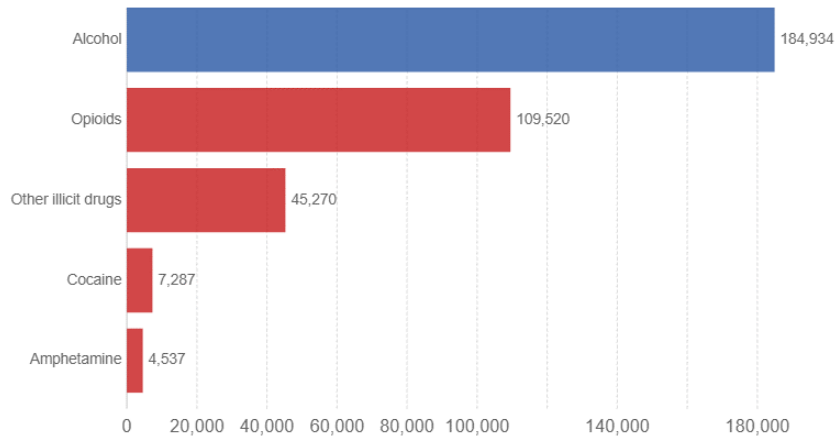


Number of deaths from substance use disorders, World, 2017

Our World
in Data

Substance use disorders refers to direct deaths from drug overdoses. This is distinguished from substance use as risk factor for premature death, which results when alcohol or drug use increases the likelihood of the development of disease or injury.

Substances shown in red are collectively termed 'illicit drug use' in addition to cannabis, which is not shown here since it is not attributed to direct deaths from usage.



Source: IHME, Global Burden of Disease
OurWorldInData.org/drug-use • CC BY

Nicotine deaths - 8 million / yr

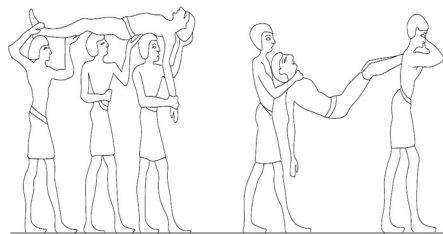
1

1

Drug use is not a modern problem...



Oldest known cannabis use
as a drug: China, 500 BC



Inebriated revelers. Egyptian
painting from Khety's tomb,
circa 2100 BC

2

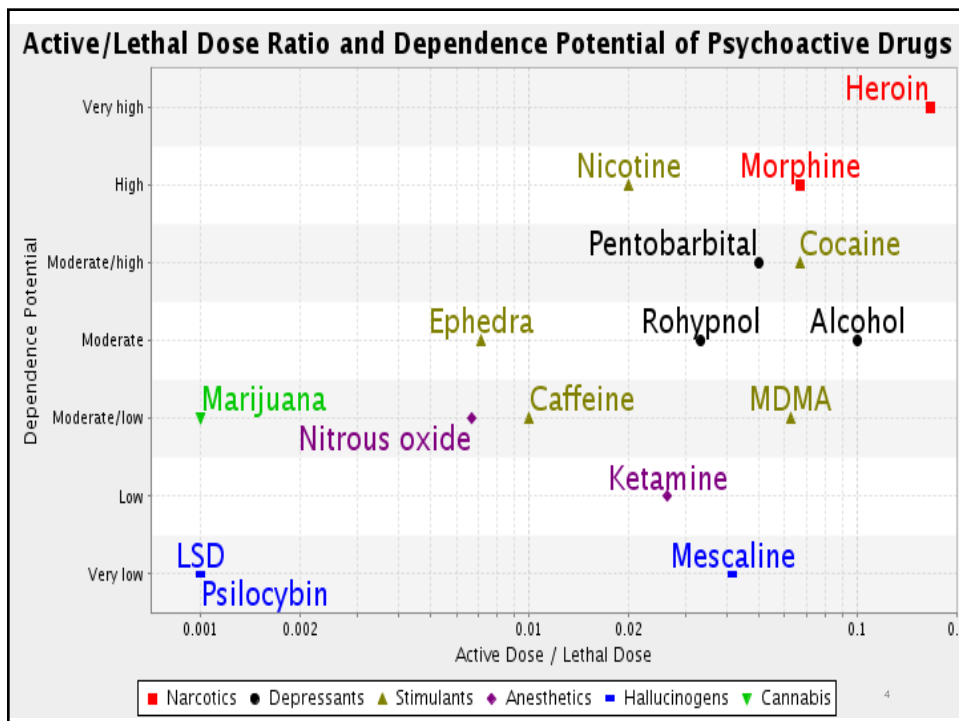
2

Life isn't fair.... We don't choose our genes nor our early environment.



