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The Timeline

- 2012: Colorado became the 1st state to legalize recreational marijuana.
- 2014: 9th grade. According to Johnny, pot was "everywhere," and easy to get at high school parties. His friend had an 18-year-old brother with a med card.
- 2014: Concentrates more common on the market and "dabbing" became popular.

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How are Dabs Made?

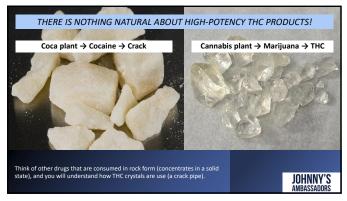
- Dabs are marijuana extracts.
- Chemists run a solvent such as butane, ethanol, or propane through the cannabis plant.
- The THC leaves the plant material and dissolves into the solvent.
- The concentrated THC solution is filtered to remove (most of) the solvent and dried in a tray.
- The result is a sticky, bronze-colored oily substance that looks like beeswax or earwax.
- These can be additionally processed into distillates.
- Dabs are a chemical, not a plant, and they are highly potent, containing up to 99% THC.
- Dabs are typically heated on a hot surface, and the vapors are inhaled through a dab rig or pen.





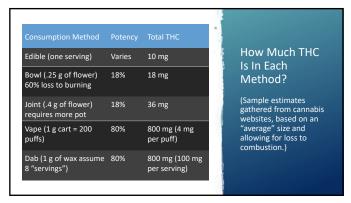
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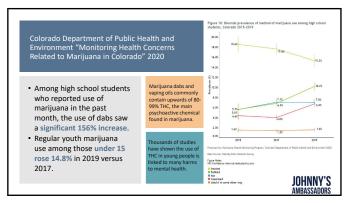
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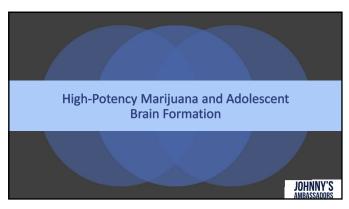


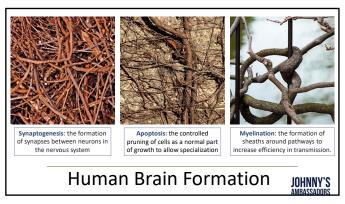




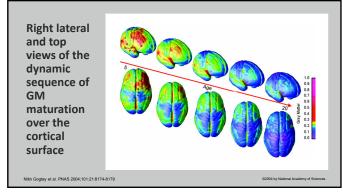
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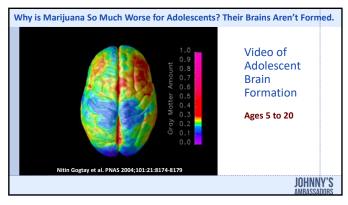






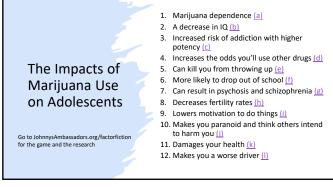
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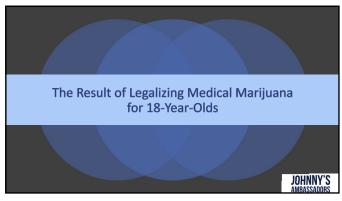




Brain Part	Function	THC Impact	"THC IS NEUROTOXIC" – Dr. Paula Riggs, Denver He
1. Prefrontal cortex	Executive function and higher reasoning	Increases impulsiveness and reduces judgment	5 5 5 7HC 6
2. Nucleus accumbens	The reward circuit	Increases euphoria; "hardwires" use	
3. Amygdala	Emotions, fear, anxiety	Increases paranoia, panic	
4. Hippocampus	Learning new information	Impairs memory	
5. Orbitofrontal cortex	Motivation and drive	Decreases desire to do things	
6. Basal ganglia	Planning and starting movement	Slows reaction time	
7. Cerebellum	Motor skills, balance	Impairs coordination	
8. Hypothalamus	Eating, sex drive	Increases appetite	
9. Neocortex	Feeling and movement	Alters sensations	JOHNN

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The Timeline

- 2016: Johnny starts driving. Mood changes and anxiety begin.
- 2017: The fall of his senior year, the unraveling begins: defiance, running away, verbal abuse, marijuana vaping
- 2018: After his 18th birthday, Johnny leaves the home. Frequent, high-THC marijuana use, dealing, legal troubles, plummeting grades, and threats.

