

THC – The Good, the Bad, and the Ugly

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“The views expressed are those of the author and do not reflect the official policy of the Department of the Army, the Department of Defense or the U.S. Government.”



Highly recommended lectures on THC use and the source for much of the content in this PowerPoint

► Please click the link below to listen to addiction medicine physician Dr. Ruth Potee's fantastic school talk on addiction and the teenage brain:

https://www.youtube.com/watch?v=25mK4yXzOkQ&ab_channel=1623Studios

► Please click the link below to listen to Stanford neuroscientist. Dr. Andrew Huberman's superlative lecture on the dangers of THC use. It the best and most thorough discussions on the topic that I have heard.

https://www.youtube.com/watch?v=gXvuJu1kt48&ab_channel=AndrewHuberman



Alarming Side Effects of *Chronic THC USE

*Chronic is defined as 2 or more
times per week

Decreases testosterone levels

Increases gynecomastia (beast tissue in males)

Decreases libido

Increases anxiety – typically after one year of use

4X more likely to develop Major Depressive Disorder

4X more likely to develop a psychotic disorder such as
schizophrenia



Alarming side effects of THC



Decreases gray matter in the prefrontal cortex – this may not be recoverable and is more problematic in children/teens as the brain is still developing.

When smoked or vaped, endothelial cells which form the inner lining of a blood vessel and provide an anticoagulant barrier between the vessel wall and blood are damaged which significantly increases the risk of stroke.

The brain down-regulates CB1 receptors (tolerance) so more is needed to achieve the same effect.

IQ decreased by an average of 8 points when you start as a teen.

How does **cannabis** affect my mental health?

If you need trusted information on **cannabis** and its impact on mental health, you can turn to us.

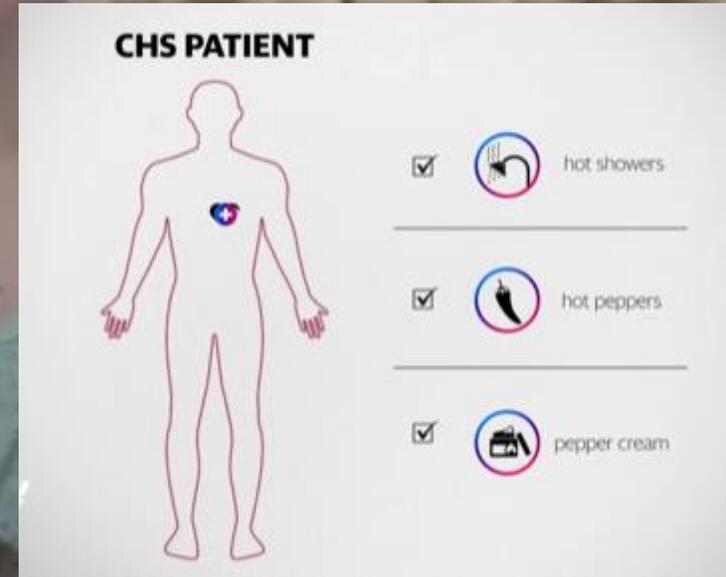
Rethink
Mental
Illness.

Cannabinoid Hyperemesis Syndrome

- ▶ Cannabinoid hyperemesis syndrome (CHS) is a condition in which a patient experiences cyclical nausea, vomiting, and abdominal pain after using cannabis. **It can in rare cases, kill you.**
- ▶ This disorder is characterized by 1) several years of preceding cannabis use, predating the onset of illness; 2) a cyclical pattern of hyperemesis every few weeks to months, at which time the patient is still using cannabis and 3) resolution of the symptoms after cessation of cannabis use, confirmed by a negative urine drug screen.
- ▶ The almost pathognomic aspect of a patient's presenting history is that their symptoms are relieved by hot baths or shower or hot peppers.

Please click the link below to hear this mother's story of the tragic loss of her son to CHS:

https://www.youtube.com/watch?v=E1laVfwz1yQ&ab_channel=YahooNews



THE RESULTS



Another meta-analysis of three case-control studies of testicular cancer found a statistically significant link between heavier pot smoking and one type of testicular cancer. But this evidence was judged to be “limited” because of limitations in the research (all of which was from the 1990s).



