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Marijuana and Kids: It is a Big Deal

Kids, teens and young adults are the population most vulnerable to marijuana, including addiction. These are the facts that teens and young adults need to know:

- Most teens and young adults do not use marijuana;
- Marijuana is not safe to use;
- Marijuana use negatively impacts mental health;
- Marijuana is addictive; and,
- Marijuana is not a medicine.

A Message to Parents

- *Marijuana use interferes with academic achievement in middle school, high school, college and later in life.*
- *Parents are the most important influence on their children's decisions to use – or not to use – marijuana.*
- *Talk openly and directly with your children about marijuana and the negative effects of its use.*
- *Make sure your children know that you do not want them to use marijuana – or other drugs – and why you have come to this conclusion.*

Marijuana Use Is Not Safe

- *Heavy marijuana use may damage developing brains in teens and young adults.¹ The human brain goes through intense growth during the adolescent years and is not fully developed until the mid-20s. Long-term marijuana use causes destructive changes in the brain that are similar to those caused by long-term cocaine and heroin use.²*
- *Long-term regular marijuana use can impair memory, attention span, and the ability to understand complex information.^{3,4}*

- ***Marijuana use is a major cause of highway crashes, injury and death; use doubles the risk of a crash.***^{5 6 7 8} A study of seriously injured drivers admitted to a Maryland shock-trauma center found that half of drivers aged 20 and younger tested positive for recent marijuana use, compared to one third of seriously injured drivers who tested positive for alcohol.⁹ Nearly one quarter (23.2%) of high school seniors reported that they drove or rode with a driver after using marijuana in the two weeks prior to being surveyed.¹⁰
- ***Prenatal exposure to marijuana use¹¹ and early initiation of marijuana use is associated with low educational attainment.***^{12 13 14 15} Compared with non-drug users, teens in high school who have tried marijuana are 3 times more likely to earn a C average and 6-7 times more likely to earn a D average.¹⁶ Marijuana use is associated with lower grade point average, negative attitudes towards school, less satisfaction with school, increased rates of absenteeism, and poor school performance.^{17 18 19}
- ***Adolescents who use marijuana have higher rates of other illegal drug use.***²⁰ This is most evident for heavy users. The tight link between marijuana use and the use of other illegal drugs is even more pronounced for adolescents than for adults.
- ***After more than a decade of decline, rates of marijuana use among teens are rising.*** The rate of past 30 day marijuana use by young people has changed significantly over the past few decades. Marijuana use reached its peak in the late 1970s, and then drastically declined between 1980 and 1992. Since that time marijuana use has fluctuated, but now once again the rate of marijuana use is on the rise. In 2011, one in 15 high school seniors smoked marijuana daily.²¹ This high level of daily use has not been seen for more than 30 years.²² More than 1 in 5 high school seniors used marijuana in the past 30 days. Of all those who used marijuana for the first time in 2010, 62.5% were younger than age 18.²³
- ***Early marijuana use is especially dangerous.*** Adults who first used marijuana at or before age 14 are six times more likely to meet the diagnostic criteria for abuse or dependence than those who initiated marijuana use at age 18 or older (12.6% vs. 2.1%), and two times more likely than those who initiated marijuana use between the ages of 15 and 17 (12.6% vs. 6.6%).²⁴
- ***Marijuana is the leading cause of substance abuse and dependence.*** Of the 7.1 million Americans aged 12 and older who meet criteria for abuse or dependence on an illegal drug, over 60% abuse or are dependent on marijuana.²⁵ About 9% of people who use marijuana once or more will become addicted to it.²⁶
- ***Regular marijuana use increases the risk of dropping out of school.***^{27 28} Students who used marijuana before the age of 15 were three times more likely to drop out of school before age 16 and two times more likely to be frequent truants than students who did not use marijuana.²⁹ Students who smoked marijuana weekly reported cutting class or skipping school six times more frequently than students who did not use marijuana in the past year.³⁰