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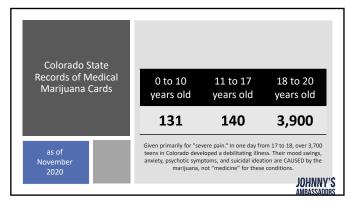
Johnny Came Full Circle.

He is Now the 18-Year-Old Marijuana Dealer with a Med Card.

Johnny didn't have a single medical issue.







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Does a Regulated Pot Industry Keep Marijuana Away from Our 18-Year-Old Kids?

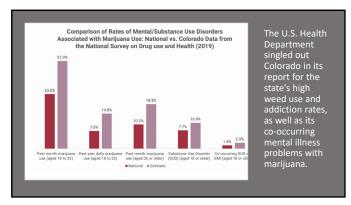
- Can't get tobacco or alcohol legally but CAN obtain a medical marijuana card without parental knowledge or approval.

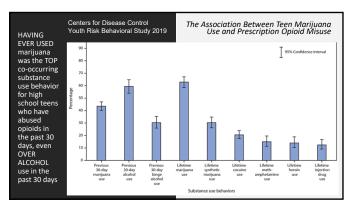
 Physician is not required to write a "prescription" with recommendations on the type of product, route of administration, amount used, frequency of use, and period of use.

 No requirement for follow-up appointments to determine whether the recommendation has been helpful or if there are side effects.
 Can take the card to the dispensary and get anything they want or is recommended by the person selling the products, "budtenders" who have no requirements for any medical training.
 Patients can purchase twice as much in the medical (2 ounces per day) versus recreational dispensary (1 ounce per day), and it is less expensive because of lower tax.

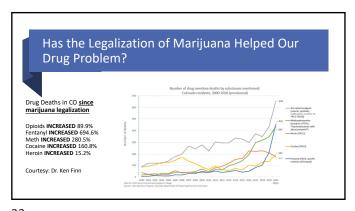
 No tracking to see if someone is going from dispensary to dispensary and purchasing more product, a process known as looping.

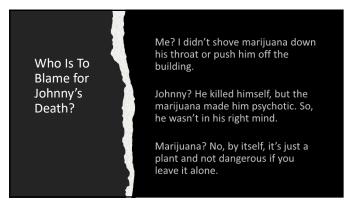
 The "doctor" is protected, so you can't find out who gave it to them. This is just like the "pill mills" in the opioid crisis pay your \$500 and get your "prescription," which is only a recommendation to buy.





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The Timeline

- 2018: May, Graduates high school with
- 2018: August, Johnny attends university #1 on a scholarship. Dabs for two weeks and texts me he's suicidal. 1st mental hospital stay, then 1st suicide attempt.
- 2018: Sept. to Dec, sober from MJ, recovers at home.
- 2019: January, Johnny attends university #2. First psychotic break and 2nd mental hospital stay.

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What Does Psychosis Look like? Johnny's Journals



How Do We KNOW THC Causes Psychosis?

RESEARCH!

