Think underage drinking doesn’t affect a teen’s brain? Think again.

IT’S A FACT. New research shows alcohol affects a teenager’s developing brain differently than an adult’s. Memory, learning and impulse control can be impaired seriously. The risk of addiction goes up dramatically. So talk to your kids about the dangers of alcohol and set clear rules about no alcohol use. Visit www.drugfree.org/parent for more information and the proven skills to prevent underage drinking.

Know where your kids are and what they are doing.
Dear Parents:

You are the most powerful influence in your child's life. Research has shown that parental disapproval is the number one reason teens choose to abstain from alcohol use.

While many of our youth are making positive choices, the troubling fact remains that underage drinking is a serious problem across Lake County. Many young people are first trying alcohol before they are teenagers, and alcohol is a leading factor in the three most common causes of death for teens: automobile crashes, homicides, and suicides. In addition, research has demonstrated that underage drinking can cause permanent damage to a teen’s developing brain and significantly increases the risk of addiction to alcohol. The fact is that underage drinking puts youth (and their parents) at risk!

The need for parents to stay involved in their children’s lives has never been greater. Your child needs you to discuss the issues of underage drinking and to set family rules that help him/her make good choices. The most effective parenting strategies are quite simple, including:

- Establish clear family rules about no underage drinking
- Get to know your child’s friends and their families
- Know where your child is spending his/her time
- Make sure your teen’s social environments are alcohol-free
- Get involved in your child’s life — in positive ways, every day

Together, we can make a difference in the lives of our youth in Lake County. I encourage you to take the time to learn more about the harmful effects of underage drinking and how you can prevent it. Young people deserve to have the brightest possible future we can give them, so please start talking before they start drinking. I wish you and your family the very best for the future.

Sincerely,

Michael J. Waller
Lake County State’s Attorney

Alcohol use may impair memory, learning, decision-making and impulse control; and it greatly increases the risk of addiction. In addition, alcohol use 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 the active involvement and help of a parent. All children need help from their parents to guide them through their teenage years. Staying bonded to parents is critical to the process of teenagers emerging from adolescence healthy, safe and alcohol-free.
The brain rewards positive actions with feelings of pleasure so we want to repeat them. We remember pleasure from dopamine, a "feel-good" brain chemical, or neurotransmitter, which connects the pleasure to the thing we enjoyed. Alcohol affects our brain's pleasure-reward system by pretending to be a neurotransmitter. It tricks the brain into generating pleasure-reward feelings from a harmful chemical instead of a real experience.

If a teen continues drinking, the brain changes and adapts to the presence of alcohol and soon the teen needs more and more alcohol to create the same amount of pleasure. People who start drinking during the early teen years are not just more likely to become dependent on alcohol, but tend to develop dependence faster and have more serious problems than those who choose to wait [until 21] (Hingson et al., 2006).

A person who starts drinking at the legal age of 21 has only a 7 percent chance of becoming addicted.

Children who begin drinking at age 13 have a 45 percent chance of becoming alcohol dependent.

Research shows more than half of parents don't know that underage drinking increases risks of alcoholism.

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

Because the teen brain produces an abundance of dopamine, it can go rapidly from liking, to wanting, to needing alcohol, programming it 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 age drinking starts

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Parental influence on alcohol use

Education 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 increased risk of drinking. Mixed messages, and unclear rules and expectations also leave children more vulnerable to underage drinking.

In fact, a national survey found 31 percent of kids who said they had been drunk in the past year had parents who believed their children to be non-drinkers.

How parents can help their children to remain alcohol-free

1. 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 developing brain.

2. Talk early and often.
   In Lake County, surveys indicate some youths binge drink in the sixth grade, and a few may start even earlier.

3. Set clear rules.
   Set clear rules about no alcohol use. Be specific: “Absolutely no underage drinking in our family.”

   Get to know your children’s friends and their parents. Help them choose friends who support your family rules.

5. Monitor 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.

7. Be involved.
   Develop close bonding experiences and have daily positive interactions with your child. Encourage your child to talk to you about his/her concerns and questions.

8. Stay in contact.
   Studies show children are more likely to drink between the hours of 3:00 – 6:00 PM, when unsupervised by parents. Give your kids a call.

START TALKING
BEFORE THEY START DRINKING
New brain research and the effects of alcohol

Alcohol affects a teen brain differently than it affects a mature adult brain. The brain goes through rapid development and “wiring” changes during the ages of 12 through 21. 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.

About the brain:
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’s main functions are the maintenance of posture and the coordination of body movements. The cerebrum, which consists of the right and left cerebral hemispheres, is the site of most conscious and intelligent activities.

Alcohol can damage two key brain areas:

- Prefrontal area (responsible for thinking, 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.

- 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
“... 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, NIAAA

“Teens, through their choices and actions, have the power to direct the development of their own brains.”

Dr. Jan Greene, Chief of Brain Imaging, National Institutes of Health

“The use of alcohol, by itself or with other drugs, can retard the normal growth and development of young people.”