Marijuana Use Negatively Impacts Mental Health

- ***Prevalence of depression and anxiety increases with higher rates of cannabis use.***³¹ This pattern has been shown clearest in young women who use cannabis daily. They had more than a fivefold increase in the odds of depression and anxiety compared to non-users. In addition, young people who use marijuana weekly have double the risk of depression later in life.
- ***Marijuana use is associated with depression, suicidal thoughts, and suicide attempts.***³² Teens age 12 to 17 who smoked marijuana at least once a month were three times more likely to have suicidal thoughts than non-users.
- ***Using marijuana may increase the chance of psychosis.***^{33 34 35 36} Even infrequent marijuana use could raise the small but real risk of this serious mental illness by 40%.³⁷ In an analysis of 35 studies of marijuana users, the risk for psychosis for heavy marijuana users (daily or weekly) was 50% to 200% higher than for nonusers.
- ***Heavy marijuana users are more likely to be diagnosed with schizophrenia later in life.***^{38 39}

Marijuana is Addictive

- ***In 2010, 1.2 million teens aged 12 to 17 needed treatment for an illicit drug problem; of this, only 98,000 (8.4%) received treatment at a specialty facility.***⁴⁰ An equal number (1.2 million) of teens needed treatment as a result of alcohol use.
- ***More teens are in treatment with a primary diagnosis of marijuana dependence than all other illicit drugs combined.***⁴¹
- ***Frequent marijuana use results in high risk of dependence.*** Rates of cannabis dependence are estimated at 20% to 30% among those who have used at least five times.⁴² Higher estimates of dependence (35%-40%) are reported among those who report near daily use.
- ***Rates of marijuana use are higher in “medical marijuana” states, resulting in twice the number of residents who meet criteria for marijuana abuse and dependence than in states without these laws.***⁴³
- ***The marijuana sold today is far more powerful than the marijuana used 30 years ago.*** From 1992 to 2006, there was a 175% jump in the average potency of marijuana seized.⁴⁴ Today’s marijuana is estimated to be 244% higher in potency than marijuana seized in the 1980s.⁴⁵
- ***Heavy use of marijuana creates physical dependence, including tolerance and withdrawal.***⁴⁶
- ***Signs of marijuana withdrawal include anxiety, depressed mood, decreased appetite, irritability, restlessness, difficulty sleeping, stomach pain, aggression and anger.***⁴⁷ Withdrawal symptoms due to marijuana use run similar courses to withdrawal symptoms due to other drugs in terms of magnitude and duration.

Smoked Marijuana is NOT “Medicine”

- *Although 16 states and the District of Columbia have legalized “medical marijuana,” Marijuana is not a medicine.* The term “medical marijuana” implies that marijuana use is safe and perhaps even beneficial. Such connotations contribute to decreases in perceived risk of harm from marijuana use. As perceived risk of harm from its use decreases, marijuana use increases.⁴⁸
- *Smoking marijuana causes changes in the brain that are similar to those caused by long-term use of cocaine and heroin.*⁴⁹
- *Smoking is not a safe or sensible way to deliver a drug.*⁵⁰ There is no way to control dose. No medicine used anywhere in the world is prescribed by smoking because smoke is harmful to lungs.
- *Marijuana is more harmful to lungs than tobacco.*^{51 52} Smoking one joint is as harmful to lungs as having up to 5 tobacco cigarettes in succession.^{53 54} Marijuana smoke has ammonia levels that are 20 times higher than tobacco smoke. Marijuana contains hydrogen cyanide, nitric oxide and aromatic amines at 3-5 times higher than tobacco smoke.
- *Marijuana smokers face faster deterioration of lungs – 20 years ahead of tobacco smokers.*⁵⁵
- *The Food and Drug Administration (FDA) does not approve of smoked marijuana as medicine.*⁵⁶ The FDA does not approve burning leaves as drug delivery system. The primary psychoactive chemical in marijuana, delta-9-tetrahydrocannabinol (THC), is called dronabinol (“Marinol”). This medicine is used to treat nausea in cancer and AIDS patients. It is not smoked crude marijuana. This medicine, approved by the FDA 20 years ago, can be prescribed by any licensed physician.
- *Some marijuana is laced with cocaine, PCP and dangerous chemicals including formaldehyde.*⁵⁷

