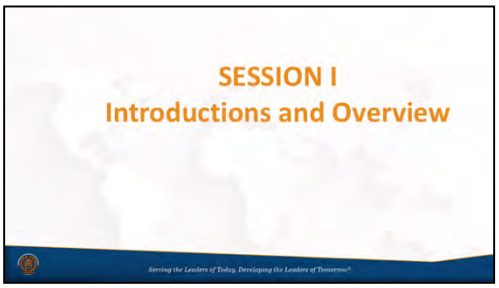
Drug Information Training for Educational Professionals (DITEP)

Day One

Participant Manual
2017 Edition

INTERNATIONAL ASSOCIATION of CHIEFS OF POLICE
Serving the Leaders of Today,
Developing the Leaders of Tomorrow®

SESSION ONE: INTRODUCTION AND OVERVIEW

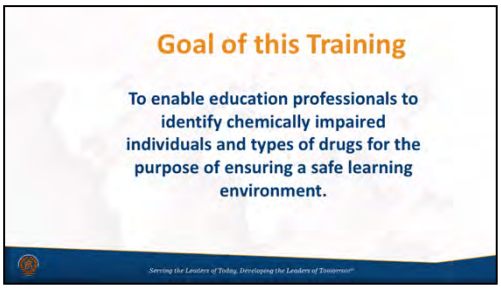


A. Welcoming Remarks and Training Goal

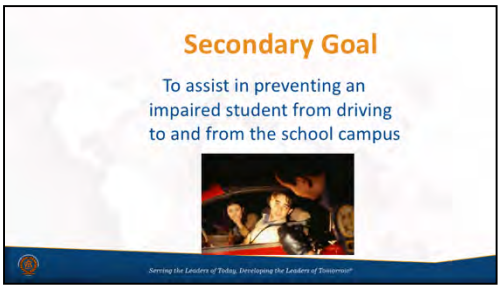
Welcome to the Drug Impairment Training for Education Professionals (DITEP) training.

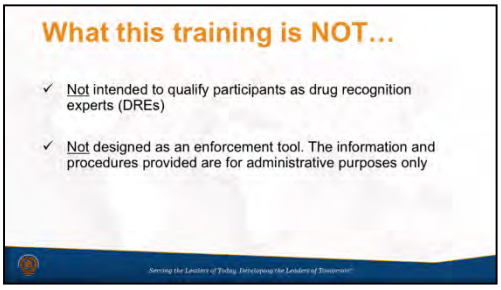
The goal of this training is:

- To enable education professionals to identify chemically impaired individuals and types of drugs for the purpose of ensuring a safe learning environment



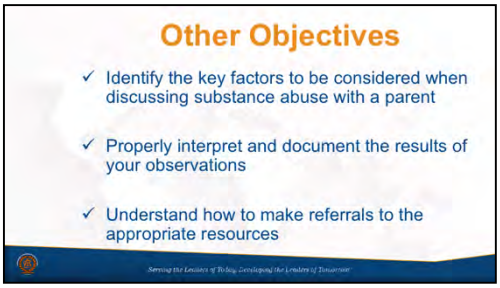
- A secondary goal of this training is assist in preventing an impaired student from driving to and from the school campus





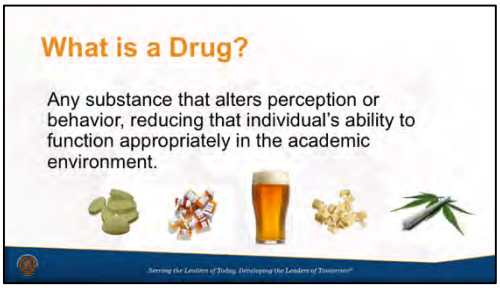
Objectives

- Understand the goals of DITEP training
- Understand how DITEP can assist in identifying drug-impaired students
- Properly recognize and describe drug impairment indicators
- Understand the involvement of drugs in schools
  and society
- Discuss the seven drug categories and their outward signs and indicators of impairment
- Identify the key factors to be considered when discussing substance abuse with a parent
- Properly interpret and document the results of your observations



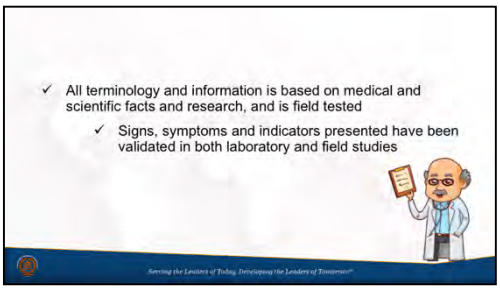
What is a drug?

<u>The definition used in this training is</u>:
Any substance that alters perception or behavior reducing that individual's ability to function appropriately in the academic environment.



We can do something to keep our schools safe from drug-impaired individuals.

All terminology and information in this training is based on medical and scientific facts and research and is field tested.

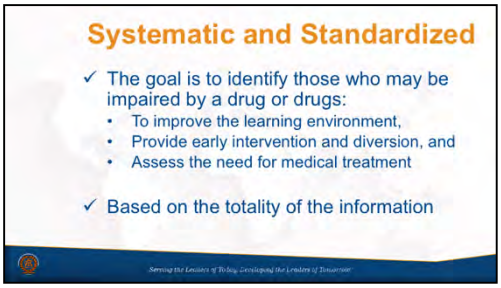


The signs, symptoms and impairment indicators to be presented and discussed have been researched and validated in both laboratory and field studies.

By participating in this training, participants will be

better able to recognize drug-impaired individuals and to make referrals utilizing the appropriate resources.

Educationally Oriented, Systematic and Standardized Procedure



It is important to remember that the DITEP process of identifying suspected impaired individuals is an educationally-oriented SYSTEMATIC and STANDARDIZED approach.

Goals include identifying those who may be impaired by a drug or drugs to: 1) improve the learning environment, 2) provide an early intervention and diversion, and 3) assess the need for medical assistance.

The conclusion of impairment must be based on the TOTALITY of information gathered through the systematic evaluation, and should not be based on any one element alone. All assessments must be done SYSTEMATICALLY and COMPLETELY in every instance except for medical emergencies.

Overview of Participant Manual

- The Participant Manual is the basic reference document for this training
- The Participant Manual includes a set of class note pages for every session

Administrative Matters (as warranted)

- Restroom locations
- Lunch locations/plans
- Parking
- Cellular phones on silent(return calls can be made at the breaks)

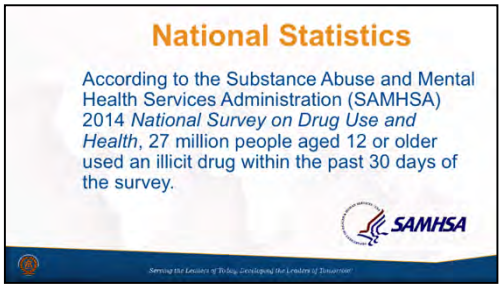
Test Your Knowledge (Pre-Test)

SESSION TWO: DRUGS IN SOCIETY

A. National Statistics:

According to the National Institute of Drug Abuse, 52 million Americans aged 12 and older reported using a prescription drug outside of its intended use in the month before the survey was conducted.

The United States holds 5% of the world's population, but is responsible for approximately 75% of the world's prescription drug use.



According to the Substance Abuse and Mental Health Services Administrations (SAMHSA) 2014 "*National Survey on Drug Use and Health,* 27 million people aged 12 or over used an illicit drug in the past 30 days, which equates to about 1 in 10 Americans. Of the 27 million people who reported past month illicit drug use, 22.2 million of those used marijuana or hashish, accounting for 82.2% of the national illicit drug use.

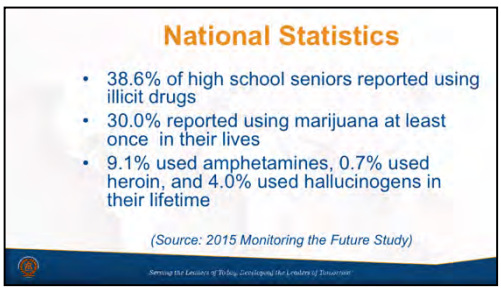
The same report indicates that in 2014, slightly more than 2.3 million adolescents aged 12 – 17 were current illicit drug users. And, 2.6% used prescription psychotherapeutics non-medically, 0.6% used Inhalants, and 0.5% used Hallucinogens

Marijuana continues to be the most commonly abused illicit drug, with over 22 million estimated users.

The use of marijuana decreased from previous years in each category of students. This represents approximately 8.4% of the population.

In 2014, 7.4% of adolescents aged 12 – 17 were current users of marijuana. This means that approximately 1.8 million adolescents used marijuana in the past month.

Source: 2014 National Survey on Drug Use and Health Substance Abuse of Mental Health Services Administration (SAMHSA)

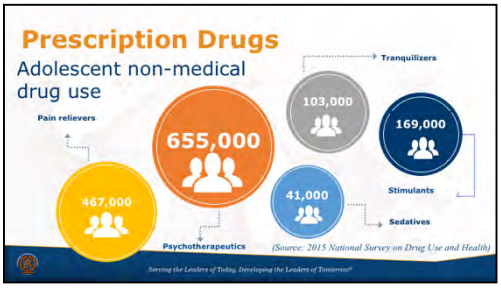


According to the *Survey Research Center at the Institute for Social Research, 2015 "Monitoring the Future"* Study:

- 38.6% of high school seniors reported using illicit drugs; and
- 30.0% reported using marijuana at least once in their lives

- 9.1% of students admitted to using amphetamines
- 0.7% claimed to have used “any Heroin,” and
- 4.0% said they used hallucinogens in their lifetime

Prescription Drugs:



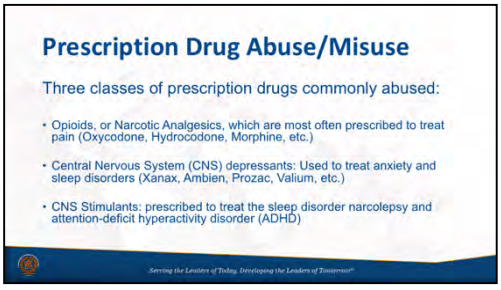
Americans consume approximately 80% of the world’s pain killers (Vicodin, Oxycodone).

According to the *Results from the 2014 National Survey on Drug Use and Health (NSDUH, September 2015), in 2014, there were an estimated:*

- 655,000 adolescents (12 to 17 years) were current nonmedical users of psychotherapeutic drugs in 2014 which equates to 2.6% of adolescents
- 467,000 adolescents were current nonmedical users of pain relievers, which corresponds to 1.9% of adolescents
- 103,000 adolescents were current nonmedical users of tranquilizers
- 169,000 adolescents were current nonmedical users of stimulants, including about 45,000 current methamphetamine users
- 41,000 adolescents were nonmedical users of prescription sedatives

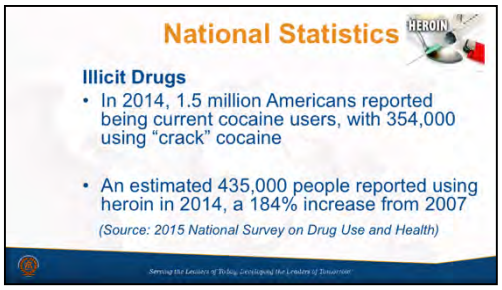
The report also indicated that 70.2% of high schoolers, who used narcotics other than heroin without a prescription, reported that they received the drug for free from a friend or from a family member.

Three classes of prescription drugs commonly abused:

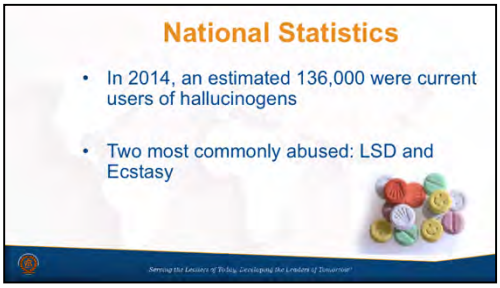


- Opioids, or Narcotic Analgesics, which are most often prescribed to treat pain (Oxycodone, Hydrocodone, Morphine, etc.)
- Central Nervous System (CNS) depressants: Used to treat anxiety and sleep disorders (Xanax, Ambien, Prozac, Valium, etc.)
- CNS Stimulants: prescribed to treat the sleep disorder narcolepsy and attention-deficit hyperactivity disorder (ADHD)

Illicit Drugs:

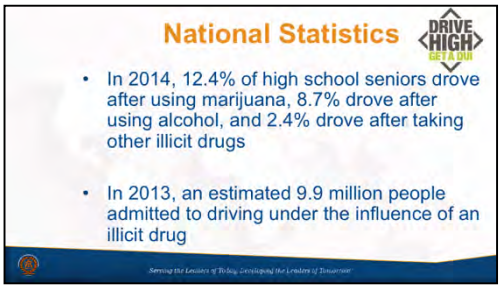


- Cocaine: In 2014, it was estimated that 1.5 million persons were current users of cocaine, with 354,000 using "crack" cocaine. Of those, it is estimated that 39,000 users were adolescents
- Heroin: Despite the dangers associated with heroin use, its use increased in the population. An estimated 435,000 people reported using heroin in 2014, a 184% increase from 2007

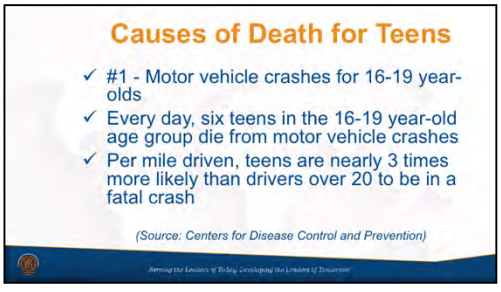


- Hallucinogens: In 2014, an estimated 136,000 adolescents were current users of hallucinogens. The two most used hallucinogens were LSD and Ecstasy
- Inhalants: Inhalant use was more common among adolescents, with an estimated 149,000 being current users.

