Quick Science—
There's a chemical in your brain called serotonin. It makes you cautious and careful. But start drinking alcohol and serotonin fades away.
You get careless—start fights, drive crazy, act stupid. It's pretty simple.
Serotonin gives you control.
Alcohol takes it away.
So keep a good supply of
Ser-o-tonin!

-http://FACEproject.org

Sources:
1. (CASA) The Center on Addiction and Substance Abuse at Columbia University
2. NIAAA— National Institute on Alcohol Abuse and Alcoholism, Underage Drinking, 2013.
3. Gururajan A, et al. *Aust N Z J Psychiatry*. 2012; 46: 1120-35.
4. Meier MH, et al. *Proc Natl Acad Sci USA*. 2012; 109: E2657-64.
5. American Medical Association, Harmful Consequences of Alcohol Use on the Brains of Children, Adolescents, and College, 2007
6. NIDA– National Institute on Drug Abuse
7. NIDA: NIDA for Teens– National Institute on Drug Abuse

TRUMBULL'S PREVENTION PARTNERSHIP
TPAUD

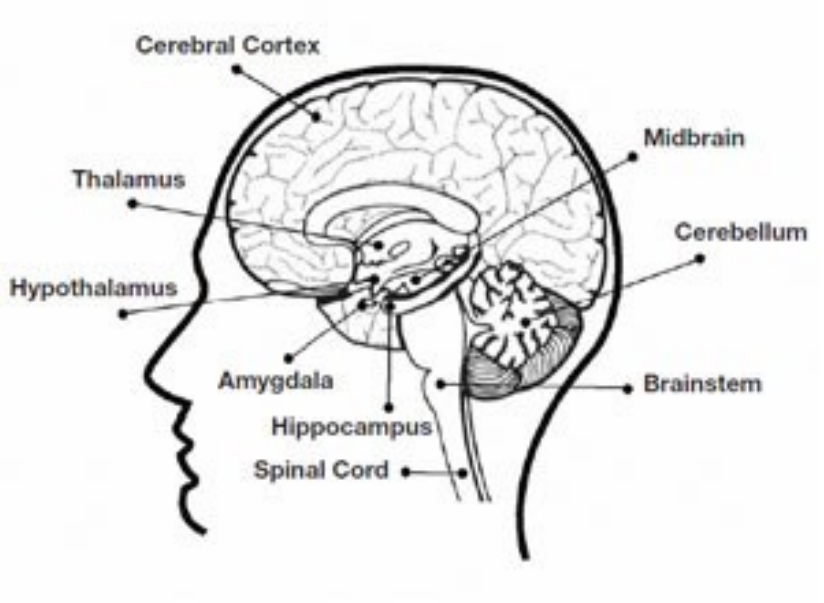
Got Brains?

Did you know?

- Someone who gets through age 21 without smoking, using illegal drugs or abusing alcohol is virtually certain never to do so.[1]
- People who start drinking before the age of 15 are 4 times more likely to develop a lifelong dependency on alcohol.[2]
- Persistent use of marijuana before the age of 18 can lead to lasting mental deficits in attention and memory.[3]
- Use of marijuana during teen years is associated with a significant and permanent decreases in IQ.[4]

Alcohol and the Developing Brain

Alcohol and Your Brain
What to Know



Teen Brains

According to the American Medical Association, damage to the brain from alcohol at this time can be long-term and irreversible. In addition, short-term or moderate drinking impairs learning and memory far more in youth then in adults. Adolescents need to only drink half as much to suffer the same negative effects.[5]

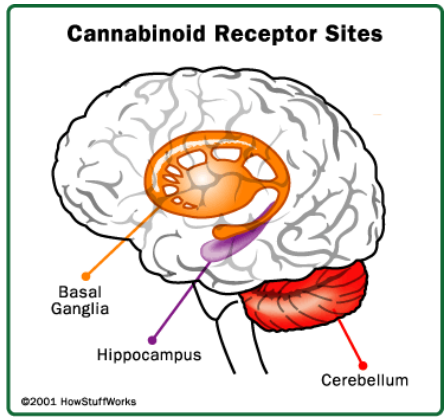
Frontal Lobes (not fully developed until mid 20's)

The frontal lobes are important for planning, forming ideas, making decisions, and using self control. When alcohol affects the frontal lobes, a person may find it harder to control emotions and urges. Drinking alcohol over a long period of time can damage the frontal lobes forever.

For more information on alcohol and the developing brain, go to:
www.toosmarttostart.samhsa.gov/families/facts/brain.aspx

Marijuana and the Brain

Smoking Marijuana Can Make Driving Dangerous



THC, the main chemical in marijuana, affects the cerebellum's function and thereby impairs our abilities to do simple tasks that are involved in driving a car. THC affects the cerebellum, which is the part of the brain that controls balance and coordination. THC also affects the basal ganglia, another part of the brain that's involved in movement control. These effects lead to impaired judgment and coordination, slowed reaction times (e.g., hitting the brake in time), and problems reacting to signals or sounds, each of which is important while driving.[6]

Brain Changes With Drug Use: Prolonged drug use changes the brain in fundamental and long-lasting ways. These long-lasting changes are a major component of the addiction itself. It is as though there is a figurative "switch" in the brain that "flips" at some point during an individual's drug use. The point at which this "flips" occurs varies from individual to individual, but the effect of this change is the transformation of a drug abuser to a drug addict.[7]

Effects on Learning and Memory: The hippocampus is an area of the brain that serves a large role in learning and memory. It also has a high concentration of cannabinoid receptors. This means that smoking marijuana can make you loose short term memories, and for those who use marijuana while their brain is still in development (before mid-20's), it can lead to a drop in IQ and significant problems with both long and short term memory.