About “Medical Marijuana”

In 1996, California became the first state to legalize marijuana for “medical” uses through a state ballot initiative. Sixteen states and the District of Columbia followed suit. Now “medical marijuana” is emerging as a stepping stone to legalization of marijuana for personal use. Supporters of “medical marijuana” and legalization disregard the serious negative consequences of increased availability and use of marijuana, consequences that will negatively affect Americans of all ages.



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More information on the negative effects of marijuana can be found at the following websites:

Prevent Teen Drug Use: www.PreventTeenDrugUse.org

Drug Enforcement Administration: www.justice.gov/dea

National Institute on Drug Abuse: www.nida.nih.gov

The White House Office of National Drug Control Policy: www.whitehousedrugpolicy.gov

References

- ¹ Children's Hospital of Philadelphia (2009, February 3). Heavy Marijuana Use May Damage Developing Brain In Teens, Young Adults. *Science Daily*. Retrieved March 14, 2010, from <http://www.sciencedaily.com/releases/2009/02/090202175105.htm>
- ² National Institute on Drug Abuse. (2008, March). Marijuana: Facts for Teens. NIH Publication No. 08-4037. Retrieved March 6, 2010 from <http://www.nida.nih.gov/marijbroch/marijteens.html>
- ³ CASA: National Center on Addiction and Substance Abuse at Columbia University. (2001, September). Malignant Neglect: Substance Abuse and America's Schools. Retrieved March 6, 2012 from <http://www.casacolumbia.org/download.aspx?path=/UploadedFiles/inbtpojm.pdf>
- ⁴ Hall, W. & Solowij, N. (1998). Adverse effects of cannabis. *The Lancet*, 352(9140), 1611-1616.
- ⁵ Ashbridge, M., Hayden, J. A., & Cartwright, J. L. (2012). Acute cannabis consumption and motor vehicle collision risk: Systematic review of observational studies and meta-analysis. *British Medical Journal*, 344:e536 doi: 10.1136/bmj.e536
- ⁶ Li M, Brady JE, DiMaggio CJ, Lusardi AR, Tzong KY, Li G. (2011). Marijuana use and motor vehicle crashes. *Epidemiological Review*. [Epub ahead of print].
- ⁷ National Institute on Drug Abuse. (2008, March). Marijuana: Facts for Teens. NIH Publication No. 08-4037. Retrieved March 14, 2010 from <http://www.nida.nih.gov/marijbroch/marijteens.html>
- ⁸ Blows, S., Ivers, R.Q., Connor, J., Ameratunga, S., Woodward, M., & Norton, R. (2005). Marijuana use and car crash injury. *Addiction*, 100(5), 605-611.
- ⁹ Walsh, J.M, Flegel, R., Atkins, R., Cangianelli, L.A., Cooper, C., Welsh, C., & Kerns, T.J. (2005). Drug and Alcohol Use Among Drivers Admitted to a Level-1 Trauma Center, *Accident Analysis and Prevention*, 37(5), 894-901.
- ¹⁰ O'Malley, P.M. & Johnston, L. D. (2007). Drugs and Driving by American High School Seniors, 2001-2006, *Journal of Studies on Alcohol and Drugs*, 68(6):834-842.
- ¹¹ Goldschmidt, L., Richardson, G. A., Willford, J. A., Severtson, S. G., & Day, N. L. (2012). School achievement in 14-year-old youths prenatally exposed to marijuana. *Neurotoxicology and Teratology*, 34(1), 161-167.
- ¹² van Ours, J., & Williams, J. (2007, September 18). Cannabis use and educational attainment. *VOX*. Retrieved March 14, 2012 from <http://www.voxeu.org/index.php?q=node/546>
- ¹³ Lynskey, M., & Hall, W. (2000). The effects of adolescent cannabis use on educational attainment: A review. *Addiction*, 9(5), 1621-1630.
- ¹⁴ Hunt, J., Eisenberg, D., & Kilbourne, A.M. (2010). Consequences of receipt of a psychiatric diagnosis for completion of college. *Psychiatric Services*, 61(4), 399-404.
- ¹⁵ Martins, S.S., & Alexandre, P.K. (2009). The association of ecstasy use and academic achievement among adolescents in two US national surveys. *Addictive Behaviors*, 34(1), 9-16.

