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Understanding Addiction

So many people entering the field of addiction treatment come with the mindset of “I have personal experience and that is enough to help others” or “I want to help others and I have clinical knowledge of therapy and that is enough”. While these experiences and knowledge will add to your coaching experience it will not be enough to frame your whole scope.

Most of society has some level of knowledge and understanding of drug and alcohol use and abuse. There are articles, books, TV shows, movies etc. Of course, most have some level of personal experience with addiction. Does this mean you have an understanding of addiction, how it happens, how it progresses, how it effects our brains, our bodies, our psyche??? The answer is NO.

This course covers a significant amount of information to help you see the whole picture of addiction, a picture that goes beyond what our client’s use, how much and how long. To work in addictions your level of knowledge and understanding of addiction will help you work clients on a different level. You will be able to assist the client in seeing themselves as a whole person, not just an addict. You will have the tools to educate, guide and answer questions posed by your client’s with confidence and clarity.

Let’s start by defining addiction.

Definition of Addiction

American Society of Addiction Medicine (ASAM)

Public Policy Statement: Definition of Addiction

Addiction is a primary, chronic disease of brain reward, motivation, memory and related circuitry. Dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations. This is reflected in an individual pathologically pursuing reward and/or relief by substance use and other behaviors.

Addiction is characterized by inability to consistently abstain, impairment in behavioral control, and craving, diminished recognition of significant problems with one’s behaviors and interpersonal relationships, and a dysfunctional emotional response. Like other chronic diseases, addiction often involves cycles of relapse and remission. Without treatment or engagement in recovery activities, addiction is progressive and can result in disability or premature death.



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Dictionary.com

The state of being enslaved to a habit or practice or to something that is psychologically or physically habit-forming, as narcotics, to such an extent that its cessation causes severe trauma.

Merriam-Webster Dictionary

1. (Noun) The quality or state of being addicted <*addiction* to reading>. An unusually great interest in something or a need to do or have something.
2. A strong and harmful need to regularly have something (such as a drug) or do something (such as gamble).
3. (Medical Definition) Compulsive need for and use of a habit-forming substance (as heroin, nicotine, or alcohol) characterized by tolerance and by well-defined physiological symptoms upon withdrawal; broadly: persistent compulsive use of a substance known by the user to be harmful.

Wikipedia

Addiction is a state characterized by compulsive engagement in rewarding stimuli, despite adverse consequences. It can be thought of as a disease or biological process leading to such behaviors. The two properties that characterize all addictive stimuli are that they are (positively) reinforcing (i.e., they increase the likelihood that a person will seek repeated exposure to them) and intrinsically rewarding (i.e., they activate the brain's "reward pathways", and are therefore perceived as being something positive or desirable).

Psychology Today

Addiction is a condition that results when a person ingests a substance (e.g., alcohol, cocaine, nicotine) or engages in an activity (e.g., gambling, sex, shopping) that can be pleasurable but the continued use/act of which becomes compulsive and interferes with ordinary life responsibilities, such as work, relationships, or health. Users may not be aware that their behavior is out of control and causing problems for themselves and others.

National Institute on Drug Abuse (NIDA)

Addiction is defined as a chronic, relapsing brain disease that is characterized by compulsive drug seeking and use, despite harmful consequences. It is considered a brain disease because



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drugs change the brain; they change its structure and how it works. These brain changes can be long lasting and can lead to many harmful, often self-destructive, behaviors.

What is the Medical Definition of Addiction

1. **Tolerance.** Do you use more alcohol or drugs over time?
2. **Withdrawal.** Have you experienced physical or emotional withdrawal when you have stopped using? Have you experienced anxiety, irritability, shakes, sweats, nausea, or vomiting? Emotional withdrawal is just as significant as physical withdrawal.
3. **Limited control.** Do you sometimes drink or use drugs more than you would like? Do you sometimes drink to get drunk? Does one drink lead to more drinks sometimes? Do you ever regret how much you used the day before?
4. **Negative consequences.** Have you continued to use even though there have been negative consequences to your mood, self-esteem, health, job, or family?
5. **Neglected or postponed activities.** Have you ever put off or reduced social, recreational, work, or household activities because of your use?
6. **Significant time or energy spent.** Have you spent a significant amount of time obtaining, using, concealing, planning, or recovering from your use? Have you spend a lot of time thinking about using? Have you ever concealed or minimized your use? Have you ever thought of schemes to avoid getting caught?
7. **Desire to cut down.** Have you sometimes thought about cutting down or controlling your use? Have you ever made unsuccessful attempts to cut down or control your use?

Illegal Drugs in America – A Modern History

Since the 19th century when Americans first discovered new wonder drugs like morphine, heroin, and cocaine, our society has confronted the problem of drug abuse and addiction. Drug abuse and addiction has been a social problem in America for nearly a century. What may be surprising is that many of these illegal drugs were first introduced by doctors as legal over-the-counter and prescription medications. Here's more about the history of illegal drugs in America.



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When the 20th century began, the United States--grappling with its first drug epidemic--gradually instituted effective restrictions: at home through domestic law enforcement and overseas by spearheading a world movement to limit opium and coca crops. By World War II, American drug use had become so rare, it was seen as a marginal social problem. The first epidemic was forgotten.

During the 1960s, drugs like marijuana, amphetamines, and psychedelics came on the scene, and a new generation embraced drugs. With the drug culture exploding, our government developed new laws and agencies to address the problem. In 1973, the U.S. Drug Enforcement Administration was created to enforce federal drug laws. In the 1970s, cocaine reappeared. Then, a decade later, crack appeared, spreading addiction and violence at epidemic levels.

Today, the DEA's biggest challenge is the dramatic change in organized crime. While American criminals once controlled drug trafficking on U.S. soil, today sophisticated and powerful criminal groups headquartered in foreign countries control the drug trade in the United States.

History of Marijuana in America

Perhaps one of the oldest drugs in American history is marijuana, which was grown by the Jamestown settlers around 1600. Before the Civil War marijuana was a major source of revenue for the U.S., and marijuana plantations flourished during the 19th century. Marijuana was widely used as a medicinal drug from 1850 to 1937 and could even be purchased over the counter in pharmacies and general stores. Marijuana became an attractive alternative to alcohol after the price of alcohol was raised in 1920.

In the 1930s, studies began to emerge that linked marijuana use by lower class communities to crime and violence, leading to the eventual banning of marijuana in 1937. In the 1960s, marijuana use became a popular drug of choice among white Beatniks, and stricter penalties for marijuana offenses were passed under the Comprehensive Drug Abuse Prevention and Control Act of 1970. Since then, citizens and politicians alike have pushed to have marijuana decriminalized, but it remains an illegal drug in the U.S. Marijuana was, however, legalized for medical use in California in 1966 for people with serious illnesses, and medical marijuana still remains legal in some states.

History of Methamphetamine in America

The stimulant amphetamine first became popular in the medical community in the 1920s, where it was used for stimulating the central nervous system, raising blood pressure, and



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enlarging nasal passages. Amphetamines were widely distributed to soldiers during World War II to combat fatigue and improve endurance and mood, and were prescribed by doctors after the war to help fight depression.

Amphetamine abuse began during the 1930s when it became an over-the-counter inhalant drug marketed under the name Benzedrine. As more and more people legally used amphetamines, an illegal black market began to emerge. Illegal amphetamines were used commonly by truck drivers who wanted to stay alert on long commutes and athletes looking to improve their performance. Students also began taking illicit amphetamines to help them study.

The practice of injecting amphetamines gained popularity in the 1960s, which led the emergence of underground labs that were mainly controlled by outlaw motorcycle groups. During the 1970s, amphetamine use began to decline due to increased public awareness of its dangers and remained on a decline until the 1990s when crystal methamphetamine, a smokable form of methamphetamine, emerged. Since then, crystal meth has remained a popular drug of choice for three main types of users: high school and college students; blue-collar Caucasians; and unemployed persons in their 20s and 30s.

History of Cocaine in America

Cocaine was a popular medical drug in Europe for decades before it became popular in America. In 1886, “Coca-Cola” was introduced and contained syrup derived from coca leaves. That same year the Surgeon-General of the United States Army endorsed medical use of cocaine. Over the next few decades various unregulated medicinal “tonics” were sold in the U.S. containing cocaine, and hundreds of Hollywood silent movies depicted scenes of cocaine use. By 1902 there were an estimated 200,000 cocaine addicts in the U.S.

Cocaine was finally outlawed in 1914 and declined in usage over the decades until it regained popularity in the 1970s as a recreational, glamorized drug, eventually reaching its peak in 1982 with 10.4 million users. Some U.S. media declared cocaine as non-addictive and it was viewed as a relatively harmless drug until the emergence of crack in 1985.

History of Crack Cocaine in America

Crack, a form of cocaine that is sold as “rocks” and smoked, first appeared in large U.S. cities around 1985. Crack became a popular alternative to cocaine in urban and working-class areas because it was much cheaper than cocaine. This led to a dramatic increase in crack use known



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as the “Crack Epidemic of the 1980s.” A major crackdown on crack abuse was launched, leading to its eventual decline in usage.

History of LSD in America

LSD first emerged on the American scene during the 1950s, when the U.S. military and CIA researched the use of LSD as a “truth drug” that could be used to make prisoners talk. This led the psychiatric community to become interested in LSD for its possible therapeutic capabilities for depressed, psychotic and epileptic patients.

Illegal use of LSD began to escalate during the late 1950s and 1960s as mental health professionals and research study participants began to distribute the drug among their friends. LSD was only available through connections to the medical field until 1962, when a black market for LSD emerged in America. LSD was made illegal in 1966 and, soon after, an LSD black market emerged. Users began experiencing growing problems with the “new” LSD, which was contaminated and of a poorer quality than the medical-grade LSD they were used to. Despite its poorer quality, LSD was a popular drug of choice for “hippies” during the mid- to late-1960s. LSD use declined in the 1970s and 1980s, but reemerged in the 1990s in the rave subculture along with other hallucinogens.

History of Heroin in America

Opiates were popular in the United States throughout the 19th century, particularly among upper- and middle-class women who were prescribed tonics and elixirs containing opium to cure “female problems.” The practice of smoking opium was introduced in the 1850s and 1860s by Chinese laborers who came to the U.S. to work on railroads.

The opiate-based drug morphine was created in 1803 and widely used during the American Civil War as an injectable pain reliever, leading to the first wave of morphine addiction. Interestingly, the drug heroin was created in 1895 and marketed three years later as a potential solution to the increasing problem of morphine addiction. The charitable St. James Society even mailed free samples of heroin to morphine addicts as part of a campaign against morphine addiction. As a result, heroin addiction began to take root and grow.

The second major wave of opiate addiction in America began in the 1930s and 1940s Harlem jazz scene, and again during the Beatnik subculture of the 1950s. During the Vietnam War, heroin abuse became rampant among U.S. soldiers stationed abroad, with an estimated 10% to 15% of servicemen addicted to heroin. Heroin users began smoking and snorting heroin after



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improvements were made in the purity of street heroin in the 1980s and 1990s. As a result, heroin usage rose significantly in the 1990s.

Brief Overview of Addiction – The Basics

Why study drug abuse and addiction?

Abuse of and addiction to alcohol, nicotine, and illicit and prescription drugs cost Americans more than \$700 billion a year in increased health care costs, crime, and lost productivity. Every year, illicit and prescription drugs and alcohol contribute to the death of more than 90,000 Americans, while tobacco is linked to an estimated 480,000 deaths per year.

How are drug disorders categorized?

NIDA continues to use the term “addiction” to describe compulsive drug seeking despite negative consequences. However, “addiction” is not considered a specific diagnosis in the fifth edition of The Diagnostic and Statistical Manual of Mental Disorders (DSM-5)—a diagnostic manual used by clinicians that contains descriptions and symptoms of all mental disorders classified by the American Psychiatric Association (APA).

In 2013, APA updated the DSM, replacing the categories of substance abuse and substance dependence with a single category: substance use disorder. The symptoms associated with a substance use disorder fall into four major groupings: impaired control, social impairment, risky use, and pharmacological criteria (i.e., tolerance and withdrawal).

What is the difference between physical dependence, dependence, and addiction?

Physical dependence is not equivalent to dependence or addiction, and may occur with the regular (daily or almost daily) use of any substance, legal or illegal, even when taken as prescribed. It occurs because the body naturally adapts to regular exposure to a substance (e.g., caffeine or a prescription drug). When that substance is taken away, symptoms can emerge while the body re-adjusts to the loss of the substance. Physical dependence can lead to craving the drug to relieve the withdrawal symptoms. Drug dependence and addiction refer to substance use disorders, which may include physical dependence but must also meet additional criteria.

How do drugs work in the brain to produce pleasure?



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Nearly all addictive drugs directly or indirectly target the brain's reward system by flooding the circuit with dopamine. Dopamine is a neurotransmitter present in regions of the brain that regulate movement, emotion, cognition, motivation, and feelings of pleasure. The overstimulation of this system, which rewards our natural behaviors, produces the euphoric effects sought by people who use drugs and teaches them to repeat the behavior.

Is drug abuse a voluntary behavior?

The initial decision to take drugs is mostly voluntary. However, when addiction takes over, a person's ability to exert self-control can become seriously impaired. Brain-imaging studies from people addicted to drugs show physical changes in areas of the brain that are critical for judgment, decision-making, learning, memory, and behavior control. Scientists believe that these changes alter the way the brain works and may help explain the compulsive and destructive behaviors of an addicted person.

Can addiction be treated successfully?

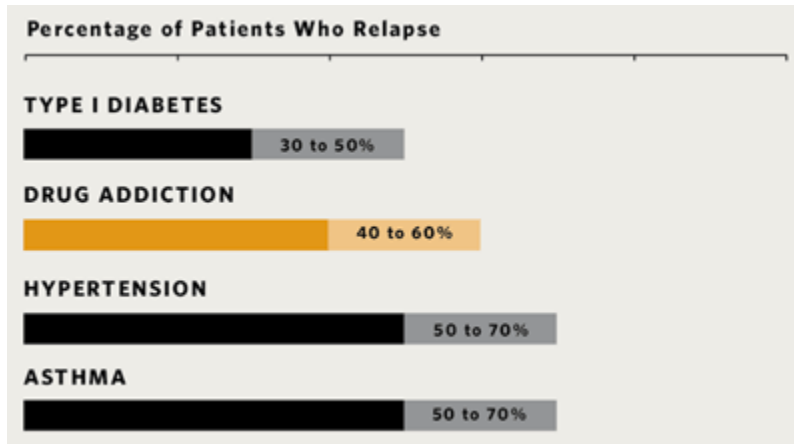
Yes. Addiction is a treatable, chronic disease that can be managed successfully. Research shows that combining behavioral therapy with medications, where available, is the best way to ensure success for most patients. Treatment approaches must be tailored to address each patient's drug use patterns and drug-related medical, psychiatric, and social problems.

How many people die from drug use?

The Centers for Disease Control and Prevention (CDC) report that there were more than 40,000 unintentional drug overdose deaths in the United States in 2011, a 118-percent increase since 1999. More than 22,000 people die every year from prescription drug abuse, more than heroin and cocaine combined.



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Relapse rates for drug-addicted patients are compared with those suffering from diabetes, hypertension, and asthma. Relapse is common and similar across these illnesses (as is adherence to medication). Thus, drug addiction should be treated like any other chronic illness, with relapse serving as a trigger for renewed intervention.

