

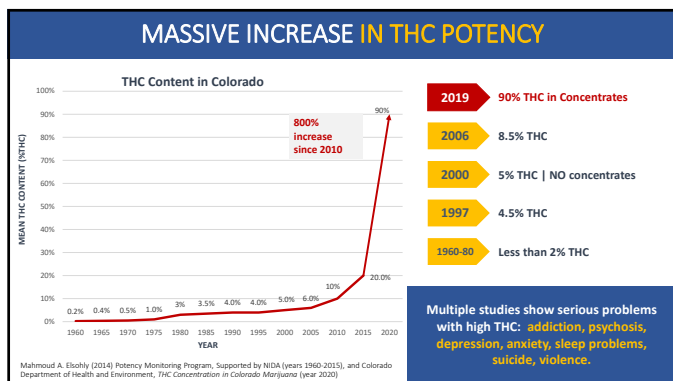


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Commercialization has radically changed marijuana

THEN	NOW
<p>Before 2000, THC Potency in Marijuana was 4-5%</p>	<p>Today, THC potency in products like shatter can exceed 90%.</p> <p>They are smoked in a rig using a butane torch.</p>

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HIGHER DRUG POTENCY = MORE POTENTIAL FOR ADDICTION

High-potency THC use is associated with an **increased severity of dependence**, especially in young people.

High potency = 15% THC or higher
Low potency = 5% THC or lower

NICOTINE	3mg vs. 20mg	→
ALCOHOL	beer vs. Grain alcohol	→
COCAINE	coca leaf vs. cocaine	→
OPIOIDS	codeine vs. Oxycontin	→
CANNABIS	THC <2% vs. THC 15-90%	→

Freeman TP and Winstock AR. Examining the profile of high-potency cannabis and its association with severity of cannabis dependence. Psych Med 2015;45:3181-3189

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THC POTENCIES ABOVE 15% SHOULD BE CONSIDERED A HARD DRUG

After the Dutch observed negative impacts from rising THC potencies, a team of health experts concluded that **THC potencies above 15% should be considered a hard drug, like cocaine**

Changes in cannabis potency and first-time admissions to drug treatment: A 15-year study in the Netherlands
Freeman TP et al. Psychological Medicine 2018

Fig. 1. Mean (95% CI) concentrations of δ -9-tetrahydrocannabinol (THC) in domestic herbal cannabis and first-time cannabis admissions to specialist drug treatment (per 1000 inhabitants) from 2000 to 2015.

Lear MV et al. Limitations to the Dutch cannabis toleration policy, assumptions underlying the reclassification of cannabis above 15% THC. In J Drug Policy 2016;34:58-64.

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Marijuana Withdrawal Syndrome

- Increased anger
- Irritability
- Depression
- Restlessness
- Headache
- Loss of appetite
- Insomnia
- Severe cravings for marijuana

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MARIJUANA


- Damages
- Brain
- Heart
- Lungs
- Stomach




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Cannabis (Marijuana)

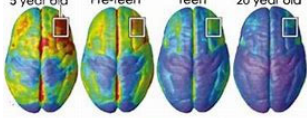
- The younger you use and the more you use, the more **BRAIN DAMAGE**.
 - lower IQ
 - problems making decisions
 - problems with social interactions
- Use can cause **PYSCHOSIS**:
 - Paranoia
 - Increased risk of suicide
- Use primes the brain for substance dependence and addiction



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5 year old Pre-teen Teen 20 year old

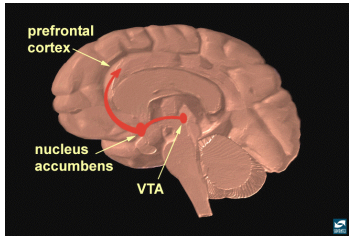


Red/yellow: Less mature Blue/purple: More mature

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The Reward Pathway
 All drugs of abuse release dopamine in this pathway, promoting learning and memory, and can hijack the pathway

HOW DOES ADDICTION HAPPEN?



