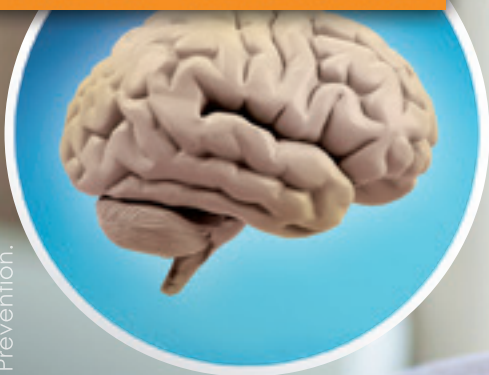


PACKED WITH HELPFUL SKILLS

THE SOURCE PARENTS TRUST

PE

**NEW!! TEEN
BRAIN RESEARCH**



EXCLUSIVE

**PARENTS OVERPOWER
PEER PRESSURE**

TIPS TO STOP UNDERAGE DRINKING

**PARENTS
EMPOWERED.org**



SHOCKING

**ALCOHOL
RUINS TEENS'
DEVELOPING
BRAINS**



TEEN:

**"MY PARENTS
SAVED ME
FROM ADDICTION."**



**THE BITTER
SHOWDOWN**

**ALCOHOL VS.
TEENAGE BRAINS.
HOW WILL PARENTS
REACT?**



ClassroomConnections
ORGANIZATION • COMMUNITY • FAMILY

Deseret News

Sponsored by the Department of Alcoholic Beverage Control and Utah Prevention.



STATE OF UTAH
OFFICE OF THE GOVERNOR
SALT LAKE CITY, UTAH
84114-2220

GARY R. HERBERT
GOVERNOR

SPENCER J. COX
LIEUTENANT GOVERNOR

Dear Parents,

As parents, we all want the best for our children.

We are becoming increasingly aware of the disturbing fact that underage drinking is a serious problem, even here in Utah. Heavy binge drinking begins as early as sixth grade, and new scientific evidence proves underage drinking can cause permanent damage to a teen's developing brain. As a result, the need for parents to stay involved in their children's lives has never been greater.

In an effort to combat this growing problem, the State of Utah has launched ParentsEmpowered.org, a program designed to educate parents about the dangers of underage drinking. Featured on ParentsEmpowered.org are downloadable resources that teach parents important skills in the following areas.

- Bonding with your children through daily, positive communication and interaction
- Setting clear boundaries and limitations, including rules about no underage drinking
- Monitoring your children's activities by asking direct questions and ensuring that their environment is alcohol-free

ParentsEmpowered.org can help you discover that you have more power over the choices your children make than you may now realize.

Studies confirm that children who have a close and loving relationship with their parents are less likely to use alcohol, drugs or tobacco. Children who feel connected to their families value that relationship and do not want to jeopardize it. In fact, studies show that parental disapproval is the number one reason children choose not to drink alcohol.

We encourage you to visit ParentsEmpowered.org today and get started on the road to keeping the children in our State drug- and alcohol-free.

Sincerely,

Gary R. Herbert
Governor

Jeanette Herbert
First Lady



- Most parents talk to their kids about drinking two years too late. Age 8 is not too early.

- What parents may not realize is that children say parental disapproval of underage drinking is the key reason they have chosen not to drink.

Teen brain development and alcohol

RESearch shows that alcohol affects a developing teen brain differently than an adult brain. “The brain goes through dynamic changes during adolescence, and alcohol can seriously damage long- and short-term growth processes” (American Medical Association *Fact Sheet*, 2003).

Alcohol may impair memory, learning, decision-making and impulse control; and it greatly increases the risk of addiction. In addition, alcohol can cause young people to develop social problems, have poor judgment, get into trouble, do poorly in school and experience failure in achieving lifelong goals.

To compound this problem, research shows that parents generally underestimate the extent of teen drinking and its negative consequences. Thirty-one percent of youths who said they had been drunk in the past year were said by their parents to be non-drinkers. Others may view underage drinking as inevitable, but it isn't. To be alcohol-free, a teen needs parents who are trained in **BONDING** (creating a warm, loving relationship), setting **BOUNDARIES** (discussing clear, firm rules about no-underage-alcohol use) and **MONITORING** (knowing where your kids are and making sure they stay in an alcohol- and drug-free social environment at all times).