Source: McLellan et al., JAMA, 284:1689-1695, 2000.

How Common is Drug or Alcohol Addiction

Approximately 10% of any population is addicted to drugs or alcohol. **Addiction is more common than diabetes**, which occurs in approximately 7% of the population.

Addiction crosses all socio-economic boundaries. 10% of teachers, 10% of plumbers, and 10% of CEOs have an addiction.

The terms alcohol addiction, alcoholism, and alcohol dependence are all equivalent. The same is true for the terms drug addiction and drug dependence.

The Cost of Addiction

The dollars and cents cost of addiction is mind boggling. At least twice as many people die from alcoholism in the US every year as die from motor vehicle accidents.



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Alcohol intoxication is associated with 40-50% of traffic fatalities, 25-35% of nonfatal motor vehicle injuries, and 64% of fires. Alcohol is present in nearly 50% of homicides, either in the victim or the perpetrator.

Alcohol intoxication is involved in 31% of fatal injuries, and 23% of completed suicides.

One study found that 86 % of homicide offenders, 37 % of assault offenders, and 57 % of men and 27 % of women involved in marital violence were drinking at the time of their offense.

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Addiction crosses all socio-economic boundaries. 10% of teachers, 10% of plumbers, and 10% of CEOs have an addiction.

Five Things to Know about Alcohol

1. Almost one in 10 people in the United States experience alcohol dependence at some time during their lives.

Alcoholism occurs in both sexes, all ethnic and racial groups, and in people from all walks of life. It develops when someone drinks too much too often. Drinking more than three drinks a day if you are a woman or four drinks if you are a man increases health risks, including risk for alcohol dependence.

2. Alcoholism usually starts in the late teens or early twenties, yet most people don't seek help until 15- 20 years later.

Earlier treatment is more successful and results in far less destruction to individuals and their families.

3. Only about one in 10 people with alcoholism ever receives professional treatment.

Recent research suggests that newer medications are effective treatments for alcohol dependence when combined with brief counseling by a health professional. This means that many more people can receive treatment from their family, or primary care, doctor. Specialized alcohol counseling also works well, and all approaches (12-step, cognitive and motivational) are about equally effective. Some people will need more intensive programs.



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4. Whatever treatment a person receives, the most important thing is they stick with it. The longer a person stays in treatment, the more likely they are to succeed.

If a person has a relapse, recognize that this is a chronic disease, and try to help them get back on track as quickly as possible. If they are taking medication for alcohol dependence, be sure to check they are taking it as prescribed. Encourage them not to discontinue it even if they don't notice feeling any different. The medicine is working if they are not drinking, or if they are drinking much less.

5. Twelve-step and other support programs really do work! Recovering people who attend groups on a regular basis do better than those who do not.

If the recovering person is taking medication for alcohol dependence, allay worries about whether it is a "crutch." Medication can improve recovery rates by 20-40% in the first three months after stopping. Also, it's fine to take medication and to attend support groups or alcohol counseling.

Instructor Note: There are many, many more statistics and trends now, research has grown by leaps and bounds in the area of addiction and because of that we know so much more than ever before. Which in turn finally arms us with the ability to answer some of our clients' baffling yet heartfelt questions about why they do what they do.

This Is Your Brain On Drugs: Understanding Addiction from the Inside out

People experiment with drugs for many different reasons. Many first try drugs out of curiosity, to have a good time, because friends are doing it, or in an effort to improve athletic performance or ease another problem, such as stress, anxiety, or depression. Use doesn't automatically lead to abuse, and there is no specific level at which drug use moves from casual to problematic. It varies by individual.

Why do some drug users become addicted, while others don't?

As with many other conditions and diseases, vulnerability to addiction differs from person to person. Your genes, mental health, family and social environment all play a role in addiction. Risk factors that increase your vulnerability include:



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- Family history of addiction
- Abuse, neglect, or other traumatic experiences in childhood
- Mental disorders such as depression and anxiety
- Early use of drugs
- Method of administration—smoking or injecting a drug may increase its addictive potential

Substance Addiction and the Brain

Addiction is a complex disorder characterized by compulsive drug use. While each drug produces different physical effects, all abused substances share one thing in common: repeated use can alter the way the brain looks and functions.

- Taking a recreational drug causes a surge in levels of dopamine in your brain, which trigger feelings of pleasure. Your brain remembers these feelings and wants them repeated.
- If you become addicted, the substance takes on the same significance as other survival behaviors, such as eating and drinking.
- Changes in your brain interfere with your ability to think clearly, exercise good judgment, control your behavior, and feel normal without drugs.
- Whether you're addicted to inhalants, heroin, Xanax, speed, or Vicodin, the uncontrollable craving to use grows more important than anything else, including family, friends, career, and even your own health and happiness.
- The urge to use is so strong that your mind finds many ways to deny or rationalize the addiction. You may drastically underestimate the quantity of drugs you're taking, how much it impacts your life, and the level of control you have over your drug use.

How Substance Addiction Can Develop

People who experiment with drugs continue to use them because the substance either makes them feel good, or stops them from feeling bad. In many cases, however, there is a fine line between regular use and drug abuse and addiction. Very few addicts are able to recognize when they have crossed that line.

How does Addiction Feel?



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An addictive substance feels good because it stimulates the pleasure center of the brain through neurotransmitters such as dopamine and GABA. If you have a genetic predisposition, addictive substances don't just feel good. They feel so good that you will want to chase after them.

This is where addiction comes in. If you have a genetic predisposition, addictive substances feel so good that you are willing to suffer negative consequences in order to get more and to continue to feel the high.

Addictive substances feel different inside an addict's brain than they do to a non-addict. This is why the two sides have difficulty understanding each other. In someone who is not addicted, drugs and alcohol only produce a mild high. Therefore, a non-addict cannot understand why the addict would go to such lengths, when it is clearly destroying their life.

The Genetics of Addiction

The Role of Family History

Addiction is due 50 percent to genetic predisposition and 50 percent to poor coping skills. This has been confirmed by numerous studies. One study looked at 861 identical twin pairs and 653 fraternal (non-identical) twin pairs. When one identical twin was addicted to alcohol, the other twin had a high probability of being addicted. But when one non-identical twin was addicted to alcohol, the other twin did not necessarily have an addiction. Based on the differences between the identical and non-identical twins, the study showed 50-60% of addiction is due to genetic factors. Those numbers have been confirmed by other studies.

The children of addicts are 8 times more likely to develop an addiction.

One study looked at 231 people who were diagnosed with drug or alcohol addiction, and compared them to 61 people who did not have an addiction. Then it looked at the first-degree relatives (parents, siblings, or children) of those people. It discovered that if a parent has a drug or alcohol addiction, the child had an 8 times greater chance of developing an addiction.

Why are there genes for addiction?

We all have the genetic predisposition for addiction because there is an evolutionary advantage to that. When an animal eats a certain food that it likes, there is an advantage to associating pleasure with that food so that the animal will look for that food in the future. In other words



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the potential for addiction is hardwired into our brain. Everyone has eaten too much of their favorite food even though they knew it wasn't good for them.

Although everyone has the potential for addiction, some people are more predisposed to addiction than others. Some people drink alcoholically from the beginning. Other people start out as a moderate drinker and then become alcoholics later on.

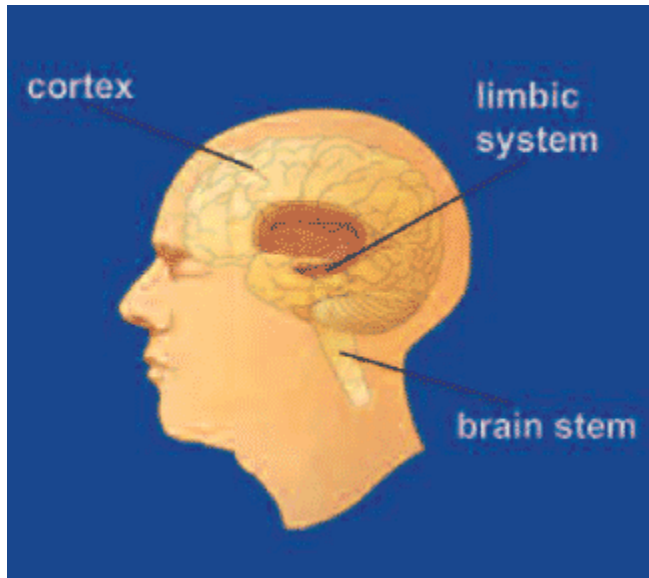
Repeatedly abusing drugs or alcohol permanently rewires your brain.

If you start out with a low genetic predisposition for addiction, you can still end up with an addiction. If you repeatedly abuse drugs or alcohol because of poor coping skills, then you'll permanently rewire your brain. Every time you abuse alcohol, you'll strengthen the wiring associated with drinking, and you'll chase that buzz even more. The more you chase the effect of alcohol, the greater your chance of eventually developing an addiction.

Genes are not your destiny. The 50% of addiction that is caused by poor coping skills is where you can make a difference. Lots of people have come from addicted families but managed to overcome their family history and live happy lives.

Let's Look Inside the Brain☺

The brain is made up of many parts that all work together as a team. Different parts of the brain are responsible for coordinating and performing specific functions. Drugs can alter important brain areas that are necessary for life-sustaining functions and can drive the compulsive drug abuse that marks addiction. Brain areas affected by drug abuse include:



- **The brain stem**, which controls basic functions critical to life, such as heart rate, breathing, and sleeping.
- **The cerebral cortex**, which is divided into areas that control specific functions. Different areas process information from our senses, enabling us to see, feel, hear, and taste. The front part of the cortex, the frontal cortex or forebrain, is the thinking center of the brain; it powers our ability to think, plan, solve problems, and make decisions.
- **The limbic system**, which contains the brain's reward circuit. It links together a number of brain structures that control and regulate our ability to feel pleasure. Feeling pleasure motivates us to repeat behaviors that are critical to our existence. The limbic system is activated by healthy, life-sustaining activities such as eating and socializing—but it is also activated by drugs of abuse. In addition, the limbic system is responsible for our perception of other emotions, both positive and negative, which explains the mood-altering properties of many drugs.

Cocaine, Marijuana and Heroin in your Brain

Drugs are chemicals that affect the brain by tapping into its communication system and interfering with the way neurons normally send, receive, and process information. Some drugs, such as marijuana and heroin, can activate neurons because their chemical structure mimics



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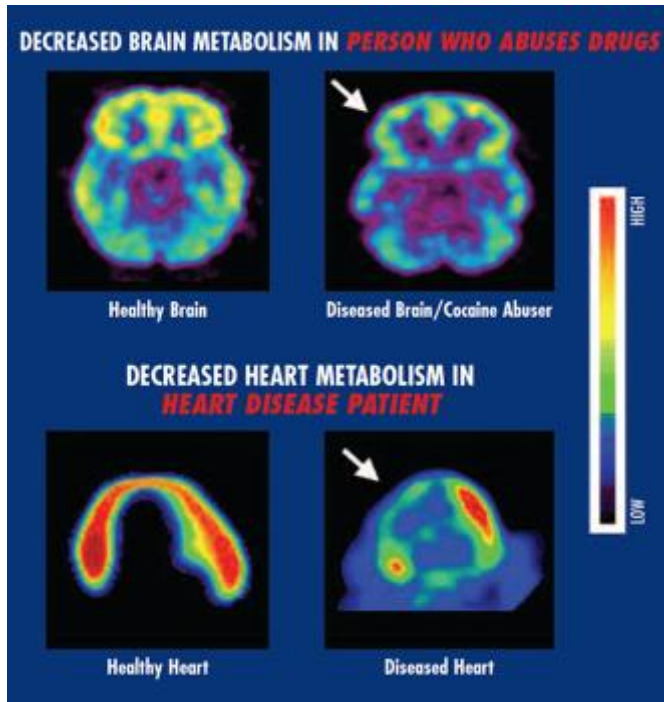
that of a natural neurotransmitter. This similarity in structure “fools” receptors and allows the drugs to attach onto and activate the neurons. Although these drugs mimic the brain’s own chemicals, they don’t activate neurons in the same way as a natural neurotransmitter, and they lead to abnormal messages being transmitted through the network.

Other drugs, such as amphetamine or cocaine, can cause the neurons to release abnormally large amounts of natural neurotransmitters or prevent the normal recycling of these brain chemicals. This disruption produces a greatly amplified message, ultimately disrupting communication channels.

Deeper in the Brain

We know addiction is defined as a chronic, relapsing brain disease that is characterized by compulsive drug seeking and use, despite harmful consequences. It is considered a brain disease because drugs change the brain—they change its structure and how it works.

Check out the pictures of the brain impacted by substances below.



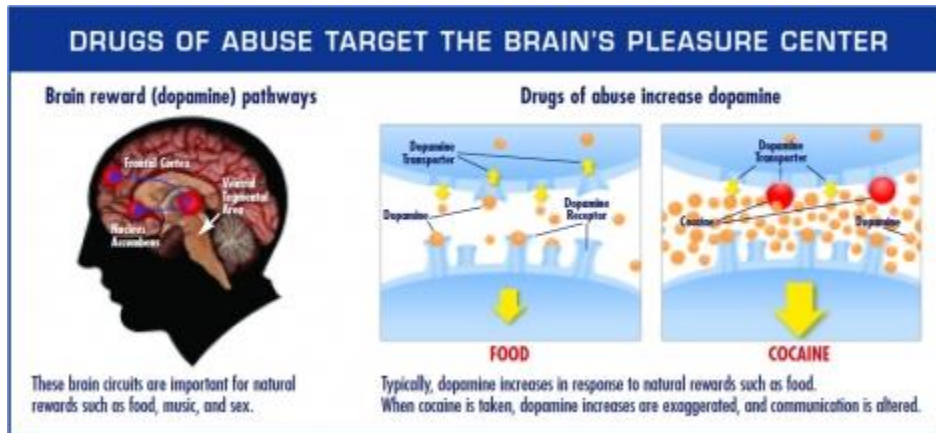
Source: From the laboratories of Drs. N. Volkow and H. Schelbert

Addiction is a lot like other diseases, such as heart disease. Both disrupt the normal, healthy functioning of the underlying organ, have serious harmful consequences, and are preventable and treatable, but if left untreated, can last a lifetime.

How do drugs work in the brain to produce pleasure?

Most drugs of abuse directly or indirectly target the brain's reward system by flooding the circuit with dopamine. Dopamine is a neurotransmitter present in regions of the brain that regulate movement, emotion, motivation, and feelings of pleasure. When activated at normal levels, this system rewards our natural behaviors. Over stimulating the system with drugs, however, produces euphoric effects, which strongly reinforce the behavior of drug use—teaching the user to repeat it.

Most drugs of abuse target the brain's reward system by flooding it with dopamine.



How does stimulation of the brain's pleasure circuit teach us to keep taking drugs?

Our brains are wired to ensure that we will repeat life-sustaining activities by associating those activities with pleasure or reward. Whenever this reward circuit is activated, the brain notes that something important is happening that needs to be remembered, and teaches us to do it again and again without thinking about it. Because drugs of abuse stimulate the same circuit, we learn to abuse drugs in the same way.

Why are drugs more addictive than natural rewards?

When some drugs of abuse are taken, they can release 2 to 10 times the amount of dopamine that natural rewards such as eating and sex do. In some cases, this occurs almost immediately (as when drugs are smoked or injected), and the effects can last much longer than those produced by natural rewards. The resulting effects on the brain's pleasure circuit dwarf those produced by naturally rewarding behaviors. The effect of such a powerful reward strongly motivates people to take drugs again and again. This is why scientists sometimes say that drug abuse is something we learn to do very, very well.