American Academy of Pediatrics; Alcohol: Your Child and Drugs

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.

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 can work at the same time - like parallel processing.

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.

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

40 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 or do new activities, 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 acts like a computer virus in the brain by:

- Slowing or shutting down brain activity.
- Deleting or distorting neural messages.
- Damaging neuro-connections.
- Hindering formation of mature brain wiring.
- Rewiring a brain’s pleasure-reward system, which can lead to alcohol dependence/addiction.
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 that they will regret when they are 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 that can result in illness, injury and even death.

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, setting boundaries and monitoring behavior to help your child remain alcohol-free.

**Motor Vehicle Crashes**

In 2007, 33% of Illinois' teenage (16 - 20 years old) crash deaths involved alcohol.

**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.

**School**

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.

**Promiscuity**

Alcohol use by young people 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 any illicit drug, more than 22 times more likely to use marijuana and 50 times more likely to use cocaine than children who never drink.

**ALCOHOL POISONING**

Most kids have not yet developed the “cut-off” switch that makes them go to sleep or pass out from too much drinking. They can consume dangerous amounts of alcohol before they realize it's too late. This can result in alcohol poisoning, which can cause difficulty breathing, unconsciousness and death. Binge drinking can and does kill – killing as many young people as all other drugs combined.

If a young person ever passes out from drinking, call 911 immediately.

**Stay in contact**

Be aware that studies show kids are more at risk for alcohol use 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.
Students with high-refusal-assertiveness skills are less likely to drink underage. Decide good ways to say “no” and practice them often in role-play situations. Some ideas are:

- “No thanks. Drinking is not my thing.”
- “No thanks. I don’t want to.”
- “No, thanks, soda for me tonight. Gotta study this weekend.”
- “No thanks. I can’t -- if my parents found out, they’d be really upset.”

Help your child to choose friends wisely

Get to know your child’s friends and their parents. Discuss your no-alcohol rule with the parents and enlist their support. Ensure that teens and their friends have planned activities with appropriate adult supervision.

If your child’s friends drink, encourage them to stop. Talk to their parents or a trusted professional.

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.

The law

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

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.

The penalty increases to up to 3 years in prison and $25,000 in fines if the drinking leads to serious injuries or death.

Peers

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

Advertise your child:

If there is alcohol at a party, LEAVE.
Keep your social environment alcohol-free.

* Exceptions: Use in religious ceremonies or in one’s own home with direct supervision of parent or guardian.
Encouraging news

Central to this media campaign to eliminate underage drinking is the encouraging news that studies show parent disapproval is the No. 1 reason children choose not to drink alcohol. Empowered and involved parents can trump peer pressure.

The most effective parenting techniques are among the most simple, including:

- Set clear rules about no underage drinking
- Know where your children are and whom they are with
- Know your children’s friends
- Ensure your children’s social environments are alcohol-free
- Have daily, positive communication and interaction with your children
- Eat meals together as a family

Research shows teens who regularly eat as a family (5-7 times per week) are 33 percent less likely to use alcohol.

Most parents don’t realize they are the No. 1 influence in their children’s lives.

When parents were asked to draw the greatest influences on their teens, they placed themselves last.

When teens were asked to draw the major influences in their lives, they placed their parents first, before peers and activities.
DON'T BE A PATSY.

You may have heard about Patsy and her anti-drug campaign. Her homemade videos posted on YouTube and other sites seem to be gaining quite a following. Patsy obviously has her heart in the right place and we applaud her efforts to keep kids safe from this very real threat to their lives. But, like many well-intentioned parents in America today, she needs some professional advice. Which is where we can help.

Visit our website at drugfree.org and you'll find practical and informed tips on how to educate and protect your kids. We cover everything from how to talk to them in their language, to showing you what works best for various personality types. And to Patsy herself, we would like to say one thing: maybe it's time to put down the video camera. Don't be a Patsy. Learn a better way at drugfree.org.

Our sponsors

We are very grateful to the following sponsors for their support:

Lake County Underage Drinking Prevention Task Force

Mundelein STAND-UP Task Force

Standing Up Against Underage Drinking Through Prevention *

Also thanks to:

Avon Township Youth Advisory Board
Coalition for Healthy Communities
College of Lake County - Judicial Services

Community Drug Prevention Coalition
Prevention First
Community Partnership for Healthy Youth

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Deerfield Police Department
Lake Zurich Police Department

Stevenson Community PROUD - People Rallying to Oppose Underage Drinking
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Community Partnership for Healthy Youth
Libertyville, Vernon Hills
www.cphy.org

Lake County Underage Drinking
Prevention Task Force
www.lakecounty afterschoolcoalition.org
(click on Underage Drinking)

Speak Up! Prevention Coalition
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United Partnership for a
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Wauconda, Island Lake
www.unitedpartnership.org

Make a difference in
your community!

☑ Talk with your kids
☑ Speak up against underage drinking
☑ Join your community’s coalition

Join or Start a Coalition in Your Area

You have more power over
the choices your children make
than you may realize.