2013

STUDY SOURCE: BMC CANCER

TITLE: CANNABIS EXPOSURE AND RISK OF TESTICULAR CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS

This is really scary! But to be fair, is not widely researched.

THC Facts

30 – 50% more addictive than nicotine

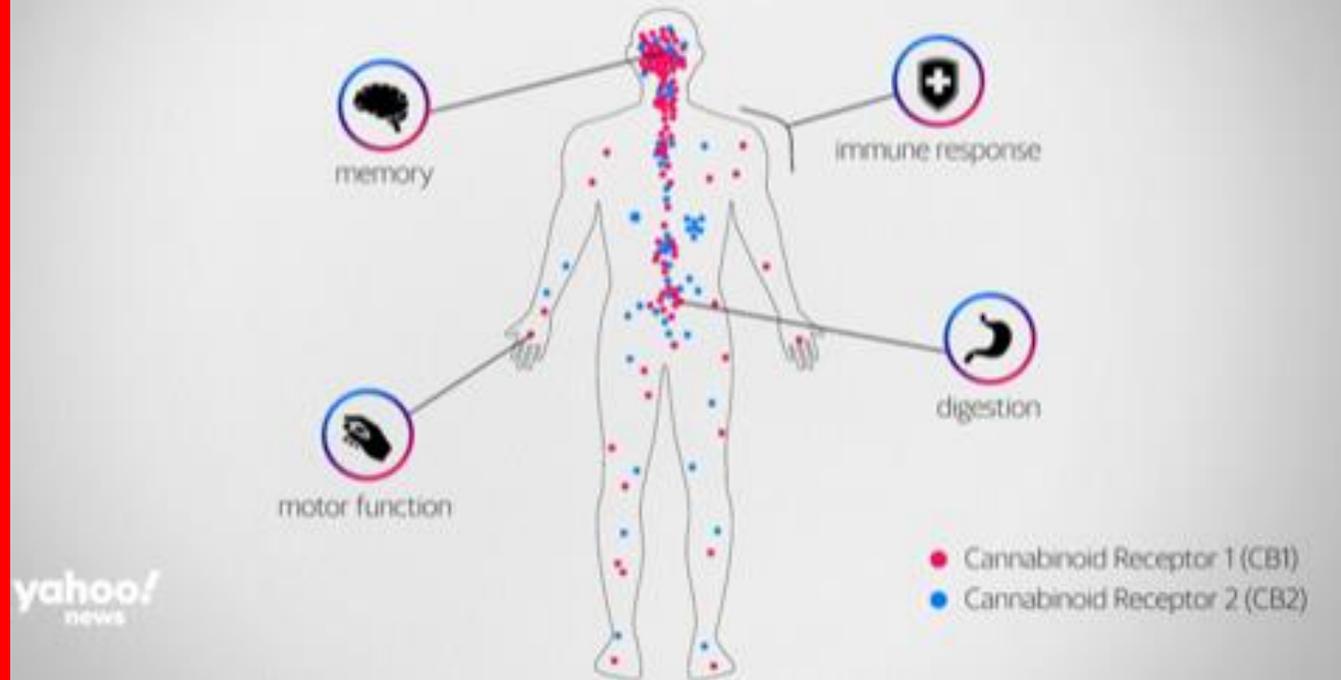
Anandamide was the first endocannabinoid to be discovered and participates in the body's endocannabinoid system by binding to cannabinoid receptor. This helps determine what gets pruned in the brain in adolescence. THC mimics and blocks this process and hence hampers brain maturation in teens.

For each year a teen delays THC use, there is an 8% decreased chance of becoming addicted to the substance as an adult.

There are two cannabinoid receptors: CB₁ and CB₂. The CB₁ receptor is one of the most abundant G protein-coupled receptors (GPCRs) in the CNS and is found in particularly high levels in the neocortex, hippocampus, basal ganglia, cerebellum and brainstem. The CB₂ receptor exhibits a more defined pattern of expression in the brain than CB₁ receptors, and is found predominantly in cells and tissues of the immune system



THE ENDOCANNABINOID SYSTEM



The Endocannabinoid System. Higher concentrations of CB1 in the brain and CB2 in the body.