3

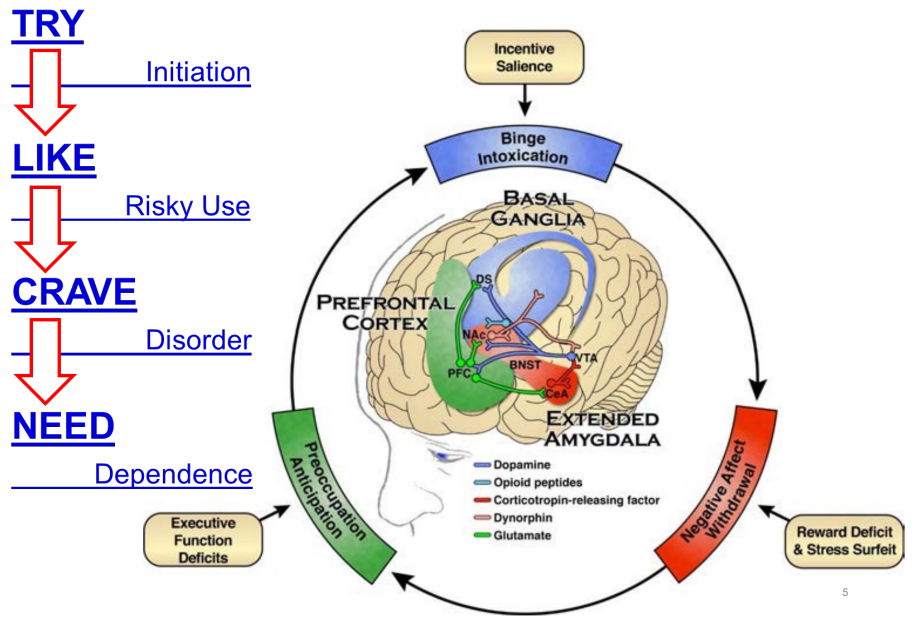
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Addiction involves Reward Pathways



5

DSM-5 CRITERIA FOR SUBSTANCE USE DISORDER AND SEVERITY SCALE

1. Hazardous use;
2. Social/interpersonal problems related to use;
3. Neglected major roles to use;
4. Withdrawal;
5. Tolerance;
6. Used larger amounts/longer;
7. Repeated attempts to quit/control use;
8. Much time spent using;
9. Physical/psychological problems related to use;
10. Activities given up to use;
11. Craving.

Substance use disorder severity:

Mild: 2–3 criteria

Moderate: 4–5 criteria

Severe: 6 or more criteria

6

6

Alcohol Impact in the U.S.

- 55% of US adults drink at least once / month
- Excessive alcohol is the 3rd preventable cause of death in the United States.
- Alcohol-related impairment constitutes >30% of all traffic fatalities
- ~8% of Americans have a chronic diagnosis of AUD; college students meet the criteria for mild AUD at a much higher rate
- The economic burden is ~\$250 billion, more than the original cost of the alcohol.
- Alcohol => 5% of health burden worldwide

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It's important for patients to know what constitutes "one drink"...

Life-threatening signs of alcohol poisoning include:

 Inability to wake up	 Slow breathing (fewer than 8 breaths per minute)	 Seizures
 Vomiting	 Irregular breathing (10 seconds or more between breaths)	 Hypothermia (low body temperature), bluish skin color, paleness

What is a "standard drink" in the US?