Alcohol affects a teen brain differently than an adult brain.

- The brain's hippocampus (responsible for learning and memory) can be **10% smaller** in underage drinkers.
- It can actually cause serious damage to the still-developing adolescent brain (10–21 years).

Significant increased risk of addiction

● Research shows more than half of Utah parents don't know that underage drinking increases the risk of alcohol-dependence.



ALCOHOL HIJACKS THE BRAIN'S PLEASURE-REWARD SYSTEM

THE BRAIN REWARDS positive actions with feelings of pleasure so we want to repeat these actions. We remember “feel-good” brain chemicals (or neurotransmitters), such as dopamine, which connect the pleasure to the thing we enjoyed. Alcohol hijacks our brain's pleasure-reward system by tricking the brain into generating pleasure-reward feelings from a harmful chemical—alcohol—instead of a real experience.

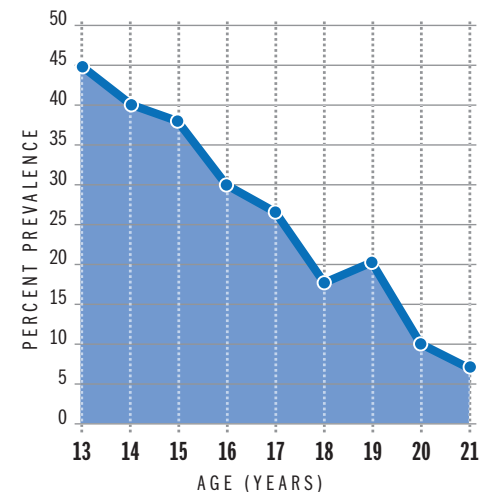
If teens continue drinking, the brain changes and adapts to the presence of alcohol, and soon they need more and more alcohol to create the

same amount of pleasure. If they continue to drink, they will begin to crave it and feel uncomfortable—sometimes even extreme discomfort—without it. They become addicted. Getting their next drink becomes more important than family, grades or even sports.

Because the teen brain produces an abundance of dopamine, it can go rapidly from liking, to wanting, to needing alcohol, which programs the brain for alcoholism. Alcohol can also damage the brain's ability to sense pleasure from normal, healthy things and experiences—leaving a young person feeling “flat” about things he/she previously enjoyed.

Alcohol-dependence

BASED ON THE AGE DRINKING STARTS



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

● If your family has a history of alcoholism, your children need to know that they are at a greater risk for problem drinking.

Preventing
**underage
 drinking**
 is as easy as
1-2-3



1 Bonding

Developing a strong relationship with your child is important. Research shows that family conflict and a weak parent/child bond increases a child's risk of drinking underage.

Bonding can be as simple as going out and having fun together, talking about school, and making time each day to listen to your child's concerns. Studies show that even making the effort to eat dinner as a family five times each week reduces the chance that a child will use alcohol or drugs by as much as 33 percent.

2 Boundaries

Parental disapproval is the number one reason why teens say they don't drink. When parents set clear rules about not using alcohol, kids usually follow them.

It's important, however, that your kids know why you don't want them to drink. Explain how underage alcohol use can change how their adolescent brains develop—impairing memory and learning capabilities while increasing their risk of addiction. Take a moment to sit down with your children and together establish rules about not drinking.

3 Monitoring

At some level, most kids appreciate parental monitoring. It's very real proof their parents love them enough to care about their well-being.

Having friends who drink is the single greatest risk factor for underage alcohol use. As a parent, it's imperative that you know whom your child is with, where they are, and what they're doing.

Make it a habit to ask questions as your child leaves the house. Get to know his or her friends, and ensure that alcohol isn't available to them at your house or their friends' homes. Checking in with your child can be as easy as sending a text message, and if alcohol shows up at a party or event, being ready to pick your child up.

Don't forget to monitor your child's online activities, too. Today, teens spend more time interacting with each other on social media sites like Facebook than they do talking on the telephone.



Start early and stay involved.

Like many parenting skills, monitoring your children's online activities is easiest when you establish clear rules early.

Although the tendency is for parents to become less involved as their children age, even older teens need their parents' help to stay alcohol-free.