-
- ¹⁶ Martins, S.S., & Alexandre, P.K. (2009). The association of ecstasy use and academic achievement among adolescents in two US national surveys. *Addictive Behaviors*, 34(1), 9-16.
- ¹⁷ CASA: National Center on Addiction and Substance Abuse at Columbia University. (2001, September). Malignant Neglect: Substance Abuse and America's Schools. Retrieved March 6, 2012 from <http://www.casacolumbia.org/download.aspx?path=/UploadedFiles/inbtpoj.m.pdf>
- ¹⁸ Lynskey, M., & Hall, W. (2000). The effects of adolescent cannabis use on educational attainment: A review. *Addiction*, 9(5), 1621-1630.
- ¹⁹ Ellickson, P. L., Bui, K., Bell, R., & McGuigan, K. (1998). Does early drug use increase the risk of dropping out of high school? *Journal of Drug Issues*, 28(2), 357-380.
- ²⁰ Martin, K. R. (2003). Youths' opportunities to experiment influence later use of illegal drugs. *NIDA Notes*, 17(3).
- ²¹ Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2012). Monitoring the Future national results on adolescent drug use: Overview of key findings, 2011. Ann Arbor: Institute for Social Research, The University of Michigan.
- ²² University of Michigan. (2011, December 14). Marijuana use continues to rise among U.S. teens, while alcohol use hits historic lows. Ann Arbor: Institute for Social Research, The University of Michigan. Available: <http://monitoringthefuture.org/pressreleases/11drugpr.pdf>
- ²³ Substance Abuse and Mental Health Services Administration. (2011). *Results from the 2010 National Survey on Drug Use and Health: Summary of National Findings* (Office of Applied Studies, NSDUH Series H-41, HHS Publication No. (SMA) 11-4586 Findings. Rockville, MD: Substance Abuse and Mental Health Services Administration.
- ²⁴ Center for Substance Abuse Research (2010, October 25). Early marijuana use related to later illicit drug abuse and dependence. *CESAR Fax*, 19(11).
- ²⁵ Substance Abuse and Mental Health Services Administration. (2011). *Results from the 2010 National Survey on Drug Use and Health: Summary of National Findings* (Office of Applied Studies, NSDUH Series H-41, HHS Publication No. (SMA) 11-4586 Findings. Rockville, MD: Substance Abuse and Mental Health Services Administration.
- ²⁶ National Institute on Drug Abuse. (2010). Marijuana Abuse. NIDA Research Report Series. US Department of Health and Human Services, National Institutes of Health. Retrieved March 6, 2012 from <https://www.drugabuse.gov/sites/default/files/rrmarijuana.pdf>
- ²⁷ CASA: National Center on Addiction and Substance Abuse at Columbia University. (2001, September). Malignant Neglect: Substance Abuse and America's Schools. Retrieved March 6, 2012 from <http://www.casacolumbia.org/download.aspx?path=/UploadedFiles/inbtpoj.m.pdf>
- ²⁸ Bray, J. W., Zarkin, G. A., Ringwalt, C., & Qi, J. (2000). The relationship between marijuana initiation and dropping out of high school. *Health Economics*, 9, 9-18.
- ²⁹ CASA: National Center on Addiction and Substance Abuse at Columbia University. (2001, September). Malignant Neglect: Substance Abuse and America's Schools. Retrieved March 6, 2012 from <http://www.casacolumbia.org/download.aspx?path=/UploadedFiles/inbtpoj.m.pdf>
- ³⁰ Substance Abuse and Mental Health Services Administration, (1998). Analyses of Substance Abuse and Treatment Need Issues. (Office of Applied Studies, OAS Analytic Series #A-7, DHHS Publication No. (SMA) 98-3227). Rockville, MD.
- ³¹ Patton, G.C., Coffey, C., Carlin, J.B., Degenhardt, L., Lynskey, M., & Hall, W. (2002). Cannabis use and mental health in young people: Cohort study. *British Medical Journal*, 32, 1195-1198.
- ³² Office of National Drug Control Policy. (2008, July). 2008 Marijuana Sourcebook: Marijuana: The Greatest Cause of Illegal Drug Abuse. Washington, DC: Office of National Drug Control Policy. Retrieved March 6, 2012 from http://www.justice.gov/dea/statistics/Marijuana_2008.pdf
- ³³ Cheng, M. (2007, July 26). Report: Using Pot May Heighten Risk of Becoming Psychotic. *Associated Press*.
- ³⁴ Foti, D.J., Kotov, R., Guey, L.T., Bromet, E.J. (2010). Cannabis use and the course of schizophrenia: 10-year follow up after first hospitalization. *The American Journal of Psychiatry*, 167(8), 987-93.
- ³⁵ Bhattacharyya et al. (2012). Induction of psychosis by 9-Tetrahydrocannabinol reflects modulation of prefrontal and striatal function during attentional salience processing. *Archives of General Psychiatry*, 69(1), 27-36. doi: 10.1001/archgenpsychiatry.2011.161
- ³⁶ Fergusson, D.M., Horwood, L.J., & Ridder, E.M. (2005). Tests of causal linkages between cannabis use and psychotic symptoms. *Addiction*, 100(3), 354-366.
- ³⁷ Cheng, M. (2007, July 26). Report: Using Pot May Heighten Risk of Becoming Psychotic. *Associated Press*.