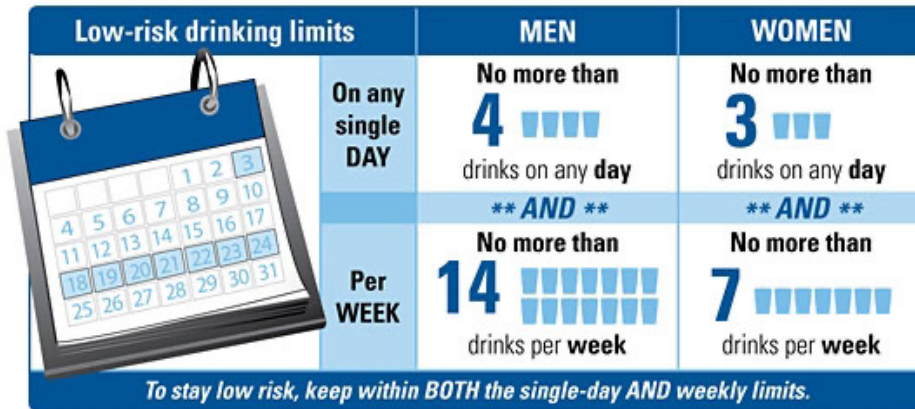
 12 ounces of beer 5% Alcohol	OR	 8 ounces of malt liquor 7% Alcohol	OR	 5 ounces of wine 12% Alcohol	OR	 1.5 ounces of distilled spirits 40% alcohol (80 proof) e.g., vodka, whiskey, gin, rum
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SOURCE: National Institute for Alcohol Abuse and Alcoholism.

1 standard drink = 14 grams ethanol

8

Recommendations:

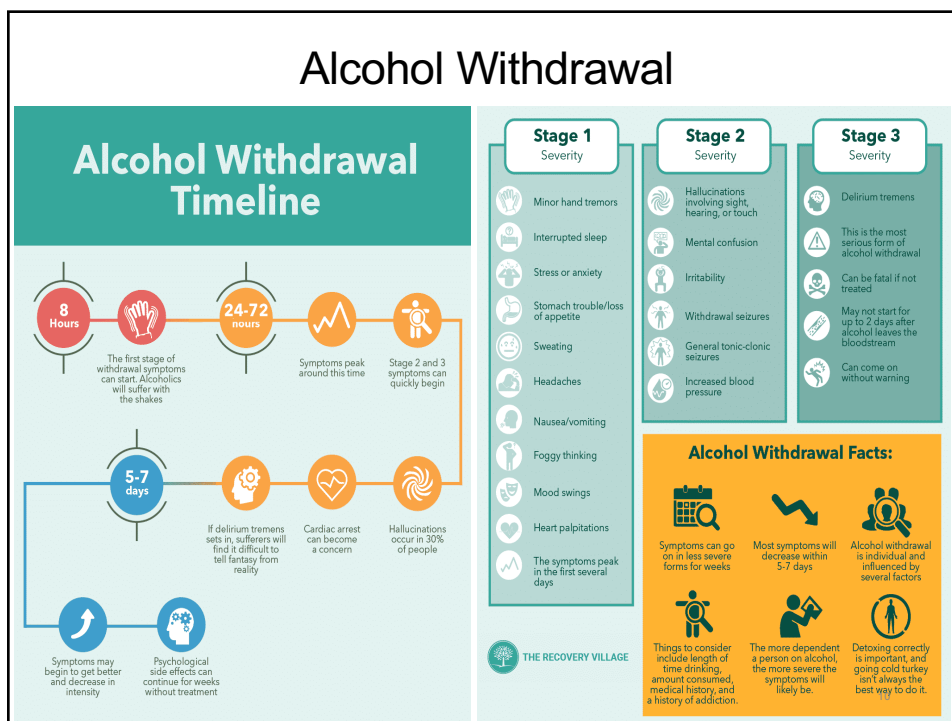


Sex differences are due to body size, metabolism, absorption & tissue damage that differ between females and males

9

9

Alcohol Withdrawal



10

AUD Detoxification & Treatment

- Detoxification
 - Needs to be medically managed due to severity of symptoms and potential risk of death. Typically involves taper protocols with long lasting forms of benzodiazepines
- Behavioral Modification, Psychotherapy, Counseling, Group
- Pharmacotherapies
 - FDA approved:
 - Control withdrawal: benzodiazepines
 - Control consumption: Disulfiram, Naltrexone & Acamprosate
 - Gabapentin, Baclophen, Topiramate
 - Research -> suppression of neuroinflammation

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