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Motivation for Drug Use

The motivation for taking substances is to achieve a desired effect in a reasonably short period of time. This effect or altered mood state is brought about by the effects drugs have on the brain and neurotransmitter systems. The effects on the neurotransmitter systems include action on the levels of the neurotransmitters (i.e., the chemical messengers) and the receptor sites (i.e., the sites where the specific chemical messengers have their effects). The use of drugs may prevent a neurotransmitter from breaking down, leading to a build-up of the neurotransmitter; it can block the reuptake of the neurotransmitter by the sending cell thus making more of the neurotransmitter available to the receiving cell.

Drugs can prevent a neurotransmitter from being produced at the normal level, or may block the receptor sites preventing the neurotransmitter from having its normal effects. Also, drugs can have an effect on the nerve cells in general as a toxin or just making them function slower than normal (Ray & Ksir, 2004; Carroll, 2000).

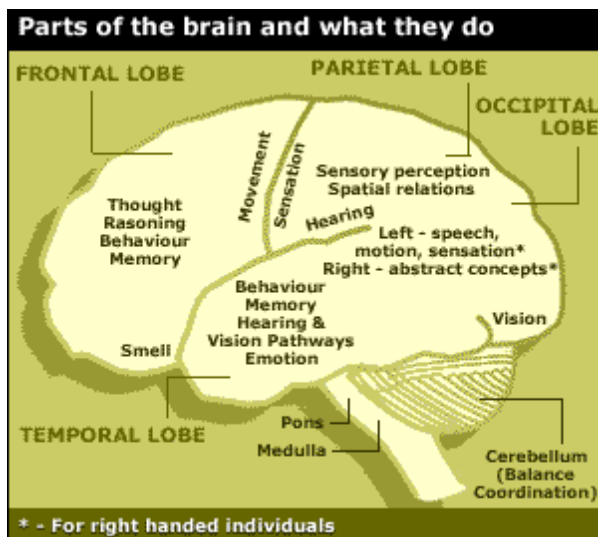
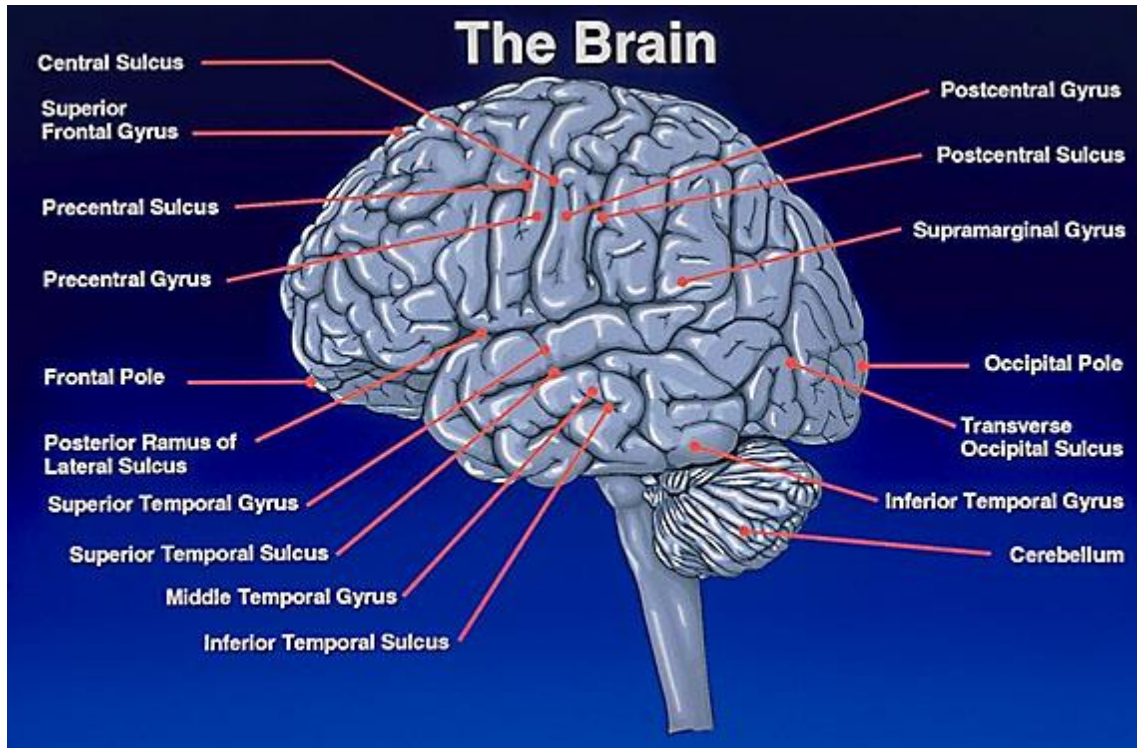
Neurotransmitters, the chemical messengers, are: GABA relates to inhibitory factors and slows communication. Norepinephrine usually associated with arousal reactions and moods. Dopamine usually associated with feeling of pleasure, Serotonin, usually associated with feelings of anxiety, depression, and aggressiveness, and Acetylcholine, which may be associated with arousal reactions or inhibitory factors (Ray & Ksir, 2004; Carroll, 2000).

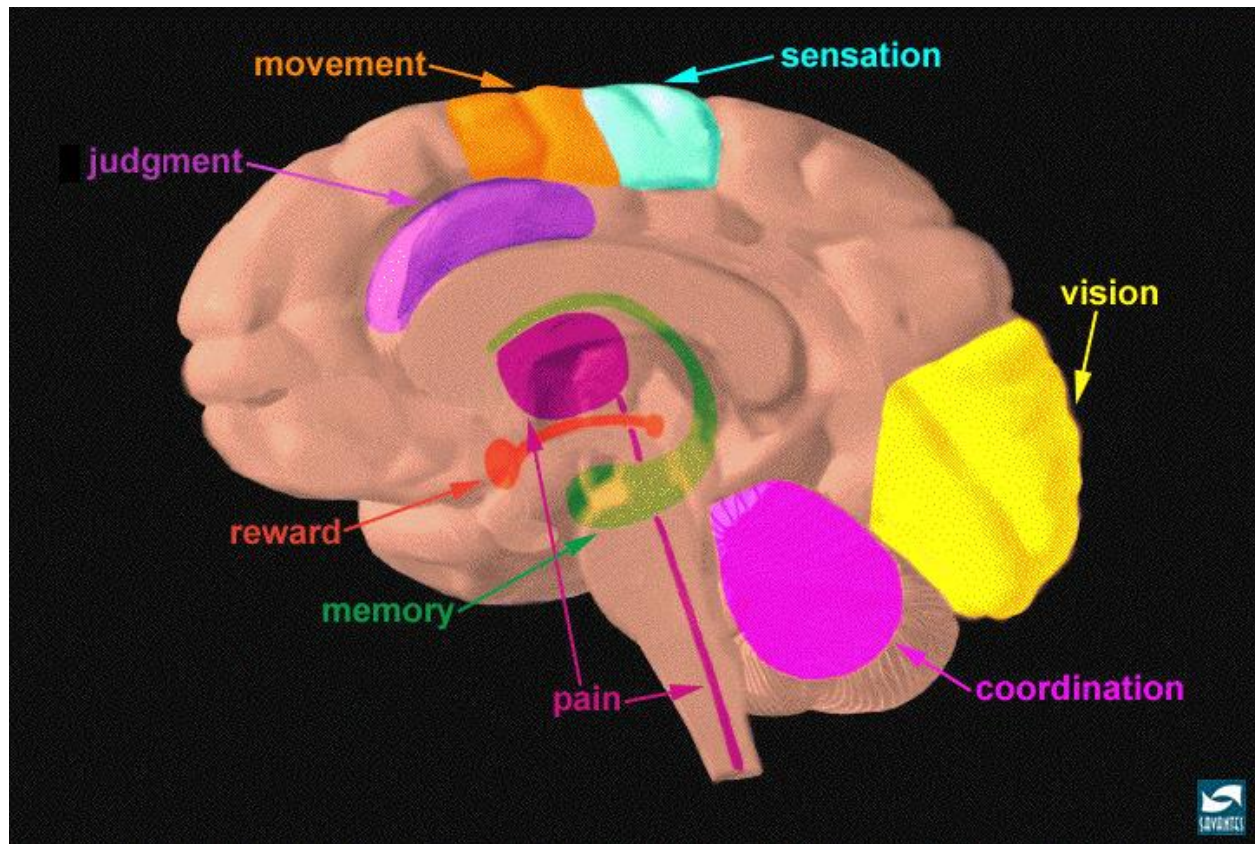
Drugs also activate the pleasure/reward center of the brain, which is made up of the ventral tegmental area (VTA), and the nucleus accumbens and other structures of the brain. These are two structures of the brain that are involved in the reward system for all drugs, although other mechanisms might be involved for specific drugs (Inaba, et al., 1997; Carroll, 2000).

How a drug is distributed throughout the body, where it is stored, and how long it is stored are determined by whether the drug is fat or water-soluble. Fat-soluble drugs store in the fatty areas of the body can have longer lasting traces in the body that water-soluble drugs do not (Ray & Ksir, 2004; Carroll, 2000).

Abuse potential is generally related to the drug's speed of action and how long the effects last. Drugs such as cocaine and nicotine with effects that are felt quickly and also wear off quickly have a high abuse potential. Abuse potential is a pharmacological term based on the effects of a drug; however, there are social factors that may influence it such as social acceptance of use, and opportunity for use (Ray & Ksir, 2004; Carroll, 2000).

Mountain West ATTC. (2005). *The Brain: Understanding Neurobiology Through the Study of Addiction*. Reno, NV: Author.





Addictions' Effect on the Cerebral Cortex: Impaired Decision-making, Impulsivity, and Compulsivity

The cerebral cortex is the outer most layer of the brain. The cerebral cortex is further divided into four areas. These four areas are: the frontal lobe (or frontal cortex), parietal lobes (left and right), temporal lobes (left and right), and occipital lobes (left and right). Each area is associated with certain brain functions: One area of the frontal cortex is called the prefrontal cortex. It has a vital role in higher-order functions. These functions include language, spatial learning, conscious thought, judgment, and decision-making. The process of addiction can negatively affect this area and alter its functioning.

The prefrontal cortex enables us to make rational, sound decisions. It also helps us to override impulsive urges. If acted upon, these impulsive urges can cause us to act without thinking. This is usually not in our best interest. For instance, suppose I've had a bad day at work. I may have an



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impulsive urge to tell my boss exactly what I think of her. To act on this impulse is not in my best interest. Fortunately, my prefrontal cortex is functioning quite well. I still have my job!

Obviously, this ability to inhibit impulses is very helpful. It enables us to function well in society. It protects us from harm by allowing us to consider the consequences of our actions. However, when the pre-frontal cortex is not functioning correctly, the opposite occurs. Addiction causes changes to the prefrontal cortex. These changes account for two characteristics of addiction: impulsivity and compulsivity.

Impulsivity is the inclination to act upon sudden urges or desires without considering potential consequences. Sometimes people describe impulsivity as living in the present moment without regard to the future. Compulsivity is a behavior that an individual feels driven to perform to relieve anxiety. Once a person performs the compulsive behavior, the anxiety goes away and restores comfort. Thus, the presence of these behavioral characteristics in addicted persons indicates that changes to the prefrontal cortex have occurred. Unfortunately, these changes also make the discontinuation of drug use more difficult.

Addiction is a process that coordinates the transition from impulsive to compulsive behavior. Impulsivity occurs during the early stages of addiction. During this phase, people impulsively act on powerful urges to experience the pleasure of their addiction. Anxiety is not associated with the urges during these early stages. Instead, addiction reflects acting on impulsive desire to receive immediate pleasure from the drug or activity. People are not considering the future consequences.

As addiction progresses a shift begins to occur. At this point, the compulsive aspect of addiction takes hold. When this shift occurs, people are no longer pursuing their addiction solely for pleasure. The compulsions compel them to participate in their addiction to relieve anxious, uncomfortable feelings. These may arise at the mere thought of stopping the addiction for any reason (supply shortages, lack of opportunity, etc.). At this later compulsive stage, "pleasure" comes in the form of relief from these anxious, uncomfortable feelings. Thus, despite the negative consequences of addiction, the addictive behavior continues in a compulsive manner.

Another way to describe the pre-frontal cortex is to think of it as a braking system. The pre-frontal cortex acts as the brain's brakes. It sends out signals to inhibit particular behaviors or actions. When addiction damages this brain area, it limits the brain's ability to control other behavioral systems as well. Imagine how difficult it would be to operate a car without brakes. At this point, we might say the brain is "high-jacked" by the addiction. The prefrontal cortex also projects to other brain regions associated with addictive problems. These include



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the reward system; memory and emotion; and stress regulation centers of the brain. Therefore, damage to the prefrontal cortex may further interfere with the functioning of these other brain regions as well.

Although addiction damages the brain's brakes (pre-frontal cortex) this is not to say there is a complete loss of control. We are not slaves to our biology. We have a tremendous amount of control over our actions. This is true even when impulsive and compulsive forces are operating. This recognition is vitally important if someone wishes to recover from addiction. When a person consciously decides the costs of addiction outweigh its benefits, they become motivated and able to stop. This allows them to actively counter the effects of addiction on the frontal cortex and other brain regions.

Unfortunately, people's addictions limit their ability to use rational thought. This is due in part to the damage to the prefrontal cortex. They may incorrectly tally the costs and benefits of their addiction; over-estimating the benefits, while minimizing the costs. The addict is often told, "You're in denial." This is incorrect. When people use this phrase, they are applying it improperly. Denial refers to a psychological defense, or justification for a negative behavior. This is quite different than a loss of rational brain functioning that occurs with addiction. This is where addiction treatment professionals can be very helpful. They can guide addicted persons to make an accurate assessment of the costs and benefits. This more accurate assessment often leads to the motivation to change. Once someone decides it is time to change, they have taken the first step toward recovery.

The addiction process relies on learning and memory to drive the addiction cycle forward. Addiction chemically alters the system. However, people can learn how to counteract these changes. There are specific techniques that people can learn to oppose powerful urges. As people become more skillful, the wonderfully adaptive brain makes adjustments and corrections. This in turn leads to lasting recovery from addiction. In some cases, pharmacological intervention may also be beneficial.

Addictions' Effect on the Amygdala: Habit Formation, Craving, Withdrawal, and Relapse Triggers

People often describe addiction as a habit, and one that is difficult to break. This is because when people attempt to discontinue an addictive behavior (drug use or addictive activities) they experience withdrawal. Because withdrawal is such an unpleasant experience, it serves as a powerful motivator to resume the addictive behavior. Eventually, the relief from withdrawal (by resuming use) becomes pleasurable in and of itself. To illustrate how this occurs, go ahead



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and pinch yourself on the arm for one full minute. Not too hard, just enough to cause some discomfort. Then stop. Notice the sudden absence of pain has become pleasurable. This is the same way that the removal of withdrawal effects (via return to addiction) becomes pleasurable. Because it is pleasurable, it is rewarding. Because it is rewarding, it will be repeated. Some drugs, such as alcohol and opiates, have withdrawal effects that are both physical and emotional. Other drugs or addictive activities may primarily involve emotional symptoms. This characteristic of addiction occurs because of several changes in the brain.