Illicit Drugs and Driving

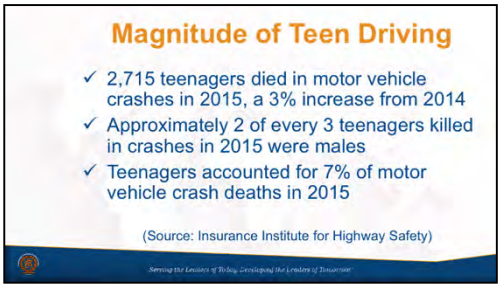


- 12.4% of high school seniors drove a vehicle after using marijuana, 8.7% drove after using alcohol, and 2.4% drove after taking other illicit drugs
- In 2013, an estimated 9.9 million people admitted to driving under the influence of an illicit drug



- According to the Centers for Disease Control (CDC), motor vehicle crashes ranked #1 in cause of death in people aged 16-19. Six teens in that age group die every day from motor vehicle injuries. Per mile driven, teen drivers are nearly three times more likely than drivers over 20 to be in a fatal crash.

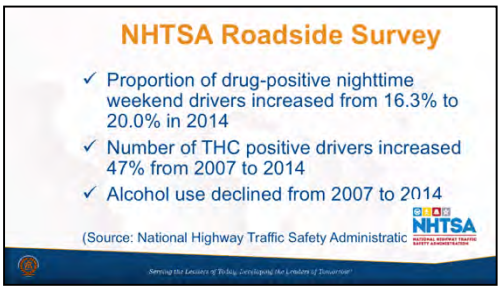
The Magnitude of Teen Driving



In the United States, teenagers drive less than older drivers, but their numbers of crashes and crash deaths are disproportionately high. In the United States, the fatal crash rate per mile driven for 16 -19-year-olds is nearly 3 times the rate for drivers ages 20 and over. Risk is highest at ages 16 -17. The fatal crash rate per mile driven is nearly twice as high for 16 -17-year-olds as it is for 18 -19 year-olds.
(Source: Insurance Institute for Highway Safety)

According to the *Insurance Institute for Highway Safety,*

- 2,715 teenagers died in motor vehicle crashes in 2015, a 3% increase from 2014
- Approximately 2 out of every 3 teenagers killed in 2015 were males
- Teenagers accounted for 7% of motor vehicle crash deaths in 2015
- Young drivers are less likely than adults to drive after drinking alcohol, but their crash risk is substantially higher when they do
- The estimated percentage of fatally injured passenger vehicle drivers ages 16-17 who had BACs at or above 0.08 percent in 2015 was 15%, down 63 percent since 1982



Based on the *"2013-2014* National Roadside Survey of Alcohol and Drug Use by Drivers*"* (NHTSA 2014):

- The proportion of drug-positive nighttime weekend drivers increased from 16.3% in 2007 to 20.0% in 2014
- Marijuana showed the greatest increase from 2007 to 2014. In that time, the number of THC positive drivers increased 47 percent
- Use of alcohol by drivers continues to decline, only 1.5% of weekend drivers had BACs at or above .08 percent

B. State and Local Statistics:

C. Drug Trends:

- Throughout history various drugs have gained and lost popularity, but have never really gone away

- Heroin, for example, was popular in the 1960's and 70's. It fell out of vogue for different reasons, such as:
  - The stigma associated with abusers' "track marks," which easily identified them as heroin addicts;
  - Varying purity and well-publicized cases of heroin-related death resulting from overdose

- Many other drugs have made a comeback, years after they first fell from popularity, often because young people's knowledge of their adverse consequences faded as generational replacement took place. With heroin, its use has increased in recent years due to higher quality and purity, allowing users to snort it rather than inject it. Heroin's resurgence is also due in part to an increase in doctor-prescribed opiates for pain

- Other examples of changes in such trends include LSD and methamphetamine

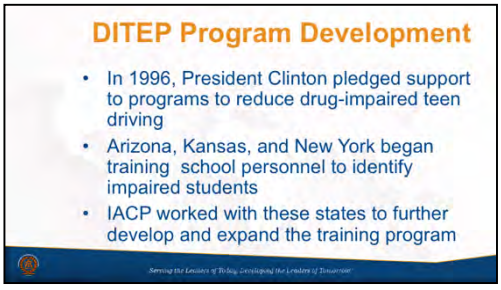
- The popularity among abusers in the popular music culture, acting circles and athletics can cause great alarm for educators, since young people often identify with these individuals as role models

- In addition, the instructions for making certain drugs are easily obtained over the Internet. This has added to the increased use, abuse, and popularity of some drugs

- Certain groups advocate the safe use of drugs by testing for drugs during parties or dance "raves," and give advice on how to take drugs safely to avoid overdosing

- These groups make up what is known as the "harm reduction movement"

D. Development of the DITEP Training:



- President Clinton's Memo.
  - In 1996 President Bill Clinton sent a memo to the Secretary of Transportation pledging support to the development of programs

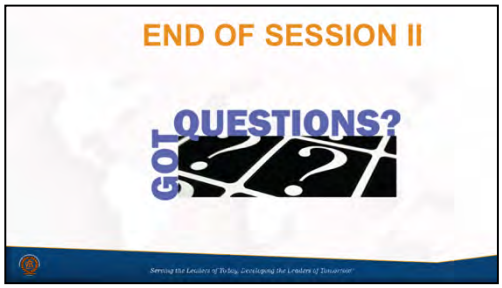
dealing with the drug-impaired teen driver

- Concept for the Training:
  - The concept of the training is to provide school administrators, teachers, nurses and school resource officers with a systematic and standardized approach to recognizing and evaluating individuals in the academic environment who are abusing and/or impaired by drugs
  - In order to provide early intervention, the states of Arizona, Kansas and New York developed training specifically for school personnel. The International Association of Chiefs of Police (IACP) recognized the need for a national training program and they, together with these three states, developed the DITEP training program

Development of the training:

The basis for this training is the Standardized Field Sobriety Testing (SFST) and the Drug Evaluation and Classification (DEC) Program.

- A battery of standardized field sobriety tests was developed and validated for the investigation of alcohol impaired driving
- The DEC Program (also commonly referred to as the Drug Recognition Expert program) was developed for law enforcement in response to a growing awareness that many DUI drivers were under the influence of drugs other than alcohol. All 50 states, Canada, and many other countries participate in the DEC Program, which is coordinated by the International Association of Chiefs of Police (IACP)
- The test battery for drug impairment was then validated in both the laboratory and the field, and is one of the most effective drug driving enforcement programs in the world



Drug Trends (2015 Report)*

The Monitoring the Future study tracks drug use and trends among 8th, 10th, and 12th graders in schools around America. It analyzes more than 50 classes and subclasses of different drugs, and records use habits, but also student perceptions of different drugs. A summary of the findings is presented below.

Drugs Decreasing in Use

The use of **any illicit drug** in the 12 months preceding the survey is essentially unchanged in all three grades in 2015. The annual prevalence was 14.8% in 8th grade, 27.9% in 10th grade, and 38.6% in 12th grade.

Marijuana showed very little change in 2015. In all three grades combined, the annual prevalence rate was 23.7%. However, the perception of marijuana is shifting rapidly. The perceived risk of smoking marijuana regularly declined in all three grades, and is the lowest ever recorded in the study. Disapproval of people who smoke marijuana regularly was unchanged for 8th graders (82.2%), and declined slightly for 10th and 12th graders (to 74.3% and 70.7%, respectively).

Ecstasy use hit its peak in 2001, then began a decline until 2005. Since then, the changes have been irregular, but the 2014 use statistics are down slightly for 8th (to 0.9%) and 10th (to 2.3%) graders compared to 2005. Use increased among 12th graders to 3.6%.

Amphetamine use without a doctor's orders, which is currently the second most widely used class of illicit drug after marijuana, decreased in 2015 in all grades.

Heroin use finally fell below its recent peak level in all three grades by 2001. Since then use has continued to decline. Annual prevalence in all grades has declined from 0.8% to 0.4% in 2015.

Sedatives, including barbiturate sedatives, declined steadily since 2005. In 2015, the annual prevalence rate was down by about half from its recent peak.

Narcotics other than heroin, taken as a class, are reported only for twelfth graders. Use in this category continued the gradual decline that began in 2009, when annual prevalence was 9.2%. In 2015, annual use among the same group was 5.4%.

Drugs Holding Steady

Among the drugs that showed practically no changes at all in 2005 were cocaine, crack, and heroin.

LSD use had shown very sharp declines between 1999 and 2004, accompanied by a sharp decline in the perceived availability of the drug. There was a slight increase in 2013, but other than that it has held steady at low levels.

Cocaine and **crack** use has declined significantly over the years. For cocaine, annual use in the 12th grade category is at historic lows at 2.5%, with use by 8th and 10th graders at 0.9% and 1.8%. Use of crack in 2015 is at historic lows for 8th graders, and near historic lows for 10th and 12th graders. Since 2000, the availability of crack to students has declined significantly.

Tranquilizer Xanax is the most commonly used tranquilizer by 12th graders. Valium, Klonopin, and Ativan are other tranquilizers used at somewhat lower levels. Use remained relatively stable in recent years, with use rates much higher for 10th and 12th graders than those in 8th grade.

Methamphetamine use was not included in the study until 1999. Since then it has shown a rather steady decline in all three grades—a decline which continued in 2015, where prevalence is at its lowest recorded level.

Ice or crystal methamphetamine use among 12th graders is at its lowest ever, at 0.5% in 2015. The perceived risk of using crystal methamphetamine has risen considerably since 2003.

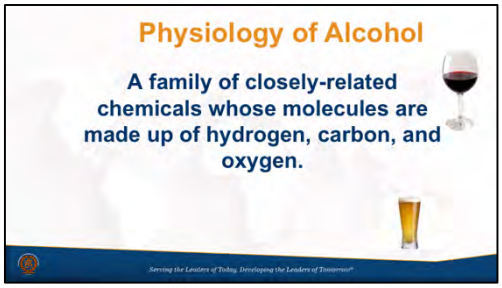
Inhalants use in all three grades combined declined significantly in 2012 and 2013, held steady in 2014 and then declined a bit in 2015.

Trends in Alcohol Use

Several findings about ***alcohol*** use in these age groups are noteworthy. First, despite the fact that it is illegal for virtually all secondary school students and most college students to purchase alcoholic beverages, experience with alcohol is widespread among them. Alcohol has been tried by 26% of eighth graders, 47% percent of tenth graders, 64% percent of twelfth graders. In 2015, lifetime, annual, 30-day, and binge drinking measures of alcohol use were at historic lows in grades 10 and 12, and very close to historic lows for 8th graders.

*Monitoring the Future / National Results on Adolescent Drug Use
Overview of Key Findings 2015

SESSION THREE: OVERVIEW OF ALCOHOL



Alcohol abuse and misuse remains a major concern in America and throughout the world. In the 2015 *National Survey on Drug Use and Health (NSDUH),* in 2014, there were an estimated 139.7 million people aged 12 and older alcohol drinkers in the U.S., with an 11.5% being underage alcohol users.

The drinking trends of the younger generation include mixed drinks, combinations of alcohol and energy drinks (alcoholic speedballs), ultrahigh-proof alcohols, jello-shots and microbrewed beers. In addition, their ingestion of alcohol has taken on new variations including inhaling alcohol fumes using pressurized air pumps and vaporizers to turn their alcohol of choice into an inhalable, high-proof alcohol vapor.

With the recent expanding use of e-cigarettes and the evolving vaporizing techniques, "vaping" has become a common ingestion method for alcohol as well as other drugs.

Another used method is an "alcohol enema" where the alcohol is ingested directly into the body. Both methods have their dangers. Where inhaling alcohol vapors or ingesting it in locations other than the mouth, removes the digestive system process and quickly moves the alcohol into the bloodstream which is then pumped directly to the brain.

To understand the impact of alcohol, it is important to take a closer look at alcohol, and its effects on the body.

A. Physiology of Alcohol

The word "Alcohol" refers to several distinct, but similar, chemicals.

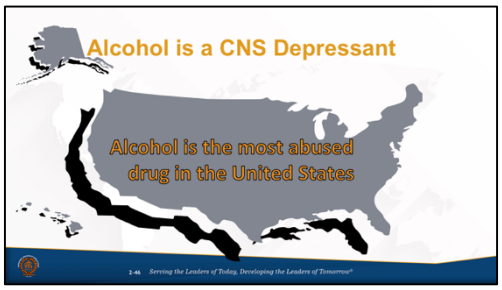
Each of the alcohols is a drug within the scope of our definition.

Only one can be tolerated by the human body in substantial quantities.

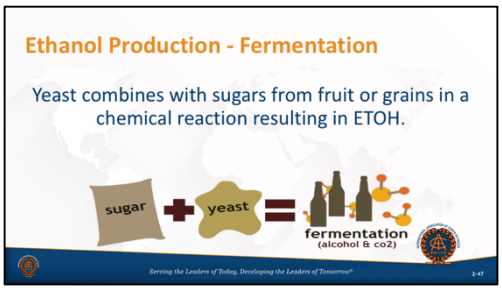
B. Methyl, Ethyl and Isopropyl

We primarily focus our attention on Ethanol since it is the only one intended for human consumption.

Ethanol is the active ingredient in beer, wine, whiskey and other alcoholic beverages.

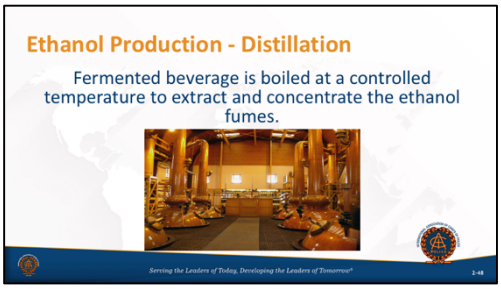


Ethanol is a naturally occurring drug that is produced in nature through a process called fermentation.



- In fermentation, spores of yeast, carried by the wind, come in contact with fruit or grain that has fallen to the ground
- Sugar in the fruit or grain chemically reacts with the yeast, and produces alcohol
- Today, most fermentation takes place on purpose under controlled conditions

Distillation is the process used to produce a higher concentration of alcohol. Distillation occurs when:

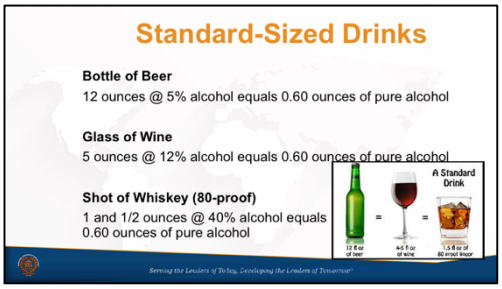


- a fermented beverage is heated to the point where ethanol begins to boil, and
- the ethanol vapor is collected and allowed to cool until it turns back to a liquid

By repeating the process of heating the liquid, cooling, and collecting the vapors, higher concentrations of ethanol can be produced.

