Lesson 9

Strengthening Families Program by Dr. Karol Kumpfer

Alcohol Harms a Teen's Developing Brain

New research shows that alcohol affects a teen's developing brain differently than a mature adult brain. It can harm "white matter "formation, good judgment, memory, mental health, and greatly increase the risk of alcoholism. Share these facts with your kids, have them commit to stay alcohol-free until at least age twenty-one, and sign the "Alcohol-Free Pledge.

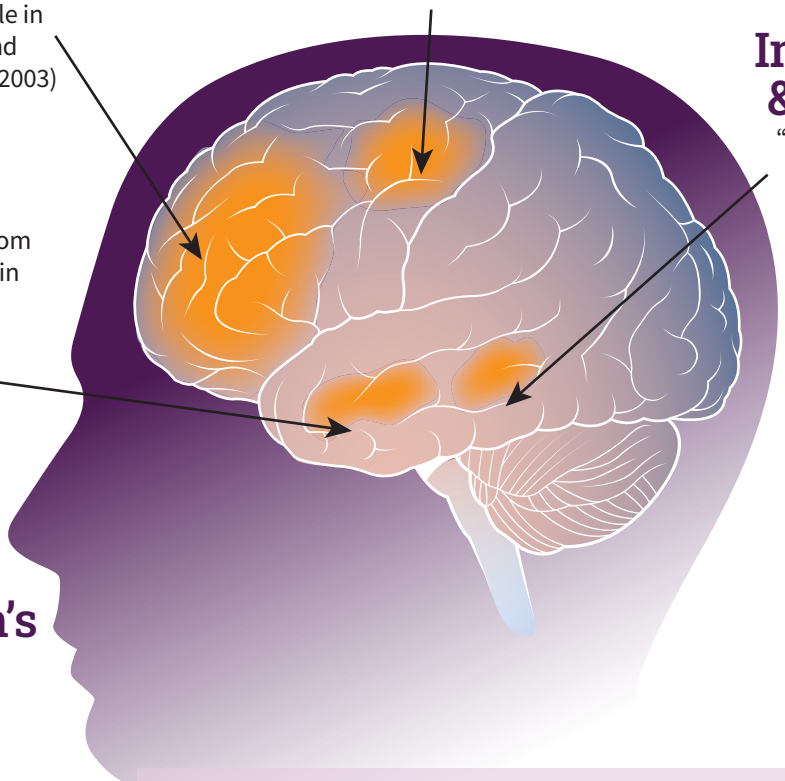
"The brain goes through dynamic change during adolescence, and alcohol can seriously damage long-and short-term growth processes."
–American Medical Association Fact Sheet, 2003; http://www.ama-assn.org/ama/no-index/physician-resources/9416.shtml

Prefrontal Damage

(Good judgment area)
"Adolescent drinking could cause severe changes in this area... which plays an important role in forming adult personality and behavior..."(AMA Fact Sheet 2003)

Altered Pleasure-Motivation System

Alcohol alters the brain so it gives a pleasure response to a harmful chemical instead of a real experience.
http://www.associatedcontent.com/article/5704898/addictions_alter_the_pleasure_center.html?cat=5



Impaired Memory & Learning

"Short term or moderate drinking impairs learning and memory far more in youth than adults."
(AMA fact sheet 2003)

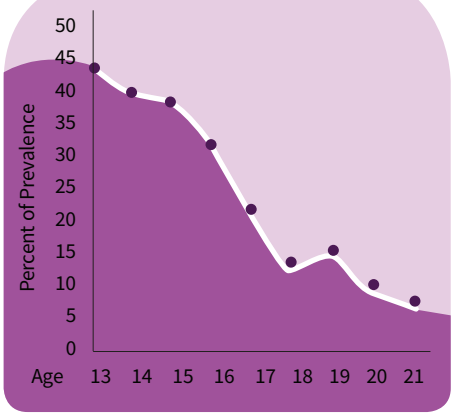
Hippocampus Damage

"The hippocampus suffers from the worst alcohol-related brain damage in teens. Heavy teen drinkers had... 10% smaller hippocampi."
(AMA Fact Sheet 2003)

White Matter Damage

In MRI studies by Dr. Susan Tapert, binge drinking teens showed structural damage to the white matter throughout the brain—which helps transmit brain signals.
http://www.npr.org/templates/story/story.php?storyId=122765890

Alcohol Can "Wire" A Teen's Brain For Addiction



Grant, BF and Dawson, DA. Journal of Substance Abuse 9:103-110. 1997

More Troubles With Teens and Alcohol

- Alcohol poisoning: Brain cut-off switch under-developed, allows teens to drink dangerous amounts; can die if pass-out with alcohol still in stomach
- Increased illegal drug use among teen drinkers
- Increase in youth suicide attempts (In eighth grade girls, 37 percent of heavy drinkers attempted suicide versus 11 percent of non-drinkers)
- When kids drink, their brains' ability to care if they make a mistake is suppressed.
- Increase in teen pregnancies, STDs, Fetal Alcohol Syndrome babies
- "The younger adolescents are when they start to drink, the more likely they are to engage in risky behaviors including promiscuity, doing drugs and earning poor grades..." (NIH, NIAAA publication # 67, Jan. 2006)
- Brain altered in heavy teen drinkers to react positively to alcohol ads. (fMRI's show high brain "cue reactivity" to visual images of alcohol advertising vs. no response in non-drinking teens; meaning the brain is now programmed to respond to alcohol advertisements)
http://www.csamasam.org/pdf/misc/_Brown_-_Neural_Response_to_Alc_in_Adol.pdf

FOR MORE FACTS, GO TO:
www.ojjdp.gov/pubs/237145.pdf

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