To teens: The longer you delay using the better. Avoidance is even better. Genetics, trauma, and age you start all add up to determine the likelihood you will become chronically addicted as an adult.

Many people use THC to quell the pain of trauma which works initially but, as in the Grim Reaper, always demands payment later, which far too often, is a lifetime of addiction and the problems it creates.

Talk Early, Talk Often

“Delay, Delay, Delay or Avoid Altogether”



Genetics



Trauma



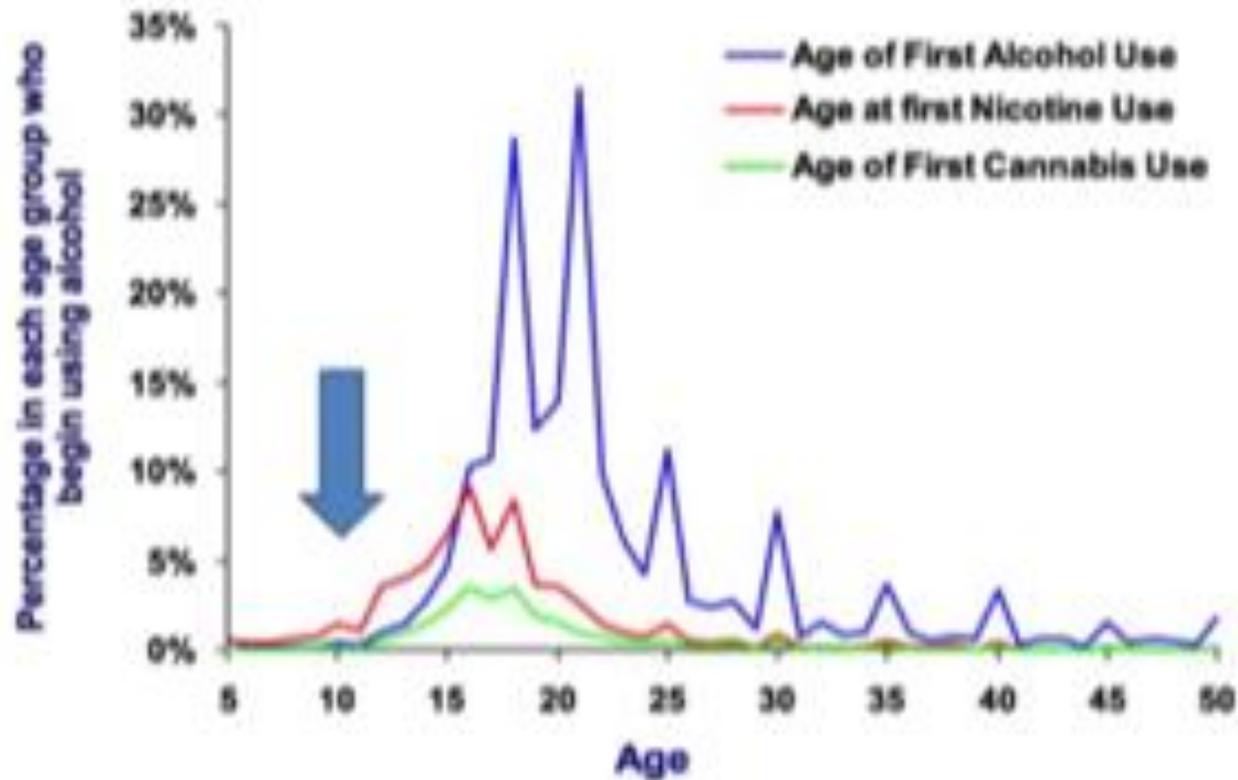
Early Use



Entering the highway to addiction far too young!



