



Let's Talk About the Risk: Marijuana / THC and Youth Brain Development!

Be Extraordinary, Be You!

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Note: The National Suicide Hotline is 800-273-TALK or just dial "988"

Intro to Be Extraordinary, Be You!

With all that we learned, we started "Be Extraordinary, Be You!" We are on a mission to educate parents, students, teachers and communities on the harmful and damaging effects of Marijuana (THC) on the developing brain.

- Each of us is, uniquely created for our special purpose here on earth and we want to encourage kids to embrace their differences even though they might feel uncomfortable. Encouraging kids to just be themselves and that it takes an extraordinary person to do so.

Our Family, Randy's Childhood and His Death

In 2015, we learned about marijuana from our son, Randy Michael. His journey, fight for weed, and his dependence in favor of cannabis for treating his depression and anxiety, led to bipolar, PTSD, and psychosis; ultimately he took his life on July, 17, 2021.

Our Son's Documented Journey with Marijuana(video)



This is very personal look at our son, as he struggles with marijuana and THC. He believed that marijuana saved his life, but in reality, it did the complete opposite. Randy's potency of marijuana, leads him into Cannabis Induced Psychosis (CIP), and ultimately, suicide.

<https://player.vimeo.com/video/877221379>

We Often Heard, "It's Just Weed!"

The Industry and it's "Pot-paganda"

- Cannabis: Marijuana vs Hemp
- THC (Tetrahydrocannabinol) is the psychoactive component that makes users feel high.
- Forms of THC derived from CBD/Hemp: Delta-8, Delta-10, and THC-O are forms of THC and are impairing or intoxicating.
- Delta-9 derived from Marijuana plant is the more potent form
- In the 1970s, "Woodstock Weed" contained roughly 1-3% THC. Since then, potency of marijuana plant material has increased to an average potency of 23-25% today.
- Marijuana concentrates &/or distillates and dabs
- Different techniques to make these designer marijuana concentrates. These are not plants, they are chemicals
- Concentrates named by consistency and how they look: i.e. Crumble, Badder, Budder, Shatter, Wax, Crystalline, etc.
- Dabbing: One serving of a dab is equivalent to smoking 3-5 joints - Inhale the vapor, and it is extremely potent, off the charts high.
- Vapes are very potent – 40% to 80% pure THC
- Today, many retailers sell products containing up to 95% THC.



- THC Candies in just about any form: gummies, mints, chocolates, caramel's, etc; THC can be put into anything to create a marijuana-infused product.
** Note the dangers of edibles - they metabolize through the liver so it takes longer to feel the effects vs the lungs, and kids eat more.*
- High potency and high frequency marijuana use are associated with the most severe impacts on mental health.
- ER docs report that they have seen an uptick in acute intoxication, extreme vomiting and nausea, along with psychotic episodes
- How much THC is in each method?
- * To say states have legalized weed is misleading...They have commercialized THC.**

The Industry Targets Youth - "Tobacco 2.0"

- 29% of 12th grade students have used Marijuana in the past year, with 6.5% of 12 graders students being daily users
- Youth exposed to marijuana marketing on social media are five times more likely to use marijuana.
- From 2017-2019, Colorado's past month use of marijuana aged 15 or younger increased 15%..
- Social media advertising on X (twitter) example.
- Billboards, sexy ads and colorful packaging.
- One study found cases of Cannabis Use Disorder in young people in "legal" states grew 25% following legalization.

Marijuana Dependence Can Lead to Addiction

Once kids start using, they are an easy target to create life long customers.

- 90% of Americans who meet the clinical criteria for addiction started using substances before the age of 18.
- 17% Teens (1 in 6) who experiment with Marijuana become addicted.
- In users aged 12-17, substance use disorders are twice as prevalent in Marijuana users than users of nicotine, alcohol and prescription drug misusers.
- Earlier teens use any substance, the greater risk: chances of developing an addiction are 6 times higher for teens who begin using before 15 y/o than those who delay use until 21 y/o & older!
- Where's the harm?

Marijuana and Adolescent Brain Formation

Today's high-potency products are not safe for anyone, and are particularly harmful to youth because of their brain development.

- The developing brain is vulnerable to substance use as it is not fully developed until 25 for young women, and 28 for young men.
- Brain Formation:
 - 1) Synaptogenesis 2) Apoptosis/synaptic pruning 3) Myelination
- Pre-frontal cortex last to form: In charge of executive functioning - planning, time management, self control, working memory, attention, decision making, and risk taking - all skills that help us become functioning adults.
- When THC comes into the brain, it disrupts development and development is arrested and damaged as evidenced in MRI imaging.
- The endocannabinoid system; presynaptic receptors, cannabinoid receptor, neurotransmitters and receptors.
- THC and Anandamide molecules are so similar, that THC can "trick" the brain and bind to the CB1 receptors, blocking normal neurological function.