New brain research

and the effects of alcohol

The **brain** is the major organ of the central nervous system and the control center for all the body's voluntary and involuntary activities. It is responsible for everything we think, feel, see, say and do. The **brainstem** controls vital body functions, such as breathing and digestion. The **cerebellum** maintains posture, coordination of body movement and provides long-term storage for memories of how to do things that involve our body — like riding a bike. The **cerebrum**, which consists of the right and left cerebral hemispheres, is the site of most conscious and intelligent activities.

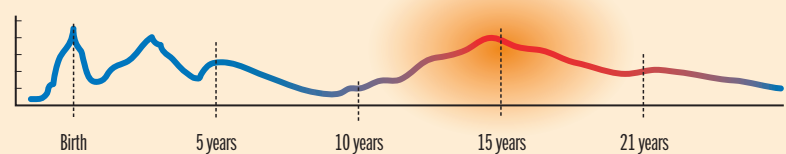
Brain plasticity

During peaks of plasticity, the adolescent brain is “wiring” two important brain areas: the **prefrontal cortex** (responsible for planning, decision-making, good judgment and impulse control) and the **hippocampus** (involved in memory and learning). During this period of development, the brain must make the key neural connections to wire itself to become a responsible, thoughtful adult. Alcohol, which acts as a depressant, slows down brain activity and hinders development.

Neural plasticity refers to the ability of circuitry in the brain to physically change and grow new dendrites as a result of new learning and experiences.