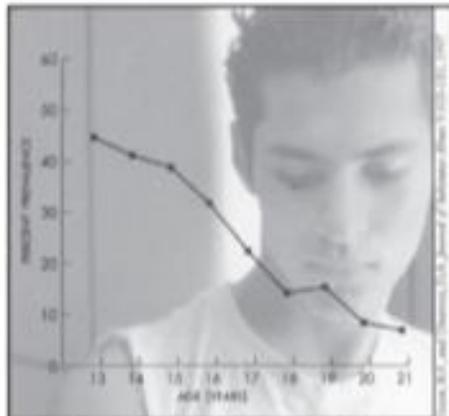
Addiction is a Developmental Pediatric Disease



Source: NIAAA National Epidemiologic Survey on Alcohol and Related Conditions, 2003

Use of substance in teens wires the developing teen brain for addiction. THC sellers know that if they get you early, they have a customer for life.

Teen Alcohol Use Wires The Brain For Addiction

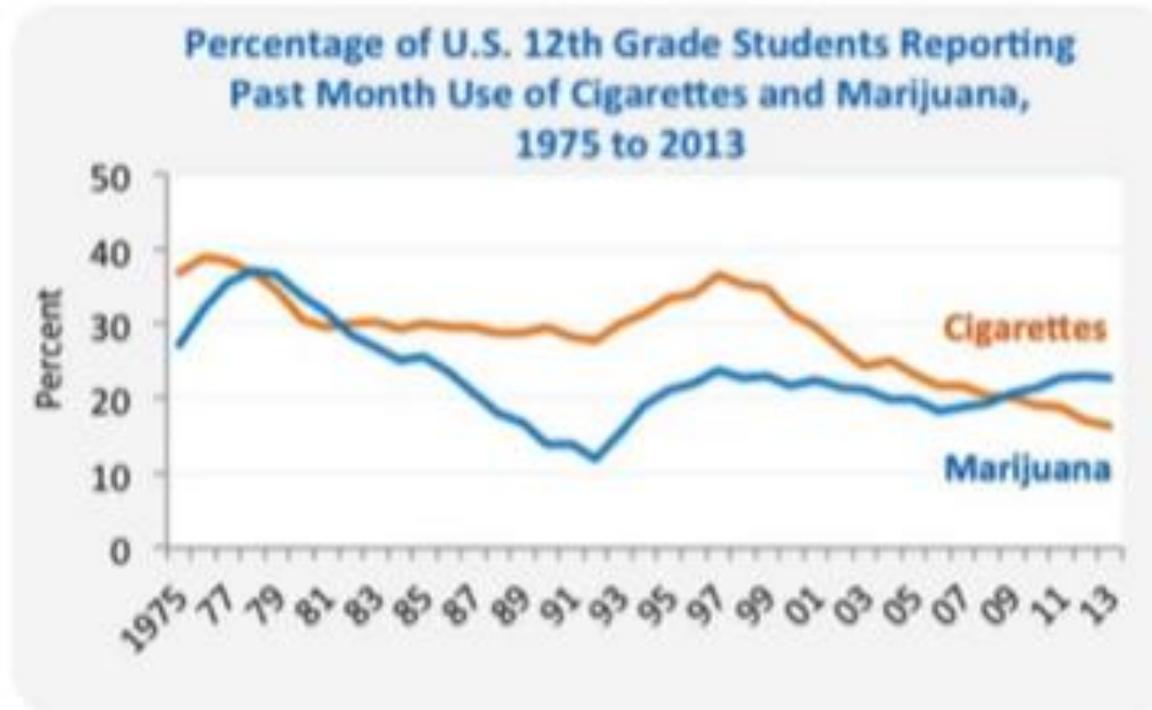


Grant, M and Dawson, G.A. *Journal of Substance Abuse* 9:103-110, 1997
*Photo courtesy of NAAA and MADD

40% of kids who begin drinking at age 15 will become alcoholics.

Only 7% of those who begin drinking at age 21 become alcoholics.





In 2009, THC use surpassed cigarette use in teens.

For teens: Since 2009, as your daily use increases, your perceived risk goes down. This is very dangerous - as you are sinking into quicksand, you fail to appreciate the increasing peril you are in.

