DRUGS
GENERAL AWARENESS
TRAINING

TRAINING MODULE DGAT-14-2

DRUG AWARENESS TRAINING

This training module will provide you with a basic understanding drug abuse, warning signs, effects on the body and consequences of drug abuse. The training module will include the following topic areas:

- Understanding Drug Abuse
- What is Drug Dependency
- What Happens to Your Brain When You Take Drugs
- Cycle of Abuse
- Reality in the Workplace
- Drugs Commonly Abused
- Substance Abuse Detection
- Early Warning Signs
  - Appearance/Physical
  - Behavioral Changes
  - Personality Changes
  - Work Performance Changes
- Signs of Intoxication, by Specific Drug
- Impact of Substance Abuse
- Cost of Drug Abuse

UNDERSTANDING DRUG ABUSE AND DEPENDENCY

Many people do not understand why or how people become dependant on drugs. It is often mistakenly assumed that drug abusers lack moral principles or willpower and that they could stop using drugs simply by choosing to change their behavior. In reality, drug dependency is a complex disorder, and quitting takes more than good intentions or a strong will.

In fact, because drugs change the brain in ways that foster compulsive drug abuse, quitting is difficult, even for those who are ready to do so.

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What is Drug Dependency?

- Dependency is a chronic, often relapsing brain disorder that causes compulsive drug seeking and use, despite harmful consequences to the affected individual and to those around him or her. Although the initial decision to take drugs is voluntary for most people, the brain changes that occur over time challenge a dependent person's self control and hamper his or her ability to resist intense impulses to take drugs.

What Happens to Your Brain When You Take Drugs?

- Drugs contain chemical that tap into the brain's communication system and disrupt the way nerve cells normally send, receive, and process information. There are at least two ways that drugs cause this disruption:
- By imitating the brain's natural chemical messengers and,
- By over-stimulating the "reward circuit" of the brain.
- Some drugs (e.g., marijuana and heroin) have a similar structure to chemical messengers called neurotransmitters, which are naturally produced by the brain. This similarity allows the drugs to "fool" the brain's receptors and activate nerve cells to send abnormal messages.

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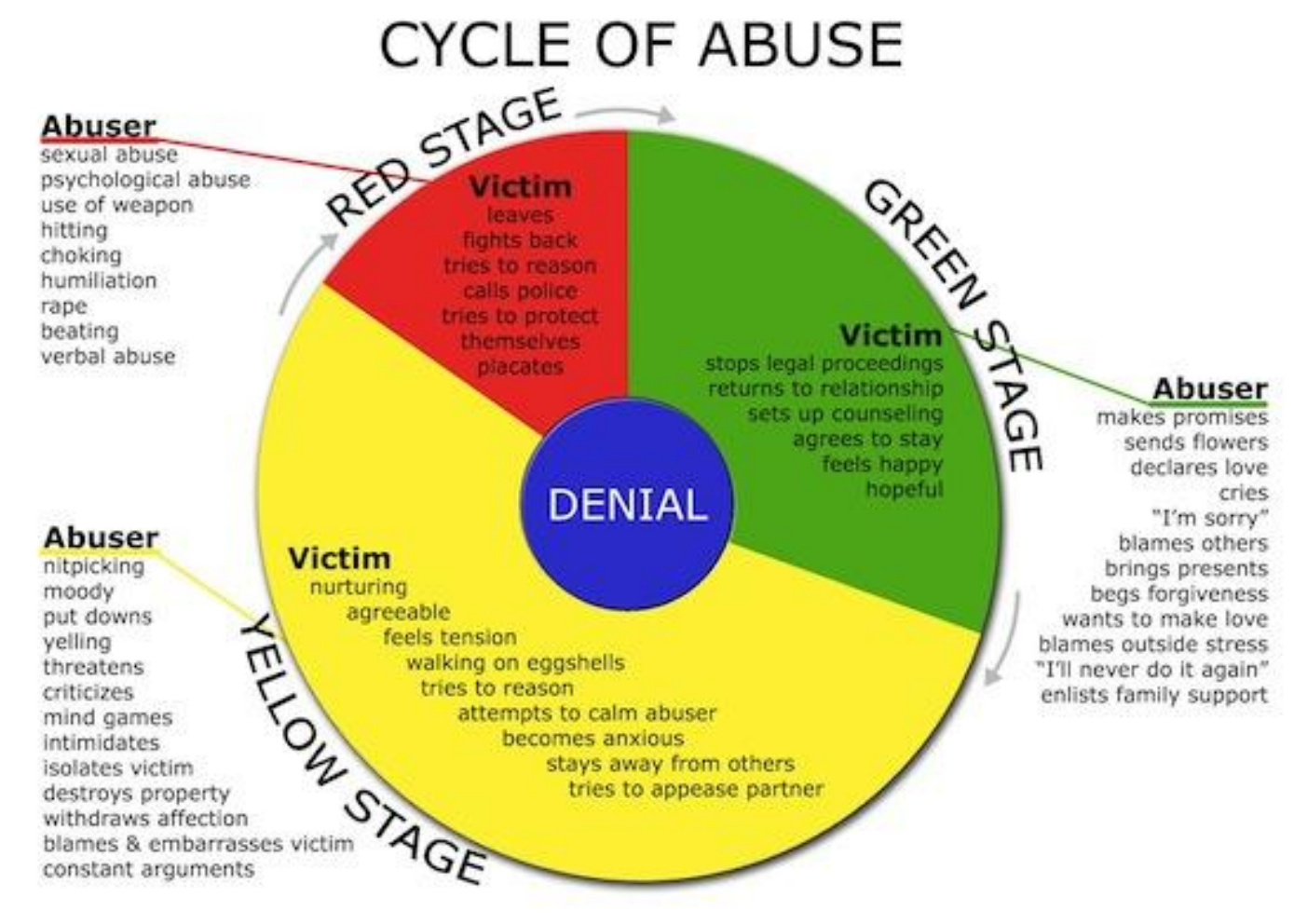

