# Neurotransmission Presentation

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# How Depressants Affect our Brain and Nervous System

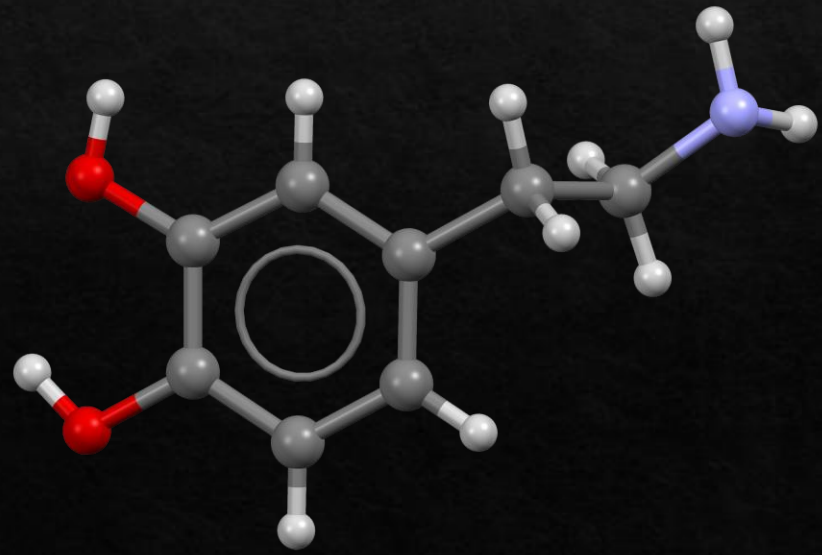
- Common depressants include alcohol, barbiturates, benzodiazepines, and opioids.
- Depressants lead to autonomic changes in the peripheral nervous system (Levinthal, 2023).
- The Medulla and Cerebellum are greatly affected by depressants (Levinthal, 2023).

# How Stimulants Affect our Brain and Nervous System

- Some common examples of stimulants include cocaine, methamphetamine, caffeine, and nicotine.
- Stimulants activate sympathetic responses in the peripheral nervous system (Levinthal, 2023).
- Stimulant abuse creates impairments in cognitive functioning (SAMHSA, 1999).

# How Addiction Affects Dopamine in the Brain

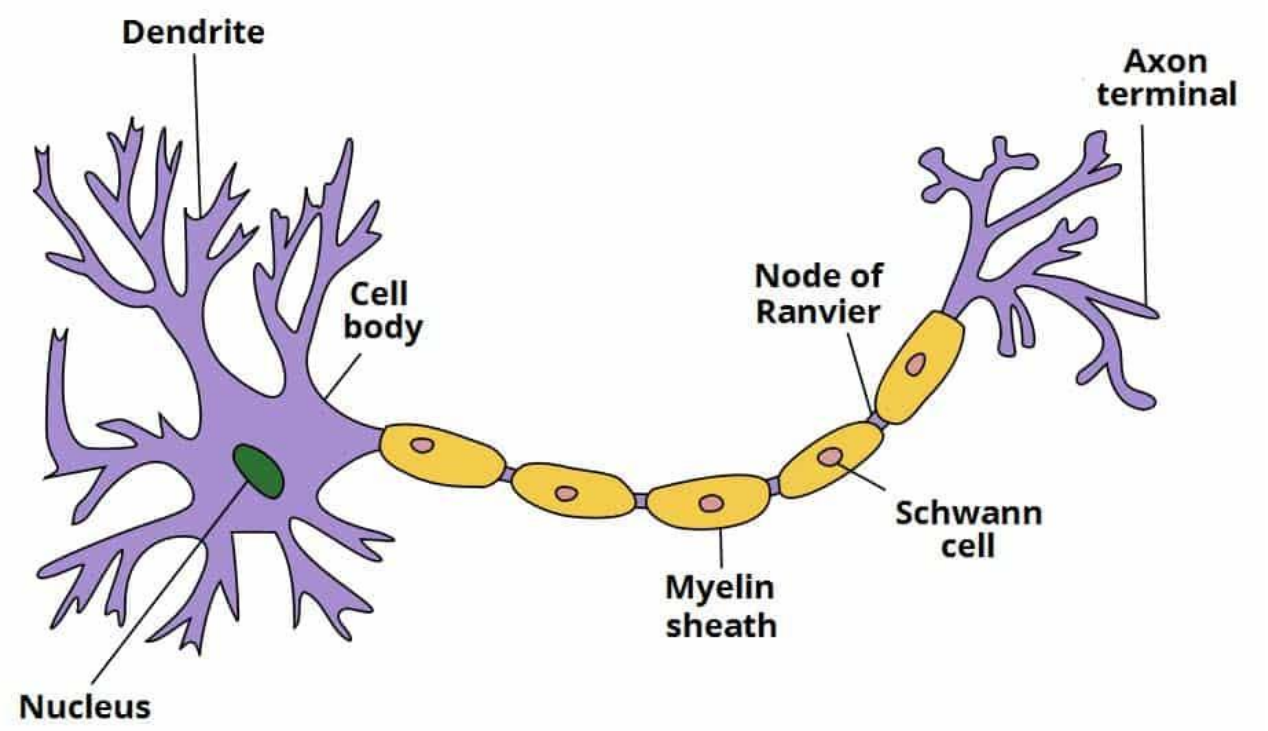
- Located in the basal ganglia, also called the reward circuit, dopamine is a neurotransmitter responsible for habit formation (Levinthal, 2023).
- Drugs lower the natural level of dopamine in the brain, leading to a compulsive want to use.