-
- ³⁸ Zammit, S., et al. Self-reported cannabis use as a risk factor for schizophrenia in Swedish conscripts of 1969: historical cohort study. *British Medical Journal*, 325, 1199-1201.
- ³⁹ Lynch, M., Rabin, R.A., & George, T.P. (2012, January 12). [The Cannabis-Psychosis Link](#). *Psychiatric Times*.
- ⁴⁰ Substance Abuse and Mental Health Services Administration. (2010). *Results from the 2009 National Survey on Drug Use and Health: Volume I. Summary of National Findings* (Office of Applied Studies, NSDUH Series H-38A, HHS Publication No. SMA 10-4586 Findings). Rockville, MD.
- ⁴¹ Substance Abuse and Mental Health Services Administration. (2009). Treatment Episodes Data Set (TEDS), 1997-2007. DASIS Series: 2-47, DHHS Publication No. (SMA) 09-4379. Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies. Retrieved March 6, 2012 from: <http://www.samhsa.gov/data/DASIS/TEDS2k7AWeb/TEDS2k7AWeb.pdf>
- ⁴² Budney, A.J., & Moore, B.A. (2002). Development and Consequences of Cannabis Dependence. *Journal of Clinical Pharmacology*, 42, 28S-38S.
- ⁴³ Cerdá, M., Wall, M., Keyes, K. M., Galea, S., & Hasin, D. (2012). Medical marijuana laws in 50 states: investigating the relationship between state legalization of medical marijuana and marijuana use, abuse and dependence. *Drug and Alcohol Dependence*, 120(1-3), 22-27.
- ⁴⁴ National Center on Addiction and Substance Abuse at Columbia University. (2008, June). Non-Medical Marijuana III: Rite of Passage or Russian Roulette?, A CASA White Paper. New York, NY: National Center on Addiction and Substance Abuse at Columbia University. Retrieved March 14, 2012 from http://www.casacolumbia.org/articlefiles/380-Non-Medical_Marijuana_III.pdf
- ⁴⁵ National Drug Intelligence Center. (2008, December). National Drug Treat Assessment 2009. Washington, DC: National Drug Intelligence Center. Retrieved March 6, 2012 from <http://www.justice.gov/ndic/pubs31/31379/marijuan.htm>
- ⁴⁶ Budney, A.J., & Moore, B.A. (2002). Development and Consequences of Cannabis Dependence. *Journal of Clinical Pharmacology*, 42, 28S-38S.
- ⁴⁷ Budney, A.J., & Moore, B.A. (2002). Development and Consequences of Cannabis Dependence. *Journal of Clinical Pharmacology*, 42, 28S-38S.