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REALITY IN THE WORKPLACE

Do you think workplaces are drug free? Think again.

- 75% of drug users are employed
- Almost one in ten employees has a substance abuse problem
- 24% of workers admit to drinking during the workday at least once in the past year
- 15% of U.S. workers report using alcohol or being impaired on the job in the past year

Cocaine

Cocaine is a powerfully addictive stimulant drug made from the leaves of the coca plant native to South America.

It produces short-term euphoria, energy, and talkativeness in addition to potentially dangerous physical effects like raising heart rate and blood pressure.

The powdered form of cocaine is either inhaled through the nose (snorted), where it is absorbed through the nasal tissue, or dissolved in water and injected into the bloodstream.

Cocaine (cont'd)

Crack is a form of cocaine that has been processed to make a rock crystal (also called "freebase cocaine") that can be smoked. The crystal is heated to produce vapors that are absorbed into the blood-stream through the lungs. (The term "crack" refers to the cracking sound produced by the rock as it is heated.

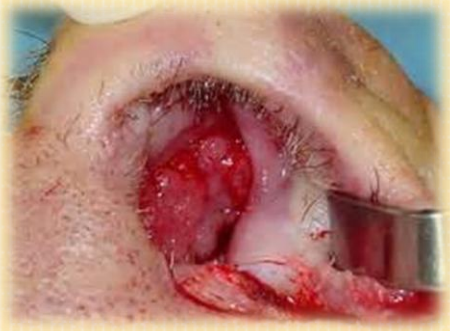
Cocaine (cont'd)

The intensity and duration of cocaine's pleasurable effects depend on the way it is administered. Injecting or smoking cocaine delivers the drug rapidly into the blood-stream and brain, producing a quicker and stronger but shorter-lasting high than snorting.

The high from snorting cocaine may last 15 to 30 minutes; the high from smoking may last 5 to 10 minutes.

Cocaine (cont'd)

In order to sustain their high, people who use cocaine often use the drug in a binge pattern – taking the drug repeatedly within a relatively short period of time, at increasingly higher doses. This practice can easily lead to addiction, a chronic relapsing disease caused by changes in the brain and characterized by uncontrollable drug-seeking no matter the consequences.



Cocaine (cont'd)

How Does Cocaine Affect the Brain?

Cocaine is a strong central nervous system stimulant that increases levels of the neurotransmitter dopamine in brain circuits regulating pleasure and movement.

Normally, dopamine is released by neurons in these circuits in response to potential rewards (like the smell of good food) and then recycled back into the cell that released it, thus shutting off the signal between neurons. Cocaine prevents the dopamine from being recycled, causing excessive amounts to build up in the synapse, or junction between neurons. This amplifies the dopamine signal and ultimately disrupts normal brain communication. It is this flood of dopamine that causes cocaine's characteristic high.

Cocaine (cont'd)

Cocaine also affects the body in a variety of ways. It constricts blood vessels, dilates pupils, and increases body temperature, heart rate, and blood pressure. It can also cause headaches and gastrointestinal complications such as abdominal pain and nausea. Because cocaine tends to decrease appetite, chronic users can become malnourished as well.

Some effects of cocaine depend on the method of taking it. Regular snorting of cocaine, for example, can lead to loss of the sense of smell, nosebleeds, problems with swallowing, hoarseness, and a chronically runny nose. Ingesting cocaine by the mouth can cause severe bowel gangrene as a result of reduced blood flow. Injecting cocaine can bring about severe allergic reactions and increased risk for contracting HIV, hepatitis C, and other blood-borne diseases.

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DID YOU KNOW?