Alcoholic beverages produced by distillation are called “distilled spirits.” Distilled spirits include whiskey, vodka, gin and rum.

Over the year’s people have developed standard-size servings of different alcoholic beverages.



- Beer is usually served in 12-ounce bottles or cans. Beer averages an ethanol concentration of 5%. A can or bottle contains a bit more than one-half ounce of pure ethanol

- Typically, a five-ounce glass of wine has the ethanol concentration of 12%. A glass of wine has just a bit more than one-half ounce of pure ethanol

Whiskey and other distilled spirits are dispensed in a “shot” glass. A shot usually contains one and one-half ounces of liquid.

Whiskey usually has an ethanol concentration of 40 percent. A shot of whiskey typically has just a bit more than one-half ounce of pure ethanol.

For all practical purposes, standard-size servings of beer, wine and whiskey all pack the same “punch.”

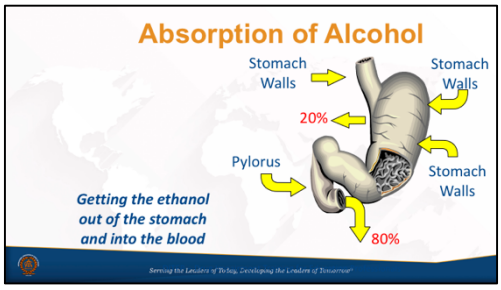
C. Physiological Process

Alcohol is a Central Nervous System (CNS) Depressant:

- It doesn’t impair until it gets into the brain
- It can’t get into the brain until it gets into the blood
- It can’t get into the blood until it gets into the body
- The most common method of ingesting alcohol is by drinking

D. Absorption

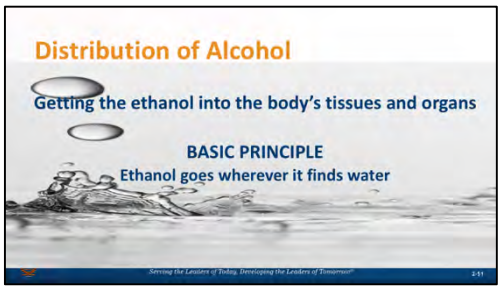
- Alcohol, unlike food, does not need to be digested prior to moving from the stomach into the small intestine
- Stomach acids and enzymes start to break down the food, preparing it to pass to the lower portion of the gastrointestinal track
- When alcohol is consumed with food, it will be trapped in the stomach and the stomach acids and enzymes will begin to break it down



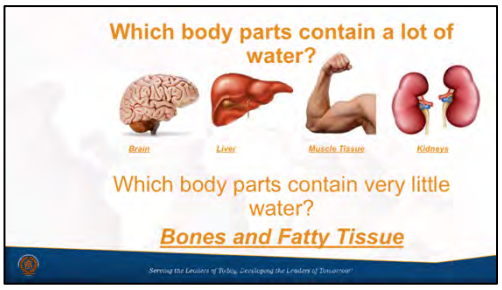
- If alcohol is consumed on an empty stomach, it will pass quickly through the base of the stomach, into the small intestine and move quickly into the bloodstream

E. Distribution

Once alcohol gets into the blood, the blood carries it to various tissues and organs in the body.



- Alcohol is attracted to water. The blood will deposit the alcohol in all the parts of the body where water is found
- Parts of the body that have a lot of water will collect much of the alcohol
- Parts of the body that have little water will receive smaller amounts of alcohol



Parts of the body that have lots of water include:

- Brain
- Liver
- Muscle tissue
- Kidneys

Parts of the body that have less amounts of water include:

- Bones
- Fatty tissue

Muscle tissue will receive a relatively high proportion of the alcohol that a person consumes.

Fatty tissue will receive very little of the alcohol consumed.

An interesting and significant difference between men and women: pound for pound, the average male has more water in his body than the average female.

- The female body has more fatty tissue than the male body
- Pound-for-pound, the average female has more fat and less muscle than the average male

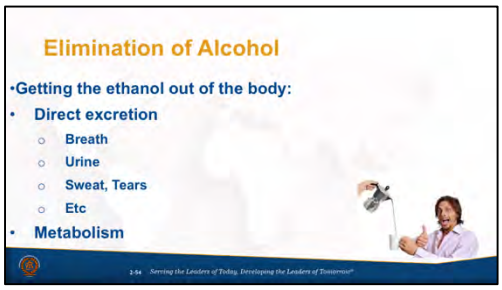
- Fatty tissue contains very little water

- The average female has fewer places in her body to deposit the alcohol consumed

F. Elimination

The woman's blood alcohol concentration will be higher than the man's because she has less water in which to distribute the alcohol.

As soon as alcohol gets into the body, the body begins working to eliminate it.



- Some alcohol is expelled **directly** from the body, i.e., on the breath, in the sweat, in urine, etc.

- The majority of the alcohol consumed is metabolized by the liver

Metabolism of alcohol consists of a slow controlled *burning* of the alcohol.

The speed that the liver metabolizes the alcohol varies from person to person, and may periodically change for any particular person.

The average rate of metabolism is 0.015% per hour.

For the average male, a BAC of 0.015% is equal to about two-thirds the alcohol content of a "standard" drink.

For the average female, a BAC of 0.015% is equal to approximately one-half the alcohol content of a "standard" drink.

There is nothing we can do to speed up the rate of metabolism.

- Drinking coffee doesn't help
- A cold shower doesn't help
- Exercise doesn't help
- "Magic" mystery potions don't help

G. Dose/Response Relationship

There is no simple answer to the relationship of dose response to alcohol.

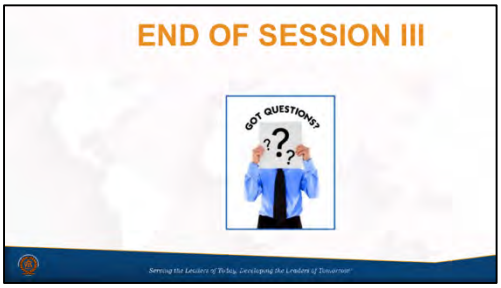
- ANY amount of alcohol consumption will affect a person.

- The amount needed to be consumed to get impaired varies as previously described. It can vary person to person.

Reaching these BAC's depends upon numerous factors, including:

- Man or woman
- Size
- Stomach content
- Time consumed
- Amount consumed
- Health conditions
- Type of alcohol consumed

In one respect, it doesn't take very much alcohol to impair someone. A couple beers can do it.



SESSION FOUR: DRUG IDENTIFICATION, CATEGORIES AND THEIR OBSERVABLE EFFECTS

Throughout history, people have chosen to alter their perception of reality with psychoactive substances. Psychoactive substances are used to alter states of consciousness, reduce pain, forget harsh surroundings, alter a mood, medicate a mental illness, or enhance the senses.

The popularity of new psychoactive drugs continues to grow due to new technologies, the Internet, and the proliferation of street chemists and their customers. New drugs and psychoactive substances are constantly being developed or reformulated. Many are specifically designed to stay one-step ahead of detection, and state and federal laws.

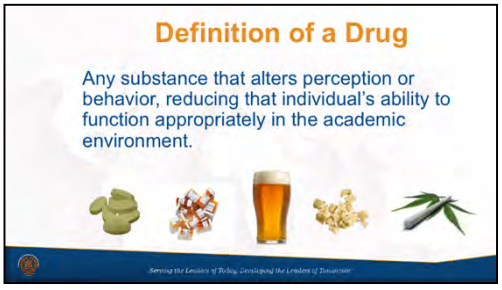
Psychoactive drugs include natural, semisynthetic, and synthetic substances that directly affect the neurochemistry and the anatomy of the Central Nervous System (CNS), causing mental, emotional, and physical changes and reactions.

A. Definition of "Drug"

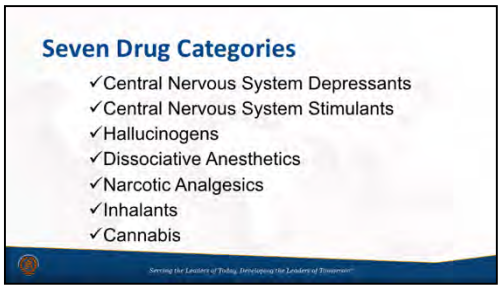
1. Are all drugs medicines? Are all medicines drugs?
2. Are all drugs narcotics?
3. Are all drugs habit-forming substances?
4. What substances might be considered "drugs" that are not commonly thought of as drugs?

The definition of drug as used in this training is:

"Any substance that alters perception or behavior reducing that individual's ability to function appropriately in the academic environment."



B. Seven Drug Categories



Psychoactive drugs have chemical names, trade names, and street names. For this training, psychoactive drugs (or substances) are classified by their overall effects.

Within this training, and other impaired driving training courses (SFST, ARIDE and DRE), there are seven drug categories.

Each category consists of many substances that can impair a person's mental and physical abilities.

The categories differ from one another in terms of *how* they impair ability and the *type* of impairment they produce.

Because the categories produce different types of impairment, they generate different signs, symptoms and indicators.

With training and practice participants will be able to recognize signs, symptoms, and general indicators of drug influence and determine what category is causing the observed impairment.

C. Central Nervous System (CNS) Depressants

CNS Depressants slow down the processes of the brain and many other functions that the brain controls.
In year's past, they were often referred to as "Downers."

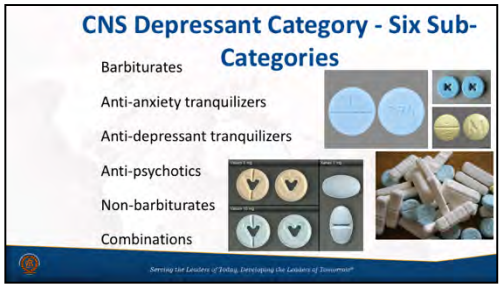
At first, and immediately recognizable are the effects to the voluntary bodily functions, such as speech, coordination and mobility.

As the dosage increases, impairment in the bodies' automatic nervous system, such as, heartbeat, body temperature and breathing will be observable.

The most familiar and abused CNS Depressant in the U.S. is *alcohol.*

- Many CNS Depressants are legally prescribed for depression, anxiety, phobias and other psychotic disorders

Some popular CNS Depressants other than alcohol include:



- Barbiturates (derivative of barbituric acids) such as, Secobarbital and Phenobarbital
- Anti-anxiety tranquilizers, such as Valium, Librium Xanax, and Rohypnol
- Anti-depressant tranquilizers, such as

Prozac and Trazadone

- Anti-psychotics, such as Thorazine, Haldol, and Librium

- Non-barbiturates, such as Quaaludes, Soma, Chloral-hydrate, Gamma-Hydroxybutyrate (GHB), and Kava

GHB gained popularity with the party/rave scene. Taken mainly for its intoxicating effects. It is readily available and recipes are available on Internet making it easy to make and abused. The effects of GHB depend on user and the manufacturer.

Kava

Kava is a mild depressant made from the roots of the Piper methysticin plant, which is found in the South Pacific and South America. Typically, the roots are chewed or soaked into a soapy liquid and swallowed that produces a drunken state, similar to that of alcohol, when used in large quantities. Kava is sold as an herbal supplement to relieve anxiety, stress, and insomnia.

In general, people under the influence of CNS Depressants look and act much like people under the influence of alcohol.

Expected Results of Observations/Indicators of CNS Depressant Impairment:

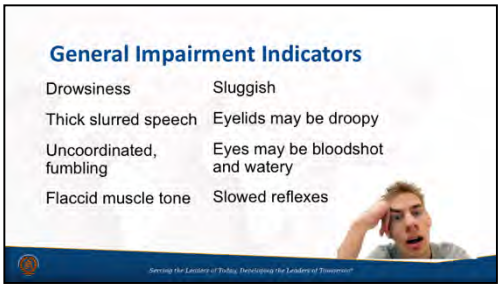
- Psychophysical Indicators:
  - Divided attention impairment
  - Poor coordination and balance

- Eye Indicators:
  - Horizontal Gaze Nystagmus (HGN), which is the eyes' inability to fixate or gaze on a moving stimulus as they move side to side, will usually be present
  - Vertical nystagmus, which is elevating the eyes upward will be present with high doses for that individual
  - Pupil size will usually be normal

General Indicators of CNS Depressant Impairment:

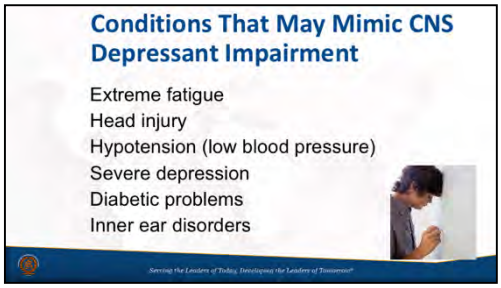
- Drowsy acting
- Thick, slurred speech
- Uncoordinated, fumbling fingers

- Flaccid muscle tone
- Sluggish acting
- Droopy eyelids
- Bloodshot, watery eyes
- Slowed reflexes
- Poor balance and coordination



Other Conditions That May Mimic CNS Depressant Indicators:

- Extreme fatigue
- Head injury
- Hypo-tension (abnormally low blood pressure)
- Severe depression
- Diabetic reaction
- Inner ear disorders

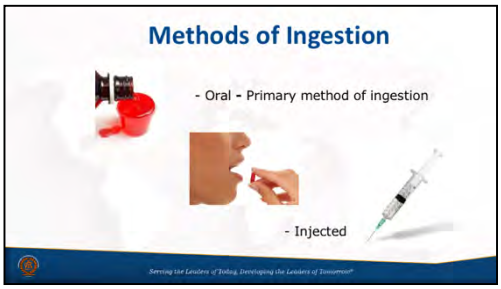


Possible CNS Depressant Overdose Symptoms:

- Shallow breathing
- Cold/clammy skin
- Pupils dilated
- Rapid/weak pulse

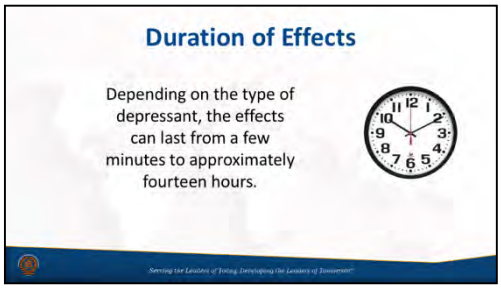
Methods of CNS Depressant Ingestion:

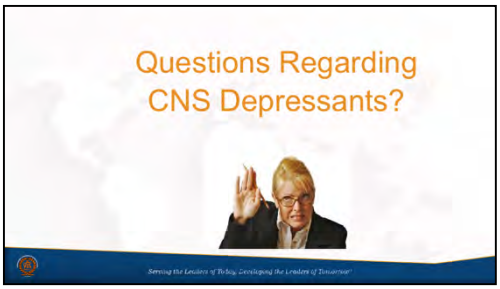
- Oral
- Injected



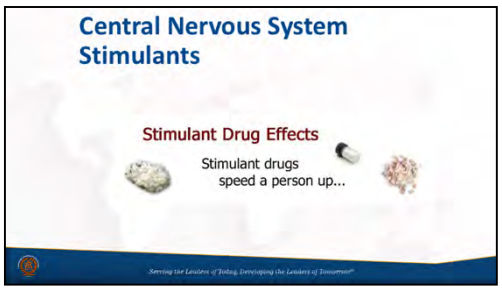
CNS Depressant Duration of Effects:

- Depending on the type of depressant, the effects can last from a few minutes to approximately 12-14 hours.