As drug use or addictive activity escalates, the involvement of various brain regions associated with our emotional state also increases. The brain region most often associated with our emotional state is the extended amygdala. Scientists think this brain region plays an important role in addiction because of its association with emotions and stress.

The amygdala affects emotions and memory. We all have both "good" memories and "bad" memories about various events in our lives. What makes a memory "good" as opposed to "bad" are the emotional states that occurred during those events. When the brain forms these memories, it stores the memory of the event along with the emotions that accompanied it. When I smell the sea air, feel the ocean breeze, and hear the seagulls, I have a pleasant memory and emotional experience. This is because these things have been repeatedly associated with relaxing and enjoyable times. The memory of the sea is stored along with a pleasant emotional state. So I can merely think of the sea, without actually being there, and I will experience a pleasant emotional state. Likewise, an addicted person may only need to think about engaging in their addiction and they will experience pleasure. The memory of engaging in the addiction is stored with a pleasant emotional state. Thus, the pleasing memories of engaging with an addiction can lead to repeating those behaviors and a habit forms.

Emotional memory has another role in the development of addiction, called **cue anticipation**. Cue anticipation refers to environmental cues that can initiate or elevate craving. Cravings often lead to relapse. For this reason, these cues are often called *relapse triggers*. Therefore, a successful recovery plan will include a strategy for coping with cues (relapse triggers).

These environmental cues (relapse triggers) can be anything that is associated with the addiction. It could be a certain time of day, a place, a person, or an activity. For instance, suppose a man is addicted to pornography use. He usually gets online after his wife goes to bed. The mere act of his wife *getting ready* to go to bed serves as a cue that prompts powerful cravings. Later, even his own *anticipation* of his wife going to bed will serve as a powerful cue. The amygdala's role in emotional memory is responsible for these cues taking root. The brain forms an association between pleasant memories of drug use or addictive activities, and the



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cues. The more a person repeats this cycle, the more it strengthens the emotional memory circuits associated with these cues. Eventually, this leads to a complete pre-occupation with the addiction.

So far, we've been discussing the role of the amygdala and positive emotional memories. The brain may also form an association between unpleasant emotions and a memory (forming a "bad" memory). These negative emotional memories play an important role in withdrawal. The negative emotional memory of anxiety becomes associated with the physical signs of withdrawal. As withdrawal begins, the symptoms trigger an unpleasant emotional memory. This increases the negative experience of withdrawal. Withdrawal avoidance (via returning to the addiction) often becomes the cornerstone of the addiction in the later stages. Thus, in the earlier stages of addiction the pleasurable experience of the drug motivates a repetition of that behavior. In the later stages, relief of withdrawal symptoms (physical and/or emotional discomfort) achieves pleasure. This pleasurable relief from withdrawal symptoms continues to motivate the repetition of that behavior.

Stress Regulation and Withdrawal: Addictions' Effect on the Hypothalamus

Addiction affects another area of the brain called the hypothalamus. The hypothalamus has many duties. It controls body temperature, hunger, thirst, and sleep. The hypothalamus plays a key role in our response to stress. Stress regulation is highly relevant to our understanding of addiction. When an individual experiences stress, the hypothalamus releases chemicals called hormones. These hormones allow the brain and the body to respond to that stress. Unlike neurotransmitters (which are chemicals limited to the brain) hormones travel throughout the body via the blood system. Therefore, hormones can exert an effect on other body systems as well. When these chemical hormones operate in the brain, we refer to them as neuromodulators. These hormones (neuromodulators) can act just like neurotransmitters in the brain. Like neurotransmitters, they have their own receptors associated with them.

Stress is a well-known relapse trigger. It can prompt powerful cravings in addicted persons. Many of us know someone who tried to quit smoking but ultimately relapsed when they became "stressed out." Unfortunately, during the initial period of recovery withdrawal symptoms create stress. This creates an unfortunate cycle. Stress prompts addictive use, while efforts to discontinue use prompt stress. During withdrawal, these stress hormones are elevated. Even though stress levels are high, the brain's anti-stress neuromodulators appear to decrease, as do dopamine and serotonin in the nucleus accumbens. This suggests that withdrawal affected the reward system (evidenced by decreasing dopamine and serotonin). At the same time, withdrawal activates the stress and anxiety systems. This "1-2 punch" heightens



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the negative experience of withdrawal. This prompts people to seek relief via the addictive substance or activity (i.e., relapse).

In summary, the neurotransmitter pathways associated with the amygdala and the hypothalamus play a crucial role in sustaining the addiction process. This occurs thorough:

- The negative emotional memory that is associated with drug withdrawal.
- The positive emotional memory that is associated with drug cues.
- The disruption that occurs to stress regulation.
- The pleasurable relief from withdrawal symptoms that occurs by resuming drug use or addictive activities.

The High-jacked Brain

We do not yet know all the relevant mechanisms, but the evidence suggests that those long-lasting brain changes are responsible for the distortions of cognitive and emotional functioning that characterize addicts, particularly including the compulsion to use drugs that is the essence of addiction.

This brain-based view of addiction has generated substantial controversy, particularly among people who seem able to think only in polarized ways.

Many people erroneously still believe that biological and behavioral explanations are alternative or competing ways to understand phenomena, when in fact they are complementary and integrative.

Modern science has taught that it is much too simplistic to set biology in opposition to behavior or to pit willpower against brain chemistry.

Addiction involves inseparable biological and behavioral components. It is the **quintessential bio-behavioral disorder**.

Many people also erroneously still believe that drug addiction is simply a failure of will or of strength of character. Research contradicts that position.

The Brain Also Helps to Reverse Addiction



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There's no question. Addiction wreaks havoc on the brain. Addiction causes significant chemical, structural, and molecular changes that quite literally hijack the brain. However, treatment can reverse or counteract these effects. Moreover, as the recovery process proceeds, the brain continues to heal.

It is true that many changes occur in the brain after addiction takes hold. But, we must also remember that the brain is a dynamic and ever-changing system. Changes to the brain's neuronal circuits, chemistry, and structures powerfully drive the addiction forward. However, a strong motivation to change, can just as powerfully counter these changes. People can learn new coping skills. They can practice behavioral modification techniques. These efforts will counter those damaging changes. Professional assistance can be enormously helpful as someone learns to overcome addiction's effect on the brain.

Abstinence from addictive substances or activities can lead to a reversal of many physical changes that occurred during addiction. Combination therapies (medications plus psychotherapy) help the recovery process by managing the physiological effects of addiction and withdrawal. Cognitive-behavioral treatments work to mend and repair the psychological impact of addiction.

Instructor Note: WOW! Our brain is truly amazing. It has the capacity to control its own physiology and is highly adaptive. Each behavioral step we make forward has a beneficial physiological effect on the brain. A sincere effort to change behavior is a powerful tool that mends the damaged brain.

When we change our behavior and find healthy outlets for satisfying cravings, we correct damaged brain function. These positive changes form new memory and behavioral circuits in the brain that strengthen and reinforce recovery efforts. Yes, the brain has changed because of the addictive process. Nevertheless, even people with severe addiction problems succeed in overcoming their addictions. Motivation is the key.

Signs and Symptoms of Addiction

Although different drugs have different physical effects, the symptoms of addiction are similar. See if you recognize yourself in the following signs and symptoms of substance abuse and addiction.

Physical warning signs of drug abuse



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- Bloodshot eyes, pupils larger or smaller than usual
- Changes in appetite or sleep patterns. Sudden weight loss or weight gain
- Deterioration of physical appearance, personal grooming habits
- Unusual smells on breath, body, or clothing
- Tremors, slurred speech, or impaired coordination

Behavioral signs of drug abuse

- Drop in attendance and performance at work or school
- Unexplained need for money or financial problems. May borrow or steal to get it.
- Engaging in secretive or suspicious behaviors
- Sudden change in friends, favorite hangouts, and hobbies
- Frequently getting into trouble (fights, accidents, illegal activities)

Psychological warning signs of drug abuse

- Unexplained change in personality or attitude
- Sudden mood swings, irritability, or angry outbursts
- Periods of unusual hyperactivity, agitation, or giddiness
- Lack of motivation; appears lethargic or “spaced out”
- Appears fearful, anxious, or paranoid, with no reason

Key Components of Addiction

- Compulsion
- Continued use despite negative consequences
- Craving
- Denial

Warning Signs of Commonly Abused Drugs

Marijuana: Glassy, red eyes; loud talking, inappropriate laughter followed by sleepiness; loss of interest, motivation; weight gain or loss.

Depressants (including Xanax, Valium, GHB): Contracted pupils; drunk-like; difficulty concentrating; clumsiness; poor judgment; slurred speech; sleepiness.



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Stimulants (including amphetamines, cocaine, crystal meth): Dilated pupils; hyperactivity; euphoria; irritability; anxiety; excessive talking followed by depression or excessive sleeping at odd times; may go long periods of time without eating or sleeping; weight loss; dry mouth and nose.

Inhalants (glues, aerosols, vapors): Watery eyes; impaired vision, memory and thought; secretions from the nose or rashes around the nose and mouth; headaches and nausea; appearance of intoxication; drowsiness; poor muscle control; changes in appetite; anxiety; irritability; lots of cans/aerosols in the trash.

Hallucinogens (LSD, PCP): Dilated pupils; bizarre and irrational behavior including paranoia, aggression, hallucinations; mood swings; detachment from people; absorption with self or other objects, slurred speech; confusion.

Heroin: Contracted pupils; no response of pupils to light; needle marks; sleeping at unusual times; sweating; vomiting; coughing, sniffing; twitching; loss of appetite.

Warning signs of teen drug abuse

While experimenting with drugs doesn't automatically lead to drug abuse, early use is a risk factor for developing more serious drug abuse and addiction. Risk of drug abuse also increases greatly during times of transition, such as changing schools, moving, or divorce. The challenge for parents is to distinguish between the normal, often volatile, ups and downs of the teen years and the red flags of substance abuse. These include:

- Having bloodshot eyes or dilated pupils; using eye drops to try to mask these signs
- Skipping class; declining grades; suddenly getting into trouble at school
- Missing money, valuables, or prescriptions
- Acting uncharacteristically isolated, withdrawn, angry, or depressed
- Dropping one group of friends for another; being secretive about the new peer group
- Lying about new interests and activities

Does drug abuse cause mental disorders, or vice versa?

Drug abuse and mental illness often co-exist. In some cases, mental disorders such as anxiety, depression, or schizophrenia may precede addiction; in other cases, drug abuse may trigger or exacerbate those mental disorders, particularly in people with specific vulnerabilities.\



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Damage due to Addiction

Regardless of the drug abused, addiction leads to

- Physical deterioration
- Psychiatric problems
- Intellectual impairment
- Personality deterioration
- Increased risk of accidents and higher susceptibility to high risk behavior in the form of unprotected sex or use of unsterile needles
- Legal risks

But when a drug is taken for reasons other than medical, in an amount, strength, frequency or manner that causes damage to the physical or mental functioning of an individual, it becomes 'drug abuse'. Any type of drug can be abused; drugs with medical uses can also be abused.

Tolerance refers to a condition where the user needs more and more of the drug to experience the same effect. Smaller quantities, which were sufficient earlier, are no longer effective and the user is forced to increase the amount of drug intake.

Slowly, drug dependence develops. Some drugs produce only psychological dependence while others produce both physical and psychological dependence.

Psychological dependence is a state characterized by emotional and mental preoccupation with the effects of the drug and a persistent craving for it. As psychological dependence develops, the user gets mentally 'hooked' on to the drug.

When physical dependence develops, the user's body becomes totally dependent on the drug. With prolonged use, the body becomes so used to functioning under the influence of the drug that it is able to function normally only if the drug is present.



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Alcohol / drug abuse causes general physical deterioration in addition to affecting at least a few organs in particular. Mental health status is also affected. Safety risks are also another issue for concern. Moreover, drug abusers generally eat poorly, have irregular sleep patterns and do not seek timely medical help which only further worsen the situation.

Medical and psychiatric complications can be studied under four major heads.

- a. Problems due to intoxication
- b. Problems due to withdrawal
- c. Psychiatric disorders associated with substance abuse
- d. Systemic disorders associated with substance abuse

Continuum of Alcohol and Drug Use

The continuum of substance abuse is a term that is used to refer to the stages of substance use and abuse. The use of a drug can be only labeled drug abuse when the user becomes dysfunctional as a result of their use. If a person can maintain healthy relationships, does not suffer financial hardships, does not become unwell or is harmed from the use of the substance, then the use is maintained as drug use and not abuse. However, if a person begins to exhibit adverse reactions from a drug, has considerable problems with relationships with others, acts in a harmful, dangerous or reckless manner and begins to use significant amounts of energy acquiring and using a drug, then it can be considered that the individual has a drug abuse problem.

The theory of a continuum of drug use can be used to assess where a person is at in terms of their drug use and evaluate the type of treatment that may be appropriate, if any. Policymakers may also use the continuum to make decisions on education, harm minimization and policing. Some stages in the continuum, such as experimental or occasional use, can be considered as relatively harm free. Others such as regular or dependent use may require some intervention to alleviate or prevent further harm from occurring.

4 Stages of Addiction – In Brief

- **Use – Socially accepted/medically approved**



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- **Misuse – Regular use of illegal drugs/Higher quantities than prescribed**
- **Abuse – Continued use of substances despite negative consequence**
- **Addiction – Compulsive using, negative consequences, tolerance, withdrawal potential**

Risk and Protective Factors

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

As with any other disease, vulnerability to addiction differs from person to person, and no single factor determines whether a person will become addicted to drugs. In general, the more *risk factors* a person has, the greater the chance that taking drugs will lead to abuse and addiction. *Protective factors*, on the other hand, reduce a person's risk of developing addiction. Risk and protective factors may be either environmental (such as conditions at home, at school, and in the neighborhood) or biological (for instance, a person's genes, their stage of development, and even their gender or ethnicity).

Risk and Protective Factors for Drug Abuse and Addiction

Risk Factors	Protective Factors
Aggressive behavior in childhood	Good self-control
Lack of parental supervision	Parental monitoring and support
Poor social skills	Positive relationships



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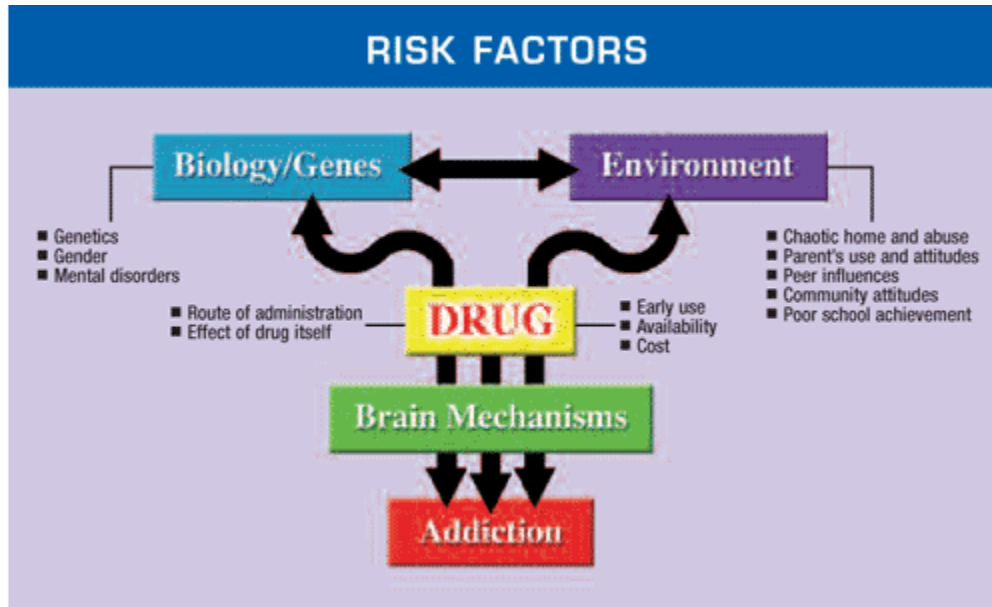
Risk Factors	Protective Factors
Drug experimentation	Academic Competence
Availability of drugs at school	School anti-drug policies
Community poverty	Neighborhood pride

What environmental factors increase the risk of addiction?