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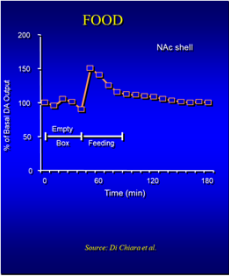
Natural Rewards Elevate Dopamine Levels

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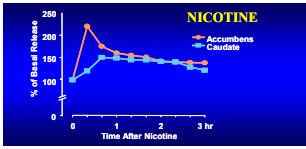
Effects of Drugs on Dopamine Levels

FOOD

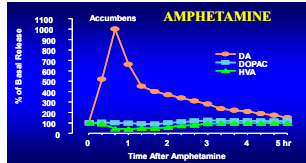


Source: Di Ciano et al.

NICOTINE

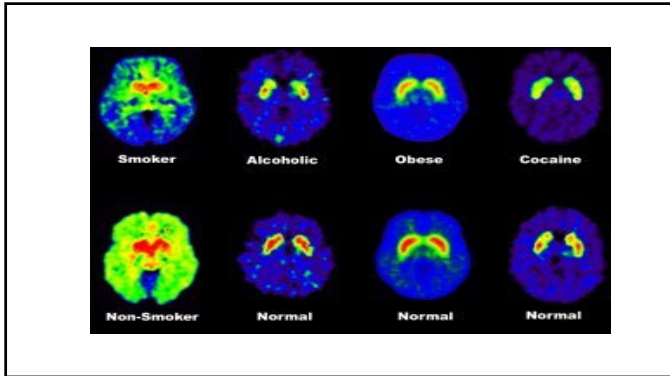


AMPHETAMINE

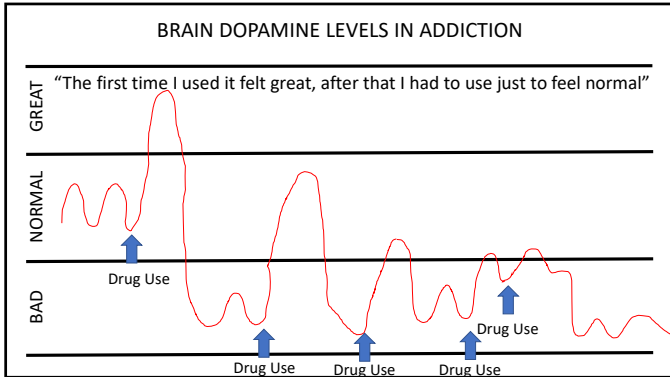


Source: Di Ciano and Di Ciano

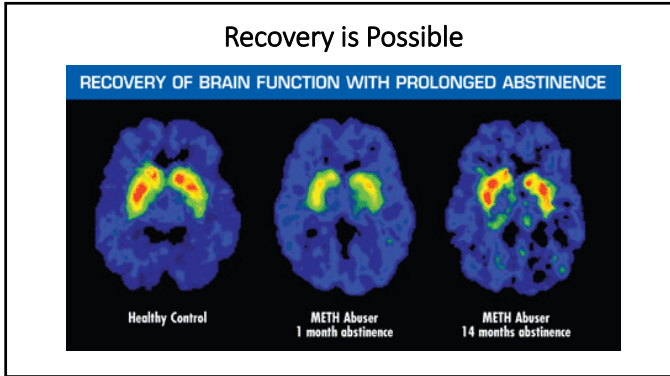