D. Central Nervous System (CNS) Stimulants

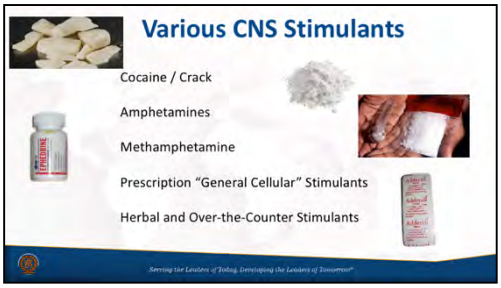


CNS Stimulants accelerate the heart rate and many other processes of the body. For that reason, they have also been referred to as "Uppers."

Although there is a great difference in strength, all stimulants increase the chemical and electrical activity in the CNS. Stimulants boost energy, raise the heart rate and blood pressure, increase respiration, and reduce appetite.

Legal stimulants can be prescribed for attention-deficit hyperactivity disorder (ADHD), weight loss, and narcolepsy.

Some commonly abused CNS Stimulants include:



- Cocaine (Crack) – Naturally derived from the leaves of the coca plant. "Crack" is the street name given to Cocaine that has been processed from cocaine hydrochloride.
- Amphetamines – Includes many prescription drugs such as Adderall, Dexedrine and Ritalin
- Methamphetamine – Illegally produced drug, with the exception of Desoxyn, which is a prescription drug used to treat narcolepsy and attention deficient disorder (ADD) and attention deficit hyperactivity disorder (ADHD).
- Caffeine, Herbal Ecstasy, Ephedrine, Pseudoephedrine, and various energy drinks

Energy Drink Phenomenon

In the 1980's the marketing and use of energy drinks changed dramatically with the advent of *Red Bull* ®.

With 80 mg of caffeine, *Red Bull* ® contains more than twice the amount of caffeine found in a 12 ounce can of Coca-Cola ® (35 mg), but less than 8 ounces of brewed coffee. In addition to high levels of caffeine, many energy drinks contain taurine, ginseng, guarana, glucose, and other caffeine-like chemicals.

The abuse of energy drinks has been implicated in numerous hospital admissions and impaired driving cases. In large quantities, the effects can mirror the effects of other CNS stimulants.

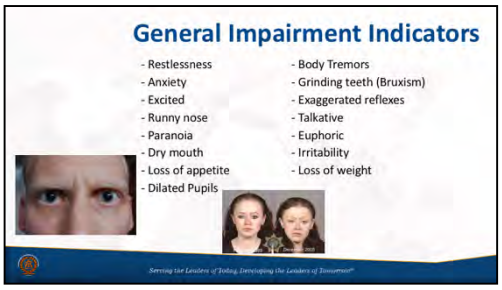
Over-the-Counter (OTC) Stimulants

Legal CNS stimulants are often used to boost performance, especially among athletes and students and are available over-the-counter (OTC). Besides high-caffeine energy drinks, there are many abused OTC stimulants which include Ephedra (ma huang) and Ephedrine. Ma huang is a Chinese herb that comes from the ephedra bush. The active ingredients are ephedrine (a bronchodilator) and pseudoephedrine (a nasal decongestant. Ephedra and ephedrine are commonly used in many legal over-the-counter medications and diet medications.

Expected Results of Observations/Indicators of CNS Stimulant Impairment:

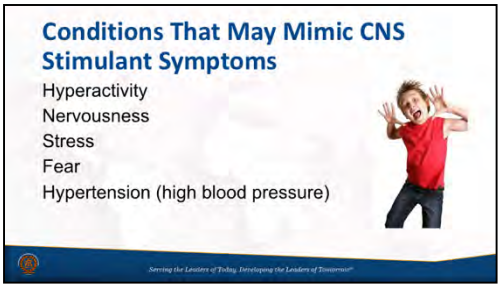
- Psychophysical Indicators:
  - Divided attention impairment
  - Rapid and jerky movements
  - Hyperactive, talkative, restless and nervous acting

General Indicators of CNS Stimulant Impairment:



- Restlessness
- Anxiety
- Excited
- Exaggerated reflexes
- Bruxism (grinding of teeth)
- Runny nose
- Paranoia
- Euphoria
- Loss of appetite
- Loss of weight
- Dilated pupils

Other Conditions That May Mimic CNS Stimulants Indicators:



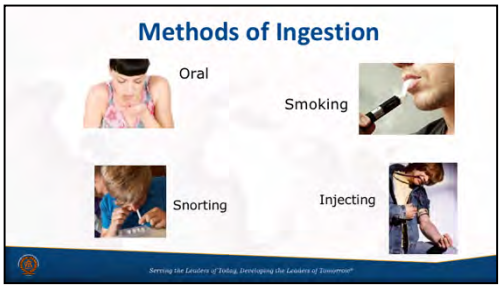
- Hyperactivity
- Nervousness
- Stress
- Fear

- Hypertension

Possible CNS Stimulant Overdose Symptoms:

- Confusion
- Feelings of pleasure to panic
- Convulsions
- Fainting
- Aggressiveness
- Dramatic increase in heart rate
- Hallucinations
- Coma

Typical Methods of Ingestion:

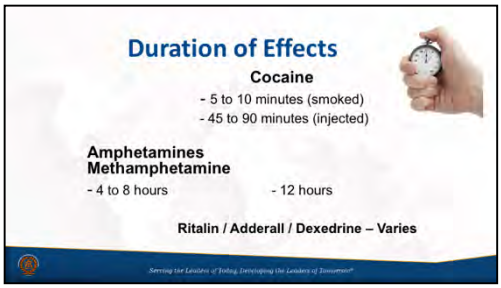


- Oral
- Smoking
- Snorting
- Injecting

Duration of Effects:

- Cocaine (Powder):
  - Onset/immediate
  - Duration/30-90 minutes

- Cocaine (Crack):
  - Onset/immediate
  - Duration/5-10 minutes

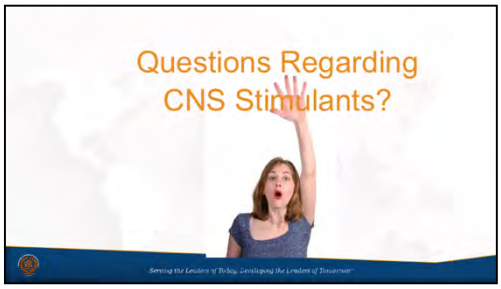


- Amphetamine:
  - Onset/30-40 seconds
  - Duration/4-8 hours

- Methamphetamine (Crank or Speed):
  - Onset/30-40 seconds
  - Duration/4-8 hours

Possible CNS Stimulant Overdose Symptoms:

- Dramatic increase in heart rate
- Convulsions
- Increased body temperature
- Hallucinations



E. Hallucinogens

Hallucinogens are drugs that can cause hallucinations and typically cause the user to perceive things differently from what they actually are. Drugs and other substances in this category have also been referred to as “Psychedelics.”

Hallucinogenic drugs usually produce what are called pseudo-hallucinations. That is, the user is aware that what he sees, hears, or smells isn’t real, but is an effect caused by the drug.

Hallucinogens can cause a disruption of the visual and auditory centers and a crossover or mixing of the senses. This is called *synesthesia,* which is the transposition of sensory modes or the transposition of senses. Some examples include seeing sounds, hearing colors.

Some hallucinogenic drugs occur naturally, others are synthetically produced.

- Synthetic examples:

  - LSD (Lysergic acid diethylamide) Manufactured from lysergic acid which occurs naturally in the ergot fungus that grows on wheat and rye.

  - MDMA (Methylenedioxymethamphetamine). Street names include Ecstasy, Molly, X, XTC,and the love drug. A derivative of methamphetamine with both stimulant and psychedelic effects.

  - Designer Psychedelics – Group of synthetic drugs similar to mescaline. Used for mental exploration and later for recreation. Includes numerous substances with chemical names, such as, 2C-1, 2C-B, and 2C-1NBOme. Street names include Smiles, C-bomb, N-bomb, Benzofury, and Nexus.

- Natural examples:

  - Salvia Divinorum – Has unique psychic effects likened to a combination of various hallucinogenic drugs. Often compared to the effects of LSD. Street names include Sage, Magic mint, and Sally D. (Legal in some states)

  - Peyote – Contains mescaline, the active ingredient of the peyote cactus.

  - Psilocybin (Mushrooms) – Also referred to as “magic mushrooms” or “shrooms” whose active ingredients are psilocybin and psilocin.

  - Morning Glory Seeds – LSD-like substances about one-tenth as potent as LSD. Street name include heavenly blue, flying saucers, and pearly gates.

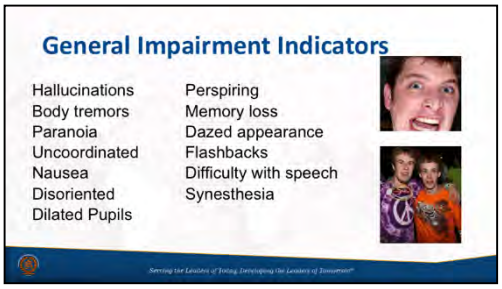
People under the influence of hallucinogens are usually extremely impaired and may exhibit bizarre behavior.

Some hallucinogen users experience mental flashbacks or sensations of a trip they had while under the influence of LSD or another hallucinogen months or years later. The flashbacks, which can be triggered by stress, the use of another psychoactive drug, or a sensory stimulus (light, smell, or odor), re-create the original experience. The flashback can also cause anxiety and panic because it is unexpected and the user seems to have little control over its recurrence.

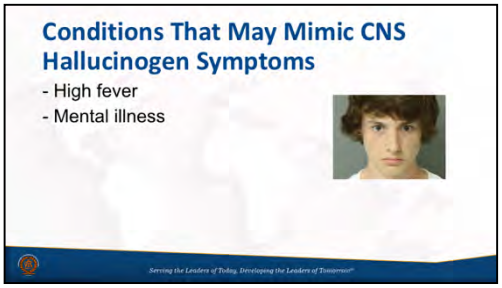
Expected Results of Observations/Indicators of Hallucinogen Impairment:

- Psychophysical Indicators:
  - Uncoordinated
  - Severe divided attention impairment
  - Poor perception of time and distance
  - Poor balance

- General Indicators of Hallucinogen Impairment:
  - Dazed appearance
  - Body tremors
  - Perspiring
  - Paranoia
  - Disoriented
  - Nausea
  - Difficulty with speech
  - Piloerection (hair standing on end)
  - Statements suggesting hallucinations
  - Flashbacks
  - Uncoordinated
  - Memory loss
  - Synesthesia
  - Dilated pupils

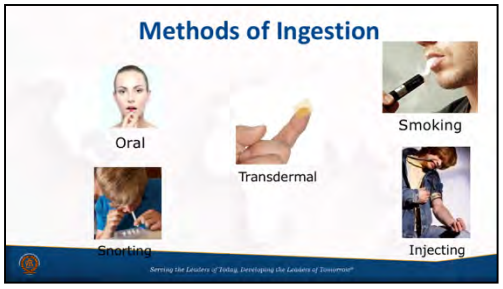


- Other Conditions That May Mimic Hallucinogen Indicators:
  - Mental illness
  - High fever



- Possible Hallucinogen Overdose Symptoms:
  - The most common danger of an overdose of hallucinogen is an intense bad trip, which can result in severe and sometimes permanent psychosis.

