grow. Even if they haven't started asking questions yet, the sooner you explain the risks, the less likely they are to consider experimenting.



## Keep it two-way

Instead of talking at teens, talk *with* them. Actively listening to their thoughts without judgment and encouraging questions helps show that you care.



## Stick to the facts

Exaggerations may result in eye rolls. Base your conversation on science, like how teen cannabis use can impact brain growth and mental health.



## Keep it casual

Family meetings and lectures can be intimidating for teens. Find casual moments, like in the car or on the way to school, to chat about cannabis.

## **DON'T SAY:**

"Sit down. We need to talk."

"Because I said so."

"Everyone gets stressed, just deal with it."

## **DO SAY:**

"Got a minute? I want to know what you think."

"Because I want the best for you, and science is starting to show risks for teens that use."

"I care about your mental health, and weed may actually make stress harder to handle."

# How to Answer Tricky Questions About Cannabis

BE READY WITH ANSWERS FOR ALL THE HARD QUESTIONS—OR COMEBACKS THAT GET THROWN YOUR WAY

**"Why can't I use weed if it's legal?"**

**Fast Facts:** "Yes, but it's not legal for you yet because teen brains are still developing, and THC can disrupt that process."

**Deep Dive:** "Good question. Just because it's legal, doesn't mean it's safe for everyone. Your brain is still growing into your 20s, and if you use weed before then, THC can harm your hippocampus, cerebellum, and amygdala. That puts your memory, attention span, coordination, and mental health at risk."<sup>1</sup>

**"Why can't I use weed if it's natural?"**

**Fast Facts:** "Even though it comes from a plant, cannabis contains a chemical called THC that can interfere with processes in your brain."

**Deep Dive:** "That doesn't mean it's safe for you right now. Because your brain is growing, the effects of THC are stronger and can impact how your brain functions. THC could make it harder for you to stay focused and manage stress, and it can even cause long-term damage."<sup>1</sup>

**"Aren't there worse things I could be doing, like tobacco or other drugs?"**

**Fast Facts:** "Weed is a psychoactive substance that can have a big impact on your mood, motivation, and overall brain development."

**Deep Dive:** "Every substance is harmful in different ways, and using cannabis as a teen can come with risks. While your brain is growing, it's making new connections. Many substances, including weed, can interrupt that growth process and cause harm."<sup>1</sup>

**"How come you use weed, but I'm not allowed to?"**

**Fast Facts:** "I only want the best for you and using as a teen is a big health risk."

**Deep Dive:** "Cannabis affects adults differently. Weed interrupts your brain's development and can cause long-lasting learning and memory problems.<sup>22,23,24,25,26,27,28</sup> Using THC as a teen could affect your education and even lead to cannabis use disorder later."<sup>29,30</sup>

# How to Answer Tricky Questions About Cannabis (cont.)

**"Didn't you use weed when you were young?"**

**Fast Facts:** "Weed is much more potent today than when I was a teen. The effects are stronger and longer-lasting too."

**Deep Dive:** "I did, but back then we didn't know it could harm teen brains, and weed wasn't as strong. Cannabis today contains triple the amount of THC<sup>31</sup> than what I used to use, and some edibles and oils can contain even more.<sup>32,33</sup> Any amount of THC is harmful to your brain, but the higher concentrations in today's weed come with big impacts too."<sup>8,9</sup>

**"Isn't weed good for mental health?"**

**Fast Facts:** "Medicinal cannabis might help, but self-medicating can be dangerous. We'd have to talk to a healthcare professional first."

**Deep Dive:** "Science is always evolving, and today we know a lot more about how weed affects teens. Self-medicating with cannabis comes with risks because THC can throw your body's natural chemical production out of balance, making feelings of stress and anxiety worse instead of better."<sup>15</sup>

**"Doesn't it help you be more creative?"**

**Fast Facts:** "When your brain is still growing, weed can actually interrupt the creative thought process<sup>34</sup> and hinder your overall creativity."