[Data from 2012 National Survey on Drug Use and Health (NSDUH)]

- In 2012, an estimated 23.9 million Americans aged 12 or older were current (past month) illicit drug users, meaning they had used an illicit drug during the month prior to the survey interview. This estimate represents 9.2 percent of the population aged 12 or older. Illicit drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics (pain relievers, tranquilizers, stimulants, and sedatives) used non-medically.
- The rate of current illicit drug use among persons aged 12 or older increased from 8.1 percent in 2008 to 9.2 percent in 2012. The rate in 2012 was similar to the rates in 2009 to 2011 (ranging from 8.7 to 8.9 percent), but it was higher than the rates in the years from 2002 to 2008 (ranging from 7.9 to 8.3 percent).

Marijuana

Marijuana is a dry, shredded green and brown mix of leaves, flowers, stems, and seeds from the hemp plant *Cannabis sativa*. In a more concentrated, resinous form it is called hashish, as a sticky black liquid, hash oil. The main psychoactive (mind-altering) chemical in marijuana is delta-9-tetrahydrocannabinol, or THC.

Marijuana is the most common illicit drug used in the United States. After a period of decline in the last decade, its use has generally increased among young people since 2007, corresponding to a diminished perception of the drug's risks.

Marijuana (cont'd)

When marijuana is smoked, THC rapidly passes from the lungs into the blood-stream, which carries the chemical to the brain and other organs throughout the body.

Research has shown that, in chronic users, marijuana's adverse impact on learning and memory persists after the acute effects of the drug wear off; when marijuana use begins in adolescence, the effects may persist for many years.

Marijuana (cont'd)

Marijuana use can have a variety of adverse short and long term effects, especially on cardiopulmonary and mental health. Marijuana raises heart rate by 20-100 percent shortly after smoking; this effect can last up to 3 hours.

Marijuana and Driving

Because it seriously impairs judgment and motor coordination, marijuana also contributes to accidents while driving. A recent analysis of data from several studies found that marijuana use more than doubles a driver's risk of being in an accident. Further, the combination of marijuana and alcohol is worse than either substance alone with respect to driving impairment.

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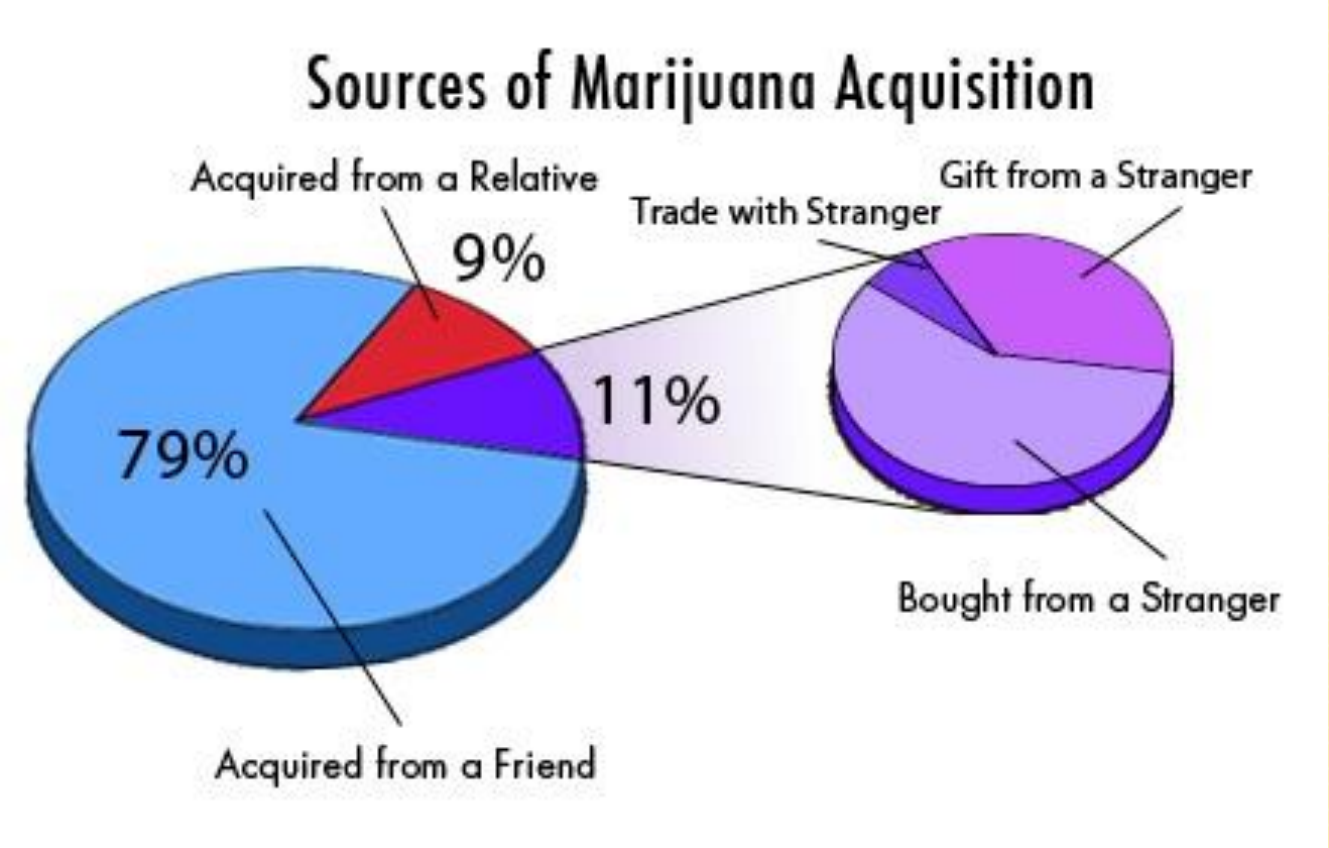
Marijuana sources