- Methods of Ingestion:
  - Oral
  - Smoked
  - Transdermal absorption
  - Injected
  - Snorted



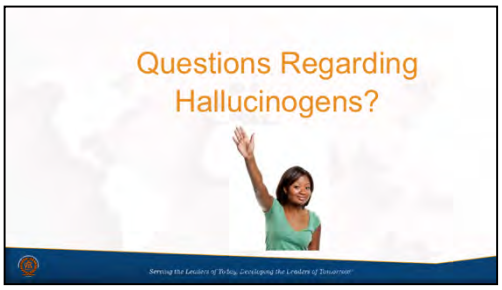
- Duration of Effects

    - LSD:
      - Onset/30-60 minutes
      - Duration/up to 12 hours

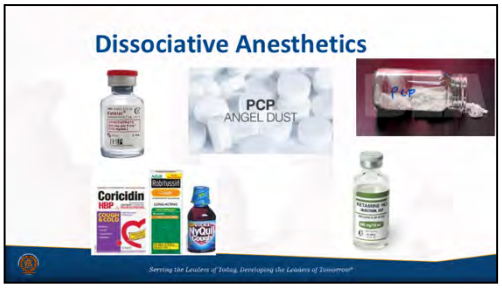
    - Peyote:
      - Onset/30 minutes-1hour
      - Duration/10-12 hours

    - Psilocybin Mushrooms:
      - Onset/within 30 minutes
      - Duration/3-5 hours

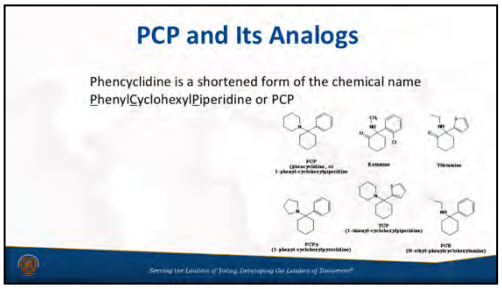
    - MDMA:
      - Onset/ 30 minutes-1 hour
      - Duration/4-24 hours



F. Dissociative Anesthetics



Dissociative Anesthetics are a group of unique drugs that dissociate the users thought process and can cause disassociation or an "out-of-body" sensation. This category includes the following substances:



- Phencyclidine (PCP) – A illegal drug with a shortened title of the chemical name PhenylCyclohexylPiperidene. Originally developed for veterinary medicine use and never approved for human use due to its toxic and hallucinogenic effects. Has numerous street names including angel dust, peep, KJ, whack, and rocket fuel

- Ketamine – A drug used in human and veterinary medical procedures that produces similar effects of PCP. It is considered an analog of PCP. Sold under the trade names of Ketanest ®, Ketaset ®, and Ketalar ® with street names of Special K, vitamin K, and kit kat.

- Dextromethorphan (DXM) – A legally produced synthetic analog of codeine with more specific activity at the cough receptors that the pain and euphoria sites. Found in many cough suppressants and is a popular over-the-counter substance abused by younger people. Often referred to as "purple drank."

Dissociative Anesthetics share characteristics with three of the previously reviewed drug categories:

- Like CNS Depressants, Dissociative Anesthetics will cause nystagmus, slurred speech and slow responses
- Dissociative Anesthetics elevate the vital signs and cause behavior much like CNS Stimulants
- Dissociative Anesthetics can cause hallucinations much like those induced by Hallucinogens

Like many other drugs, the drugs within the Dissociative Anesthetics drug category have numerous street names. Some include: Robo, Skittles, Triple C, Sizzurp, Angel Dust, Rocket Fuel, Special K, and Super K.

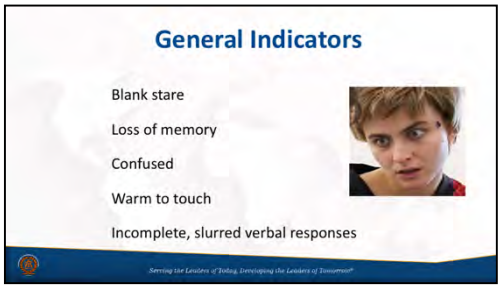
Expected Results of Observations/Indicators of Dissociative Anesthetic Impairment:

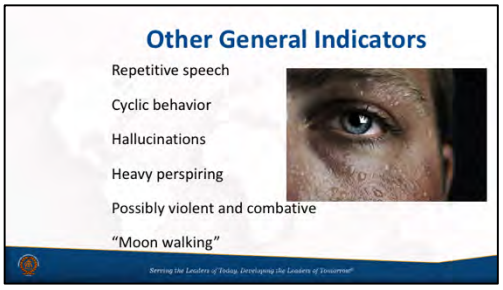
Psychophysical Indicators:

- Divided attention impairment
- "Moon-walking"

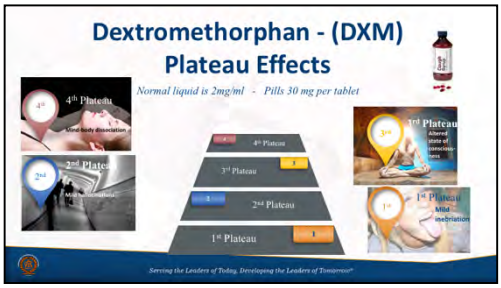
General Indicators of Impairment:

- Blank stare
- Loss of memory
- Perspiring heavily (may remove clothing)
- Warm to touch
- Incomplete, slurred verbal responses
- Cyclic behavior
- Agitation
- Rigid muscle tone
- Disoriented
- Non-responsive
- Chemical odor on breath or clothing
- "Moon walking"





- Typical Dosing Plateaus Associated with DXM*:



    - 1st plateau: mild inebriation, 100 – 200 mg
    - 2nd plateau: similar to alcohol intoxication with mild hallucinations, 200 – 400 mg
    - 3rd plateau: an altered state of consciousness where the abuser's senses, particularly vision, can become impaired, 400 - 600mg
    - 4th plateau: mind and body dissociation or an out of body experience (similar to dose of Ketamine), 600 - 1500 mg

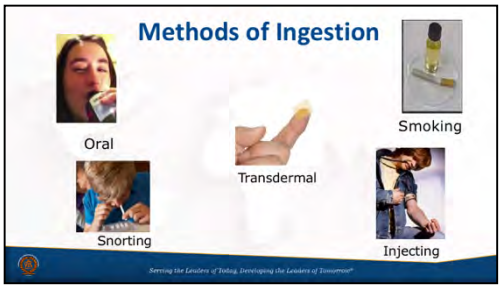
- Other Conditions That May Mimic Dissociative Anesthetic Impairment:

    - Mental disorders
    - Mental illness

- Possible Overdose Symptoms:

    - A deep coma, lasting for up to 12 hours
    - Seizures and convulsions
    - Respiratory depression
    - Possible cardiac problems
    - Bizarre, violent and self-destructive behavior

- Typical Methods of Ingestion:



    - Smoked
    - Snorted
    - Oral
    - Injected
    - Transdermal absorption

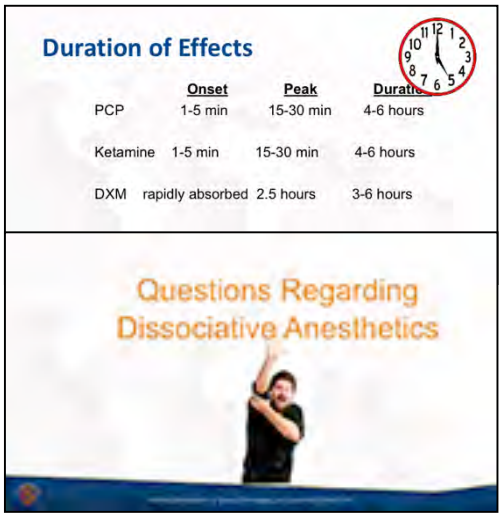
Duration of Effects:

- PCP
    - Onset/1-5 minutes

- Peak/15-30 minutes
- Duration/4-6 hours

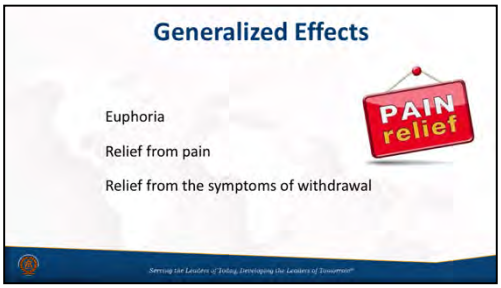
- Ketamine
  - Onset/1-5 minutes
  - Peak/15-30 minutes
  - Duration/4-6 hours

- Dextromethorphan
  - Onset/rapidly absorbed
  - Peak/2-5 hours
  - Duration/3-6 hours



G. Narcotic Analgesics

Narcotic Analgesics are a category of drugs refined from or are synthetic versions of the opium poppy's active ingredients. This category includes many drugs primarily developed for the treatment of moderate to acute pain, diarrhea, coughing, and other conditions.



Drugs in this category are often referred to as "pain killers." They typically induce euphoria, alter moods and produce sedation.

Most illicit users take opiate/opioid drugs to avoid emotional and physical pain, to experience euphoric effects, and to suppress withdrawal symptoms.

People develop a tolerance for narcotic analgesics rapidly.

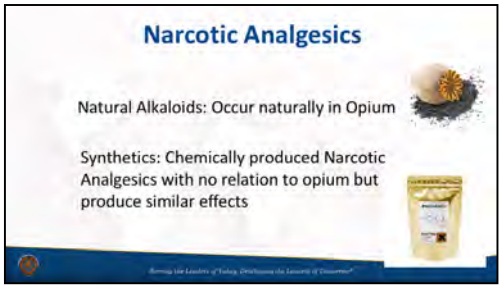
"Tolerance" means the same dose of the drug will produce diminishing effects. Therefore, a narcotic analgesic user will need an increasing dose of the drug to achieve the same effect.

Narcotic Analgesics include:

- Opium – Derived directly from the opium poppy plant.

- Natural Alkaloids of Opium:

  - Morphine (Infumorph®, Kadian®, Roxanol®, MS Contin®) – Used to treat moderate to severe pain that lasts for more than a few days. Available in a variety of prescription forms, including tablets capsules, suppositories, oral solutions, skin patches, and injectable solutions.



  - Codeine – A pain reliever and cough suppressant similar to morphine and hydrocodone. It typically causes sedation drowsiness and depresses breathing. Frequently combined with acetaminophen (Tylenol) or aspirin for more effective pain relief.

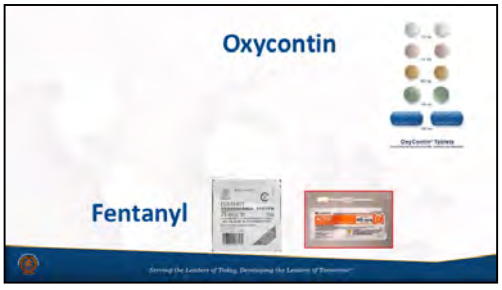
  - Thebaine - Like other opiates and opioids, thebaine works by binding to opioid receptors in the CNS. Unlike other opioids that produce relaxation and sedation by depressing the nervous system, thebaine stimulates the nervous system.

- Derivatives of Opium:

  - Heroin (Diacetylmorphine) –https://en.wikipedia.org/wiki/Opiate An opiate typically used as a recreational drug for its euphoric effects. Medically it is occasionally used to relieve pain and as a form of opioid replacement therapy alongside counseling (not in the United States). Typically injected into a vein, but can also be smoked, snorted or inhaled. Onset of effects is usually rapid and lasts for a few hours.

  - Hydromorphone (Dilaudid®, Hydrostat®, Palladone®) - A short-acting (4 to 5 hours) semisynthetic opioid. Refined from morphine making it five to eight times more potent gram-for-gram than morphine.

  - Oxycodone (OxyContin ®, Percodan ®, Percocet ®) -A semisynthetic derivative of codeine used for the relief of moderate to severe pain. Its pain-relieving effects are much stronger than those of codeine but weaker than those of morphine. OxyContin has received much attention for his high abuse. Street names include; “oxy,” “o’cotton,” and “hillbilly heroin.”



- Buprenorphine (Suboxone ®, Buprenex ®, Subutex ®, Butrans ®) – Semisynthetic powerful opioid agonist at low doses and an opioid antagonist at high does. Primarily prescribed for the treatment of opioid addiction, but may also be used to treat pain, and sometimes nausea, most often in transdermal patch form.

- Synthetics: Chemically produced Narcotic Analgesics with no relation to opium but producing similar effects. They can include:

  - Hydrocodone (Vicodin ®, Hydodan ®, Tussend ®, Norco ®, Lorab ®) – Most widely prescribed opioid with many of the same actions as codeine, but produces less nausea. Used orally for relief of moderate to severe pain, but also commonly taken in liquid form as an antitussive/cough suppressant.

  - Meperidine (Demoral ®, Pethidine ®, Mepergan ®) – A short-acting opioid used to treat moderate-to-severe pain, help put people to sleep before surgery, and provide pain relief after childbirth.

  - Methadone (Dolophine ®) - An opioid used to treat pain and as maintenance therapy or to help with detoxification in people with opioid dependence.

  - Oxymorphone (Numorphan ®) - Used to treat moderate to severe pain. Sometimes used before surgery to cause sedation and to reduce anxiety. As a narcotic pain reliever, it works by dulling the pain perception center in the brain.

  - Fentanyl (Sublimaze ®, Actiq ®) - A highly potent, synthetic opioid pain medication with a rapid onset and short duration of action. It is 50 to 100 times more potent than morphine on a weight-for-weight basis.

- Other Narcotic Analgesics

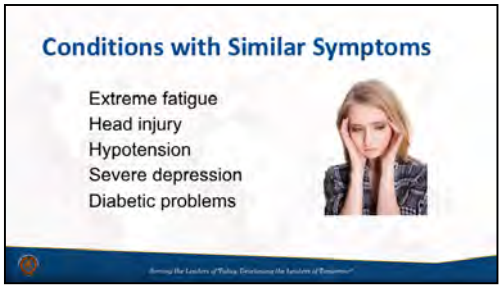
  - Kratom (mitreagyma) – produced from the leaves of tropical trees native to Indonesia, Malaysian Thailand and other areas of Southeast Asia. At high doses, it delivers opioid-like effects, inhibits smooth muscle control, and reduces pain. At low doses, it has a stimulant effect, increasing alertness, talkativeness, and outward behaviors. In the U.S., it is usually obtained over the Internet and is most likely to consumed in tea or chewed. It is not a controlled substance in the U.S., but is illegal in several countries.

People under the influence of Narcotic Analgesics exhibit slow deliberate movements. They have difficulty concentrating and can be slow to respond to questions.