**Deep Dive:** "Everyone is different, and what you see on social media isn't always the full picture. Science shows that some forms of cannabis are so potent that it can actually impair creative problem-solving.<sup>34</sup> Avoiding cannabis use is the best way to let your brain grow to its full potential."<sup>1</sup>

**"What if my friends offer me weed? How do I say no?"**

**Fast Facts:** "That can be tricky. Sometimes it's cool to be different, and if they're really your friends they'll respect your choice."

**Deep Dive:** "Sometimes a 'no thanks' can be enough. If it feels like they're pressuring you, you could say you're not ready to try it or give them the facts we've talked about. They may be impressed that you're standing up for yourself."

# Sources

1. Office of the Surgeon General. (2019). U.S. Surgeon General's advisory: Marijuana use and the developing brain. <https://www.hhs.gov/surgeongeneral/reports-and-publications/addiction-and-substance-misuse/advisory-on-marijuana-use-and-developing-brain/index.html>
2. Tetrault, J. M., Crothers, K., Moore, B. A., Mehra, R., Concato, J., & Fiellin, D. A. (2007). Effects of marijuana smoking on pulmonary function and respiratory complications. *Archives of Internal Medicine*, 167(3), 221–228. <https://doi.org/10.1001/archinte.167.3.221>
3. Substance Abuse and Mental Health Services Administration. (2022). Why you should talk with your child about alcohol and other drugs. <https://www.samhsa.gov/talk-they-hear-you/parent-resources/why-you-should-talk-your-child>
4. National Institute on Drug Abuse. (2022). Marijuana: Facts parents need to know, starting the conversation. [https://nida.nih.gov/sites/default/files/parents\\_mj\\_brochure\\_2016.pdf](https://nida.nih.gov/sites/default/files/parents_mj_brochure_2016.pdf)
5. Ferguson, M. (2024, August 29). Marijuana is too strong now. *The Atlantic* <https://www.theatlantic.com/ideas/archive/2024/08/high-potency-marijuana-regulation/679639/>
6. The Learning Network. (2024, October 23). Teenagers tell us about their relationship with news. *The New York Times*. <https://www.nytimes.com/2024/10/23/learning/teenagers-tell-us-about-their-relationship-with-news.html>
7. Ferguson, W. (2024, December 4). Study finds perceptions of parent cannabis use shape teen attitudes. (2024, December 4). *WSU Insider*. <https://news.wsu.edu/press-release/2024/12/04/study-finds-perceptions-of-parent-cannabis-use-shapes-teen-attitudes/>
8. ElSohly, M. A., Mehmood, Z., Foster, S., Gon, C., Chandra, S., & Church, J. C. (2016). Changes in cannabis potency over the last 2 decades (1995–2014): Analysis of current data in the United States. *Biological Psychiatry*, 79(7), 613–619. <https://doi.org/10.1016/j.biopsych.2016.01.004>
9. Chandra, S., Radwan, M. M., Majumdar, C. G., Church, J. C., Freeman, T. P., & ElSohly, M. A. (2019). New trends in cannabis potency in USA and Europe during the last decade (2008–2017). *European Archives of Psychiatry and Clinical Neuroscience*, 269(1), 5–15. <https://doi.org/10.1007/s00406-019-00983-5>
10. Blanco-Hinojo, L., Pujol, J., Harrison, B. J., Macià, D., Batalla, A., Nogué, S., Torrens, M., Farré, M., Deus, J., & Martín-Santos, R. (2017). Attenuated frontal and sensory inputs to the basal ganglia in cannabis users. *Addiction Biology*, 22(4), 1036–1047. <https://doi.org/10.1111/adb.12370>
11. Moreno-Alcázar, A., Gonzalvo, B., Canales-Rodríguez, E. J., Blanco, L., Diana Bachiller, D., Anna Romaguera, A., Monté-Rubio, G., C. Roncero, C., McKenna, P. J., & Pomarol-Clotet, E. (2018). Larger gray matter volume in the basal ganglia of heavy cannabis users detected by voxel-based morphometry and subcortical volumetric analysis. *Frontiers in Psychiatry*, 3(9), 175. <https://doi.org/10.3389/fpsyg.2018.00175>
12. Aceto, M. D., Scates, S. M., Lowe, J. A., & Martin, B. R. (1996). Dependence on delta 9-tetrahydrocannabinol: Studies on precipitated and abrupt withdrawal. *Journal of Pharmacology and Experimental Therapeutics*, 278(3), 1290–1295.
13. van der Pol, P., Liebregts, N., de Graaf, R., Korf, D. J., van den Brink, W., & van Laar, M. (2013). Predicting the transition from frequent cannabis use to cannabis dependence: A three-year prospective study. *Drug and Alcohol Dependence*, 133(2), 352–359. <https://doi.org/10.1016/j.drugalcdep.2013.06.009>
14. Batalla, A., Bhattacharyya, S., Yücel, M., Fusar-Poli, P., Crippa, J. A., Nogué, S., Torrens, M., Pujol, J., Farré, M., & Martin-Santos, R. (2013). Structural and functional imaging studies in chronic cannabis users: A systematic review of adolescent and adult findings. *PLoS One*, 8(2), e55821. <https://doi.org/10.1371/journal.pone.0055821>
15. Ramikie, T. S., Rita Nyilas, R., Rebecca J Bluett, R. J., Joyonna C Gamble-George, J. C., Hartley, N. D., Mackie, K., Watanabe, M., Katona, I., & Patel, S. (2014). Multiple mechanistically distinct modes of endocannabinoid mobilization at central amygdala glutamatergic synapses. *Neuron*, 81(5), 1111–1125. <https://doi.org/10.1016/j.neuron.2014.01.012>
16. Pacheco-Colón, I., Ramirez, A. R., & Gonzalez, R. (2019). Effects of adolescent cannabis use on motivation and depression: A systematic review. *Current Addiction Reports*, 6(4), 532–546. <https://doi.org/10.1007/s40429-019-00274-y>
17. Gobbi, G., Atkin, T., Zytynski, T., Wang, S., Askari, S., Boruff, J., Ware, M., Marmorstein, N., Cipriani, A., Dendukuri, N., & Mayo, N. (2019). Association of cannabis use in adolescence and risk of depression, anxiety, and suicidality in young adulthood. *JAMA Psychiatry*, 76(4), 426. <https://doi.org/10.1001/jamapsychiatry.2018.4500>
18. Sultan, R. S., Zhang, A. W., Olfson, M., Kwizera, M. H., & Levin, F. R. (2023). Nondisordered cannabis use among US adolescents. *JAMA Network Open*, 6(5), e2311294. <https://doi.org/10.1001/jamanetworkopen.2023.11294>
19. Winters, K. C., & Lee, C.-Y. S. (2008). Likelihood of developing an alcohol and cannabis use disorder during youth: Association with recent use and age. *Drug and Alcohol Dependence*, 92(1–3), 239–247. <https://doi.org/10.1016/j.drugalcdep.2007.08.005>
20. American Lung Association. (2024, May 2). Marijuana and lung health. <https://www.lung.org/quit-smoking/smoking-facts/health-effects/marijuana-and-lung-health>

# Sources

21. US National Drug Control Policy. (2008, May 10). Teen 'self medication' for depression leads to more serious mental illness, new report reveals. *ScienceDaily*. [www.sciencedaily.com/releases/2008/05/080509105348.htm](http://www.sciencedaily.com/releases/2008/05/080509105348.htm)
22. De Felice, M., Chen, C., Rodríguez-Ruiz, M., Szkudlarek, H. J., Lam, M., Sert, S., Whitehead, S. N., Yeung, K. K.-C., Rushlow, W. J., & Laviolette, S. R. (2023). Adolescent Δ-9-tetrahydrocannabinol exposure induces differential acute and long-term neuronal and molecular disturbances in dorsal vs. ventral hippocampal subregions. *Neuropsychopharmacology*, 48(3), 540–551. <https://doi.org/10.1038/s41386-022-01496-x>
23. Stringfield, S.J. & Torregrossa, M.M. Intravenous self-administration of delta-9-THC in adolescent rats produces long-lasting alterations in behavior and receptor protein expression. *Psychopharmacology*, 238, 305–319 (2021). <https://doi.org/10.1007/s00213-020-05684-9>
24. Withey, S. L., Kangas, B. D., Charles, S., Gumbert, A. B., Eisold, J. E., George, S. R., Bergman, J., & Madras, B. K. (2021). Effects of daily Δ9-Tetrahydrocannabinol (THC) alone or combined with cannabidiol (CBD) on cognition-based behavior and activity in adolescent nonhuman primates. *Drug and Alcohol Dependence*, 221, 108629. <https://doi.org/10.1016/j.drugalcdep.2021.108629>
25. Zuo, Y., Iemolo, A., Montilla-Perez, P. et al. (2022). Chronic adolescent exposure to cannabis in mice leads to sex-biased changes in gene expression networks across brain regions. *Neuropsychopharmacology*, 47, 2071–2080. <https://doi.org/10.1038/s41386-022-01413-2>
26. Vassall, M., Chakraborty, S., Feng, Y., Faheem, M., Wang, X., & Bhandari, R. K. (2023). Transcriptional alterations induced by delta-9 tetrahydrocannabinol in the brain and gonads of adult medaka. *Journal of Xenobiotics*, 13(2), 237–251. <https://doi.org/10.3390/jox13020018>
27. Duperrouzel, J. C., Hawes, S. W., Lopez-Quintero, C., Pacheco-Colón, I., Coxe, S., Hayes, T., & Gonzalez, R. (2019). Adolescent cannabis use and its associations with decision-making and episodic memory: Preliminary results from a longitudinal study. *Neuropsychology*, 33(5), 701–710. <https://doi.org/10.1037/neu0000538>
28. Wade, N. E., Wallace, A. L., Huestis, M. A., Lisdahl, K. M., Sullivan, R. M., & Tapert, S. F. (2024). Cannabis use and neurocognitive performance at 13–14 Years-Old: Optimizing assessment with hair toxicology in the Adolescent brain cognitive development (ABCD) study. *Addictive Behaviors*, 150, 107930. <https://doi.org/10.1016/j.addbeh.2023.107930>
29. Centers for Disease Control and Prevention. (2025, February 20). Cannabis and teens. <https://www.cdc.gov/cannabis/health-effects/cannabis-and-teens.html#:~:text=People%20that%20begin%20using%20cannabis,potential%20for%20cannabis%20use%20disorder>
30. Cleveland Clinic. (2024, October 4). Cannabis use disorder: What it is, symptoms & treatment. <https://my.clevelandclinic.org/health/diseases/cannabis-use-disorder>
31. National Institute on Drug Abuse. (2024). Delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD) potency of cannabis samples seized by the Drug Enforcement Administration (DEA), percent averages from 1995–2022. <https://nida.nih.gov/research/research-data-measures-resources/cannabis-potency-data>
32. University of Washington, Addictions, Drug & Alcohol Institute. (2023, April 19). Ask an expert: What are "high THC" cannabis products and what policies could help limit harm from their use? [https://adai.uw.edu/ask-an-expert-high-thc/?utm\\_](https://adai.uw.edu/ask-an-expert-high-thc/?utm_)
33. Stuyt, E. (2018). The problem with the current high potency THC marijuana from the perspective of an addiction psychiatrist. *Missouri Medicine*, 115(6), 482–486.
34. Kowal, M. A., Hazekamp, A., Colzato, L. S., van Steenbergen, H., van der Wee, N. J., Durieux, J., Manai, M., & Hommel, B. (2015). Cannabis and creativity: Highly potent cannabis impairs divergent thinking in regular cannabis users. *Psychopharmacology*, 232(6), 1123–1134. <https://doi.org/10.1007/s00213-014-3749-1>

# Resources

## **Substance Abuse and Mental Health Services Administration**

Provides information on the risks of cannabis use

## **Centers for Disease Control and Prevention**

Provides data, information, and FAQs on cannabis

## **Maine Crisis Line**

Provides judgment-free support for parents

## **Good to Know Maine**

Provides information on youth cannabis prevention