- **Home and Family.** The influence of the home environment, especially during childhood, is a very important factor. Parents or older family members who abuse alcohol or drugs, or who engage in criminal behavior, can increase children's risks of developing their own drug problems.
- **Peer and School.** Friends and acquaintances can have an increasingly strong influence during adolescence. Drug-using peers can sway even those without risk factors to try drugs for the first time. Academic failure or poor social skills can put a child at further risk for using or becoming addicted to drugs.

What 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; this includes the effects of environmental factors on the function and expression of a person's genes. A person's stage of development and other medical conditions they may have are also factors. Adolescents and people with mental disorders are at greater risk of drug abuse and addiction than the general population.



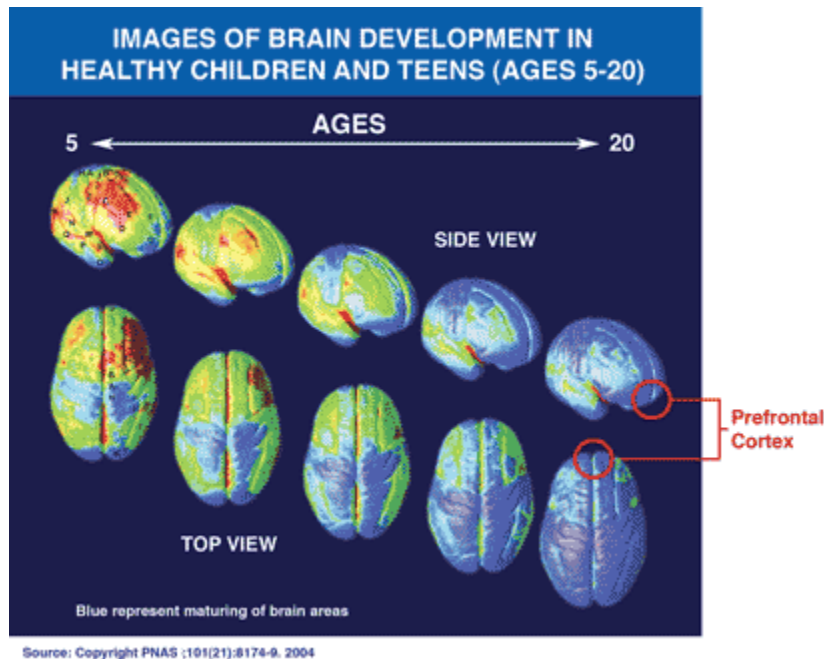
Children's earliest interactions within the family are crucial to their healthy development and risk for drug abuse.

What other factors increase the risk of addiction?

- **Early Use.** Although taking drugs at any age can lead to addiction, research shows that the earlier a person begins to use drugs, the more likely he or she is to develop serious problems. This may reflect the harmful effect that drugs can have on the developing brain; it also may result from a mix of early social and biological vulnerability factors, including unstable family relationships, exposure to physical or sexual abuse, genetic susceptibility, or mental illness. Still, the fact remains that early use is a strong indicator of problems ahead, including addiction.
- **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. Scientists believe this starkly felt contrast drives some people to repeated drug taking in an attempt to recapture the fleeting pleasurable state.

Addiction is a developmental disease—it typically begins in childhood or adolescence. The brain continues to develop into adulthood and undergoes dramatic changes during adolescence

One of the brain areas still maturing during adolescence is the prefrontal cortex—the part of the brain that enables us to assess situations, make sound decisions, and keep our emotions and desires under control. The fact that this critical part of an adolescent's brain is still a work in progress puts them at increased risk for making poor decisions (such as trying drugs or continuing to take them). Also, introducing drugs during this period of development may cause brain changes that have profound and long-lasting consequences.



Instructor Note: Prevention is the best form of medicine. That old saying is still around because at it's heart is the truth. Recognizing risk factors, warning signs and symptoms of potential for substance use and misuse helps us to intervene BEFORE the person increases their use and with that all the potential health risks that come along with addiction.

Physical Health Risks Associated With Alcohol/Drug Use



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Physical health risks from the use of alcohol can be associated with the amount used, duration of use, and the condition of the individual using. Because of the potential for fetal alcohol syndrome and fetal alcohol effect, it is suggested that women who think they might be pregnant should not drink alcohol. Those with other medical conditions such as diabetes, seizure disorders, gastric ulcers, various skin conditions, and osteoporosis should not drink alcohol.

The chronic use of alcohol can affect all systems of the body and can have definite visible signs as well as have physical effects. Physical signs and symptoms of chronic alcohol use can include a weakened overall appearance, hyper-pigmented, jaundiced skin or a yellowish pigment to the whites of the eyes. There may be hoarseness in the voice; ataxia, a wide spaced unsteady gate; the appearance of spider veins; and dilated capillaries and acne-like lesions on the face and body. The nose may be enlarged and bulbous (Kinney, 2003).

The chronic use of alcohol affects the internal systems of the body as well as the outward appearance. The irritation caused by the alcohol may cause inflammation, abdominal pain, and bleeding of the esophagus and stomach (Kinney, 2003). Chronic alcohol use is many times associated with acute pancreatitis

Alcoholic hepatitis often follows a heavy or extended bout of alcohol use and can occur in non-alcohol dependent persons. There is inflammation of the liver, metabolism is disrupted, jaundice, the yellowing of the skin and whites of the eyes, as well as other symptoms present with alcoholic hepatitis. Alcoholic hepatitis may be completely reversible in some people if they stop alcohol consumption and receive proper medical care (Kinney, 2003).

Cirrhosis is caused when there is permanent, widespread destruction of liver cells, which are replaced with nonfunctioning scar tissue. The liver cells are unable to perform their necessary functions and while progression may possibly be slowed down by stopping the consumption of alcohol, it is irreversible and fatal if alcohol is continued to be consumed (Kinney, 2003).

Anemia is the most common red blood cell related problem in chronic alcohol users. Alcohol use can negatively affect one's ability to achieve good, restful sleep (Kinney, 2003).

Heavy alcohol consumption can lead to a blackout which is an amnesia-like state in which the individual may appear to be functioning normally yet later has no memory of what transpired. Blackouts are usually associated with alcohol dependence and are related to the dose taken.



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However, blackouts can occur in nondependent individuals as a result of a heavier than normal drinking episode in those who drank to the point of intoxication.

Is there a difference between physical dependence and addiction?

Yes. Addiction—or compulsive drug use despite harmful consequences—is characterized by an inability to stop using a drug; failure to meet work, social, or family obligations; and, sometimes (depending on the drug), tolerance and withdrawal. The latter reflect physical dependence in which the body adapts to the drug, requiring more of it to achieve a certain effect (tolerance) and eliciting drug-specific physical or mental symptoms if drug use is abruptly ceased (withdrawal). Physical dependence can happen with the chronic use of many drugs—including many prescription drugs, even if taken as instructed. Thus, physical dependence in and of itself does not constitute addiction, but it often accompanies addiction. This distinction can be difficult to discern, particularly with prescribed pain medications, for which the need for increasing dosages can represent tolerance or a worsening underlying problem, as opposed to the beginning of abuse or addiction.

Does drug abuse cause mental disorders, or vice versa?

Drug abuse and mental illness often co-exist. In some cases, mental disorders such as anxiety, depression, or schizophrenia may precede addiction; in other cases, drug abuse may trigger or exacerbate those mental disorders, particularly in people with specific vulnerabilities.

Five Things to Know about Adolescents' Brain Development and Use

1. The brain's "front end," the part above the eyes, exists to slow us down or stop our impulsive behaviors. It considers the risks and benefits of our actions, and it helps us "hit the brakes" when we consider doing things that are too risky.
2. This front part of the brain is still developing connections to the rest of the brain until adulthood, so adolescents' brains lack some of the "wiring" that carries "brake" or "stop" messages to the rest of the brain.
3. Drugs of abuse are often available to adolescents. These drugs feel good, but they can be very harmful. Lacking some of the wiring for the "stop" message, adolescents' brains may not fully weigh the risks of drug use.



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4. The two drugs that cause the most death are also the most available drugs: tobacco and alcohol. Late adolescence, before the brain is fully matured, is the peak time for developing dependence on these (and other) drugs.
5. Heavy drug use during times of critical brain development may cause permanent changes in the way the brain works and responds to rewards and consequences. Therefore, it is important to begin to address a developing substance use problem as early as possible.

Concerning Behaviors to look for in an Adolescent Who Might be Using Drugs

- Changes in school performance (falling grades, skipping school, tardiness)
- Changes in peer group (hanging out with drug-using, antisocial, older friends)
- Breaking rules at home, school, in the community
- Extreme mood swings, depression, irritability, anger, negative attitude
- Sudden increases or decreases in activity level
- Withdrawal from the family; keeping secrets
- Changes in physical appearance (weight loss, lack of cleanliness, strange smells)
- Red, watery, glassy eyes or runny nose not due to allergies or cold
- Changes in eating or sleeping habits
- Lack of motivation or interest in things other teenagers enjoy (hobbies, sports)
- Lying, stealing, hiding things
- Using street or drug language or possession of drug paraphernalia/items
- Cigarette smoking

What Adolescents Are Using

By a wide margin, teenagers abuse alcohol more than any other substance. It is legal and widely available. Nationwide, teens with alcohol dependency are the majority of adolescents admitted for treatment. Each year, the federal government conducts a survey to determine Americans' patterns of using alcohol and other drugs. This survey, the National Survey of Drug Use and Health (NSDUH), provides vital information on a wide array of topics. The survey showed that in 2005, the illicit substances that 12- to-17-year olds reported that they had used the most were, in this order:

- **marijuana**
- **prescription drugs including stimulants, tranquilizers, sedatives, and pain relievers such as OxyContin and Vicodin**
- **inhalants**



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Marijuana use among adolescents is second only to alcohol. Many believe marijuana is harmless, the brain shows that is simply not true.

Early Onset Alcoholism

Alcohol dependence, or alcoholism, can begin very early, even as early as 12 or 13 years old. Most teens obtain alcohol first from their parents; alcoholic beverages should be kept locked away. Prevention educates parents and guardians, the first thing parents and guardians need to know is if they believe their teen is beginning to drink, they need to talk about it, and be clear that they do not approve and that they expect different behavior. Parents/guardians need to keep track of where their teen is, and with whom.

FIVE WARNING SIGNS

1. Heavy drinking and alcoholism are more likely to occur when a parent has a similar problem. A family history of alcohol dependence increases risk of alcohol dependence four-fold.
2. Other early risk factors include serious childhood behavior problems requiring treatment, such as attention deficit hyperactivity disorder (ADHD), depression or anxiety, and health problems such as asthma. Parents/guardians need to talk about this with their teens and let them know how important it is not to drink. Let them know help is available if they need assistance.
3. Often, early onset alcoholism results in serious problems such as emergency room visits, injuries, fights or declining school performance. These serious problems may occur very early, even the first time teens drink on their own. If these occur an evaluation from a professional needs to be obtained.
4. If drinking problems develop early, be sure that any treatment includes a thorough evaluation of other possible disorders such as ADHD, depression or anxiety. Treatment of coexisting disorders helps with recovery from alcoholism. Also, teens that drink heavily often use other drugs, especially marijuana. Be sure to have this evaluated as well.
5. If an older child begins drinking a lot, younger siblings are more likely to do so as well. Be especially vigilant as your younger children grow.



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8 Myths about Drug Abuse and Addiction

- MYTH 1: Overcoming addiction is a simply a matter of willpower. You can stop using drugs if you really want to. Prolonged exposure to drugs alters the brain in ways that result in powerful cravings and a compulsion to use. These brain changes make it extremely difficult to quit by sheer force of will.
- MYTH 2: Addiction is a disease; there's nothing you can do about it. Most experts agree that addiction is a brain disease, but that doesn't mean you're a helpless victim. The brain changes associated with addiction can be treated and reversed through therapy, medication, exercise, and other treatments.
- MYTH 3: Addicts have to hit rock bottom before they can get better. Recovery can begin at any point in the addiction process—and the earlier, the better. The longer drug abuse continues, the stronger the addiction becomes and the harder it is to treat. Don't wait to intervene until the addict has lost it all.
- MYTH 4: You can't force someone into treatment; they have to want help. Treatment doesn't have to be voluntary to be successful. People who are pressured into treatment by their family, employer, or the legal system are just as likely to benefit as those who choose to enter treatment on their own. As they sober up and their thinking clears, many formerly resistant addicts decide they want to change.
- MYTH 5: Treatment didn't work before, so there's no point trying again. Recovery from drug addiction is a long process that often involves setbacks. Relapse doesn't mean that treatment has failed or that you're a lost cause. Rather, it's a signal to get back on track, either by going back to treatment or adjusting the treatment approach.
- MYTH 6: Addicts should be punished, not treated, for using drugs. Science is demonstrating that addicts have a brain disease that causes them to have impaired control over their use of drugs. Addicts need treatment for their neuro-chemically driven brain pathology.
- MYTH 7: Addicts cannot be treated with medications. Actually, addicts are medically detoxified in hospitals, when appropriate, all the time. But can they be treated with medications after detox? New pharmacotherapies (medicines) are being developed to help patients who have already become abstinent to further curb their craving for addicting drugs. These medications reduce the chances of relapse and enhance the effectiveness of existing behavioral (talk) therapies.
- MYTH 8: Addicts are bad, crazy, or stupid. Evolving research is demonstrating that addicts are not bad people who need to get good, crazy people who need to get sane, or



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stupid people who need education. Addicts have a brain disease that goes beyond their use of drugs.

The Latest View in Understanding Addiction

Instructor Note: We have presented a lot of information in this chapter about the science of addiction, how substances impact various areas of the brain and how, in turn, addiction develops from voluntary, experimental use. The following is a newer, updated viewpoint and explanation of addiction. Not all is new but enough to warrant it's inclusion in this chapter.

The Essence of Addiction

The entire concept of addiction has suffered greatly from imprecision and misconception. In fact, if it were possible, it would be best to start all over with some new, more neutral term.

The confusion comes about in part because of a now **archaic distinction between whether specific drugs are “physically” or “psychologically “addicting.**

The distinction historically revolved around whether or not dramatic physical withdrawal symptoms occur when an individual stops taking a drug; what we in the field now call “physical dependence.”