Expected Results and Observation/Indicators of Narcotic Analgesic Impairment:

- Psychophysical Indicators of Impairment:
  - Divided attention impairment
  - Poor coordination and balance
- General Indicators:
  - "Track marks"
  - "On the nod"
  - Slowed reflexes
  - Low, slow, raspy speech
  - Facial itching
  - Dry mouth
  - Euphoria
  - Flaccid muscle tone

- Psychological effects:
  - Relief from the symptoms of withdrawal
  - Euphoria
  - Relief from pain
- Other Conditions That May Mimic Narcotic Analgesic Impairment Symptoms:
  - Extreme fatigue
  - Head injury
  - Hypotension (abnormally low blood pressure)
  - Severe depression
  - Diabetic reaction ("insulin shock")



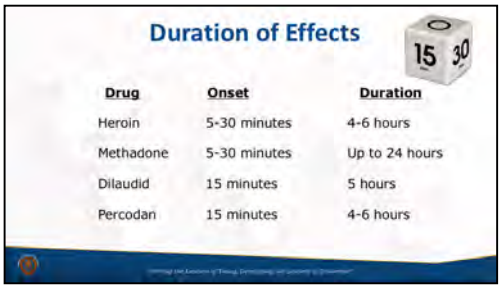
- Possible Overdose Symptoms:
  - Slow and shallow breathing
  - Clammy skin
  - Bluish colored lips
  - Pale or bluish colored body parts
  - Extremely constricted pupils

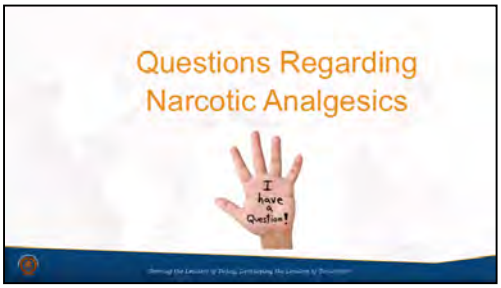
- Signs and Symptoms of Withdrawal:
  - Chills
  - Aches of the muscle or joints

- Nausea
- Sweating
- Goose bumps
- Yawning
- Tearing of the eyes
- Runny nose
- Vomiting

- Methods of Ingestion:
  - Injected
  - Smoked
  - Snorted
  - Suppositories
  - Oral
  - Transdermal

- Duration of Effects:
  - Heroin:
    - Onset/5-30 minutes
    - Duration/4-6 hours
  - Methadone:
    - Onset/5-30 minutes
    - Duration/up to 24 hours
  - Dilaudid:
    - Onset/15 minutes
    - Duration/5 hours
  - Percodan:
    - Onset/15 minutes
    - Duration/4-6 hours



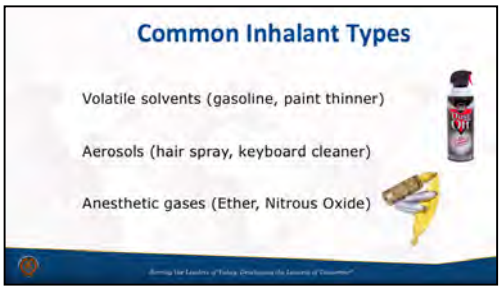


H. Inhalants

Inhalants are breathable chemicals that produce mind-altering results. They are also referred to as "deliriants" and comprise a wide variety of substancesand delivery methods: volatile liquids that give off fumes, gases that come in pressurized tanks or bottles, and aerosol cans that are sprayed.

Inhalants vary widely in terms of chemical composition and specific effects produced. They are popular, especially with younger people, because they are cheap, quick acting, and readily available.

The effects produced depend on the chemical nature of the inhaled substance. Effects may be similar to those of a stimulant, depressant or hallucinogen.



Within this training, there are three sub-categories of inhalants:

- Volatile solvents: Comprised mostly of carbon- and hydrocarbon-based compounds that are volatile (turn to gas) at room temperature. They include such substances as gasoline, gasoline additives, butane, kerosene, glues and plastic cements, nail polish remover, paint thinners, cleaning fluid and many other substances.

  Volatile solvents are quick acting; they are absorbed into the blood almost immediately after inhalation and within 7 – 10 seconds move to the heart, liver, brain and other tissues. Volatile solvents are exhaled by the lungs leaving a telltale odor on the user's breath.

- Aerosols: Includes spray substances such as hair spray, insecticides, paints (metallic paints), air dusters, computer keyboard cleaners (Dust-Off® and Endust®), and analgesic/asthma sprays.

  Many of the volatile solvent and aerosol substances share two major volatile compounds; toluene and trichloroethylene. Toluene (methyl benzene) is the most frequently abused solvent because it is found in so many substances. Trichloroethylene (TCE) is a common organic solvent and an ingredient in correction fluids, pains, antifreeze, metal degreasers and spot removers.

- Anesthetic Gases: Includes ether, nitrous oxide ("Whippets," "laughing gas," "nitrous"), and various nitrates which include amyl nitrite and butyl nitrite.

  Nitrates, amyl nitrite in particular, have a sweet odor when fresh but a "wet-dog" or spoiled banana smell when stale. Amyl nitrite is available only by prescription.

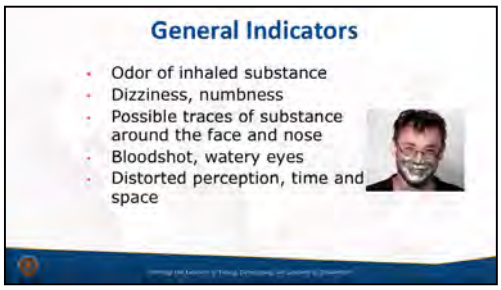
Butyl and propyl nitrites are banned in the U.S.; however, variants of these formulations are still sold as room, and shoe cleaners. Nitrates are sometimes called “poppers” because amyl nitrates were formerly packaged in glass capsules wrapped in cotton, and they broke open with an auditable popping sound.

People under the influence of inhalants typically exhibit impairment similar to alcohol intoxication.

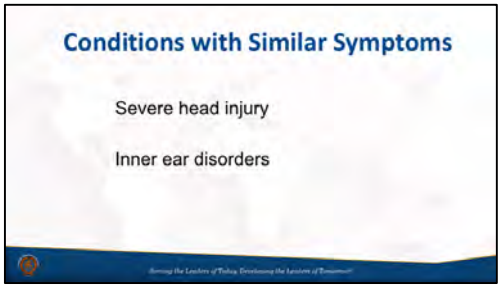
Subjects using inhalants are commonly referred to as “huffing.”

Expected results of observation/indicators of Inhalant impairment include:

- Psychophysical Indicators:
    - Divided attention impairment
    - Poor coordination and balance
    -
- General Indicators:
    - Odor of inhaled substance
    - Dizziness, numbness
    - Possible traces of substance (face, nose, hands)
    - Bloodshot, watery eyes
    - Distorted perception, time and space
    - Inebriation similar to alcohol intoxication
    - May complain of intense headache
    - Nausea
    - Possible hallucinations
    - Slurred speech



- Other Conditions That May Mimic Inhalant Impairment Symptoms:
    - Severe head injury
    - Inner ear disorder

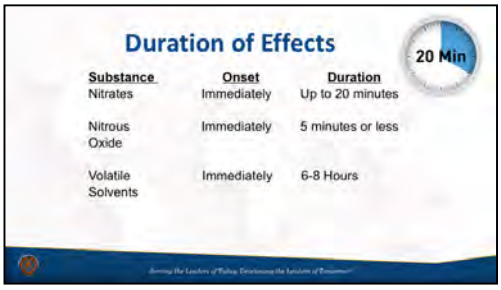


- Possible Overdose Symptoms:
    - Coma

- Methods of Ingestion:

  Inhalants are ingested into the body through inhalation. There are various inhalation methods that include:

  - Sniffing – use directly from the container through the nose
  - "Bagging" – inhaling fumes from solvent-soaked material placed in a paper or plastic bag
  - "Balloons and crackers" – inhaling from a balloon filled with nitrous oxide or other "cracking" devices used to puncture the gas canisters



- Duration of Effects:

  - Onset is typically immediate
  - Duration:
    - Nitrates/up to 20 minutes (Amyl, Butyl, "Rush")
    - Nitrous Oxide/5 minutes or less
    - Volatile solvents/6-8 hours (gasoline, paint)

Inhalants are easily accessible in the home. Most Inhalants are readily available in retail markets. Paints, cleaning solvents, etc., are easily accessible at home.

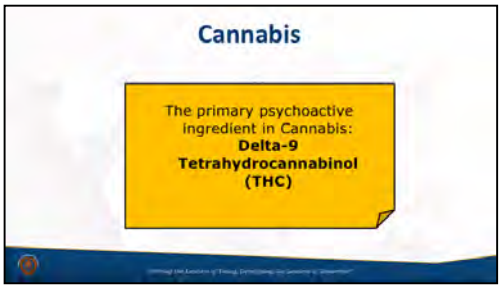
I. Cannabis

Cannabis is a term that refers to marijuana and other drugs made from the Cannabis Sativa plant.

Strong forms of cannabis include Sinsemilla, hashish ("hash" for short), and hash oil.

Marijuana, which is part of the cannabis drug category, is a green, brown, or gray mixture of dried, shredded leaves, stems, seeds, and flowers of the Cannabis Sativa plant. There are many different slang terms for marijuana and, as with other drugs, they change quickly and vary from region to region.

No matter its form or label, all cannabis products contain the primary psychoactive (mind-altering) chemical delta-9-tetrahydrocannabinol (THC). Marijuana contains more than 400 other chemicals. THC is the chemical in marijuana responsible for producing the euphoria or "the high." Cannabidiol (CBD) another chemical in marijuana and is considered non-psychoactive and lacks the intoxicating properties of THC. There is some evidence that CDB may hold medicinal value to treat several medical conditions such as neurological disorders (i.e. seizures and epilepsy), psychosis and anxiety.



Although the current national THC average level of marijuana is approximately 11%, Colorado and Washington State's recreational marijuana is approximately 17%, with some samples testing at 30%. This does not include high-potency extract concentrates, which can have 80-90% THC. *(Source: United Nations of Drugs and Crime (2016), World Drug Report)*

According to the 2016 National Institute of Drug Abuse (NIDA) annual *Monitoring the Future* survey, among students from 8th, 10th, and 12th grades, marijuana use has remained stable over the past few years. For the three grades combined, about 24 percent of students reported past-year use in 2015.

Research has found that the use of marijuana and other drugs usually peaks in the late teens and early twenties, then declines in later years. Therefore, marijuana use among young people remains a natural concern and is the focus of continuing research, particularly regarding its impact on brain development, which continues into a person's early twenties. Some studies suggest that the effects of heavy use that begins as a teen can be long lasting, even many years after use discontinues.

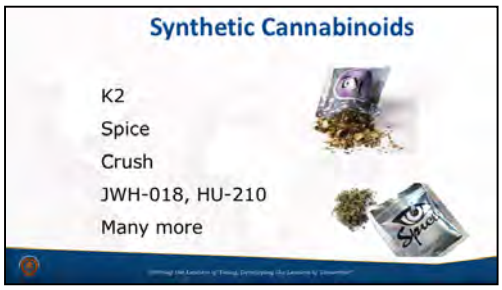
When people smoke marijuana, they feel its effects almost immediately. THC rapidly reaches every organ in the body, including the brain, and attaches to specific receptors on nerve cells.
THC is chemically similar to chemicals that the body produces naturally, called endocannabinoids. THC disrupts the normal function of these chemicals. Because of this system's wide-ranging influence over many critical functions, marijuana can have multiple adverse effects — not just on the brain, but on a person's general health.

Some of these effects last only as long as marijuana is in the body while others may

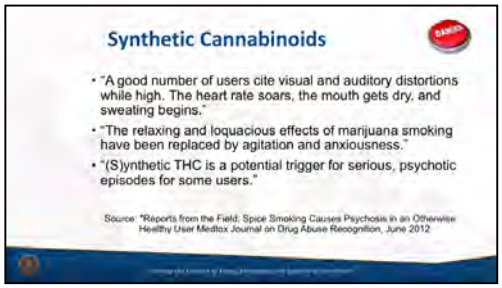
build up over time to cause longer-lasting problems, including addiction.

Edible cannabis or marijuana when consumed in foods can cause the effects to come on slower. However, because edibles containing marijuana are often unlabeled or poorly labeled, users can use too much waiting for the "high" and can end up in an emergency situation.

Synthetic Marijuana



Synthetic marijuana or synthetic cannabinoids have quickly become a worldwide concern. They quickly came on the market in the early 2000's and continue to evolve. These products go by many different names or identifiers. Spice, which is sometimes also called K2, herbal incense, or "fake weed," is one of the more popular or more familiar synthetic cannabinoids.



Spice and similar products consists of shredded dried plant material that has been sprayed with chemicals designed to act on the same brain cell receptors as THC, but are often much more powerful and unpredictable. These products are typically labeled "not fit for human consumption," and most are illegal. But their manufacturers are constantly creating new chemical compounds to sidestep legal restrictions.

One use of THC is called "Dabbing" which is a concentrated, high potency form of THC. Dabbing is a way to get the quickest, long-lasting high with a single inhale. A single puff from a pipe or vaping pen can give the effect of smoking many joints. Unfortunately for parents, teachers and law enforcement, the new vaping pens make it extremely difficult to see, smell or detect.

It involves the use of butane or other various chemicals to heat and refine the THC into "BHO" or butane hash oil. The resulting waxy ball of THC is then heated or put into a vaporizing pen and inhaled. Many concentrates can have THC levels that exceed 90%. This ingestion method can affect the user for 4 – 5 hours.

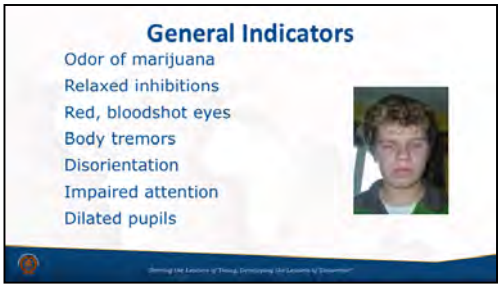
- Other Types or Forms of Cannabis:
  - Marijuana *(Dried leaves of the marijuana plant)*
  - Sinsemilla *(Potent form made from unfertilized female plants)*
  - Hashish *(Concentrated version of marijuana)*
  - Hashish oil *(Liquid extracted from hashish)*
  - Dronabinol (Marinol), Sativex, and Cesamet – Synthetic forms of THC

People under the influence of Cannabis are typically relaxed, care-free acting and will

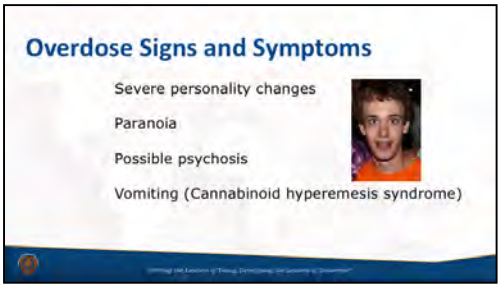
exhibit divided attention impairment.