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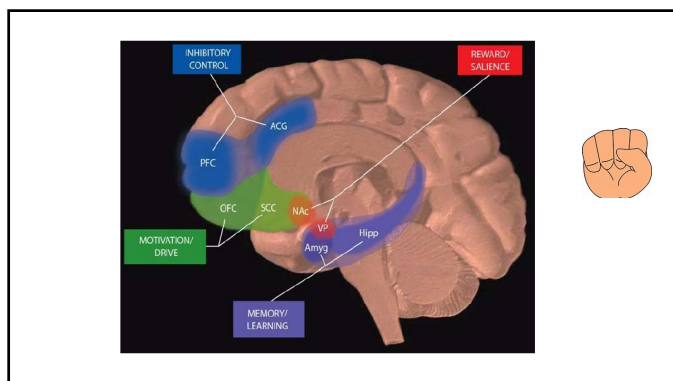
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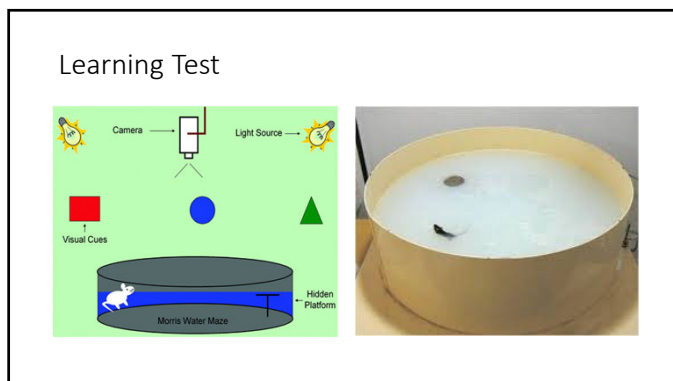
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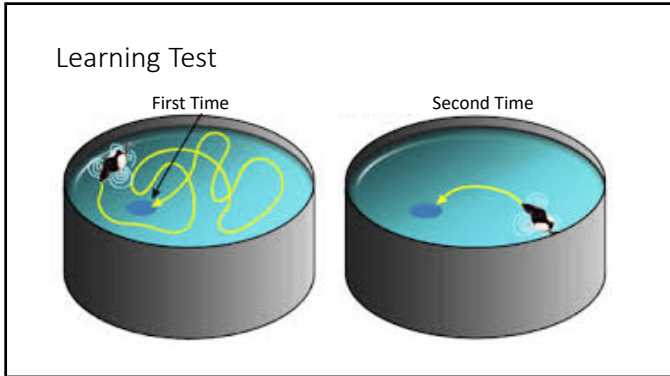
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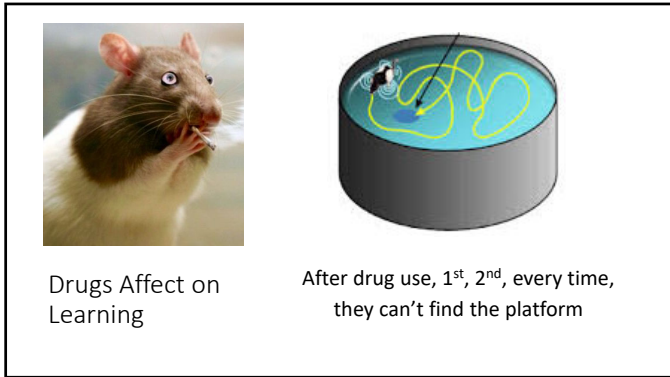
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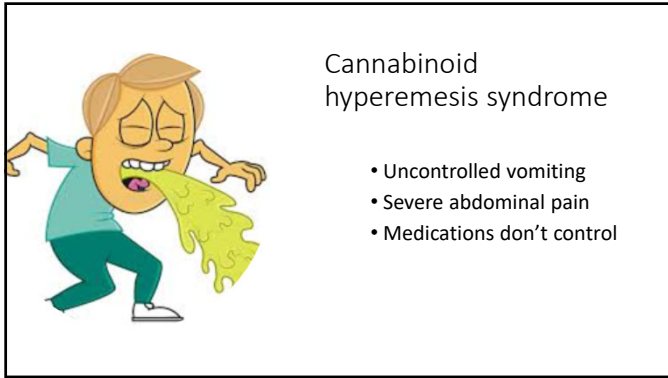
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