- Regions of the brain containing CB1 receptors Impacted during adolescent brain formation.
- When your prefrontal cortex is impaired, so also will it impair your problem solving, judgment, decision making, working memory, organization, planning, and prioritization.
- Brains of teens who use marijuana show a condition called “Hypofrontality” which is a state of decreased cerebral blood flow (CBF) in the prefrontal cortex.
- Hypofrontality is symptomatic of several neurological medical conditions, such as schizophrenia, attention deficit hyperactivity disorder (ADHD), bipolar disorder, and major depressive disorder.
- Healthy brain vs Marijuana user’s brain



Dr Amen Video

1 min 38 sec clip about marijuana and the brain!

<https://player.vimeo.com/video/877228163>

- THC causes physiological changes in your brain; it causes it to form abnormally, and because it affects working memory, it can result in a loss of up to 8 IQ points.
- Marijuana is involved in more than one of every four roads deaths in Colorado, and there was a 138% increase in car accidents after legalization.

Marijuana Use Can Cause Mental Illness, Psychosis and Suicide

Mental Illness can be brought on or made worse by using THC

- Using marijuana with THC > 10% increases risk of a psychotic disorder by 4-5 fold.
- Psychosis - A condition of the mind that results in difficulties determining what’s real and what’s not real. (Symptoms may include delusional behavior, auditory and visual hallucinations.)
- Schizophrenia - A chronic, severe mental disorder that affects the way a person thinks, acts, expresses emotions, perceives reality, and relates to others. (Symptoms may make it difficult to participate in usual, everyday activities.)
- Denmark, which has socialized medicine: Prior to 1995 - 2 % of population has schizophrenia before cannabis, and after cannabis introduction in 2010 - studies the same 7 Million people, and 8% have schizophrenia
- NIH study: Young men at highest risk of schizophrenia linked with cannabis use disorder, and highlights the need to proactively screen for, prevent, and treat cannabis use disorder, especially among young people. (Up to 30% of schizophrenia cases in ages 21-30-year-old males are preventable by avoiding a cannabis use disorder.)
- The most common mental illnesses in teens are generalized anxiety, social phobias and depression.
- Daily users of high potency THC are five times more likely to develop a severe mental illness.
- A study of 280,000 young adults in the US between the ages of 18 to 35: “Cannabis use was associated with increased risks of thoughts of suicide, suicide plan, and suicide attempt, regardless of whether someone was also experiencing depression.”
- Any use of cannabis in the early adolescent period is a strong independent predictor of attempted suicide in young adulthood.
- **Marijuana Dependence and Mental Illness**
 - 1) Age of onset
 - 2) Frequency of use
 - 3) THC potency

Youth Awareness and Choice



The decision for youth is whether or not to use substances is a choice!

- "Life is a matter of choices, and every choice you make, makes you." - John C Maxwell
- A growing number of young people are making the healthy choice not use any alcohol, nicotine, marijuana, or other drugs Let them know they are not alone in making ONE CHOICE for their health.
- Some protective factors that help buffer youth from a variety of risky behaviors, including high risk substance use include:
 - Parent/family engagement
 - Family support
 - Parental disapproval of substances
 - Parental monitoring
 - School connectedness
- 36.5% of high school seniors have not used alcohol, marijuana & other illicit drugs.

Parents

Speak with your children about Marijuana, THC and other drugs. Tell them the facts about today's High Potency THC, and how it can affect their brain.

Have a Plan: The 3-S Marijuana Refusal Method

If you feel peer pressure to use marijuana, follow the 3-S Marijuana Refusal Method. Next time you go to a party and someone offers you marijuana and says, "Here hit this," you will be prepared, know what you're going to say, and refuse.

- 1) The first S is to State your reasons - My parents drug test me.
- 2) The second S is to Suggest something else - Why don't we go do this instead.
- 3) The third S is Stick to your boundaries - No, seriously, I don't want it!

** These are the 3-S skills. You may have to practice these a few times until you get comfortable with using it the next time you go to a party.*

"Adolescence is the absolute worst time to introduce mind-altering drugs, such as marijuana, because it can disrupt development. Think of the teen years as the last golden opportunity to make the brain as healthy and smart as possible."

- Krista Lisdahl, PhD, Director, Brain Imaging and Neuropsychology Lab, Univ of Wisconsin, Milwaukee

Resources and Additional Info

Smart Approaches to Marijuana	https://learnaboutsam.org/
Smart Approaches to Marijuana MN	https://sammn.org/
Johnny Ambassadors	https://johnnysambassadors.org/
Every Brain Matters	https://everybrainmatters.org/
One Choice	https://onechoiceprevention.org/
One Change to Grow Up	https://onechancetogrowup.org/
IASIC	https://iasicl.org/