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Can Marijuana Cause Dependency?

Contrary to common belief, marijuana can cause dependency. Estimates from research suggests that about 9 % of users develop a habit for marijuana; this number increases among those who start young (to about 17 %, or 1 in 6) and among daily users (to 25-50 %). Thus, many of the nearly 7 % of high-school seniors who (according to annual survey data) report smoking marijuana daily or almost daily are well on their way to dependency, if not already dependent (besides functioning at a sub-optimal level all of the time).

Long-time marijuana users trying to quit report withdrawal symptoms including irritability, sleeplessness decreased appetite, anxiety, and drug craving, all of which can make it difficult to remain abstinent.

Amphetamine – Methamphetamine

Amphetamines belong to a group of drugs called stimulants. Amphetamines speed up the messages going between the brain and the body. Some types of amphetamines are legally prescribed by doctors to treat conditions such as attention deficit hyperactivity disorder (ADHD) and narcolepsy (where a person has an uncontrollable urge to sleep).

Some people use amphetamines illegally to become intoxicated. Amphetamines are sometimes produced in backyard laboratories and mixed with other substances that can have unpleasant or harmful effects. Methamphetamine (also called meth, crystal, chalk, and ice, among other terms) is an extremely addictive stimulant drug that is chemically similar to amphetamine. It takes the form of white, odorless, bitter-tasting crystalline power.

Amphetamine – Methamphetamine (cont'd)

Meth Crystals

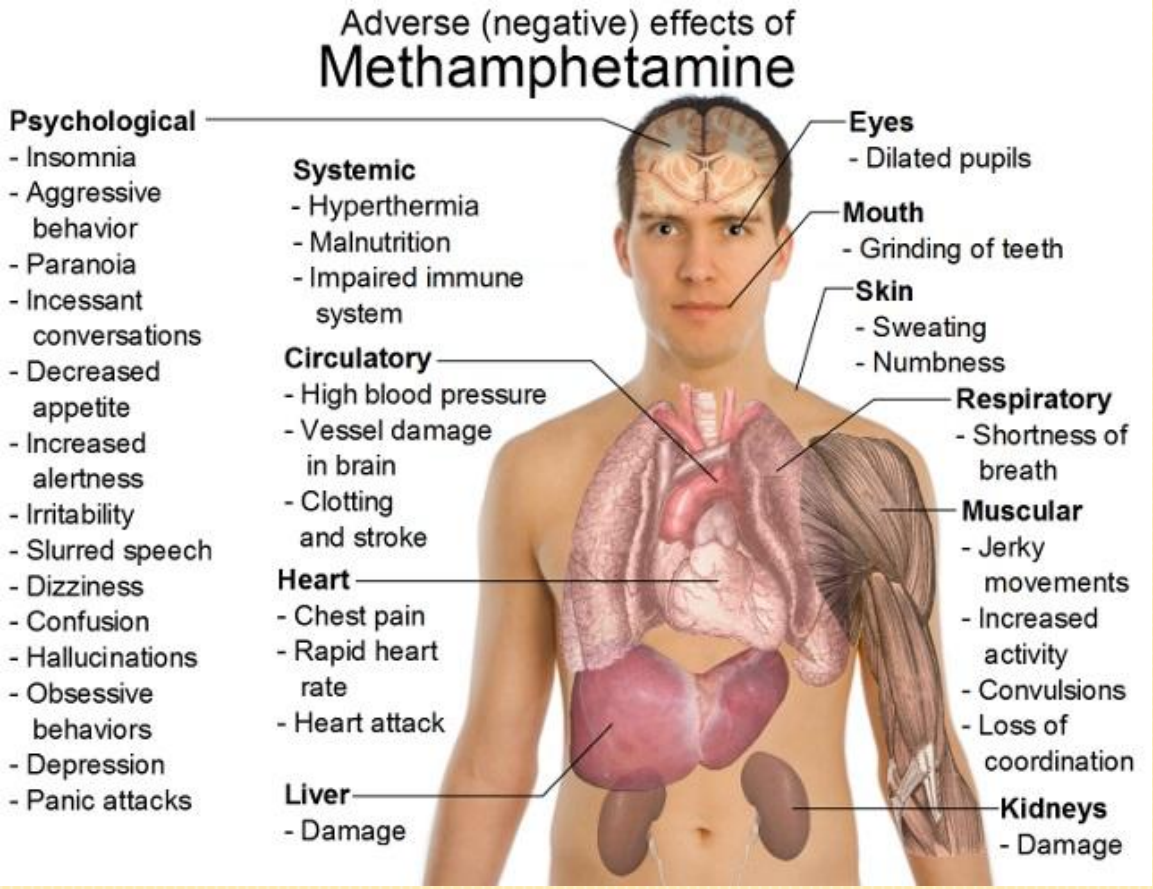
Methamphetamine is taken orally, smoked, snorted, or dissolved in water or alcohol and injected. Smoking or injecting the drug delivers it very quickly to the brain, where it produces an immediate, intense euphoria. Because the pleasure also fades quickly, users often take repeated doses, in a "binge" and crash" pattern.