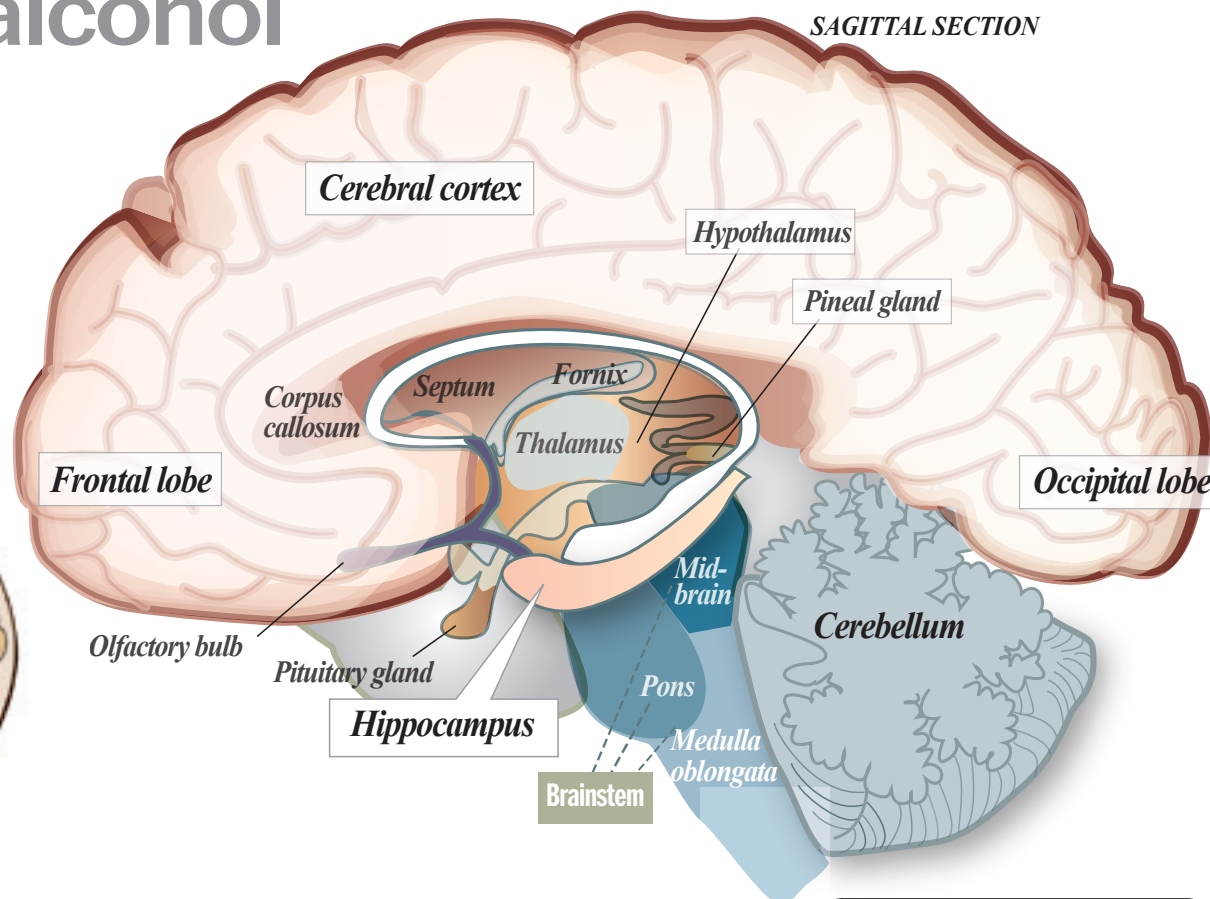
Peaks of brain plasticity

Drinking alcohol during times of peak plasticity can damage brain wiring.



Alcohol affects a teen brain differently than a mature adult brain. The brain goes through rapid development and “wiring” changes during the ages of 12 through the early 20s. Teen alcohol use can damage this brain wiring, which is essential to become a mature, thoughtful, responsible adult.

The brain's **hippocampus** (responsible for learning and memory) can be **10% smaller** in underage drinkers.



Alcohol can damage three key brain areas:

1 “The **prefrontal** area (responsible for planning, good judgment, decision-making and impulse control) undergoes the most change during adolescence. Researchers found that adolescent drinking could cause severe changes in this area ... which plays an important role in forming adult personality and behavior. Damage from alcohol at this time can be long-term and irreversible.”

2 “The **hippocampus** (involved in learning and memory) suffers the worst alcohol-related brain damage in teens. Those who had been drinking more and for longer had significantly smaller hippocampi (10 percent). In addition, short-term or moderate drinking impairs learning and memory far more in youths than adults. Frequent drinkers may never be able to catch up in adulthood, since alcohol inhibits systems crucial for storing new information.”

American Medical Association Fact Sheet, 2003

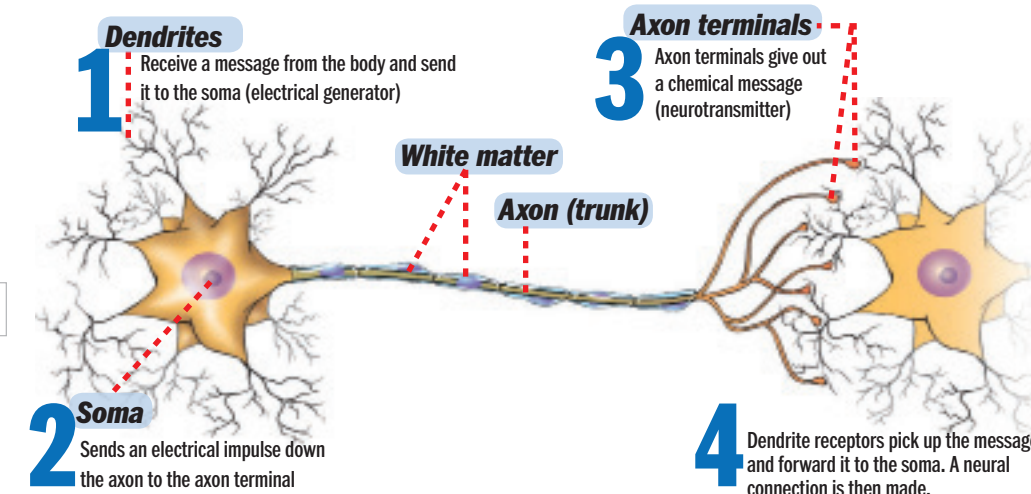
White matter damage

3 The brain is made up of gray matter (neurons) and white matter. **Because alcohol suppresses brain activity, it prevents the teen brain from properly developing its essential “white matter”** — the fatty-waxy coating that insulates the part of neurons that send electrical signals.

Impaired white matter can negatively affect thinking and memory skills.

— Dr. Susan Tapert
(ref: www.npr.org/templates/story/story.php?storyId=122765890)

How neurons communicate



Our brain is more complex than the world's most powerful computer. It is responsible for everything we think, see, hear, feel, smell or do. It even creates and directs all of our emotions. The brain is divided into different areas that direct different parts of our body. Like a complex computer, all the different parts of the brain work at the same time — like parallel processing.

of one neuron to the “branches” of another. If a thought or action is repeated often, the “roots” of one neuron send more chemical, and the receiving neuron makes more “branches” to receive it. The neural connection is strengthened until it begins to look like a bushy tree instead of a spindly tree. It becomes a dominant neural pathway.