- ⁴⁸ Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2012). Monitoring the Future national results on adolescent drug use: Overview of key findings, 2011. Ann Arbor: Institute for Social Research, The University of Michigan.
- ⁴⁹ National Institute on Drug Abuse. (2008, March). Marijuana: Facts for Teens. NIH Publication No. 08-4037. Retrieved March 14, 2012 from <http://www.nida.nih.gov/marijbroch/marijteens.html>
- ⁵⁰ American Society of Addiction Medicine. (2010). The Role of the Physician in "Medical" Marijuana. Chevy Chase, MD: American Society of Addiction Medicine. Retrieved March 6, 2012 from http://www.asam.org/docs/publicity-policy-statements/1role_of_phys_in_med_mj_9-10.pdf?sfvrsn=0
- ⁵¹ American Chemical Society (2007, December 18). Marijuana Smoke Contains Higher Levels Of Certain Toxins Than Tobacco Smoke. *Science Daily*. Retrieved October 27, 2010, from <http://www.sciencedaily.com/releases/2007/12/071217110328.htm>
- ⁵² Aldington, S., Williams, M., Nowitz, M., Weatherall, M., Pritchard, A., McNaughton, A., Robinson, G., & Beasley, R. (2007). *Thorax*, 62, 1058-1063. Retrieved March 6, 2012 from <http://thorax.bmj.com/content/62/12/1058.full.pdf>
- ⁵³ Reuters. (2007, July 31). One cannabis joint as bad as five cigarettes. Retrieved October 27, 2010 from <http://www.reuters.com/article/idUSL3173105820070731>
- ⁵⁴ Aldington, S., Williams, M., Nowitz, M., Weatherall, M., Pritchard, A., McNaughton, A., Robinson, G., & Beasley, R. (2007). *Thorax*, 62, 1058-1063. Retrieved March 6, 2012 from <http://thorax.bmj.com/content/62/12/1058.full.pdf>
- ⁵⁵ Blackwell Publishing (2008, January 27). Marijuana Smokers Face Rapid Lung Destruction -- As Much As 20 Years Ahead Of Tobacco Smokers. *Science Daily*. Retrieved October 27, 2010, from <http://www.sciencedaily.com/releases/2008/01/080123104017.htm>
- ⁵⁶ U.S. Food and Drug Administration. (2006, April 20). Inter-agency advisory regarding claims that smoked marijuana is medicine. News Release. Silver Spring, MD: U.S. Food and Drug Administration. Retrieved March 6, 2012 from: <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/2006/ucm108643.htm>
- ⁵⁷ Center for Substance Abuse Research. (2005). Marijuana. Retrieved July 5, 2011 from <http://www.cesar.umd.edu/cesar/drugs/marijuana.asp>