



Cannabis and Brain Health



For Everyone
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KEY POINTS

- Cannabis affects brain development.
- Cannabis use directly affects brain function — specifically the parts of the brain responsible for memory, learning, attention, decision-making, coordination, emotions, and reaction time.

Short and long-term effects of cannabis use on the brain

What are the short-term effects of cannabis use on the brain?

Recent cannabis use (defined as within 24 hours) in youth and adults has an immediate impact on thinking, attention, memory, coordination, movement, and time perception.[\[1\]](#)

What are the long-term effects of cannabis use on the brain?

Cannabis affects brain development. Developing brains, such as those in babies, children, and teenagers, are especially susceptible to the harmful effects of cannabis and tetrahydrocannabinol (THC) because the brain is continuing to develop until around age 25.[\[1\]](#) [\[2\]](#) Although scientists are still learning about the effects of cannabis on developing brains, studies suggest that cannabis use by mothers during pregnancy could be linked to problems with attention, memory, problem-solving skills, and behavior in their children.[\[3\]](#) [\[4\]](#) [\[5\]](#) [\[6\]](#) [\[7\]](#) [\[8\]](#) [\[9\]](#)

Using cannabis before age 18 may affect how the brain builds connections for functions like attention, memory, and learning.[\[10\]](#) Cannabis's effects on attention, memory, and learning may last a long time or even be permanent,[\[11\]](#) but more research is needed to fully understand these effects.

Youth who use cannabis may not do as well in school and may have trouble remembering things.[\[1\]](#) [\[6\]](#) [\[12\]](#)

Factors that determine impact

The impact of cannabis use on the brain depends on many factors, including:

- Amount of tetrahydrocannabinol (THC) in cannabis (in other words, the concentration or strength)
- How often it is used
- Age of first use
- Whether other substances (for example, tobacco and alcohol) are used at the same time

Long-term impacts on the brain may also be caused by something other than cannabis, such as genetics, the home environment, or other unknown factors.[\[13\]](#) The National Institute on Drug Abuse is conducting a large long-term study (the [Adolescent Brain Cognitive Development study](#) [↗](#), or ABCD study) to better understand the role cannabis and other substances play in adolescent brain development.

CONTENT SOURCE:

National Center for Injury Prevention and Control

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