It does this through more than 100 billion brain cells called neurons. A neuron looks sort of like a tree, with “branches” called dendrites, a “trunk” called an axon, and “roots” called axon terminals. The tip of each “root” contains tiny sacks of powerful chemicals called neurotransmitters. At the top of the “trunk” is a tiny electrical generator called a soma.

Forty percent of our neurons are “wired” at birth. They perform automatic functions such as breathing, heart and lung functions, digestion, etc. The other 60 percent are waiting to be stimulated by our learning and experiences to make connections or “wiring.” When we learn new things, new “NEURAL CONNECTIONS” are made in our brain. This is referred to as “wiring” our brain. It is like loading new software into a computer so it can do more things. The more neural connections we make, the smarter and more capable we become. Alcohol suppresses brain development.

The brain neurons communicate by sending electrical and chemical messages from the “roots”

“... it has become clear that, during adolescence ... the brain is highly plastic and shaped by experience. ... Alcohol appears to interfere with the changes in circuitry that occur during learning.”

—Dr. Aaron White, Duke University

START TALKING BEFORE THEY START DRINKING

Sharing values and family history regarding alcohol will create an environment of trust and understanding.

If parents drink, they should:

Be clear that they do not want their children to drink alcohol until they are 21 years old.

Tell their children that some people should not drink alcohol beverages at all. These include:

- Children and adolescents
- Individuals of any age who cannot restrict their drinking to moderate levels
- Women who are pregnant
- People who plan to drive or take part in activities that require attention or skill
- People using prescription and over-the-counter medications

If parents don't drink, they should:

Explain their reasons for not drinking, whether they are religious, health-related or due to family history.

- Encourage children to talk about concerns and questions about drinking.
- Be clear that they do not want their children to drink.
- Explain that when their children are 21, if they should decide to drink, they should do so in moderation.

Parents

are the #1 reason kids don't drink



E DUCATION ALONE is not enough to deter teens from drinking as they enter difficult social transitions to adulthood, because there are many pressures and opportunities to drink. Parents who are actively involved can have a powerful influence on their child's decision to remain alcohol-free. Teen perceptions of parental disapproval are great deterrents. What parents may not realize is that children say parental disapproval of underage drinking is the key reason they have chosen not to drink.

Research indicates that children are less likely to drink when their parents are involved in their lives and when they and their parents report feeling close to each other. Family conflict and lack of bonding are associated with an increased risk of drinking. Mixed messages and unclear rules and expectations also leave children more vulnerable to underage drinking.

How parents can help their children remain ALCOHOL-FREE

- 1 Bond with your kids.** Stay close to your kids and stay involved in their lives. Simple things like spending time together, playing one-on-one with them and eating dinner together as a family can make a huge difference.
- 2 Explain the risks.** Learn and explain the risks of underage drinking. Emphasize that drinking alcohol is not a "rite of passage," but a dangerous drug for a teen brain.
- 3 Set clear rules.** Set clear rules about no alcohol use. Be specific: "Absolutely no underage drinking in our family."
- 4 Know your children's friends.** Get to know your children's friends and their parents. Help them choose friends who support your family rules.
- 5 Monitor your children's activities.** Always know where your children are, whom they are with and what they are doing. For example: "If alcohol is at a party, call me and I'll come and get you."
- 6 Make alcohol unavailable.** Ensure that alcohol is not available to your child at home or from others when your child is away. Ensure that your children's social environment is alcohol-free.
- 7 Be involved.** Develop close bonding experiences and have daily positive interactions with your child. Express love often.
- 8 Stay in contact.** Studies show children are more likely to drink between the hours of 3–6 p.m., when unsupervised by parents. Give your kids a call.
- 9 Eat dinner together.** Studies show that kids who eat dinner with their family five to seven times per week are 33 percent less likely to drink alcohol underage.
- 10 Don't give alcohol to kids.** Forty percent of kids who drink get alcohol from their parents with their parents' permission. It's against the law to supply a minor with alcohol.

Parents beat peer pressure.

Set clear no underage drinking rules.



Children often think that other people their age are drinking regularly, but most are not.