Amphetamine – Methamphetamine (cont'd)

People who use methamphetamine long-term may experience anxiety, confusion, insomnia, and mood disturbances and display violent behavior. They may also show symptoms of psychosis, such as paranoia, visual and auditory hallucinations, and delusions (for example, the sensation of insects crawling under the skin).

Long-term methamphetamine use has many negative consequences for physical health, including extreme weight loss, severe dental problems ("meth mouth"), and skin sores caused by scratching.

Amphetamine – Methamphetamine (cont'd)



Amphetamine – Methamphetamine (cont'd)

Taken even small amounts of methamphetamine can result in many

Of the same physical effects as those of other stimulants, such as cocaine or amphetamines. These include increased wakefulness, increased physical activity, decreased appetite, increased respiration, rapid heart rate, irregular heartbeat, increased blood pressure, and increased body temperature.

Methamphetamine use also raises the risk of contracting infectious diseases like HIV and Hepatitis B and C. These can be contracted both by sharing contaminated drug injection equipment and through unsafe sex. Regardless of how it is taken, methamphetamine alters judgment and inhibition and can lead people to engage in these and other types of risky behavior.

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DI D YOU KNOW?

[Data from 2012 National Survey on Drug Use and Health (NSDUH)]

- Marijuana was the most commonly used illicit drug. In 2012, there were 18.9 million past month users. Between 2007 and 2012, the rate of current use increased from 5.8 to 7.3 percent, and the number of users increased from 14.5 million to 18.9 million.
- Daily or almost daily use of marijuana (used on 20 or more days in the past month) increased from 5.1 million persons in 2007 to 7.6 million persons in 2012.
- The number of past year heroin users increased between 2007 (373,000) and 2012 (669,000).
- An estimated 1.1 million persons aged 12 or older in 2012 (0.4 percent) used hallucinogens in the past month. These estimates were similar to the estimates in 2002 to 2011.

Opioids

The term “opioids” refers to a number of different substances synthesized from the poppy plant. Both legal opiates (e.g., oxycodone, hydrocodone, codeine, morphine) and illegal opiates (e.g., heroin or illegally obtained prescription opioids) are *highly* addictive.

Approximately 100,000 Americans will use this drug for the first time each year.

Opioids (cont'd)

Prescription opioids are amongst the most commonly abused substances in America. Approximately 2 million new individuals will use these drugs for non-medical purposes each year. Someone who has difficulty stopping their habit, gets sick, injured or arrested due to their use – or who experiences problems at work, school or at home due to being under the influence – may be dependent on opioids.

Heroin is the main illegal drug in the opioids group. It is usually a white or brownish powder that you dissolve in water and then inject with a needle. Most heroin sold on the street contains only a small percentage of the actual drug, because it is diluted with sugar, quinine, or other drugs or substances.

Opioids (cont'd)

The drug is injected either under the skin "(skin popping") or directly into the vein or muscle. After the initial rush, a person will experience drowsiness, dry mouth, intense itchiness and warmth in the skin, and a heavy feeling in the limbs. They probably also feel nauseous, and may vomit. Heartbeat and breathing are slowed, which can lead to death. Speaking becomes slow and slurred, and the ability to walk properly is impaired. The drug then depresses the central nervous system, including the brain.

It's not hard to accidently overdose on heroin. It can happen when a user takes a higher concentration of heroin than he/she realizes, or if it is combined with another drug. In an overdose, the skin turns blue and cold, and the person cannot be woken up. It's not uncommon for overdoses to lead to death.

Opioids (cont'd)

Drug users who share needles are also at high risk of acquiring infections, HIV/AIDS, and Hepatitis B and C, since trace amounts of other's blood may still be on the needle. Heroin users often have lung problems, like pneumonia.