Expected Results of Observations/Indicators of Impairment:

- Psychophysical Indicators:
  - Divided attention impairment
  - Poor coordination and balance
- General Indicators:
  - Odor of marijuana
  - Relaxed inhibitions
  - Marked reddening of the whites of the eyes
  - Body tremors
  - Disorientation
  - Attention difficulties
  - Impaired perception of time and distance
  - Marijuana debris in the mouth
  - Eyelid tremors
  - Increased appetite



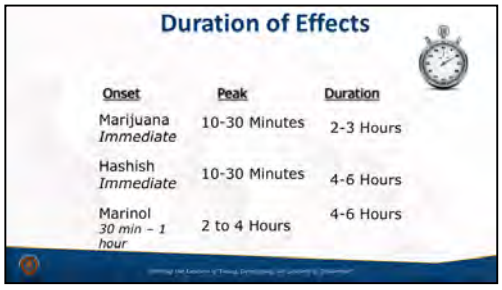
- Other Conditions That May Mimic Cannabis Impairment Symptoms:
  - Some medical conditions can be associated with a lack of attention. An example would be Attention Deficit Disorder (ADD)
- Possible Overdose Symptoms:
  - Sharp personality changes
  - Paranoia
  - Possible psychosis
  - Excessive vomiting (Hyperemesis Syndrome)



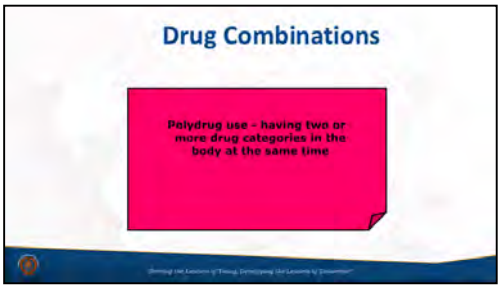
- Long-term Effects on Cannabis Use:
  - Lung damage
  - Chronic bronchitis
  - Lowering of testosterone
  - Possible birth defects
  - Chronic reduction in attention span
  - Withdrawal is similar to alcohol dependence withdrawal
- Methods of Ingestion:

- Smoked
- Oral
- Transdermal (patches)

- Duration of Effects:
  - Smoked Cannabis – immediate
  - Onset/8-9 seconds *(Marinol 30 min. – 1 hour)*
  - Peak/10-30 minutes *(Marinol 2 – 4 hours)*
  - Duration/2-6 hours



J. Drug Combinations



Poly drug use refers to the use of two or more psychoactive drugs in combination to achieve a particular effect. In many cases one drug is used as a base or primary drug, with additional drugs to leaven or compensate for the side effects of the primary drug and make the experience more enjoyable with drug synergy effects, or to supplement for primary drug when supply is low.

For our purposes, poly-drug use is defined as: *having two or more drug categories in the body at the same time.*

It is very common to encounter poly-drug users than single drug users.

Per the National Cannabis Prevention and Information Center (NCPIC), the most common type of poly-drug mix is marijuana and alcohol.

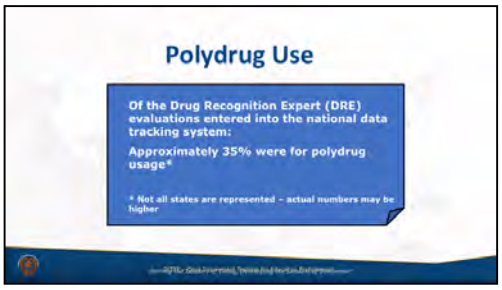
A person addicted to both can experience the same symptoms but to a wholly unpredicted level. This may be due to the psychedelic properties of marijuana, which can affect the mind in different ways. These psychedelic effects may be heightened with

the sedative effect of alcohol. This, in turn, can increase the risk for psychological problems and psychotic symptoms.

NCPIC also reported that alcohol can increase the rate of absorption of THC, the primary active component of cannabis, or marijuana. Taking alcohol with marijuana can strengthen the effect of the latter and cause a condition referred to as "greening out." This is a term used to describe when marijuana users experience nausea or sickness after smoking weed.

Alcohol was often found in combination with one or more drugs.

Of the Drug Recognition Expert (DRE) evaluations entered into the National DRE tracking system, approximately 35 percent of are poly-drug users as confirmed by toxicological analysis.



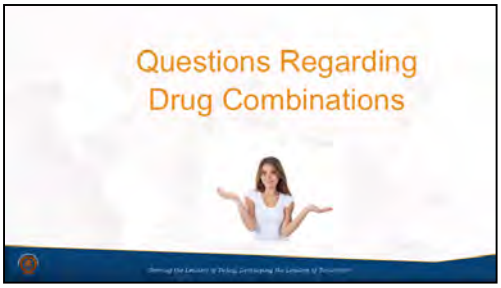
Drug combinations often produce conflicting signs and symptoms.

An example would pupil size. A person under the influence of Cocaine and Heroin could have pupils that are small (constricted), large (dilated) or normal in appearance.

- Medically Impaired Individuals:

  Some medical conditions may mimic drug induced impairment:

  - Diabetes
  - Brain disorders
  - Injuries



SESSION FIVE: POLICY, PROCEDURES, ROLES, and CONTACTING the PARENTS

A. Review of School Policy

Remember: Always follow your district and/or school policy when dealing with drug-impaired individuals.

Serious consideration should be given to the development and implementation of a written policy if one is not in place.

An ideal policy should include the following:

- Prohibiting the unlawful manufacture, distribution, dispensing, possession, use, sale, purchase, consumption, or being under the influence of a controlled substance on school property or as part of any school sponsored activity.
- Prohibiting the abuse of prescription drugs as well as the illegal use, purchase, sale or attempted sale of prescription drugs.
- Prohibiting the use of alcoholic beverages while on school premises, including meal periods and breaks.
- Prohibiting being under the influence of alcohol at any school function.
- Prohibiting the use or being under the influence of unauthorized drugs while attending school approved functions and that a violation of this policy will constitute grounds for disciplinary action and/or referral to law enforcement and prosecution.

B. What to Do When You Suspect a Student Is Using Drugs

If the student is taking his/her prescribed medication at the recommended dosage, the student should ***not*** be impaired.

Observations and changes that ***may*** indicate drug abuse:

- Social/Behavioral symptoms: may include changes in emotional functioning such as depression, irritable mood, nervousness, euphoria, and apathy
- Cognitive functioning: may include poor concentration, sensation of slowed time, confusion, rambling flow of thoughts and speech, poor memory and attention
- Biological/Physical symptoms: may include changes in the student's ability to self-regulate, changes in heart rate, blood pressure, appetite and weight; muscle twitching, weakness or tremors; seizures, lack of coordination, dizziness, blurred vision, dilated or constricted pupils; red, glassy eyes, sweating, nausea, vomiting, respiratory distress, chills

- Psychomotor agitation: may include pacing, hand wringing, picking at skin, fidgeting, and restlessness
- Psychomotor retardation: may include listlessness, slowed speech, thinking or body movements and deterioration of handwriting
- Emotional/Cognitive symptoms: may include changes in behavioral functioning, increased combativeness and competitiveness, lethargy, discontinuation of previously enjoyed activities, becoming more secretive, and engaging in lying behavior
- Changes in social functioning: may include involvement in a sudden new peer group or marked isolation from peers

If possible, discuss your observations with others having contact with the student.

Others may have made observations similar to, or in addition to, what you have seen.

Be discreet when making your inquiries.

- Public queries may be misinterpreted as fact or an accusation
- Be careful to not place additional stress on the individual

Do not accuse the student.

Make your observations and get the facts using all of your senses. **Just the facts.**

C. School Team Effort

- School Teachers
    - First line of defense
    - Encounter the student daily
    - Observe physical and behavioral changes
    - Discuss your observations with others having contact with the student
    - Document your observations
    - Escort the student to the nurse's or administrator's office
- School Counselors
    - Review the student's academic record, attendance, and other similar incidents
    - Meet with the student, parent(s), administrators, and other involved parties
    - Involve the parent(s)

- Identify the substance abuse treatment options
- Follow up with the student's progress

- School Principals, Deans, Administrators
  - Take appropriate action consistent with the school's policies
  - Include all applicable team members
  - Consider the observations of the teacher, counselor, and nurse
  - Consider the welfare and safety of the entire student/staff body

- School Nurses
  - Listen to the teacher's observations
  - Interview the student
    - Medical questions
    - Clinical assessments
  - Document your observations
  - Inform administrators of the situation and present your observations

- Others
  - Emergency medical personnel
  - School Resource Officers
  - Security
  - On-Duty law enforcement personnel

D. First Contact

In order to take appropriate action and assist a student suspected of substance impairment, it is necessary to be familiar with the signs and symptoms of an alcohol or other drug problem. It is important to remember that you are not expected to be an expert in this area, nor are you expected to be able to diagnose a student's problem.

The first step in helping a student is simply to recognize that a problem may exist, and contact the student (Intervention).

Intervention is a proactive method used to increase awareness of problem behaviors, prevent problems from becoming worse, and promote referral for further assessment and possible treatment. Intervention simply means meeting with a student and discussing your concern. The following are some tips for conducting an informal intervention:

- Select a private location
- Let the student know that you are genuinely concerned

- Describe to the student the specific behaviors that have caused you to be concerned
- Speak to the student in an objective, nonjudgmental manner
- Be prepared for the student to provide excuses, promise behavior change, attempt to redirect the conversation, or pass the problem off as no big deal
- Document your contact with the student

Interventions tips*:*

- Avoiding lecturing and admonishing.
- Having a positive attitude towards the adolescent
- Avoiding judgmental responses
- Avoiding medical jargon
- Being attentive, genuine and empathic
- Identifying the problem
- Avoiding writing during the interview, especially during sensitive questions
- Criticizing the activity, not the adolescent and highlighting the positive.

Remember that even if the student refuses your help, you are an important part of the process in helping him/her recognize that there is a problem. If you are uncomfortable intervening with the student yourself but would still like to help, involve another member of the team.

As part of this training, school nurses will receive training to conduct an assessment. An integral part of this assessment is an interview of school personnel who have observed signs and symptoms of the student prior to arrival at the health office.

E. Intent of this Training Program

The primary intent of this training is to assist teachers, administrators, security personnel and medical practitioners to identify drug impaired students. This enables you to assist students that need help and at the same time help keep the school environment safe.

Possession of drugs is a crime.

- Having drugs in your school system may or may not be against the law depending on state laws

- But, driving under the influence of drugs is illegal in every state

Drug-free school zone:

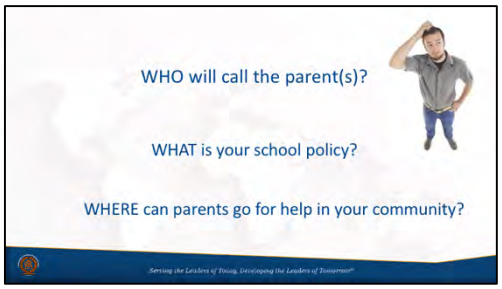
United States Federal law and many state and local laws increase penalties for illegal drug-related activities in Drug-free school zones.

A Drug-free zone is a geographical area where the distribution or possession of controlled substances is penalized with a sentence or fine greater than is applicable elsewhere. Areas classified as drug free zones are generally specified in a state's drug offense laws. Ordinarily, areas within a certain distance from a school or other place

where children are found is classified as a drug-free zone. If an individual is arrested for the possession or distribution of a controlled substance within the drug-free zone, the penalties for the offense are enhanced.

The issue of school safety is a shared concern. Today, more than ever, it is essential that communities, businesses, parents, and students work together to develop a disciplined environment where learning can take place in a safe and drug-free school.

F. Contacting the Parent(s):



This section deals with the WHO, WHAT, and WHERE determined ahead of time by individual school policy.

- WHO will call the parent(s)?
- WHAT is your school policy regarding discipline for students under the influence of impairing substances on school property or at school sponsored events?
- WHERE can parent(s) go for help in your community?

G. Interview with the Parents(s)

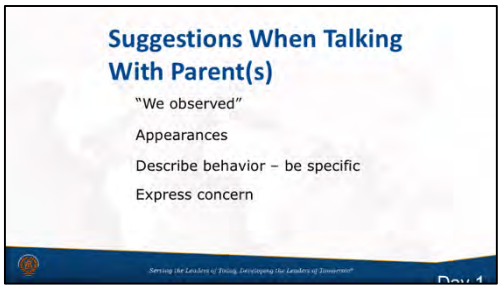
Often parents come to the health care professional with requests for help with parenting their teens. Helpful suggestions include:

Guidelines for the interview with the parent(s) or guardian:

- Document your contact
- Express your concerns by showing interest in the student and their welfare
- Avoiding lecturing or “talking down”
- Stress positive attributes of the student in question
- Listen to the parent(s) or guardian and treat their comments seriously
- Avoiding comparing their child with other students
- Do not accuse!
- Offer the parent(s) referrals to available resources
- Be supportive and aware that parent(s) may deny students use of drugs.

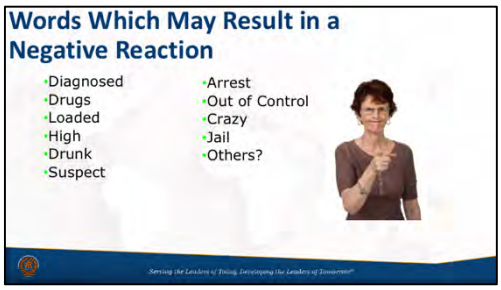
H. Words to Use When Talking with Parent(s) or Guardian

- Concern
- We observed…
- Appearance of…
- Sleepy acting, Lethargic, Non-communicative, etc. (Be specific)
- Safety
- Assistance



I. Words That May Cause a Negative Reaction from Parent(s)

- Messed up
- Loaded
- High
- Drugs
- Impaired
- Druggie
- Junkie
- Tested positive
- Dirty
- Suspect
- Arrest
- Diagnosed
- Assessed
- Jail



J. Substance Abuse Considerations

School should consider having a substance abuse prevention and intervention policy that is focused on improving the health and well-being of their students.