- MORRISON: THC administration in the clinic triggers psychosis in 40% of users with no family history of psychosis. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3055738/pdf/npp20/0222a.pdf
- HINDLEY. A single THC administration induces significant psychotic, negative, total, and other psychiatric symptoms with large effect sizes in adults with no history of psychotic or other major psychiatric disorders. https://www.thelancet.com/journals/lanpsy/article/PIIS2215-0366(20)30074-2/fulltext
- USODIA THE positive symptoms induced by D-9-THC included suspiciousness, paranoid and grandiose delusions, conceptual disorganization, and illusions. It also produced depersonalization, derealization, distorted sensory perceptions, altered body perception, feelings of unreality and extreme slowing of time. D-9-THC produced negative symptoms including blunted affect, reduced rapport, lack of spontaneity, psychomotor retardation, and emotional withdrawal. https://pubmed.ncbi.nlm.nih.gov/15173844/

JOHNNY'S

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Genetic vs Marijuana Onset Schizophrenia in an Email to Me by Dr. Robin Murray

You can have a heart attack because you have a heavy genetic loading, even if you exercise a lot.

Even if you have no genetic loading, you can have a heart attack because you never use marijuana.

Even if you have no genetic loading, you can develop schizophrenia because you never use marijuana.

Even if you have no genetic loading, you can develop schizophrenia because you never use marijuana.

It's easiest to have a heart attack if you have genetic loading AND get very fat.

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The Timeline

2019

- May: Recovers on antipsychotics. Gets a job and
- July: Moves to our condo and gets a new job at Petsmart.
- August: Goes to university #3 and gets a new puppy.
- September: Re-unites with an old girlfriend who suffers from mental illness and dabs every day. Starts dabbing again and drops out of school.
- October: Girlfriend punches him in the face. Quits marijuana, nicotine, and his antipsychotic meds for five weeks.

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Johnny Made a Valiant Attempt to Be Sober Better person right now. Keepir fluences and connections in my October 2019 smoking a drug

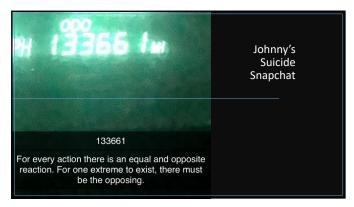
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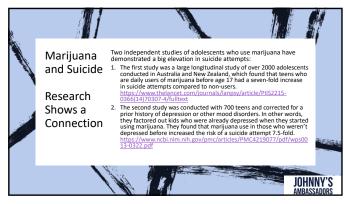
Three Days Before Johnny's Death Nov. 17, 2019

"I just want you to know that you were right all along. You told me marijuana would hurt my brain. It's ruined my mind and my life, and I'm sorry. I love you."

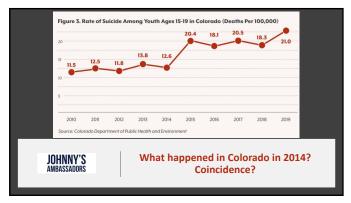
- Johnny Stack

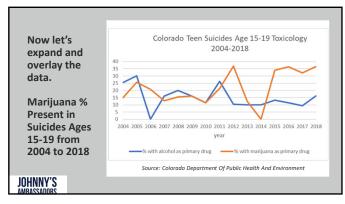






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To Summarize 1. Repeated cannabis use in teens interferes with the development of the prefrontal cortex, (the part of the brain directly behind the forehead), which affects executive functions. The PFC is particularly active in adolescence, as the brain prunes some synaptic connections and firms up those most useful. 2. There's no doubt marijuana impacts mental development in young people, which is also why it's illegal for recreational use until the age of 21. Even proponents of marijuana acknowledge this science. 3. The loophole for young people ages 18-to-20 to get "medical" cards makes it worse. They can't buy alcohol or cigarettes, but they can lie about having a migraine and legally buy shatter and sell it to other younger children (this creates the GRAY market). 4. Our youth are becoming psychotic and dying by suicide at alarming rates.

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Parenting Recommendations (Looking back – what I wish I would have done better doing) art talking about marijuana (and alcohol and cigarette) use early! Discuss short-term and long-term risks of marijuana risks et clear NO USE rules, including appropriate consequences for breaking these rules Keep lines of communication open Keep track of your children and their phones • Pick up anywhere, anytime – no questions asked Monitor your own behavior

Help your child plan for social pressure to use

• NEVER provide your child with marijuana, no matter the age

Teach and practice refusal skills

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