Opioids Use/Abuse

Using heroin can make you tolerant to the drug, which means you must use more and more of the drug to get the same effect. Then you begin to crave the drug, and it becomes the centre of your life. As soon as you stop using heroin, you go into withdrawal. Withdrawal symptoms usually include crying, abdominal cramps, and very intense cravings for the drug. These initial symptoms peak at about 3 days but are not completely over for 7 to 10 days. However, the cravings, and symptoms like chronic depression, anxiety, insomnia, loss of appetite, and periods of agitation, may last for months and even years.

Opioids (cont'd)

Long-term effects

Opioids may lead to an uncontrollable obsession for the drug. This is why even legal opiates, like morphine and codeine, are prescribed only under certain circumstances, and in very limited amounts. Dependency to heroin is its most devastating long-term effect. Along with the frightening short-term effects of the drug, dependency can lead you to forgo everything else in your life (food, clothing, housing, medical care) so you can afford to take heroin as often as possible.

Tylenol 3, a commonly prescribed painkiller, is a combination of acetaminophen and codeine, an opioids. When used incorrectly, Tylenol 3 can also lead to dependant use.

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Phencyclidine (PCP)

Phencyclidine (PCP) is a dangerous drug that was originally developed in 1959 as a human anesthetic and was later used as a veterinary tranquilizer. Medical use in humans was discontinued in 1965 because patients often became agitated, delusional and irrational while recovering from PCP's anesthetic effects.

PCP is unique among drugs used for non-medical purposes because it affects the central nervous system in a variety of ways, acting at times as a stimulant, depressant and hallucinogen. PCP is so dangerous that only a relatively small number of users intentionally take it more than once or twice. However, even one use can prove deadly.

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Phencyclidine (PCP) (cont'd)

PCP often is referred to by many common "street" names. These include "angel dust," "crystal," "elephant tranquilizer," "hog," "horse tranquilizer," "killer joints," "ozone" and wack.

PCP is a white crystalline powder in its original form, but on the street it can be found in pill, capsule, liquid, gum or powder form, often varying in color.

DRUG AWARENESS TRAINING

Phencyclidine (PCP) (cont'd)

PCP is a very unpredictable drug that often produces more adverse than pleasurable sensations. "Bad trips" are very common. These include "frightening hallucinations and "out-of-body" experiences; severely impaired motor coordination and mutism (the inability to speak); desensitization to pain; depression, sometimes severe enough to result in a suicide attempt; anxiety; disorientation; fear, panic, paranoia and even terror; aggressive behavior and violence; catatonic rigidity; and the release of hidden emotional or mental problems.

PCP also acts as a "dissociative anesthetic," meaning that users are temporarily numb, so they don't necessarily associate what is happening to their bodies with themselves. For example, a person high on PCP may see himself get shot but not feel any pain and, therefore, my not realize that he is injured.

Phencyclidine (PCP) (cont'd)

What is the link between PCP and violent behavior?

Violence and severe agitation occur in about one-third of all PCP users, many of whom have no history of psychological problems. Suicides, homicides and self mutilation all have been associated with the use of the drug. The reported "feeling of power" combined with the anesthetic and dissociative effects of PCP often cause extreme behavior.

Examples of PCP-induced violent behavior include a man who mutilated his eyeballs with his own hands and a woman, claiming she was "covered with insects," who literally ripped the skin off her face. There is no way of knowing which PCP "trip" will lead to violent behavior; therefore, there is no way of preventing it.

Phencyclidine (PCP) (cont'd)

While under the influence of PCP, abusers often become violent or suicidal and are therefore dangerous to themselves and others.

DRUG AWARENESS TRAINING

SUBSTANCE ABUSE DETECTION

The key to detecting substance abuse in the workplace is by careful and consistent performance monitoring of the employee. Excessive absenteeism and use of sick time are classic indicators of a possible developing problem. Many substance abusers try to hide their problem. They are secretive about drug or alcohol use and more often deny to themselves that they have a problem.

Many times in the workplace, employees are reluctant to speak up even if they see a problem. Additionally, family members and friends are hesitant to speak out and become part of the secrecy and denial of the problem.

In all cases … there ARE early warning signs that will manifest themselves to which people should be aware of.

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EARLY WARNING SIGNS

As with alcohol abuse, there are similar warning signs of drug abuse. There is in most cases, the most common element to present itself will be that there has been a definitive gradual change in a person's general appearance, behavior, work habits, or otherwise inexplicable changes in performance. Depending upon the specific addiction or use there may be noticeable physical signs.

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Appearance /Physical Signs and Symptoms

- Appearance changes due to drug use range from subtle to extreme
- Personal grooming often deteriorates or dramatic changes in hairstyle, clothing may occur
- Eyes are very susceptible to the effects of drugs:
  - eye movements such as tracking ability are affected
  - pupil size is altered
  - bloodshot, watery or unfocused eyes
- Profuse sweating, the chills, flushed or pallid complexion may be dues to the effects of the drugs
- Marijuana has a distinct odor when smoked that clings to the user's breath and clothing

DRUG AWARENESS TRAINING

Appearance /Physical Signs and Symptoms (cont'd)

- Overall deterioration of hygiene or physical appearance
- Inability to sleep, awake at unusual times, unusual laziness
- Loss of or increased in appetite, changes in eating habits
- Cold, sweaty palms; shaking hands
- Unusual smells on breath, body or clothes
- Extreme hyperactivity, excessive talkativeness
- Frequent twisting of the jaw, back and forth
- Frequent rubbing of the nose
- Tremors or shakes of hands, feet or head
- Nausea and vomiting

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EARLY WARNING SIGNS – Motor Impairment Changes

- Stimulants speed up the body's motor activity
- Sedatives or narcotics slow down motor functions
- Hallucinogens may produce bizarre motor movements
- Marijuana delays reaction times, impairs eye-hand coordination and creates unsteadiness

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EARLY WARNING SIGNS - Behavioral Changes

- Change in overall attitude and/or personality with no other identifiable cause
- Increased dishonesty
- Sudden oversensitivity, temper tantrums, or resentful behavior
- Unexplained need for money
- Secretive or suspicious behavior
- General lack of motivation, self-esteem or energy
- Moodiness, irritability, or nervousness
- Paranoia
- Excessive need for privacy, unreachable

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EARLY WARNING SIGNS - Personality Changes

Personality changes are the most difficult to specify

- As a general rule, you need to be alert to changes in the employee's usual personality traits or expression
- Personality changes due to drug use often are sudden and dramatic

EARLY WARNING SIGNS - Speech Pattern Changes

- Stimulants create rapid, pressured speech patterns
- Narcotics produce slow, thick, slurred speech
- Hallucinogens may produce nonsense, fantasy speech

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EARLY WARNING SIGNS – Work Performance Changes

- The quality, productivity, or timeliness of the person declines for no apparent reason
- Erratic mood swings with confrontational and angry outburst with fellow workers
- Excessive tardiness and absenteeism from work
- Increased likelihood of having trouble with co-workers/supervisors or tasks
- Sleeping on the job
- Increased likelihood of having trouble with co-workers/supervisors or tasks
- Theft
- Poor decision making, overall mental slowdown

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SIGNS OF INTOXICATION, BY SPECIFIC DRUG:

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

Alcohol: Clumsiness; difficulty walking; slurred speech; sleepiness; poor judgment; dilated pupils.

Cocaine, Crack, Meth, and Other Stimulants: Hyperactivity; euphoria; irritability; anxiety; excessive talking followed by depression or excessive sleeping at odd times; go long periods of time without eating or sleeping; dilated pupils; weight loss; dry mouth and nose.

Heroin: Needle marks; sleeping at unusual times; sweating; vomiting; coughing and sniffling; twitching; loss of appetite; contracted pupils; no response of pupils to light.

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SIGNS OF INTOXICATION, BY SPECIFIC DRUG: (cont'd):

Depressants: (including barbiturates and tranquilizers) Seems drunk as if from alcohol but without the associated odor of alcohol; difficulty concentrating; clumsiness; poor judgment; slurred speech; sleepiness; and contracted pupils.

Inhalants: (Glues, aerosols, and 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; anxiety; irritability

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

DRUG AWARENESS TRAINING

Figure 1.3
Depressive Symptoms Typically Caused by Substances of Abuse

Substance	Associated Depressive Symptoms		
	Intoxication	Withdrawal	Chronic Use
Alcohol		Depressed mood, anxiety, poor appetite, poor concentration, insomnia, restlessness, paranoia and psychosis	Depressed mood and other depressive symptoms
Opioids	Low energy, low appetite, poor concentration	Depressed mood, fatigue, low appetite, irritability, anxiety, insomnia, poor concentration	Depressed mood and other depressive symptoms
Cocaine and stimulants	Anxiety, low appetite, insomnia, paranoia and psychosis	Depressed mood, increased sleep, increased appetite, anhedonia, loss of interest, poor concentration, suicidal thoughts	Depressed mood and other depressive symptoms
Cannabis	Anxiety, apathy, increased appetite	Anxiety, irritability	Low motivation, apathy
Sedative-hypnotics	Fatigue, increased sleep, apathy	Anxiety, low mood, restlessness, paranoia and psychosis	Depressed mood, poor memory

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IMPACT OF SUBSTANCE ABUSE

Illicit drug use in the United States is estimated to have cost the U.S. economy more than $193 billion in 2007 according to a study by the National Drug Intelligence Center (NDIC). Substance abuse is a serious workplace issue. It is estimated that approximately 10% of all U.S. workers have a substance abuse problem. Some 75 % of all current illicit drug users aged 18 and older are employed.

