

ADDICTION IS A DISEASE OF THE BRAIN

Addiction is a complex brain disease. It is a chronic disease characterized by craving, seeking, and use that can persist even in the face of extremely negative consequences. Alcohol and other drug seeking behavior may become compulsive, in large part, as a result of the effects of prolonged use on brain functioning and on behavior.

Addiction is considered a brain disease because alcohol and other drugs change the brain – they change its structure and how it works. These brain changes can be long lasting, and can lead to the harmful behaviors seen in people who abuse alcohol and other drugs.

“Throughout much of the last century, scientists studying drug abuse labored in the shadows of powerful myths and misconceptions about the nature of addiction. When science began to study addictive behavior in the 1930s, people addicted to drugs were thought to be morally flawed and lacking in willpower. Those views shaped society’s responses to drug abuse, treating it as a moral failing rather than a health problem, which led to an emphasis on punitive rather than preventative and therapeutic actions. Today, thanks to science, our views and our responses to drug abuse have changed dramatically. Groundbreaking discoveries about the brain have revolutionized our understanding of drug addiction, enabling us to respond effectively to the problem. Despite these advances many people today do not understand why individuals become addicted to drugs or how drugs change the brain to foster compulsive drug abuse...Drug addiction is a brain disease that can be treated.”

~ Nora D. Volkow, M.D., Director, National Institute on Drug Abuse

Is continued drug abuse a voluntary behavior?

According to the National Institute on Drug Abuse, the initial decision to take drugs is mostly voluntary. However, when alcohol and/or drug abuse takes over, a person’s ability to exert self control can become seriously impaired. Brain imaging studies from addicted individuals show physical changes in areas of the brain that are critical to judgment, decision-making, learning and memory, and behavioral control. Scientists believe that these changes alter the way the brain works, and may help explain the compulsive and destructive behaviors of addiction. Addiction erodes a person’s self-control and ability to make sound decisions, while sending intense impulses to take drugs.

People of all ages suffer the harmful consequences of alcohol and other drug abuse and addiction:

- **Babies** exposed to alcohol and illegal drugs in the womb may be born premature and underweight. This exposure can slow the child’s intellectual development and affect behavior later in life.
- **Adolescents** who abuse alcohol and/or drugs often act out, do poorly academically, and drop out of school. They are at risk of unplanned pregnancies, violence and infectious diseases.
- **Adults** who abuse alcohol and/or drugs often have problems thinking clearly, remembering and paying attention. They often develop poor social behaviors as a result of their abuse, and their work performance and personal relationships suffer.
- **Parents’** alcohol and/or drug abuse often means chaotic, stress-filled homes and child abuse and neglect. Such conditions harm the well-being and development of children in the home and may set the stage for drug abuse in the next generation.

Why do some people become addicted to alcohol and other drugs, while others do not?

As with any other disease, vulnerability to addiction differs from person to person. In general, the more risk factors an individual has, the greater the chance that taking drugs will lead to abuse and addiction. “Protective” factors reduce a person’s risk of developing addiction.

What factors determine if a person will become addicted?

No single factor determines whether a person will become addicted to alcohol or other drugs. The overall risk for addiction is impacted by the biological make-up of the individual – it can even be influenced by gender or ethnicity, his or her developmental stage, and the surrounding social environment.

Which biological factors increase risk of addiction?

Scientists estimate that genetic factors account for between 40 and 60 percent of a person’s vulnerability to addiction. Individuals with mental disorders are at greater risk of drug abuse and addiction than the general population.

What environmental factors increase the risk of addiction?

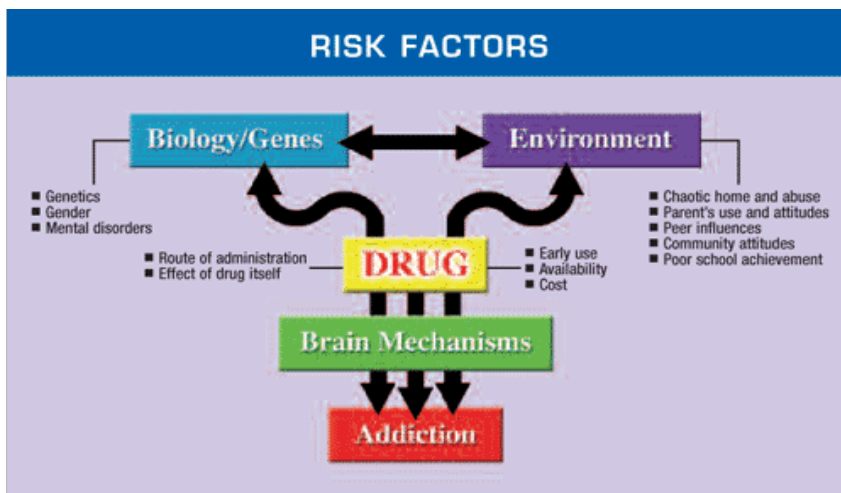
Home and family. The influence of the home environment is usually most important in childhood. Parents or older family members who abuse alcohol or drugs, or who engage in criminal behavior, can increase children’s risk of developing their own drug problems.

Peer and School. Friends and acquaintances have the greatest influence during adolescence. Drug-abusing peers can sway even those without risk factors to try alcohol and/or drugs for the first time. Academic failure or poor social skills can put a child further at risk for abuse.

What other factors increase the risk of addiction?

Early use. Although using alcohol and drugs at any age can lead to addiction, research shows that the earlier a person begins the more likely they are to progress to more serious abuse. This may reflect the harmful effect that alcohol and drugs can have on the developing brain; it also may result from a constellation of early biological and social vulnerability factors, including genetic susceptibility, mental illness, unstable family relationships, and exposure to physical or sexual abuse.

Method of Administration. Smoking a drug or injecting it into a vein increases its addictive potential. Both smoked and injected drugs enter the brain within seconds, producing a powerful rush of pleasure. However, this intense “high” can fade within a few minutes, taking the abuser down to lower, more normal levels. It is a starkly felt contrast, and scientists believe that this low feeling drives individuals to repeated drug abuse in an attempt to recapture the high pleasurable state.



Treatment Works...People Recover

Like so many others, addiction is a treatable disease. A number of treatment options exist to treat addiction, including counseling, cognitive therapy, psychotherapy, medications, or a combination. In the last several decades as the understanding of addiction has evolved so have the treatment options. Today individuals with addiction who seek and receive treatment are able to regain control of their lives. Success rates for addiction treatment are equal to the success rates for other chronic illnesses such as diabetes, hypertension and asthma. Approximately 40 – 60% of individuals who complete chemical dependency treatment and attend self help groups (such as Alcoholics Anonymous) are likely to remain abstinent from alcohol or other drugs.

Sources: Center for Substance Abuse Treatment
Office of National Drug Control Policy

National Institute of Drug Abuse - The Science of Drug Abuse and Addiction
Substance Abuse and Mental Health Services Administration