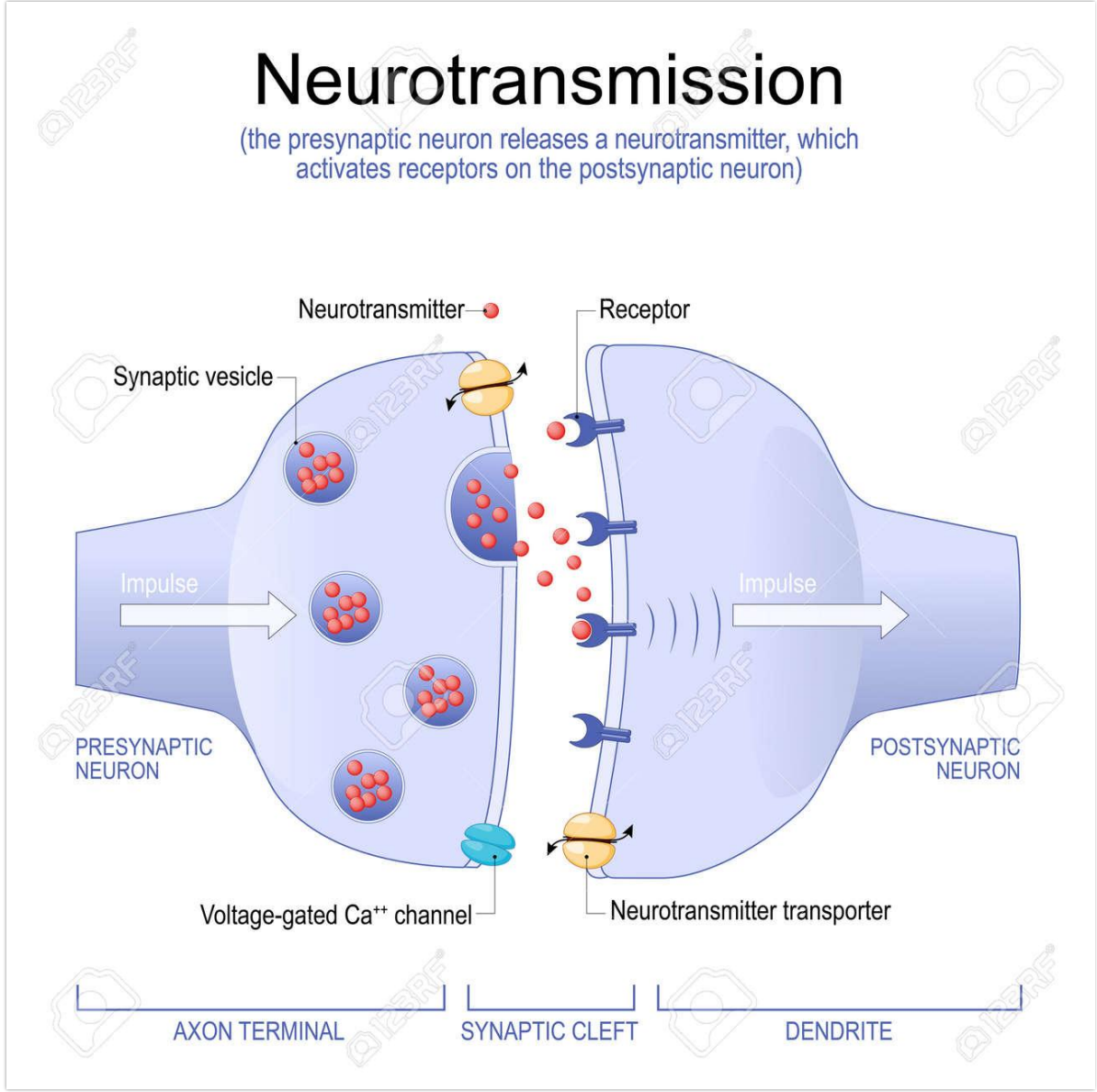
# Affects of Addiction in the Brain Over Time

- Addiction significantly impacts the prefrontal cortex (Levinthal, 2023).
- Addiction leads to the brain to create less dopamine in the midbrain.
- Drug abuse produces strong cravings as it makes the insula more sensitive to drug-related stimuli

# Anatomy of the Neuron



# Process of Neurotransmission



# References


- Levinthal, C. (2023). Drugs, behavior, and modern society (9th ed.). ISBN-13:9780135385340
- Substance Abuse and Mental Health Services Administration. (SAMHSA). (1999). Treatment for Stimulant Use Disorders. (Treatment Improvement Protocol (TIP) Series, No. 33.) Chapter 2—How Stimulants Affect the Brain and Behavior. https://www.ncbi.nlm.nih.gov/books/NBK576548/