

Harmful Consequences of Alcohol Use on the Brains of Children, Adolescents, and College Students

An American Medical Association (AMA) report on the effects of alcohol on the brain dispels the myth that youth are more resilient than adults to the adverse effects of drinking. *Harmful Consequences of Alcohol Use on the Brains of Children, Adolescents, and College Students* is a comprehensive compilation of two decades of scientific research on how alcohol alters the developing brain and causes possibly irreversible damage.

On average, children now try alcohol for the first time at the age of 12, and nearly 20 percent of 12 to 20-year-olds report being binge drinkers (having 4-5 drinks in a row). Citing the alcohol industry's aggressive marketing to youth as one of this trend's key drivers, the AMA today called on cable stations and television networks to publicly pledge to stop airing alcohol commercials to youth.

"After NBC announced their plans last December to run hard-liquor ads, the AMA successfully lobbied the network to reverse this ill-advised decision," says Dr. J. Edward Hill, chairman of the AMA. "One year later, the alcohol industry is just as aggressive in pursuing underage minds through television, and television is all too willing to comply. This is out of step with public health and public opinion."

A recent nationwide poll conducted for the Robert Wood Johnson Foundation found that nearly 70 percent of Americans favor a ban on TV liquor ads and 59 percent support banning beer commercials on TV. The AMA pledge calls on networks and cable TV not to air alcohol ads on programs that air before 10 p.m. or that have 15 percent or more underage viewers. The pledge also calls on networks and cable TV not to broadcast alcohol commercials depicting mascots, cartoons or other characters targeted to younger viewers.

"It's time TV executives and the alcohol industry stop profiting at the hands of those most harmed by drinking," says Hill. "This report reminds us of how important it is to protect our children during these crucial early years of development instead of filling their growing brains with the misleading notions that drinking is normal and without consequence."

The AMA report on the effects of alcohol on the brains of adolescents takes note of a study comparing magnetic resonance imaging of the brains of 14- to 21-year-olds who abused alcohol with those of non-drinkers. That study found that drinkers had about 10 percent smaller hippocampi—the area of the brain that handles memory and learning. Researchers call such a reduction significant and possibly irreversible.

"Our brains go through important transformations during adolescence," says Sandra Brown, Ph.D., chief of psychology services at the Veterans Affairs Medical Center in San Diego and whose brain research is included in the report. "This study shows that alcohol use during the adolescent years is associated with damage to memory and learning capabilities as well as to the decision-making and reasoning areas in the brain."

According to Brown, alcohol takes a greater toll on brain development of those under twenty-one than on any other age group. Findings indicate that adults would have to consume twice as many drinks to suffer the same damage as adolescents and that even occasional heavy drinking injures young brains.

The AMA report also shows adolescent drinkers scored worse than non-users on vocabulary, visual-spatial and memory tests and were more likely to perform poorly in school, fall behind and experience social problems, depression, suicidal thoughts and violence.

To reduce underage drinking and support prevention, education, treatment and alcohol control policies, the AMA also advocates increases in state and federal excise taxes on alcohol. According to the AMA, revenue from the increases could help states cover budget shortfalls to pay for alcohol programs. Previous alcohol tax increases have been shown to be very effective in reducing underage alcohol abuse.

The American Medical Association is the nation's largest physicians' organization and is a leader in promoting professionalism in medicine and setting standards for medical education, practice and ethics. Through its Office of Alcohol and Other Drug Abuse, the AMA has taken a leadership role to reduce the harms caused by alcohol and other drug abuse, particularly underage drinking.

The AMA Office of Alcohol and Other Drug Abuse directs two national programs, supported by the Robert Wood Johnson Foundation: [Reducing Underage Drinking Through Coalitions](#) and [A Matter of Degree: The National Effort to Reduce High-Risk Drinking Among College Students](#).