Studies indicate that alcohol and drug abusers are far less productive and use three times as many sick days. Abusers are also more than three times likely to have an accident on the job as other workers, and they are five times likely to submit workers' compensation claims. It is estimated that substance abuse costs employers more than $50 billion annually. Workers have higher rates of turnover & absenteeism. Workers are more likely to have worked for 3 employers in the previous year.

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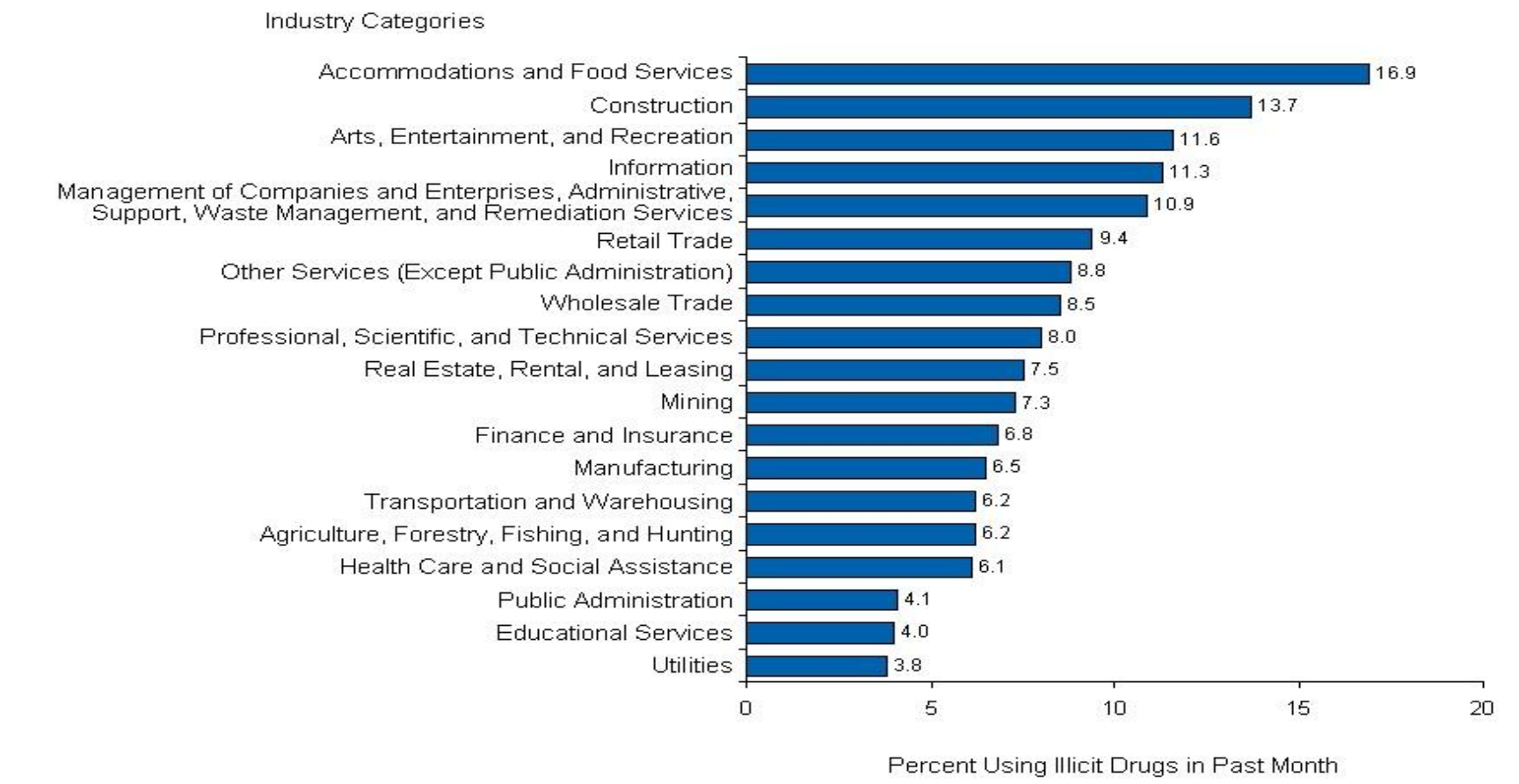
DID YOU KNOW - Percent using Illicit Drugs by Industry



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COSTS OF DRUG USE

The numbers are staggering:

Drug abuse is estimated to cost U.S. employers $276 billion a year, and three-fourths, or 76 percent, of people with a drug or alcohol problem are employed. Employees coping with drug and alcohol abuse are less productive and more likely to waste time at work by taking long lunch breaks, leaving early or sleeping on the job. They have increased health care expenses — costing their employers twice as much as other employees, according to the Substance Abuse and Mental Health Services Administration. And they are three and a half times more likely to be involved in a workplace accident. But replacing a worker costs 25 percent to 200 percent of their annual compensation, not to mention the loss of institutional knowledge, service continuity and co-worker productivity and morale that often coincides with employee turnover, the administration said.

This concludes the training module

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Module DGAT-14-2

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