



## Short-Term Memory Problems and Marijuana Use

Smoking pot has significant and long enduring consequences (e.g., short-term memory problems) – particularly for teenagers. Nora Volkow, director of the National Institute on Drug Abuse reports, “Repeated marijuana use during adolescence may result in long-lasting changes in brain function that can jeopardize educational, professional, and social achievements.” A number of scientific studies have illustrated these risks including:

- increased rates of addiction
- short-term memory deficits
- difficulties with motor coordination
- altered judgement
- abnormal brain development
- decreased brain functioning
- poor educational performance
- increased risk of developing other psychological problems
- diminished life satisfaction

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Nora Volkow, M.D.  
National Institute on Drug Abuse, Director

## How Marijuana Impacts Short-Term Memory
















Focusing specifically on short-term memory, *Nature Neuroscience* published a study that suggests marijuana may cause brain cells (neurons) to misfire. Researchers identified that cannabis affects three types of brain waves, theta, fast ripple, and gamma. Marijuana use caused both theta and fast ripple waves to be significantly diminished. Gamma waves were also impacted, though to a lesser degree.

In a normal functioning brain, these waves work in concert with each other. This study indicates that when a person uses cannabis, their brain is unable to properly function, resulting in difficulties creating and storing memories. The authors go on to suggest that at very high doses, cannabis appears to prevent learning altogether. This is particularly concerning given the recent trend of teens smoking “dabs” or “butane hash oil” which contain extreme concentrations of THC.

## Research In Action

Smoking pot compromises a person's short-term memory. When under the influence, a person's brain is not firing on all cylinders. It is important to note that the effects of marijuana extend multiple days beyond a person's last use. If you or your child is using marijuana and struggling with memory retention, these issues are more than likely connected. An alcohol or drug [assessment](#) can help to determine if there is a greater issues at hand.

## These are common problems among those who have a Substance Use Disorder.

	Drug or alcohol use		Legal Problems
	School problems		Vulnerable to physical illness
	Poor relationship choices		Reduced respect
	Risky sexual behaviors		Depression and/or anxiety
	Changes in sleep patterns		ADHD
	Changes in friends		Lying
	Behavior problems		Stealing money or medication
	Traffic accidents		

Has your child experienced any of these issues?