Peers'

influence on alcohol use

IN ADDITION, students with high-refusal-assertiveness skills are less likely to drink underage. Decide on good ways to say “no” and practice them often in role-play situations. Some ideas are:



- “Sorry. Drinking is not my thing.”
- “No thanks. I need all the brain cells I’ve got.”
- “Actually, I’ve only got one brain. Why would I want to trash it?”

- If your child’s friends drink, encourage them to stop. Salt Lake County provides a 24-hour parent help-line for youths who have substance abuse problems.

In Salt Lake County, call 385-468-4523.

The single most predictive risk for underage drinking is if your child’s peers drink. Encourage your kids to choose friends who support your family values and no-alcohol rules.

“If there is alcohol at a party, **leave.**”

Keep your kids’ social environment **alcohol-free.**”

Alcohol and judgment

The teenage brain is still developing. Alcohol can impair the parts of the brain that control the following:

Motor coordination

This includes the ability to talk, drive and process information.

Impulse control

Drinking lowers inhibitions and increases the chances that a person will do something he or she will regret when he or she is sober.

Memory

Impaired recollection and even blackouts can occur when too much alcohol has been consumed.

Judgment and decision-making capacity

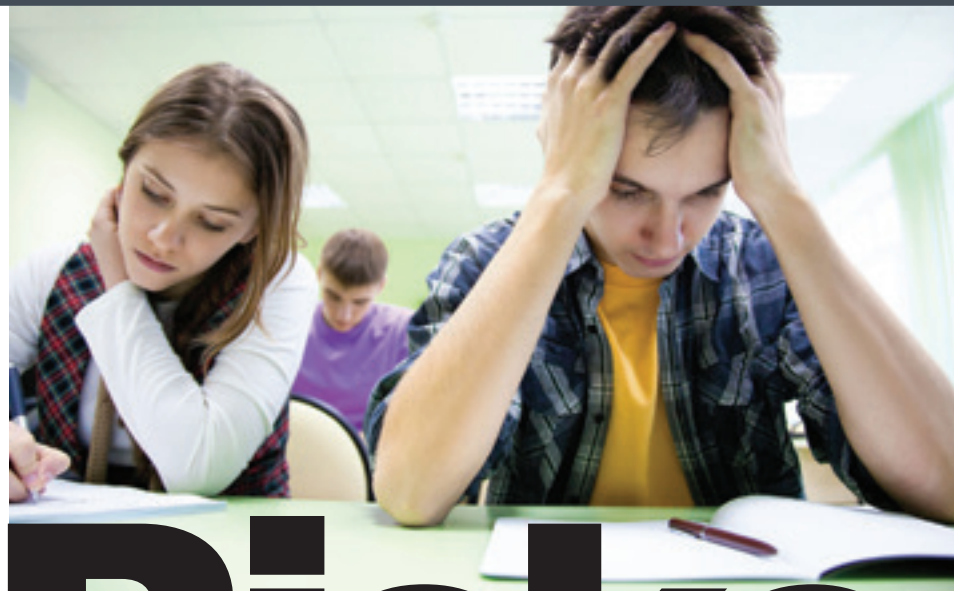
Drinking may lead young people to engage in risky behaviors, including getting into a car with someone who has been drinking. These behaviors can result in illness, injury and even death.

The law

Possessing, purchasing or drinking alcohol before age 21 is illegal.

The minimum legal drinking age of 21 has saved thousands of lives.

It is illegal for anyone to furnish or supply alcohol to a minor—punishable by up to a \$2,500 fine and 12 months in jail.



Risks

associated with underage drinking

ALCOHOL USE among children is strongly correlated with violence, poor academic performance and other harmful behaviors. Education alone will not keep your kids from using alcohol because there are constant pressures and opportunities to drink.

Further, the areas of the brain that encourage impulsivity and risk-taking develop early in a teen, while the areas that improve self-control don't develop until the very late teens or early twenties. You must stay actively involved as a parent in bonding with your teen, setting boundaries and monitoring to help your teen remain alcohol-free.

School failure

Teens who use alcohol have higher rates of academic problems and poor performance than non-drinkers. Among eighth-graders, higher truancy rates are associated with greater rates of alcohol use.

Violence

Children who start drinking before age 15 are 12 times more likely

to be injured while under the influence of alcohol and 10 times more likely to be in a fight after drinking, compared with those who wait to drink until they are 21.

