



# Substance Use Disorders

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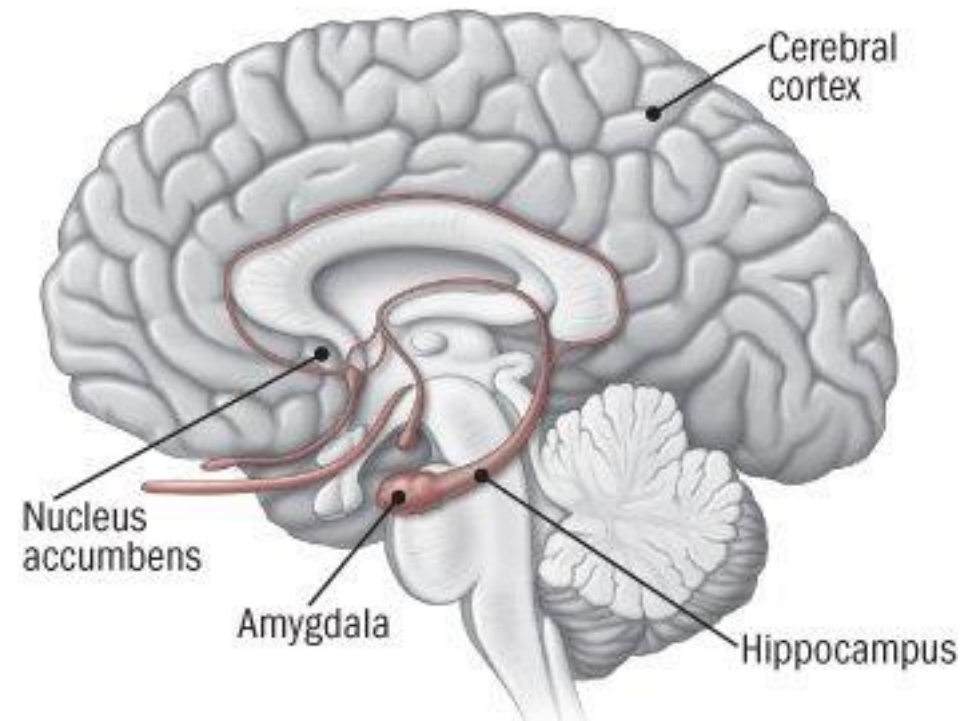
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# Statistics

- 45% of those who use any substance before age 15 will develop an addiction later
- More than 90% of Americans with a substance use disorders began smoking , drinking or using other drugs before age 18.
- Marijuana is addictive - more teens are in treatment for marijuana dependence than for all other illicit drugs.
- Teens who drink with their parents are more likely to drink more, and become problem drinkers in few years later.
- Age 21 – Magical number!

# Drugs and Brain



# Drugs and Brain

- Dopamine is a chemical released by neurons in the brain when a person experiences a positive feeling or pleasure
- Drugs artificially stimulate surges of dopamine, delivering euphoria
- The body adjusts to this artificial stimulation by suppressing the natural release of dopamine, altering the reward pathways in the brain
- Consequently, a person abusing substances feels the need to stimulate the artificial release of dopamine in order to feel normal and function
- This becomes a vicious cycle leading to addiction
- Over time the person develops tolerance to the substance they are abusing, and have to ingest/inject higher doses of the drug/alcohol in order to obtain the same high
- The change that occurs in the brain is why addiction is now recognized as a disease

# Effect of Brain Changes on Behavior

- Our brains are wired to make sure we repeat healthy activities (eating, sex, etc.) by connecting those activities with feeling good
- Whenever this reward circuit is kick-started, the brain notes that activity needs to be remembered, and teaches us to do it again and again
- Drugs/alcohol “hijack” the same circuits, and people learn to use drugs in the same way.
- Repeated drug use causes the brain to adjust to these surges of dopamine - Neurons reduce the number of dopamine receptors or make less dopamine or some neurons may die (due to drug toxicity)
- The result is less natural dopamine signaling in the brain—like turning down the volume on the dopamine signal
- Consequently, the ability to feel pleasure from previously enjoyable activities is reduced (may feel flat, lifeless, and depressed).
- Drugs are needed to bring dopamine levels up to just normal levels, and more of the drug is needed to create a dopamine flood, or “high” — due to an effect called “tolerance.”

# Addiction – Disease not a Moral Failing

- The first time a person uses drugs, it's usually by choice.
- After repeated use, the brain's circuitry is altered making it a disease
- It is a chronic brain disease because these changes in the brain take years to correct leaving the individual susceptible to relapse

# Risk of Addiction Higher if...

- **Genetics** – a family history of addiction
- **Mental Illness** – About one-third of people with mental illness do not receive proper treatment and they may self-medicate using drugs or alcohol
- **Gender (female)** – biology, sexual abuse, mental health issues, family, partner
- **Academic Failure/Poor Social Skills**- escape, lower social anxiety, boost academic performance
- **Home and family** – Parents or older family members abuse alcohol/drugs, or involved in criminal behavior
- **Peer Pressure** – Friends/acquaintances abuse drugs Academic failure or poor social skills can also put a person at risk for drug use
- **Early use** - Research shows that the earlier a person begins to use drugs, the more likely they are to progress to more serious use
- **Method of use** - Smoking a drug or injecting it into a vein increases its addictive potential because it reaches the brain faster and provides a surge



# Warning Signs

- Physical evidence of drug use (runny nose, track marks, paraphernalia)
- Changes in physical appearance (unkempt)
- Mood swings
- Inappropriate clothing
- Changes in eating and sleeping habits
- Changes in behaviors and friends
- Changes in school or job performance

# Next Steps

- Reach out for help
- Addiction is a disease that will not remit by itself
- More treatment options now available (ambulatory detox, MAT, etc.)

# Prevention

- Talk to your kids about drugs
- Help them say No, turn down drugs
- Family time
- Tell them “I love you,” “I am proud of you,” repeatedly
- Set rules and boundaries
- Monitor social media use