

#NOOVERDOSE



GET IN FRONT OF IT, NOT BEHIND IT

The Teenage Brain

The **prefrontal cortex** of the brain does not complete development until the 20s (for girls around 22 and for boys around 25)



The Teenage Brain

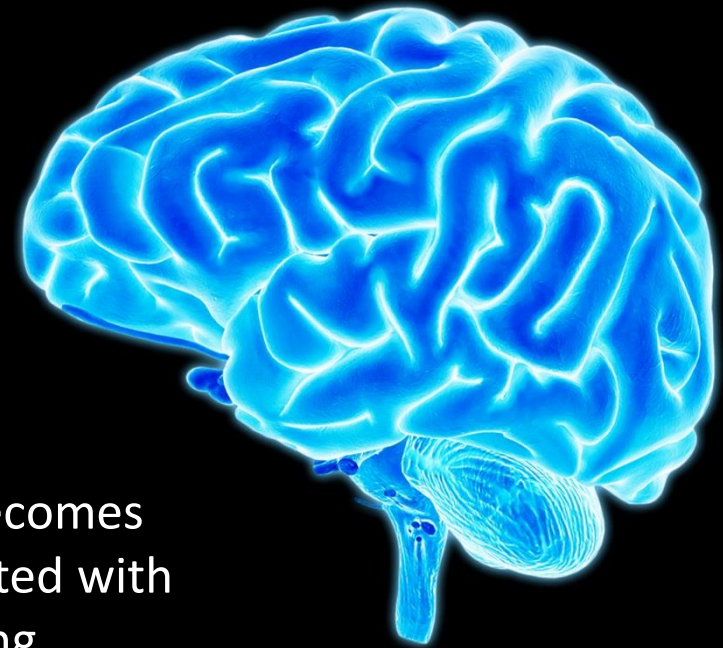
The prefrontal cortex of the brain is the last to develop and is where the brain houses **reasoning, inhibition, decision-making, delayed gratification, and control.**



The Teenage Brain

Drinking and drug use changes reward circuits that underlie lifelong problems with addiction.

When you drink or use drugs, the reward circuitry of the brain becomes active. This area is responsible for the pleasurable feelings associated with substance use, but it also underlies cravings and drug-seeking behaviors. Taking drugs as an adolescent makes long-lasting changes to this reward system, making it much more likely that you will struggle with addiction later in life.



The Teenage Brain

Drinking and drug use harms **memory** and **logical reasoning**.

Scientific research demonstrates that drinking and drug use during the critical years of brain development in adolescence results in significantly poorer thinking abilities. For example, **teenage drinkers have poorer memory, lower attention, and slower information processing abilities**. Marijuana use may also affect cognition, contributing to poorer working memory and cognitive flexibility.



The Teenage Brain

Drug-related changes in the brain may be **permanent**.

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Resources

- Diamond, A. (2002). Normal development of prefrontal cortex from birth to young adulthood: cognitive functions, anatomy, and biochemistry. In Principles of Frontal Lobe Function, Stuss, D.T. & Knight, R.T. (Eds.), 466-503. New York, NY: Oxford University Press
- Squeglia, L.M., Jacobus, J., & Tapert, S.F. (2009). The influence of substance use on adolescent brain development. Clinical EEG and Neuroscience, 40(1): 31-38.