Promiscuity

Alcohol use by teens is a strong predictor of unprotected sexual activity and unwanted sexual advances.

Illicit drug use

More than 67 percent of young people who start drinking before the age of 15 will try an illicit drug. Children who drink are 7.5 times more likely to use an illicit drug, 22 times more likely to use marijuana and 50 times more likely to use cocaine than children who never drink.

Monitoring

Be aware that studies show kids are more at risk for drinking alcohol between the hours of 3 p.m. and 6 p.m., while many parents are still at work.

Find ways to check on your kids when you are not around, either with phone calls, text messaging or through a neighbor dropping by.

Visit ParentsEmpowered.org to send a text message to your kids.



Now that you've read this booklet, try answering these questions.

1 BONUS MULTIPLE CHOICE

Which of the following are ways parents can show they care about their children?

- a. Explaining the risks of underage drinking
- b. Setting clear rules
- c. Knowing their children's friends
- d. Monitoring their children's activities
- e. All of the above

2 BONUS MULTIPLE CHOICE

Alcohol causes the most long-term damage to what two areas of the brain if a person drinks before 21?

- a. Prefrontal area and cerebellum
- b. Prefrontal area and hippocampus
- c. Cerebellum and cerebrum
- d. Brainstem and hippocampus
- e. All of the above

CREDITS

This educational section from the Deseret News' Newspapers in Education program was designed by Lou Ann Reineke with assistance from Steve Wright and Antonio Niccoli, R&R Partners. The project was under the direction of Cindy Richards, Newspapers in Education director, with special thanks to Doug Murakami, Utah Department of Alcoholic Beverage Control; Craig PoVey, Utah Division of Substance Abuse & Mental Health; Verne Larsen, Utah State Office of Education/Safe & Healthy Students Programs; Art and Jaynie Brown, Utah Chapter of MADD; and Teri Pectol, Utah Highway Safety Office for their sponsorship of this publication. Special credit to Jill Rhead, LDS Hospital, for the use of her medical illustrations on pages 6 and 7. Stock photos by Shutterstock.com and photodisc.

LEARN MORE

PARENTS EMPOWERED.org

Alcohol and the developing brain

True or False? Mark with a T or F next to the number.

- _____ 1. Alcohol affects a teen's brain differently than an adult's.
- _____ 2. The brain is fully developed by age 12.
- _____ 3. Alcohol use can impair impulse control, memory, judgment and decision-making skills.
- _____ 4. Alcohol poisoning can cause difficulty breathing, unconsciousness and death.
- _____ 5. Alcohol kills as many young people as all other drugs combined.
- _____ 6. Having friends that drink alcohol increases the risk that you will drink too.
- _____ 7. If a person is unconscious or "passes out," you should immediately call 911.
- _____ 8. Damage to the brain by underage drinking can be long term and irreversible.
- _____ 9. People that start drinking by age 13 have a 7 percent chance of becoming alcohol-dependent.
- _____ 10. The brain's hippocampus is responsible for learning and memory.
- _____ 11. Studies show that the hippocampus can be 10 percent smaller in underage drinkers.
- _____ 12. Alcohol slows down brain activity and hinders development.
- _____ 13. The brain goes through rapid development and "wiring" changes during the ages of 12 through the early 20s.
- _____ 14. Alcohol can damage the brain's ability to sense pleasure from normal, healthy things and experiences.
- _____ 15. Parents should allow their teens to have privacy in their texting and Internet activity.

BONUS MULTIPLE CHOICE

3 The prefrontal cortex is responsible for:

- a. Planning
- b. Decision-making
- c. Good judgment
- d. Impulse control
- e. All of the above



True or False: 1. True, page 3; 2. False, page 6; 3. True, page 6; 4. True, page 10; 5. True, page 10; 6. True, page 10; 7. True, page 10; 8. True, page 10; 9. False, page 4; 10. True, page 6; 11. True, page 6; 12. True, page 6; 13. True, page 6; 14. True, page 4; 15. False, page 5. BONUS multiple choice: 1. E, All of the above, page 8; 2. B, Prefrontal area and hippocampus, page 6; 3. E, All of the above, page 6



Parents top everything.

Friends, school, the media—none of them have more of an influence on a teenager than parents. So as a parent, set clear rules about no underage drinking. Your kids will listen.

PARENTS
EMPOWERED.org