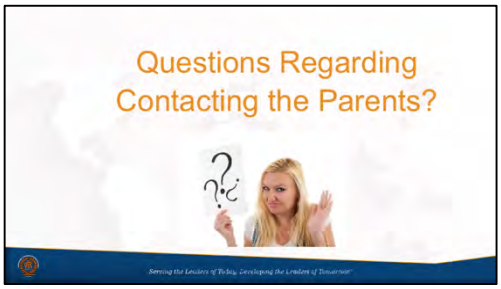
As soon as you suspect substance use in a student, consult with your school SAP or mental health staff.

If substance abuse is suspected, the school may want to refer the individual to the school counselor(s) if available.

There may times parents may also suspect substance abuse. However, treatment may be expensive or not covered by insurance, therefore they don't follow-up or pursue the options.

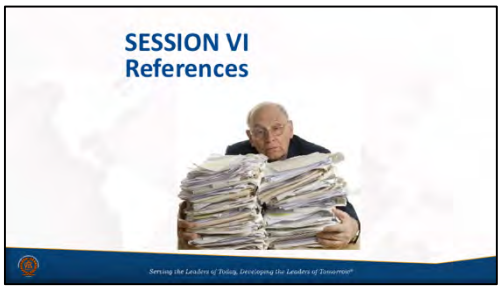
School counselors may be an option.

It is recommended that you know what local community resources are available.



SESSION SIX: REFERENCES

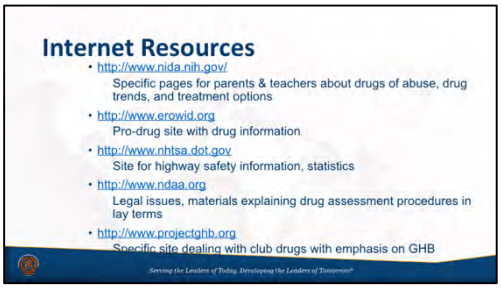
There are numerous references available to school teachers, administrators and school nurses regarding drugs and their various impairing effects. Some of those resources are covered in this session.



A. Internet Resources:

National Institute of Drug Abuse - http://www.nida.nih.gov

- Contains specific pages for parents and teachers about drugs of abuse, drug trends, and treatment options



Erowid - https://www.erowid.org

- A pro-drug non-profit educational and harm-reduction resource with online information about psychoactive drugs, plants, chemicals, and drug effects

National Traffic Safety Administration - http://www.nhtsa.dot.gov

- Government site for highway safety information and statistics

National District Attorneys Association - http://www.ndaa.org

- Site for legal issues and materials explaining drug assessment procedures in lay terms

Pill ID Info - http://www.drugid.info

- A prescription pill and drug identification resource site

Drugs.Com Pill Identifier - http://www.drugs.com/pill_identification.html

- A pill identification resource site

U.S. Library of Medicine - http://www.nlm.nih.gov/medlineplus/druginformation.html

- A medical-based resource for information about drugs and “herbal” substances

FDA Food and Drug Administration - http://www.accessdata.fda.gov/scripts/cder/daf

- A database, maintained by the Federal Drug Administration, providing information about various prescription drugs

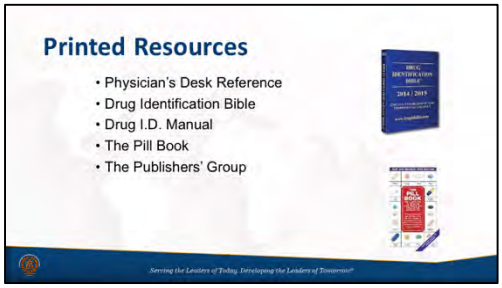
Wikipedia - http://www.wikipedia.org

- Provides information about "family" or "class" that a particular drug belongs to

Drug Enforcement Administration - https://www.dea.gov/index.shtml

- Provides drug fact sheets on numerous legal and illegal drugs

B. Printed Resources/References



1. Physician's Desk Reference
   Available at:
   www.pdr.net/resources/pdr-books

2. Drug Identification Bible 2014-2015
   Amera-Chem, Inc.
   Available at: www.drugidbible.com

3. Drugs and Human Performance Fact Sheets National Highway Traffic Safety Administration
   Available at:
   https://one.nhtsa.gove/people/injury/research/job185drugs/technical-page.htm

4. Street Drugs
   Publishers Group West, LLC
   Available at: www.streetdrugs.org

5. Drug Effects on Psychomotor Performance
   Randall C. Baselt, Biomedical Publications

6. Uppers, Downers, All Arounders, 8th Edition
   CNS Productions, Inc., Medford, Oregon
   Telephone: 800-888-0617
   Available at: www.cnsproductions.com

ppendix 6A

SUGGESTED ADDITIONAL REFERENCES AND RESOURCES

ABCs of the Human Body. The Reader's Digest Association, Inc., Pleasantville, New York, 1990.

The Brain. Richard Restak, M.D., Bantam Books, Toronto, 1984.

Chocolate to Morphine: Understanding Mind-active Drugs. Andrew Weil, M.D. and Winifred Rosen, Houghton Mifflin Company, Boston, 2004.

Cocaine: The Mystique and the Reality. Joel L. Phillips and Ronald D. Wynne, Ph.D., Avon Books, New York, 1980.

Complete Guide to Prescription & Non-prescription Drugs. H. Winter Griffith, M.D. HP Books, Inc., Tucson, AZ, 2016.

Complete Guide to Symptoms, Illness & Surgery, 6th Edition. H. Winter Griffith, M.D. HP Books, Los Angeles, 2012.

Designer Drugs. M.M. Kirsch. CompCare Publications, Minneapolis, 1986.

Drugs and Society, 4th Edition. Weldon L. Witters Ph.D. & Peter J. Ventucelli, Ph.D. Jones & Bartlett Publishers, Boston, 1995.

Heroin Use: Legal and Medical Aspects. Paul R. Edholm, Jr., Richard P. Neidorf. Heroin Information Publications, Beverly Hills, CA, 1978.

Licit and Illicit Drugs: The Consumer Union Report. Edward M. Brecher. Little, Brown, and Company, Boston, 1972.

The Little Black Pill Book. Bantam Books, Toronto, 1993.

Marijuana Alert. Peggy Mann. McGraw-Hill Paperbacks, 1985.

Medical Dictionary for the Nonprofessional. Charles F. Chapman. Barrons Educational Series, Woodbury, New York, 2010.

The Physician's Guide to Psychoactive Drugs. Richard Seymour, M.A. and David Smith, M.D. The Haworth Press, New York, 1987.

Plants of the Gods: Origins of Hallucinogenic Use. Richard Evans Schultes & Albert Hogmann, Alfred van der Marck Editions, New York, 1987.

A Primer of Drug Action, 12th Edition. Robert M. Julien. Worth Publishers, 2011.

Primer on Neurochemistry of Drug Dependence. Forrest S. Tennant Jr., M.D. Dr. P.H., Veract, Inc., West Covina, CA, 1985.

Psychedelics Encyclopedia. Peter Stafford. J.P. Tarcher, Inc., Los Angeles, 2013.

Psychiatric Dictionary. Leland E. Hinsie, M.D. & Robert J. Campbell, M.D. Oxford University Press, New York, 2009.

Steal this Urine Test: Fighting Drug Hysteria in America. Abbie Hoffman, Penguin Books, New York, 1987.

The Substance Abuse Problems. Volumes One and Two. Sidney Cohen, M.D. The Haworth Press, New York, 1985.

Use and Abuse of Amphetamine and its Substitutes. Research Issue 25. National Institute on Drug Abuse, Rockville, Maryland, 1980.

DRUG INFORMATION SOURCES

1. National Institute of Drug Abuse
   5600 Fishers Lane
   Rockville, Maryland 20857
   Website - http://www.nida.nih.gov

2. National Clearinghouse for Drug Abuse Info (NCDAI)
   P.O. Box 416
   Kensington, Maryland 20795

3. Substance Abuse and Mental Health Services Administration (SAMSHA)
   Website - www.samsha.gov

4. International Association of Chiefs of Police (IACP) Drug Evaluation and Classification Program
   Website – www.decp.org

Appendix 6B

Impairment Indicators	CNS Depressants	CNS Stimulants	Hallucinogens	Dissociative Anesthetics	Narcotic Analgesics	Inhalants	Cannabis
GENERAL INDICATORS	Uncoordinated Disoriented Sluggish Thick, slurred speech Drunk-like behavior Drowsiness Droopy eyes Fumbling	Restlessness Body tremors Excited Euphoric Talkative Exaggerated reflexes Anxiety Grinding teeth (bruxism) Redness to nasal area Runny nose Loss of appetite Insomnia Increased alertness Dry mouth Irritability	Dazed appearance Body tremors Synesthesia Hallucinations Paranoia Uncoordinated Nausea Disoriented Difficulty in speech Perspiring Poor perception of time & distance Memory loss Disorientation Flashbacks NOTE: With LSD, piloerection may be observed (goose bumps, hair standing on end)	Perspiring Warm to the touch Blank stare Very early angle of HGN onset Difficulty in speech Incomplete verbal Responses Repetitive speech Increased pain threshold Cyclic behavior Hallucinations Possibly violent & Combative Chemical odor "Moon walking"	Droopy eyelids ("ptosis") "On the nod" Drowsiness Depressed reflexes Low, raspy, slow speech Dry mouth Facial itching Euphoria Fresh puncture marks Nausea Track marks	Residue of substance around nose & mouth Odor of substance Possible nausea Slurred speech Disorientation Confusion Bloodshot, watery eyes Lack of muscle control Flushed face Non-communicative Intense headaches **NOTE: Anesthetic gases cause below normal blood pressure; volatile solvents and aerosols cause above normal blood pressure.	Red, bloodshot eyes Odor of marijuana Lack of concentration Marijuana debris in mouth Body tremors Eyelid tremors Relaxed inhibitions Increased appetite Altered perception of time & distance Disorientation Possible paranoia
DURATION OF EFFECTS	Barbiturates 1-16 hours Tranquilizers 4-8 hours Methaqualone: 4-8 hours	Cocaine 5-90 minutes Amphetamine 4-8 hours Meth 12 hours	Duration varies widely from one hallucinogen to another. LSD 10 – 12 hours	PCP Onset: 1-5 minutes Exhibits effects up to 4-6 hours DXM Onset 15-30 minutes	Heroin: 4-6 hours Methadone: Up to 24 hours Others: Vary	6-8 hours for most volatile solvents Anesthetic gases and aerosols - very short duration.	2-3 hours - exhibits effects (Impairment may last up to 24 hours, without awareness of effects.)
USUAL METHODS OF ADMINISTRA-TION	Oral Injected (occasionally) Insufflation	Insufflation (snorting) Smoked Injected Oral	Oral Insufflation Smoked Injected Transdermal	Smoked Oral Insufflation Injected (PCP) Eye drops	Injected Oral Smoked Insufflation	Insufflation (Historically, have been taken orally.)	Smoked Oral
OVERDOSE SIGNS	Shallow breathing Clammy skin Pupils dilated Rapid, weak pulse Coma	Agitation Increased body temperature Hallucinations	Long intense "trip"	Long intense "trip"	Slow, shallow breathing Clammy skin Coma Convulsions	Possible psychosis Respiration ceases Severe nausea or vomiting Risk of death	Fatigue Paranoia Possible psychosis

Appendix 6C

DURATION OF DETECTABILITY OF DRUGS IN URINE

DRUG	RETENTION TIME DURING WHICH DETECTABLE
Amphetamine/methamphetamine	**12-72 hours**
Barbiturates	
Amobarbital (Tuinal)	2-4 days
Pentobarbital (Fiornal)	2-4 days
Phenobarbital (Nembutal)	Up to 30 days
Secobarbital (Seconal)	2-4 days
Benzodiazepines	
Alprazolam (Xanax)	Up to 30 days
Alprazolam (Xanax)	Up to 30 days
Diazepam (Valium)	Up to 30 days
Chlordiazepoxide (Librium)	Up to 30 days
Cocaine Metabolites	12-72 hours
Cannabis (Marijuana)	
Single use	3 days
Moderate smoker (4 times/week)	5 days
Heavy smoker (daily)	10 days
Chronic smoker (daily)	21-27 days
Methadone	1-4 days
Opiates (Narcotic Analgesics)	
Codeine	2-4 days
Hydromorphone (Dilaudid)	2-4 days
Morphine/Heroin	2-4 days

PCP

Casual Use	Up to 5 days
Chronic use	Up to 14 days

NOTE: Retention times may vary depending on variables including drug metabolism and half life, patient's physical condition, fluid intake, and method and frequency of ingestion.

SOURCES: National Institute on Drug Abuse; PharmChem Laboratories. Reprinted from *The Drug Identification Bible, 2014 - 2015*.

Appendix 6D

REFERRAL FORM: To be conducted as soon as possible after the student's assessment.
Purpose: To obtain a summary of the student's behavior that led the staff member to refer the student.

Time:_____ Date:_____

Name of person filling out referral interview:_____

Position:_____

What initially attracted your attention to this student? Be specific:

_____

Where were you when you observed this student? (In classroom, classroom doorway, hallway, stairwell)_____

Where was the student when you noticed him/her?_____

How was the student dressed?_____

Was the student carrying anything?_____

If with other students, list names or give descriptions:_____

_____

Did you observe the student eating, drinking, inhaling any substance or smoking?_____

Was the student operating any machinery, equipment, and or tools? (lab materials, computer equipment, AV equipment, etc.)_____

What actions did you observe?_____

_____

Was there an incident or accident?_____

Was there a traffic crash?_____

Were there any injuries?_____

What did you initially say to the student?_____

What was the student's response? (note verbal as well as gestures)_____

_____

Did the student attempt to throw away or conceal any items or materials?_____

What is your opinion of the student's attitude and demeanor during the interaction with you?

_____

Did the student complain of illness or injury?_____

_____

Did the student use any "street terms" or slang associated with drugs or drug paraphernalia?

_____

How did the student respond to your inquiries? Be specific._____

_____

Other pertinent information: