



Frenchtown Community Coalition

Working to create a healthy, engaged, and unified community for the youth of Frenchtown

THC, the Developing Brain, and Mental Health

As cannabis products become more accessible and socially accepted, it is important to understand how THC (tetrahydrocannabinol), the primary psychoactive component in cannabis, affects the developing brain. While many teens may perceive cannabis as “low risk,” research shows that THC can significantly impact brain development, especially during adolescence.

The teenage brain is still under construction. One of the last areas to fully develop is the prefrontal cortex, which is responsible for decision-making, impulse control, planning, and emotional regulation. This development continues into the mid-20s. During this time, the brain is especially sensitive to outside influences, including substances like THC (Casey et al., 2008).

THC interacts with the brain’s endocannabinoid system, which plays a key role in regulating mood, memory, and cognitive function. When THC enters the brain, it disrupts normal signaling processes, particularly in areas involved in learning and emotional regulation. Research has shown that repeated THC exposure during adolescence can alter how these systems function long-term (Volkow et al., 2014).

One of the most immediate effects of THC is on memory and attention. THC affects the hippocampus, a brain region critical for forming new memories. This can make it harder for teens to retain information, focus in school, and perform complex tasks. Even occasional use has been linked to short-term impairments in attention, reaction time, and learning (Crean et al., 2011).

Beyond cognitive effects, there are growing concerns about THC and mental health. Studies have found associations between adolescent cannabis use and increased risk of anxiety, depression, and, in some cases, psychosis—especially for individuals who may already be vulnerable due to genetics or environmental factors

(Gobbi et al., 2019). Higher potency THC products, which are more common today than in previous decades, may further increase these risks.

Another important factor is perception of harm. When teens believe a substance is safe, they are more likely to use it. However, today’s cannabis products are not the same as they were years ago. THC concentrations have increased significantly, meaning the effects on the brain can be stronger and less predictable (ElSohly et al., 2016).

Conversations with teens about cannabis are most effective when they focus on understanding and long-term well-being rather than fear or punishment. Instead of asking only, “Would you ever use marijuana?” try asking, “What have you heard about how it affects the brain?” or “How do you think it could impact stress or mental health over time?” These types of questions encourage critical thinking and open dialogue.

It can also be helpful to talk about real-life situations. For example, ask your teen how they might respond if they were offered cannabis. Creating a plan ahead of time, including a safe way to leave, can make a big difference. Just like with other risky situations, having a strategy in place reduces pressure in the moment.

In conclusion, research continues to show that THC can have a real impact on the developing adolescent brain. Today’s cannabis products are more potent than in the past, and use during this critical stage of development has been linked to changes in memory, attention, emotional regulation, and mental health outcomes. While perceptions may be shifting, the research is clear that early exposure can interfere with how the brain grows and functions. Understanding these effects gives families a stronger foundation for meaningful conversations with teens. And when young people are equipped with accurate information and feel comfortable asking questions, they are better prepared to make choices that protect their health now and in the future.

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