- However, 20 years of scientific research has taught that focusing on this physical versus psychological distinction is off the mark and a distraction from the real issues.
- From both clinical and policy perspectives, it actually does not matter very much what physical withdrawal symptoms occur.
- Physical dependence is not that important, because even the dramatic withdrawal symptoms of heroin and alcohol addiction can now be easily managed with appropriate medications.
- Even more important, many of the most dangerous and addicting drugs, including methamphetamine and crack cocaine, do not produce very severe physical dependence symptoms upon withdrawal.
- What really matters most is whether or not a drug causes what we now know to be the essence of addiction, namely



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- **The uncontrollable, compulsive drug craving, seeking, and use, even in the face of negative health and social consequences.**

This is the crux of how the Institute of Medicine, the American Psychiatric Association, and the American Medical Association define addiction and how we all should use the term.

It is really only this compulsive quality of addiction that matters in the long run to the addict and to his or her family and that should matter to society as a whole.

Thus, the majority of the biomedical community now considers addiction, in its essence, to be a brain disease:

A condition caused by persistent changes in brain structure and function.

This results in compulsive craving that overwhelms all other motivations and is the root cause of the massive health and social problems associated with drug addiction.

Updating the Definition of Addiction

In updating our national discourse on drug abuse, we should keep in mind this simple definition:

Addiction is a brain disease expressed in the form of compulsive behavior.

Both developing and recovering from it depend on biology, behavior, and social context.

It is also important to correct the common misimpression that drug use, abuse and addiction are points on a single continuum along which one slides back and forth over time, moving from user to addict, then back to occasional user, then back to addict.

Clinical observation and more formal research studies support the view that, once addicted, the individual has moved into a different state of being.

Very few people appear able to successfully return to occasional use after having been truly addicted.

The Altered Brain

Unfortunately, we do not yet have a clear biological or behavioral marker of that transition from voluntary drug use to addiction.

However, a body of scientific evidence is rapidly developing that points to an array of cellular and molecular changes in specific brain circuits. Moreover, many of these brain changes are



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common to all chemical addictions, and some also are typical of other compulsive behaviors such as pathological overeating.

The complexity of this brain disease is not atypical, because virtually no brain diseases are simply biological in nature and expression. All, including stroke, Alzheimer's disease, schizophrenia, and clinical depression, include some behavioral and social aspects.

What may make addiction seem unique among brain diseases, however, is that it does begin with a clearly voluntary behavior- the initial decision to use drugs. As previously stated, not everyone who ever uses drugs goes on to become addicted.

Individuals differ substantially in how easily and quickly they become addicted and in their preferences for particular substances.

In fact, estimates are that between 50 and 70 percent of the variability in susceptibility to becoming addicted can be accounted for by genetic factors. Although genetic characteristics may predispose individuals to be more or less susceptible to becoming addicted, genes do not doom one to become an addict.

Over time the addict loses substantial control over his or her initially voluntary behavior, and it becomes compulsive. For many people these behaviors are truly uncontrollable, just like the behavioral expression of any other brain disease.

Environmental Cues

Addictive behaviors do have special characteristics related to the social contexts in which they originate.

- All of the environmental cues surrounding initial drug use and development of the addiction actually become “conditioned” to that drug use and are thus critical to the development and expression of addiction.
- Environmental cues are paired in time with an individual’s initial drug use experiences and, through classical conditioning, take on conditioned stimulus properties.
- When those cues are present at a later time, they elicit anticipation of a drug experience and thus generate tremendous drug craving.

Cue-induced craving is one of the most frequent causes of drug use relapses, even after long periods of abstinence, independently of whether drugs are available.



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The significance of environmental or contextual cues helps explain why reentry to one's community can be so difficult for addicts leaving the controlled environments of treatment or correctional settings and why aftercare is so essential to successful recovery.

- The person who became addicted in the home environment is constantly exposed to the cues conditioned to his or her initial drug use, such as the neighborhood where he or she hung out, drug-using buddies, or the lamppost where he or she bought drugs.
- Simple exposure to those cues automatically triggers craving and can lead rapidly to relapses.

This is one reason why someone who apparently overcame drug cravings while in prison or residential treatment could quickly revert to drug use upon returning home.

- One of the major goals of drug addiction treatment is to teach addicts how to deal with the cravings caused by inevitable exposure to these conditioned cues.
- It is no wonder addicts cannot simply quit on their own.
- People often assume that because addiction begins with a voluntary behavior and is expressed in the form of excess behavior, people should just be able to quit by force of will alone.
- However, it is essential to understand when dealing with addicts that we are dealing with individuals whose brains have been altered by drug use.

Instructor Note: Finally, let's look briefly at relapse. We will discuss relapse both here and in the Treatment and Recovery chapter. Here we look at relapse from the various perspectives presented throughout this chapter. Later, we look at relapse as it pertains to recovery and treatment. Both perspectives are equally important in understanding addiction.

What is Relapse?

Relapse is a cardinal feature of addiction, and one of the most painful.

Most people who struggle with addiction will have one or more relapses - the return to drug use after a drug-free period - during their ongoing attempts to recover. This can be extremely frustrating for patients and for families, as they have already experienced great pain.



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What leads to relapse?

Multiple - and often interactive - factors can increase the likelihood of relapse. These are some of the commonly cited precursors:

- drug-related "reminder" cues (sights, sounds, smells, drug thoughts or drug dreams) tightly linked to use of the preferred drug(s) can trigger craving and drug seeking
- negative mood states or stress
- positive mood states or celebrations
- sampling the drug itself, even in very small amounts

The motivation to seek a drug, once triggered, can feel overwhelming and sometimes leads to very poor decision-making: the user will pursue the drug, despite potentially disastrous future negative consequences (and many past negative consequences).

Individuals have different brain circuitry

Brain-imaging is helping us to understand the paradox of the decision to pursue a drug reward despite such consequences. For example, very recent imaging research shows that visual drug cues as short as 33 milliseconds can activate the ancient reward ("go") circuitry, and that this process does not require conscious processing - it can begin outside awareness.

By the time the motivation does reach awareness, and is recognized and labeled, the reward circuit has a strong head start. This head start means the frontal brain regions may be less effective. This area of the brain is responsible for weighing the consequences of a decision and for helping to "stop" or inhibit the impulses toward drug reward.

Imaging research also shows that some individuals have less effective "stop" circuitry. For these people, the job of managing the powerful impulses toward drug reward may be even more difficult.

When it comes to the vulnerability to relapse, and to addiction itself, we are not all created equal. We differ both in our brain response to drug rewards and in our ability to manage the powerful impulses toward drug reward.

Hope through research

Relapse is a long-term vulnerability, but intensive ongoing research is targeting the problem. The tools of brain imaging and genetics promise to help us understand our vulnerabilities - and our strengths - to help us realize more effective relapse prevention. Many different clinical



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research trials are underway, and new anti-relapse interventions (behavioral or medication-based) may be available in a location close to you.

Stuck Points in Recovery

Although some patients progress through the stages of recovery without complications, most chemically dependent people do not. They typically get stuck somewhere. A “stuck point” can occur during any period of recovery. Usually it is caused either by lack of skills or lack of confidence in one's ability to complete a recovery task. Other problems occur when the recovering person encounters a problem (physical, psychological, or social) that interferes with his or her ability to use recovery supports.

When recovering people encounter stuck points, they either recognize they have a problem and take action, or they lapse into the familiar coping skill of denial that a problem exists. Without specific relapse prevention skills to identify and interrupt denial, stress begins to build. Eventually, the stress will cause the patient to cope less and less well. This will result in relapse.

Symptoms of Becoming Stuck in Recovery

When people become stuck they may experience symptoms such as:

- An increase in negative thinking. The individual may feel disappointed with life in recovery because it has not lived up to their expectations. They are likely to feel pessimistic about the future.
- Anger outbursts and feelings of resentment
- Problems at work, home, or with friends. When people become stuck in recovery it usually means that relationships will suffer.
- The individual can begin to isolate. They stop talking about their problems and concerns with other people.
- They may begin to romance the drink or drug. This is when they remember the days when substance abuse seemed to help them.

The Dangers of Becoming Stuck in Recovery

Recovery from an addiction is a process. This means that the individual needs to be progressing all the time or else they begin to backslide. The dangers of becoming stuck in recovery include:



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- It causes people to become dissatisfied with life away from addiction. It can take a long time before people manage to build a good life in sobriety. If people become stuck then they may lose hope of every achieving such happiness.
- If people are stuck they will usually experience a great deal of stress. They may turn to new maladaptive behaviors to deal with this discomfort. This could include becoming a workaholic, a fitness fanatic, or turning to other forms of substance abuse. Addiction substitution is just more avoidance and can ultimately only lead to further pain
- Becoming stuck is the first stage of the relapse process
- People become sober because they want to improve their life. When they are stuck in recovery it just delays them reaching that day when they will experience true peace and contentment. Life is short so it is probably best to avoid wasting time.
- Those individuals who become stuck in recovery may develop into dry drunks. Such individuals might manage to remain sober, but life away from their addiction will not be full of happiness. Instead it is more likely to feel like a prison sentence. The dry drunk tends to not only make their own life miserable but also the lives of those close to them. Such an individual may no longer be using alcohol or drugs but in many ways it is still business as usual.

Becoming Stuck and the Relapse Process

Those individuals who return to alcohol or drug abuse will often pass through a number of stages before reaching that point. This is known as the relapse process and involves:

- Becoming stuck in recovery
- The individual tries to ignore the fact that they are stuck
- They turn to negative coping strategies to deal with the discomfort of being stuck. This increases their level of internal suffering.
- A trigger event occurs and this causes the internal suffering to become far more obvious
- The individual experiences a great deal of emotional turmoil
- The inner turmoil is now impossible to ignore
- The individual feels like they are out of control
- They return to alcohol or drug abuse in order to escape the pain

History of Drug and Alcohol Treatment in America – Timeline of Notable Events



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The phrase, **drug treatment**, is currently used to refer to treatment for problems with a wide array of substances including both illegal drugs and prescription medications. From the 1950's through the 1970's, however, drug treatment programs focused primarily on heroin and other opiates and were operated separately from programs focusing on alcohol. This division is reflected to this day in the fact that the federal government still maintains a National Institute on Drugs (NIDA) separate from the National Institute on Alcohol Abuse and Alcoholism (NIAAA).

Significant Events in the History of Addiction Treatment and Recovery in America

1750 to Early 1800s Alcoholic mutual aid societies (sobriety "Circles") are formed within various Native American tribes. Some are part of, or evolve into, abstinence-based Native American cultural revitalization movements and temperance organizations.

1784 Dr. Benjamin Rush's Inquiry into the Effects of Ardent Spirits on the Human Mind and Body catalogues the consequence of chronic drunkenness and argues that this condition is a disease that physicians should be treating. Rush's writing marks beginning of American temperance movement.

1810 Dr. Benjamin Rush calls for creation of a "Sober House" for the care of the confirmed drunkard.

1844 – 1845 Lodging Homes and later (1857) a Home for the Fallen are opened in Boston -- marking the roots of the 19th century inebriate home. As inebriate homes spread, they will spawn several alcoholic mutual aid societies such as the Godwin Association.

1845 Frederick Douglass (having earlier acknowledged a period of intemperance in his life) signs a pledge of abstinence and becomes involved in promoting temperance among African American people. His call for abstinence as a foundation of the drive to abolish slavery and prepare Black people for full citizenship anticipated modern Afrocentric models of addiction recovery.

1849 The Swedish physician Magnus Huss describes a disease resulting from chronic alcohol consumption and christens it Alcoholismus chronicus. This marks the introduction of the term alcoholism.



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1864 The New York State Inebriate Asylum, the first in the country, is opened in Binghamton, NY. A growing network of inebriate asylums will treat alcoholism and addiction to a growing list of other drugs: opium, morphine, cocaine, chloral, ether, and chloroform.

1867 The opening of the Martha Washington Home in Chicago marks the first institution in America that specialized in the treatment of inebriate women.

1870 The American Association for the Cure of Inebriety founded under the principle "Inebriety is a disease." The Association's Journal of Inebriety is published from 1876-1914.

1870's New alcoholic mutual aid societies - the Ribbon Reform Clubs -- begin in the Northeast and spread throughout the U.S. over the next two decades. They are named for their members' practice of wearing a colored ribbon on their clothing so that they could recognize one another and convey a message of hope about recovery to the larger community.

1879 Dr. Leslie Keeley announces that "Drunkenness is a disease and I can cure it." He opens more than 120 Keeley Institutes across the U.S., marking the beginning of franchised, private, for-profit addiction treatment institutes/sanatoria in America.

1880's Cocaine is recommended by Sigmund Freud and a number of American physicians in the treatment of alcoholism and morphine addiction. Bottled home cures for the alcohol and drug habits abound; most will be later exposed to contain alcohol, opium, morphine, cocaine and cannabis.

1891-1892 Keeley League (a Keeley Institute patient mutual aid society) founded. Keeley League members meet under the banner, "The Law Must Recognize a Leading Fact: Medical Not Penal Treatment Reforms the Drunkard." As inebriate homes and asylums close, alcoholics are relegated to city "drunk tanks," "cells" in "foul wards" of public hospitals, and the backwards of aging "insane asylums." Wealthy alcoholics/addicts will continue to seek discrete detoxification in private sanatoria know as "jitter joints," "jag farms" or "dip shops."

1901 The Charles B. Towns Hospital for Drug and Alcoholic Addictions in New York City marks the beginning of a new type of private "drying out" hospital for affluent alcoholics and addicts.

1906 The Emmanuel Clinic in Boston begins the practice of lay therapy in the treatment of alcoholism. The Clinic will generate a number of noted lay therapists (Baylor, Chambers,



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Peabody) who will exert enormous influence on alcoholism treatment for several decades. The Jacoby Club serves as the Clinic's mutual aid society.

1919 – 1924 Forty-four communities establish morphine maintenance clinics (run by public health departments or police departments) to care for incurable and medically infirm addicts. All eventually close under threat of federal indictment. Treatment for narcotic addiction virtually disappears for all but the most affluent Americans.

1920's Most inebriate homes, inebriate asylums and private addiction cure institutes collapse between 1910 and 1925. The Journal of Inebriety ceases publication in 1914 and its parent association collapses in the early 1920s.

1935 The opening of Shadel Sanatorium marks the introduction of aversive conditioning in an institutional alcoholism treatment setting.

The first federal "narcotics farm" (U.S. Public Health Prison Hospital) opens in Lexington, Kentucky. The second facility opens in Fort Worth, Texas in 1938. This marks the beginning of federal involvement in addiction research and addiction treatment.

The meeting of Bill W. and Dr. Bob S. (and Dr. Bob's last drink) mark the beginning of Alcoholics Anonymous (AA).

1939 The book, Alcoholics Anonymous, is published.

1940- 1945 Recovered alcoholics in AA are recruited at Remington Arms, DuPont, Kaiser Shipyards, and North American Aviation to work in the first modern industrial alcoholism programs -- forerunners of today's employee assistance programs (EAPS).

1943 Yale Center of Alcohol studies initiates a significant research program, the Summer School of Alcohol Studies, the Yale Plan Outpatient Clinics, and the Yale Plan for Business and Industry. The Center will move to Rutgers in 1962.

1944 Marty Mann founds the National Committee for Education on Alcoholism (today the National Council on Alcoholism and Drug Dependence) around the following propositions:

1. Alcoholism is a disease.
2. The alcoholic, therefore, is a sick person.



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3. The alcoholic can be helped.
4. The alcoholic is worth helping.
5. Alcoholism is our No. 4 public health problem, and our public responsibility.

Mann calls for a five-prong approach to be achieved by local NCEA affiliates:

1. Launching local public education campaigns on alcoholism.
2. Encouraging hospitals to admit alcoholics for acute detoxification.
3. Establishing local alcohol information centers.
4. Establishing local clinics for the diagnosis and treatment of alcoholism.
5. Establishing "rest centers" for the long-term care of alcoholics.

The first state alcoholism commissions are founded. They support fledgling efforts at local community education and treatment.

1947 An Addicts Anonymous group begins meeting at U.S. Public Health Hospital in Lexington, Kentucky. Meetings begin outside the institution in New York City under the name Narcotics Anonymous (NA) in 1949 but dissipate over time. The roots of today's NA can be traced to groups that began in California in 1953. International Doctors in AA founded.

1948 Alcoholics Victorious is founded within the Chicago Christian Industrial League and spreads as a Christian, recovery support group within many of the nation's urban missions.

1948 – 1950 The "Minnesota Model" of chemical dependency treatment emerges in the synergy between three institutions: Pioneer House, Hazelden, and Willmar State Hospital. (Antabuse) introduced as an adjunct in the treatment of alcoholism in the U.S. Other drugs used in the treatment of alcoholism during this period include barbiturates, amphetamines (Benzedrine), and LSD.

1950 The Twelve Traditions are formally adopted to govern the group life of AA. The National Institute of Mental Health establishes a special division on alcoholism Marty Mann's Primer on Alcoholism is published. American Medical Association (AMA) resolves to create a special committee to develop a program for "medicine's aggressive participation in the work of solving the problems of alcoholism."



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Early 1950's AA membership surpasses 90,000 as America (and Hollywood) becomes interested in the subject of alcoholism. Cinema portrayal of alcoholism includes such noted films as *Lost Weekend*, *Days of Wine and Roses*, and *Come Back, Little Sheba*.

1950's The halfway house movement culminates in the founding (1958) of the Association of Halfway House Alcoholism Programs of North America.

1951 Lois W. and Anne B. start a Clearing House for the growing number of Family Groups that have grown in tandem with AA through the 1940s. The opening of the Clearing House marks the formal organization of these groups into Al-Anon Family Groups.

1952 American Medical Association first defines alcoholism. R. Brinkley Smithers establishes the Christopher D. Smithers Foundation, a charitable organization that focuses its primary mission on the support of alcoholism education and treatment efforts. This focus followed Smithers' own recovery from alcoholism and his participation in the Yale Summer School of Alcohol Studies. By the mid-1990s, the Foundation and the Smithers family had donated more than \$37 million to support alcoholism-related projects.

1954 Ruth Fox, MD establishes the New York City Medical Society on Alcoholism, today known as the American Society of Addiction Medicine (ASAM). The Minnesota State Civil Service Commission becomes the first such body in the United States to approve a state job classification position for "Recovery Coach on Alcoholism."

1956 The American Medical Association stops short of declaring alcoholism a disease but does recognize alcoholics as legitimate patients: "Hospitals should be urged to consider admission of such patients with a diagnosis of alcoholism based upon the condition of the individual patient, rather than a general objection to all such patients."

1957 The Veteran's Health Administration begins developing alcoholism treatment units within its national network of VA hospitals. American Hospital Association passes resolution to help prevent discrimination against alcoholics. Fordham University School of Social Services offers first full university course on alcoholism for credit.

1958 The first ex-addict-directed therapeutic community - Synanon -- is founded by Charles Dederich. It will be widely replicated in the 1960s and 1970s.



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1960 E.M. Jellinek publishes The Disease Concept of Alcoholism.

Early 1960's Several states initiate civil commitment programs for narcotic addicts.

1963 American Public Health Association adopts an official statement on alcoholism, identifying it as a treatable illness. Dr. Vincent Dole, an endocrinologist, and Dr. Marie Nyswander, a psychiatrist specializing in addiction, introduce methadone blockade therapy in the treatment of narcotic addiction.

1964 – 1975 The insurance industry begins to reimburse the treatment of alcoholism on par with the treatment of other illnesses. This leads to a dramatic expansion in private and hospital-based inpatient treatment programs.

1966 Two federal Appeals Court decisions support the disease concept of alcoholism. President Johnson appoints first National Advisory Committee on Alcoholism and becomes the first President to address the country about alcoholism. He proclaims: "The alcoholic suffers from a disease which will yield eventually to scientific research and adequate treatment."

The National Center for the Prevention and Control of Alcoholism is created within the National Institute on Mental Health.

The Narcotic Addict Rehabilitation Act (NARA) marks a milestone of increased federal involvement in supporting development of local addiction treatment services.

The New York Medical Society alters its mission to become the American Society on Addiction Medicine.

1967 – 1971 Special alcoholism Recovery Coaching/treatment initiatives begin within all major branches of the U.S. Armed Forces.

1970 Congress passes the "Comprehensive Alcohol Abuse and Alcoholism Prevention Treatment and Rehabilitation Act," known as the Hughes Act for its sponsor in the Senate, Harold E. Hughes. The legislation establishes the National Institute on Alcohol Abuse and Alcoholism (NIAAA). Those testifying in support of the legislation include Marty Mann of NCA and Bill Wilson, Co-founder of AA.



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1972 The Joint Commission on Accreditation of Hospitals develops accreditation standards for alcoholism treatment programs.

The Alcoholism Report, the first newsletter devoted exclusively to the field of alcoholism, begins publication.

The National Association of Alcoholism Recovery Coaches and Trainers is founded at a meeting of Organization for Economic Opportunity regional alcoholism programs. It will evolve into the National Association of Alcoholism and Drug Abuse Recovery Coaches (NAADAC).

The Food and Drug Administration approves use of methadone for treating heroin addiction.

The Drug Abuse Treatment Act of 1972 creates the Special Action Office for Drug Abuse Prevention that will lay the groundwork for the creation of the National Institute on Drug Abuse in 1974.

TASC (Treatment Alternatives to Street Crime) is created by the Drug Abuse and Treatment Act to screen addicts in the criminal justice system and then to link and manage their involvement in treatment services.

1973 U.S. investigators first describe fetal alcohol syndrome (FAS), a pattern of birth defects observed in children born to alcoholic mothers.

Vernon Johnson's book, *I'll Quit Tomorrow*, introduces intervention technologies that will be widely used to reach alcoholics and addicts before they "hit bottom."

1974 The first of a series of studies on credentialing of Recovery Coaches working in alcohol and drug treatment programs marks the beginning of a sustained process of certification and licensure of addiction Recovery Coaches.

1978 First Lady Betty Ford speaks to the nation about entering recovery from addiction to alcohol and other drugs.

1980 President Carter appoints the National Commission on Alcoholism and Other Alcohol Related Problems chaired by Senator Harold Hughes. It only meets once.

Mothers Against Drunk Driving, a powerful grassroots advocacy group, is formed.



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1981 The U.S. Postal Service issues a first-class stamp imprinted with "Alcoholism. You can beat it!"

Nancy Reagan's "Just Say No" anti-drug campaign is launched within a broader "zero tolerance" campaign that will reduce federal support for treatment and mark the beginning of the dramatic rise in the number of drug users incarcerated. The growth of addicted offenders in the 1980s will lead to the demand for drug courts and in-prison treatment in the 1990s.

1982 The federal Block Grant Program transfers responsibility for the delivery of treatment and prevention services to the states.

Former First Lady Betty Ford lends her name to a treatment center for alcoholism and other drug addictions.

Cocaine Anonymous is founded.

1982 – 1992 The number of women-only treatment units triple as NIAAA and NIDA focus attention on the special needs of addicted women.

1983 First certification exam for addiction medicine specialty is offered in California. National Association for Children of Alcoholics is founded.

1985 First appearance of crack cocaine focuses enormous public attention on the illegal drug problem. Concerns about cocaine-exposed infants lead to expansion of treatment resources for women and specialized programs to treat women involved in the child protection system.

American Academy of Psychiatrists in Alcoholism and Addictions is founded.

1985 – 1990 Addiction treatment becomes increasingly concerned about "special populations" and launches specialized treatment tracks for women, adolescents, the elderly, gays and lesbians, and the "dually diagnosed." As the challenges of treating new patterns of cocaine addiction grow, relapse tracks also become a common treatment innovation.

1987 President Reagan formally announces a renewed "War on Drugs"; the shift away from treatment toward punishment and incarceration intensifies.



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American Medical Association calls all drug dependencies diseases whose treatment is a legitimate part of medical practice.

1989 The publication of Stanton Peele's *Diseasing of America: Addiction Treatment Out of Control* marks the full emergence of a movement whose primary mission is opposition to Twelve Step programs and Twelve Step-oriented addiction treatment.

The first specialized "drug court" is started by Miami Judge Stanley Goldstein. It will spur a national movement to link addicted, non-violent offenders to treatment as an alternative to incarceration.

1989 – 1994 Following an erosion of alcoholism treatment reimbursement benefits by insurance carriers, an aggressive system of managed care all but eliminates the 28-day inpatient treatment program in hospitals and private, free-standing centers. The downsizing and closure of hospital-based treatment units sparks a trend toward the integration of many psychiatric and addiction treatment units and a renewed community trend of incorporating addiction treatment services under the umbrella of mental health or "behavioral health" services. Most inpatient treatment programs shift their emphasis toward outpatient and intensive outpatient services. The loss of residential services adds fuel to a growing recovery home movement.

1991 The American Society of Addiction Medicine publishes its ASAM Patient Placement Criteria for the Treatment of Psychoactive Substance Use Disorders. The ASAM criteria shift treatment toward a "levels of care" system rather than a single modality indiscriminately applied to all those entering treatment.

1992 The Center for Substance Abuse Treatment created to expand the availability and quality of addiction treatment.

The Americans With Disabilities Acts extends job protection (except in safety-sensitive positions) to alcoholics and recovering drug addicts in the private sector.

1995 U.S. Food and Drug Administration approves prescription use of naltrexone in treatment for alcoholism. Naltrexone marks the emergence of a new generation of pharmacological adjuncts in the treatment of alcoholism and other addictions.



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2000 In a milestone article in the Journal of the American Medical Association, Drs. McLellan, Lewis, O'Brien, and Kleber call for the re-conceptualization and treatment of addiction as a chronic medical illness.



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Understanding Co-occurring Disorders

Course Description

Prevalence rates show that individuals with co-occurring disorders are common in both the substance abuse and mental health treatment systems. This course will provide participants with an understanding of the concept and term: co-occurring disorders. Participants will become familiar with the assessment, symptoms, and treatment of co-occurring disorders, and will be provided with an example of a special population that exists within the realm of co-occurring disorders.

Course Objectives

On completion of this course, participants will be able to identify/demonstrate familiarity with:

1. The definition and terms related to co-occurring disorders.
2. The assessment of co-occurring disorders and common symptoms.
3. The relationship between substance abuse and mental health concerns.
4. The symptoms of specific co-occurring disorders.
5. Available treatments for clients with co-occurring disorders.
6. A special population example and co-occurring disorders.

Introduction

Formerly known as dual diagnosis or dual disorder, the term co-occurring disorders describes the presence of two or more disorders at the same time. For example, a person may suffer with substance use disorder, as well as bipolar disorder. For the purpose of this training, the terms co-occurring and dual-diagnosis may be used interchangeably.

The Substance Abuse and Mental Health Services Administration (SAMHSA) defines cooccurring disorders as:

“The term co-occurring disorders (COD) refers to co-occurring substance-related and mental disorders. Clients said to have COD have one or more substance-related disorder as well as one or more mental disorder.”



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According to SAMHSA, a 2002 report to Congress estimated that seven to ten million individuals in the United States have at least one mental disorder as well as a substance use disorder. In the 2012 SAMHSA's National Survey on Drug Use and Health (NSDUH) it was reported that an estimated 43.7 million (18.6%) Americans ages 18 and up experienced some form of mental illness. In the past year, 20.7 million adults (8.8%) had a substance use disorder. Of these, 8.4 million people had both a mental disorder and substance use disorder, also known as co-occurring mental and substance use disorders.

Terminology

As the field of treatment for substance use and mental disorders is evolving to become more precise, so too is the terminology used to describe people with both substance use and mental disorders. The term co-occurring disorders has been integrated as a term that will be more encompassing than the terms dual disorder or dual diagnosis. These latter terms, though used commonly to refer to the combination of substance use and mental disorders, are confusing in that they also refer to other combinations of disorders (such as mental disorders and mental retardation). Furthermore, the terms suggest that there are only two disorders occurring at the same time, when in fact there may be more. Clients with COD have one or more disorders relating to the use of alcohol and/or other drugs of abuse as well as one or more mental disorders. A diagnosis of co-occurring disorders occurs when at least one disorder of each type can be established independent of the other and is not simply a cluster of symptoms resulting from the one disorder.

Understanding Co-occurring Disorders

Both mental health issues and substance use disorders have their own unique symptoms that may get in the way of one's ability to function, handle life's difficulties, and relate to others. To make the situation more complicated, the co-occurring disorders also affect and interact with one another.

When a mental health problem goes untreated, the substance abuse problem usually gets worse as well, and when alcohol or drug abuse increases, mental health problems usually increase too.

Common examples of co-occurring disorders include the combinations of:

- Major depression with cocaine addiction.
- Alcohol use disorder with panic disorder.



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- Alcoholism and poly-drug addiction with schizophrenia.
- Borderline personality disorder with episodic poly-drug abuse.
- Substance use disorder and eating disorder.

Combinations of COD problems and psychiatric disorders vary along dimensions such as:

- Severity,
- Chronicity,
- Disability, and
- Degree of impairment in functioning.

For example, two disorders may each be severe or mild, or one may be more severe than the other, and the severity of both disorders may change over time. Levels of disability and impairment in

functioning may also vary. There is no single combination of dual disorders, as there is great variability among them. However, clients with similar combinations of dual disorders are often encountered in certain treatment settings. For example, adults with severe mental illness who are further impaired by substance use disorders (abuse or dependence related to alcohol or other drugs) would often be receiving treatment at a dual-diagnosis/co-occurring disorders treatment center.

Patients with dual disorders often experience more severe and chronic medical, social, and emotional problems compared to patients who have a mental health disorder or a substance use disorder alone. Because they have two disorders, they are vulnerable to relapsing and a worsening of the psychiatric disorder. Further, addiction relapse often leads to psychiatric decompensation, and worsening of psychiatric problems often leads to addiction relapse.

A mental health disorder complicates and compounds the challenges in overcoming an addiction to drugs or alcohol. Also, many times people who have an undiagnosed mental illness may try to treat their symptoms by self-medicating with drugs or alcohol, with alcohol being the most common choice. This self-medicating to numb symptoms can unfortunately cause side effects and worsen the very symptoms they were trying to relieve. Some common symptoms that people seek relief from by self-medicating include anxiety, depression, or paranoia. Down the road, if an individual is a chronic drug abuser, they can acquire mental illness from years of heavy use. Therefore, relapse prevention must be specially designed for patients with dual disorders. Compared with patients who have a single disorder, patients with dual disorders often require longer treatment, have more crises, and progress more gradually in treatment.

Psychiatric disorders most prevalent among dually diagnosed patients include mood disorders,



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anxiety disorders, personality disorders, and psychotic disorders. Antisocial personality disorders have a 15.5 percent abuse rate; Bipolar disorder is next at 14.5 percent, while anxiety disorders have a 4.3 percent abuse rate.

Source: <http://drugbuse.com/library/mental-health-and-drug-abuse>

The relationship between substance use disorder and mental health concerns

Addiction is common within people who are also facing mental health problems. Although substance abuse and mental health disorders, like depression and anxiety, are closely linked, one does not directly cause the other in a linear fashion. In other words, the presence of a mental health problem does not necessarily mean that a client is also going to develop or have a substance use problem. Although, one can easily see how an increase in depression or anxiety could lead a person to using substances as an attempt to solve their symptoms of depression or anxiety. It is also quite plausible to see how a person who has a substance use problem could have an increase in depression or anxiety symptoms. Duration and intensity of symptoms helps to distinguish what problems may need the most attention. In order to expand on the relational aspect between substance abuse and mental health problems, think about the following ideas:

- Alcohol or drugs are often used to self-medicate the symptoms of depression or anxiety. Unfortunately, substance abuse causes side effects and in the long run worsens the very symptoms they initially numbed or relieved.
- Alcohol and drug abuse can increase underlying risk for mental disorders. Mental disorders are caused by a complex interplay of genetics, the environment, and other outside factors. If you are at risk for a mental disorder, drug or alcohol abuse may push you over the edge.
- Alcohol and drug abuse can make symptoms of a mental health problem worse. Substance abuse may sharply increase symptoms of mental illness or trigger new symptoms. Alcohol and drug abuse also interact with medications such as antidepressants, anti-anxiety pills, and mood stabilizers, making them less effective.

According to reports published in the Journal of the American Medical Association:

- Roughly 50% of individuals with severe mental disorders are affected by substance abuse.
- 37 percent of alcohol abusers and 53 percent of drug abusers also have at least one serious mental illness.
- Of all people diagnosed as mentally ill, 29 percent abuse either alcohol or drugs.



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Source: National Alliance on Mental Illness

Recognizing co-occurring disorders or dual diagnosis

It can be difficult to diagnose a substance abuse problem and a co-occurring mental health disorder such as depression, anxiety, or bipolar disorder. It takes time to tease out what might be a mental disorder and what might be a drug or alcohol problem. Often chronic alcohol abuse and withdrawal can imitate symptoms of psychiatric disorders, such as anxiety, mood changes, and cognitive impairment.

Complicating the issue is denial. Denial is common in substance abuse. The term "denial" refers to the process by which people with addictions pretend (to themselves and/or to other people) that they do not have an addiction, when in fact they do, or that their addictive behavior is not problematic, when in fact it is. Denial says that if the problem is not acknowledged, it doesn't exist. It's hard to admit how dependent you are on alcohol or drugs or how much they affect your life. Denial frequently occurs in mental disorders as well. The symptoms of depression or anxiety can be frightening, so you may ignore them and hope they go away. Or you may be ashamed or afraid of being viewed as weak if you admit the problem.

To assist you in recognizing a dual diagnosis or co-occurring disorders:

- Consider family history. If people in one's family have grappled with either a mental disorder such as depression or alcohol abuse or drug addiction, they have a higher risk of developing these problems. Children of alcoholics are 50 to 60 percent more likely to develop alcohol use disorders than people in the general population. Children of parents who abuse illicit drugs may be 45 to 79 percent more likely to do so themselves than the general public. <http://pubs.niaaa.nih.gov/publications/AA76/AA76.htm>. Consider sensitivity to alcohol or drugs. Is a client highly sensitive to the effects of alcohol or drugs? Have they noticed a relationship between their substance use and their mental health? For example, do they get depressed when they drink?
- Look at and explore symptoms when clients are sober. While some depression or anxiety is normal after people have stopped drinking or doing drugs, if the symptoms persist after one has achieved sobriety, clients may be dealing with a mental health problem.
- Review treatment history. Has your client been treated before for either an addiction or mental health problem? Did the substance abuse treatment fail because of complications



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from mental health issues or vice versa?

- Helping clients to think about the role that alcohol and other drugs play in their lives. Clients benefit when they are able to explore the larger picture of how substances came into their lives. Having conversations that allow for clients to better understand how the use of drugs was most likely an attempt to solve another problem will also allow them to think about what they wanted drugs/alcohol to do for them. When clients begin to make connections such as this, they often gain more insight into their behaviors/thoughts. Along with this insight, one can increase their ability to make conscious changes and improvements to their lives.
- Offering a chance to learn more about alcohol/drug interactions with medications. Educating your clients about how medications they might be taking for their mental health symptoms interact with drugs and alcohol is one more way of helping clients to see the larger picture of how to best manage co-occurring disorders.
- Helping clients identify and develop their own recovery goals. One of the most useful and important components of therapy is the client's formation of treatment goals. This allows for a direction in therapy and is also a way of tracking progress.

Signs and symptoms of alcohol abuse or substance abuse

If you're wondering whether your client has a substance abuse problem, the following questions may help them and you as the therapist to better understand the role that substances may have in their life. The more "yes" answers, the more likely that drinking or drug use is a problem.

- Have you ever felt you should cut down on your drinking or drug use?
- Have you tried to cut back, but couldn't?
- Do you ever lie about how much or how often you drink or use drugs?
- Have your friends or family members expressed concern about your alcohol or drug use?
- Do you ever felt bad, guilty, or ashamed about your drinking or drug use?
- On more than one occasion, have you done or said something while drunk or high that you later regretted?
- Have you ever blacked out from drinking or drug use?
- Has your alcohol or drug use caused problems in your relationships?
- Has your alcohol or drug use gotten you into trouble at work or with the law?



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Signs and symptoms of common co-occurring disorders

The mental health problems that most commonly co-occur with substance abuse are depression, anxiety disorders, bipolar disorder, obsessive compulsive disorder and eating disorders.

Listed below are common signs and symptoms of depression:

- Feelings of helplessness and hopelessness
- Loss of interest in daily activities
- Inability to experience pleasure
- Appetite or weight changes
- Sleep changes
- Loss of energy
- Strong feelings of worthlessness or guilt
- Concentration problems
- Anger, physical pain, and reckless behavior (especially in men)

Listed below are common signs and symptoms of mania in bipolar disorder:

- Feelings of euphoria or extreme irritability
- Unrealistic, grandiose beliefs
- Decreased need for sleep
- Increased energy
- Rapid speech and racing thoughts
- Impaired judgment and impulsivity
- Hyperactivity
- Anger or rage

Listed below are common signs and symptoms of anxiety:

- Excessive tension and worry
- Feeling restless or jumpy
- Irritability or feeling “on edge”
- Racing heart or shortness of breath
- Nausea, trembling, or dizziness
- Muscle tension, headaches



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(954) 771-2091 – Fax (954) 771-2098

- Trouble concentrating
- Insomnia

Listed below are common signs and symptoms of obsessive compulsive disorder:

- Examples of obsession signs and symptoms include
 - Fear of being contaminated by shaking hands or by touching objects others have touched
 - Doubts that you've locked the door or turned off the stove
 - Intense stress when objects aren't orderly or facing a certain way
 - Images of hurting yourself or someone else
 - Avoidance of situations that can trigger obsessions, such as shaking hands
 - Distress about unpleasant sexual images repeating in your mind
- Examples of compulsion signs and symptoms include
 - Hand-washing until your skin becomes raw
 - Checking doors repeatedly to make sure they're locked
 - Checking the stove repeatedly to make sure it's off
 - Counting in certain patterns
 - Arranging your canned goods to face the same way

Listed below are common signs and symptoms of eating disorders:

- Anorexia Nervosa
 - Inadequate food intake leading to a weight that is clearly too low.
 - Intense fear of weight gain, obsession with weight and persistent behavior to prevent weight gain.
 - Self-esteem overly related to body image.
 - Inability to appreciate the severity of the situation
- Binge Eating Disorder
 - Frequent episodes of consuming very large amounts of food but without behaviors to prevent weight gain, such as self-induced vomiting.
 - A feeling of being out of control during the binge eating episodes.
 - Feelings of strong shame or guilt regarding the binge eating.
 - Indications that the binge eating is out of control, such as eating when not hungry, eating to the point of discomfort, or eating alone because of shame about the behavior.
- Bulimia Nervosa
 - Frequent episodes of consuming very large amount of food followed by



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(954) 771-2091 – Fax (954) 771-2098

- behaviors to prevent weight gain, such as self-induced vomiting.
- A feeling of being out of control during the binge-eating episodes.
- Self-esteem overly related to body image.

Treatment for co-occurring disorders or dual diagnosis

Clients with co-occurring disorders have historically received substance abuse treatment services in isolation from mental health treatment services. As more research on co-occurring disorders began to be conducted, the many limitations this approach places on the client and his or her success in treatment began to surface. There are various models of treatment of co-occurring disorders including:

- Single model of care - It was believed that once the “primary disorder” was treated effectively, the client’s substance use problem would resolve itself because drugs and/or alcohol were no longer needed to cope.
- Sequential model of treatment - acknowledges the presence of co-occurring disorders but treats them one at a time.
- Parallel model of treatment - mental health disorders are treated at the same time as co-occurring substance use disorders, only by separate treatment professionals and often at separate treatment facilities.
- Integrated model of treatment – an approach to treating co-occurring disorders that utilizes one competent treatment team at the same facility to recognize and address all mental health and substance use disorders at the same time.

According to SAMSHA, the best treatment for co-occurring disorders is an integrated approach, where both the substance abuse problem and the mental disorder are treated simultaneously. Whether your mental health or substance abuse problem came first, recovery depends on treating both disorders simultaneously. This approach often lowers the cost of treatment and creates better outcomes including:

- Reduced substance use
- Improved psychiatric symptoms and functioning
- Decreased hospitalization
- Increased housing stability
- Fewer arrests
- Improved quality of life



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Without integrated treatment, one or both disorders may not be addressed properly. Successful treatment requires:

- An integrated screening and assessment processes
- An integrated treatment plan
- Integrated or coordinated treatment
- Collaboration across all disciplines on the treatment team
- Integrated continued care plan
- Trained staff that will recognize the needs of patients with co-occurring disorder.

There are various levels of treatment depending on the severity and type of symptoms a person is experiencing. Some levels of care include daily therapy and close monitoring while people learn to gain a better sense of managing their symptoms, such care may include a residential component, where one receives treatment while they also reside at a facility that specializes in co-occurring disorders. Other levels of care, such as an outpatient therapy program could include a client attending group/individual sessions 3-4 times per week while residing at home.

A comprehensive continuum of care for people requiring treatment for COD may include:

- Detoxification
- In-patient hospitalization
- Residential treatment
- Day-time or night-time treatment
- Intensive outpatient treatment
- Outpatient treatment

The best ways to determine the needed level of care is to consult with a psychiatrist, therapist, and/or co-occurring disorder treatment center, complete an integrated assessment.

Special Populations Example

Treatment programs for veterans with co-occurring disorders

When working with clients who have co-occurring disorders, some people also fall into a special category, which often means that within the population other sensitivity concerns are also necessary to address and/or keep in mind. Some examples of special populations include: LGBTQ clients, geriatric clients, clients with eating disorders, and Veterans to name a few. To further expand on this concept; let's think about some of the additional challenges that



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Veterans might have when it comes to co-occurring disorders. The pressures of deployment or combat can exacerbate underlying mental disorders, and substance abuse is a common way of coping with unpleasant feelings or memories. Often, these problems take a while to show up after a vet returns home, and may be initially mistaken for readjustment. Untreated co-occurring disorders can lead to major problems at home and work, so it's important to seek help. The U.S. Department of Veterans Affairs indicates that more than 2 out of 10 veterans who suffer from post-traumatic stress disorder (PTSD) concurrently have a substance abuse disorder. Veterans often benefit from treatment and support from specialized programs that address the unique stresses veterans face.

Group support for co-occurring disorders or dual diagnosis

As with other addictions, groups are very helpful, not only in maintaining sobriety, but also as a safe place to get support and discuss challenges. Sometimes treatment programs for co-occurring disorders provide groups that continue to meet on an aftercare basis. If you are treating a client who has a co-occurring disorder for individual therapy, it might be very useful to also refer them to a group for people with co-occurring disorders.

While it's often best to join a group that addresses both substance abuse and mental health disorders, twelve-step groups for substance abuse can also be helpful—plus they're more common and often easy to locate. These free programs, facilitated by peers, use group support and a set of guided principles—the twelve steps—to obtain and maintain sobriety.

Find a group that is accepting of the idea of co-occurring disorders and psychiatric medication. Some people in these groups, although well meaning, may mistake taking psychiatric medication as another form of addiction. Clients need a place to feel safe, not pressured.

Self-help for co-occurring disorders or dual diagnosis

Getting sober is often the first, yet most important step for clients to make. Continued recovery depends on ongoing mental health treatment, learning healthier coping strategies, and making better decisions when dealing with life's challenges. Listed below are simple, yet valuable recovery tips that are often shared throughout the therapeutic community, and can be especially helpful for clients who are trying to better manage co-occurring disorders:

Recovery tip 1: Recognize and manage overwhelming stress and emotions

- Learn how to manage stress. Stress is inevitable, so it's important to have healthy



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coping skills so one can deal with stress without turning to alcohol or drugs. Stress management skills go a long way towards preventing relapse and keeping symptoms at bay.

- Know personal triggers and have an action plan. While coping with a mental disorder as well as a substance abuse disorder, it's especially important to know the signs that challenging symptoms are beginning to flare up. Common causes include stressful events, big life changes, or unhealthy sleeping or eating. At these times, having a plan in place is essential to preventing drug relapse. Who will you talk to? What do you need to do?

Recovery tip 2: Stay connected

- Get therapy or stay involved in a support group. One's chances of staying sober improve if they are participating in a social support group like Alcoholics Anonymous or Narcotics Anonymous or if you are seeking therapy.
- Follow doctor's orders. Once you are sober and you feel better, you might think you no longer need medication or treatment. But arbitrarily stopping medication or treatment is a common reason for relapse in people with co-occurring disorders. Always talk with your doctor before making any changes to your medication or treatment routine.

Recovery tip 3: Make healthy lifestyle changes

- Practice relaxation techniques. When practiced regularly, relaxation techniques such as mindfulness meditation, progressive muscle relaxation, and deep breathing can reduce symptoms of stress, anxiety, and depression, and increase feelings of relaxation and emotional well-being.
- Adopt healthy eating habits. Start the day right with breakfast, and continue with frequent small meals throughout the day. Going too long without eating leads to low blood sugar, which can make you feel more stressed or anxious.
- Exercise regularly. Exercise is a natural way to bust stress, relieve anxiety, and improve your mood and outlook. To achieve the maximum benefit, aim for at least 30 minutes of aerobic exercise on most days.
- Get enough sleep. A lack of sleep can exacerbate stress, anxiety, and depression, so try to get 7 to 9 hours of quality sleep a night.

Conclusion

Although in the past, mental health disorders and addiction problems were often treated



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separately, we now know that co-occurring mental health and substance use disorders impact one another and must be treated together. Treating just one disorder will not cause the other to automatically improve. And separate, parallel care for the disorders does not result in one, effective treatment plan. To be effective, both disorders must be treated at the same time, in the same place, by the same treatment team. This integrated approach to treatment has provided not only hope, but real improvements to those who are learning how to better manage their co-occurring disorders.

Resources

- Drugabuse.com: <http://drugabuse.com/library/mental-health-and-drug-abuse/>
- NIH: <http://pubs.niaaa.nih.gov/publications/AA76/AA76.htm>
- SAMHSA: <http://www.samhsa.gov/disorders>
- The National Alliance on Mental Health

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