

## What is a Drug?

Isn't it funny how we always separate drugs and alcohol when we talk about them, when in reality alcohol is a drug too. Other things that we should think of as drugs include Nicotine, found in cigarettes, chew and cigars or, caffeine found in coffee, chocolate, soda and energy drinks. Have you ever taken aspirin for a headache or cold medicine when you feel sick? These are called over the counter drugs that you can buy at a grocery store or drug store. Anytime, we eat, drink or ingest something we create a reaction in our body. That effect can be positive or negative and sometimes we don't even notice any reaction. We often only think of drugs including alcohol as being potentially dangerous and or illegal. However, the definition that we will use here is the following:

**A Drug is something we eat, drink or ingest in some way that produces a reaction from our body, whether the reaction is good or bad.**

### What type of reaction?

Reactions from drugs include;

- Being too impaired to walk or talk
- Trembling
- Being jumpy or nervous
- Slurred speech
- Dizziness
- Blurry vision
- Headache
- Nausea / Vomiting

The bodily reactions can range from just a mild headache or some dizziness to greater impairment, when you can't get around without someone helping you. And remember, not all drugs produce the same degree of response in your body. Having one soda is not the same as drinking 3 sodas or smoking one joint. However, all drugs *do* affect you in some way.

### Tell me more...

It is important to remember that everyone's bodies are unique and will respond in a different way to the same drug. The more you know about alcohol and other drugs the better off you will be to make a decision about using them. Too much of certain drugs will kill you. Alcohol, Heroin, Cocaine (Crack), LSD, and MDMA (Ecstasy) are examples of certain drugs that when taken in excess will kill you. However, all drugs can contribute to death.

*Motor vehicle crash injuries are the leading cause of death in 15-19 year olds in Vermont. Alcohol was associated with 41% of motor vehicle related fatalities*

## Body Stuff

### The Central Nervous System

This is a fancy name for your brain and spinal cord. These two parts of your body control all of your movements and feeling. It is basically the control panel for your body.

### The Respiratory System

This system includes your lungs, trachea, mouth, nose and nasal passages. Have you noticed how difficult it is to control yawning? Yawning is an involuntary reflex that your body does when it slows down. When you slow down, your mind (Central Nervous System) tells your lungs (Respiratory System) that your body needs more oxygen)

### The Circulatory System

Your blood, veins, arteries and heart are all part of your circulatory system. Again, when you yawn, your blood (Circulatory system) takes your oxygen to a kind of holding tank for your lungs to separate. Your carbon monoxide is exhaled and your oxygen is taken through your lungs to your heart and then it is pumped to your organs.

Now that we have a better understanding of parts of our body we can study some particular drugs and how they affect us.

## Alcohol

Alcohol is a drug called a depressant. A depressant slows you down and leaves you feeling kind of numb. Here are some facts about alcohol that you may not know.

- Alcohol is the most widely spread abused drug in the world
- Alcohol doesn't need to be digested. It can pass directly into the blood stream
- Overall, 37% of students consumed at least one drink of alcohol in the past 30 days.
- More alcohol abuse occurs in 12<sup>th</sup> graders than 8<sup>th</sup> graders.
- Drinking over time can cause mental illness, brain damage, liver damage, birth defects and alcoholism.
- Mixing alcohol and other drugs increases your chance of serious injury or death.
- 1 out of 5 students, who drink, binge drink. (Binge drinking is defined as having 5 or more drinks within a couple of hours.
- Overall, 21% of students surveyed reported binge drinking within the last 30 days.
- Females tend to start drinking later than males
- 6 out of 10 students have had a drink of alcohol
- 5% of 12<sup>th</sup> graders have had a drink on school property within the last 30 days.
- 36% of students reported having someone give them alcohol

### A Person Might Have a Drinking Problem If:

1. They drink to feel better.
2. They drink to face their problems
3. Their work or home life starts going downhill because they drink too much.
4. The person's personality changes when they drink
5. A person gets into more accidents when they drink
6. A person gets into a lot of trouble when they drink
7. Breaks promises to themselves and others
8. If they hurt people they care about

### **Some myths about alcohol:**

**Drug abuse is more of a problem in our society.**

Alcohol is actually the biggest drug problem in all societies.

**You don't know any alcoholics.**

People with a drinking problem hide it very well. One out of every ten people who drink has problem.

**Everybody drinks.**

Half of all adults choose not to drink and only 19 of 8<sup>th</sup> graders reported having at least 1 drink in the last 30 days in 2005.

**Alcoholics drink in the morning.**

Some alcoholics do drink in the morning however, most drink after work or school or on the weekends.

**You are only an alcoholic if you drink a lot.**

Alcoholism isn't about how much you drink; it's about why you drink. If you feel like you have to have a drink in order to function correctly in a setting, then you have a problem with alcohol.

**People are friendlier and happier when they drink**

Some people can get angry, mean, sad or really emotional when they drink

**Alcoholics drink every day.**

Some alcoholics do drink every day but many wait until they think it's ok to drink. They may hold off drinking until after work or school. Over time, they begin not to care when they drink and may start drinking more often.

**Everyone can handle alcohol.**

Alcoholics often think they can handle alcohol. They often think they have everything under control, but lying to themselves and others is a big trait of an alcoholic.

**It's cool to drink; it makes you look older.**

Think about where that idea is coming from. TV often presents that idea. However, this is false and more people are drinking less because they know that drinking is harmful not only physically but also for the mind.

### **What is an Alcoholic?**

An alcoholic is someone who is physically and psychologically addicted to alcohol. It is a treatable disease when someone wants to seek help for him or herself. There is a biological and environmental component in the cause of alcoholism. Children living in families with a parent or grandparent who is an alcoholic never see alcohol used responsibly; they only see people abusing alcohol. This puts them at greater risk than others for developing a drinking problem. This is the environmental part. Scientists are studying the genes of alcoholics and children of alcoholics to find out how their genes are predisposed to alcohol and drug abuse problems.

**Some signs of a drinking problem include:**

- Thinking a lot about drinking
- Planning when, where and with whom you are going to drink next
- Hiding alcohol, stealing alcohol from home or a store and lying about how much you drink.
- Having blackouts (Not being able to remember things after drinking)
- Feeling bad when you don't have a drink or your plan to drink didn't work out.

### **Brain and Blood Alcohol Content**

Whenever you drink alcohol it stays in your system for awhile. Once you've taken a sip, you're blood starts to have alcohol in it. A person's BAC or blood alcohol content is exactly what it implies: the blood alcohol concentration or percentage of alcohol in their blood. For example, a BAC of .08, which is legally intoxicated (.02 is legally intoxicated for people under 21) means that the concentration of alcohol in the blood is .08% not 8% as some people say. Your brain would probably be in a jar in a laboratory if your blood was 8% alcohol.

Your trusty liver, which oxidizes (breaks down) alcohol into carbon dioxide and water can process about  $\frac{3}{4}$  of an ounce of pure alcohol (the kind you would find in a chemistry lab and not the liquor cabinet) an hour. That's the equivalent of the amount of alcohol in a 12 oz. beer, a 5 oz. glass of wine or a 1  $\frac{1}{2}$  oz. of liquor drink. It doesn't matter how much alcohol you drink or how fast, the liver will work at the same pace- about a drink an hour. So, when you drink faster than your liver can process the alcohol, it circulates in the blood stream until it can be broken down, and your BAC will rise. As a result, the alcohol continues to pass through the brain and you feel the effects.

## Marijuana

Marijuana (pot, weed) and hashish are from the hemp or cannabis plant. The active ingredient, which produces the effects of cannabis in all its forms, is called THC (tetrahydrocannabinol). The most common form is smoking the dried cannabis leaves like you would tobacco. Hashish is formed from resin, the sticky secretion that is produced by the plant, and has higher THC levels. It can be in a solid brick form or can be a gummy substance. Hash oil is the concentration of resin that is heated or boiled down, producing the highest THC levels. All forms of cannabis can be smoked or eaten. Here are some facts about Marijuana and Hashish:

- It has been around for hundreds of years.
- Pot is as psychologically addictive as other drugs.
- The brain may be seriously affected by cannabis use.
- Pot is the more potent now than it has ever been because growers are producing stronger variations.
- Marijuana, like other agricultural products may be contaminated with pesticides which could be harmful to humans when smoked.
- Many people believe they are more creative and freer when using pot but in reality that is false.
- People high on Marijuana perform as poorly on impaired driver tests as alcohol impaired people. In fact, they have difficulty judging distances and their reactions to sights and sounds on the road are slowed down significantly.

## Myths about Marijuana

### Everybody's doing it.

84% of Vermont 8<sup>th</sup> graders have never used marijuana.

### Marijuana is not addictive

Psychological dependence is a fact. When people try to quit they experience insomnia, hyperactivity, anxiousness, loss of appetite and paranoia. People begin to feel that they need pot just to function. The longer you use Marijuana the more difficult it is to quit.

### Marijuana enhances sexual feelings

Pot actually impairs sexual feelings and can stunt normal sexual development. Smoking Marijuana is especially dangerous for teens that are still growing and changing. It can also lead to sterility.

### Short Term Effects

- Rush or euphoria
- Heart beats faster
- Red eyes
- Mouth dries up
- Distortion in the perception of time, sound, taste and color
- Disoriented and paranoid
- Loss of short term memory (forget what is being talked about)
- Loss of logical thinking
- Impaired coordination
- Mild hallucinations
- Damage to lungs, throat and mouth
- Rapid mood changes between being very talkative and laughing to being silent.
- Weakened immune system, as a result one becomes more prone to illness. If an HIV positive person regularly smokes pot the onset of Aids may be sooner.

### **Long Term Effects**

- *Amotivational Syndrome*- Abusers lose interest in the future and things that were once important to them. They neglect school, health, friends and family.
- Tolerance builds up so that it takes more and more pot to produce the same effect...
- When people try to quit they experience insomnia, hyperactivity, anxiousness, loss of appetite and paranoia.
- Permanent damage to thinking and reasoning ability
- Chronic Bronchitis, frequent chest colds and pneumonia.
- Increased risk of lung or oral cancer because Marijuana smoke contains significant amounts of the same cancer causing chemicals and lung irritants as found in tobacco smoke.
- Causes gums to bleed
- Damage to the reproductive system and infertility in both sexes.

Most people get turned on to pot by their friends. They may try it because they are curious or because of peer pressure. Some people stop after one or two times while others find it difficult to ever stop. Whether it's once or 100 times, given all the facts and risks, why bother?

## Cocaine

### What is it?

Cocaine (coke, dust, blow, snow) and Crack (rock) are both stimulants which mean that they speed the body up rather than slow it down like a depressant such as alcohol. Cocaine and Crack are highly addictive, some even say more addictive than heroin. Coke comes from the 5,000 year old South American Coca plant or shrub. Years ago, it was used as an anesthetic, or to deaden nerves. Here are some facts about Cocaine:

- Only 3% of 8<sup>th</sup> graders and 6% of 10<sup>th</sup> graders have reported using Cocaine ever in their life.
- Cocaine is expensive. Regular users can spend hundreds and even thousands of dollars each week on their drug habit.
- Cocaine impairs your judgment-this could increase your risk for HIV / AIDS and other diseases as well as rape and unplanned pregnancy.
- Combining Cocaine and other drugs like alcohol is extremely dangerous. The effects of one drug can magnify the effects of another and mixing drugs can be deadly.

### Losing Big Time!

Coke is incredibly destructive. People get engulfed by Cocaine and not only destroy their minds and bodies but also lose friends, family and jobs. Nobody plans to become addicted and lose everything they just want to have fun and relax and they think they can handle it and keep their drug use under control.

### More...

Cocaine comes in lots of forms. Sometimes, it is in powder form and snorted up the nose or added to liquid and injected into a vein. Crack is made by condensing Cocaine into liquid form and then dropped onto a solid substance called a rock. The rock can be smoked in a pipe. It's called Crack because of the popping sound the rock makes when it is burned.

### Effects of Cocaine and Crack on the Body and Mind

When Coke is snorted the effects are felt in 20-30 seconds and last for a little less than an hour. When Coke is injected it is felt in less than 10 seconds. With Crack, because it is smoked, it goes immediately to the brain and is felt quickly. The high from Crack is said to be more intense and shorter (10-15 minutes) so the person feels inclined to do it again to get the same high. People who snort or inject Coke also say that when the effect starts to wear off that they have the need to do it again as soon as possible. People report a feeling euphoric, more self confident and less stressful. People also say they are more talkative and lose their appetite.

### Physical Effects

- Temperature rises
- Blood pressure increases
- Muscle spasms
- Convulsions and epileptic seizures
- Temperature rises
- Lung problems
- Chest pains
- Heart attack
- Nose bleeds, runny nose, sniffing, permanent damage to your nasal passages
- Red bloodshot eyes
- Sudden death from stroke, seizures, heart attack or respiratory failure

**Mental Effects**

- Sever mood swings
- Depression
- Paranoia
- Irritability
- Hallucinations
- Anxiety
- Feelings of angry and hostility
- Over time, Cocaine damages the brains' pleasure center making it difficult or impossible to enjoy once satisfying activities like food and spending time with friends and family.

Cocaine, like any other drug is physically and mentally addictive, and people who use it experience withdrawal. People have reported having cravings for the drug almost immediately after they stop feeling the high from the drug. That is how quickly your body can become dependent on Coke. People who use Cocaine also frequently use other drugs, like alcohol and other depressants, to counter act some of the side effects from the drug like insomnia or nervousness.

## Ecstasy

Ecstasy (E, XTC, Rolls, Adam, Hug Drug, New Yorkers...) is a relatively new man-made drug that produces the effects of both a stimulant and a hallucinogen at the same time. It falls into a category of designer drugs, which means it is a change in chemical structure from an existing drug. Ecstasy's chemical structure is similar to methamphetamine. Sometimes, it might also contain small amounts of cocaine and heroin. People are seldom aware that they are taking all these drugs at once but when they take ecstasy this is what they might be doing. Ecstasy is also dangerous because when you take it you're not sure what you may be putting in your body, like many other drugs it may be mixed with unknown substances and chemicals. Here are the facts about Ecstasy:

- Ecstasy stimulates the Central Nervous System (brain and spinal cord)
- Ecstasy can come in capsule or powder form, but is most often a tablet. Tablets sometimes have symbols stamped on them and can be any color.
- Ecstasy tablets vary in strength, so you can never be sure of what you're taking.
- Ecstasy can be made almost anywhere, a bedroom, a dirty alley, and public toilets...
- The stimulant in ecstasy enables users to dance for long periods of time. This can be dangerous because it creates rapid increase in body temperature, blood pressure and heart rate. Ecstasy can cause your body to literally overheat.

### Short term Effects

- Panic attacks, depression, anxiety and paranoia
- Muscle tension
- Nausea
- Blurred vision
- Fainting, exhaustion
- Chills, sweating
- Tremors, shaking
- Hallucinations
- Sleep problems
- Involuntary jaw clenching, cracked tooth enamel, worn teeth and jaw problems
- Headache
- Acne like rash on the face and neck
- Dehydration
- High blood pressure
- Body temperatures up to 110 degrees
- Elevated heart rate
- Impaired coordination-hard to estimate distances, so driving is hazardous

### Long Term Effects

- Ecstasy cause brain damage. The areas of your brain responsible for pleasure, memory, critical thinking, mood, sleep and sensitivity to pain can be permanently altered and damaged.
- Kidney failure
- Liver damage
- Heart attack
- Stroke
- Seizures
- Depression

### **Psychological Effects of Ecstasy**

Ecstasy has been associated with these mental, emotional and social problems

- Hallucinations
- Confusion
- Depression
- Suicidal thoughts
- Sleep problems
- Drug cravings
- Poor decision making skills
- Fights and accidents
- Anxiety and paranoia
- Violent and irrational behavior

### **Did you know?**

- The effects of ecstasy last about 4-6 hours.
- Using ecstasy can increase your risk of contracting sexually transmitted infections (STI's) because it impairs your abilities and puts you at higher risk for rape and unprotected sex.
- Ecstasy is connected with all night rave parties. These parties go all night and include loud techno music, dancing and bright lights. Although, this sounds like harmless fun when combined with taking ecstasy it can be dangerous mixture. The drug and party atmosphere together can cause exhaustion, dehydration and too much brain excitement, which can result in death and brain damage.

## Heroin

Heroin (also known as H, Horse, Junk, Smack, Chiva...) is an illegal, highly addictive drug. Heroin is made from morphine, which is a naturally occurring substance taken from the seed pod of certain poppy plants. The most commonly sold form is white or brownish powder or a black sticky material known as black tar heroin. It is usually injected, snorted or smoked and all three methods to use heroin are addictive. Here are some facts about heroin:

- Heroin is physically and mentally addictive.
- Overall, 3% of students have used heroin.
- People who inject heroin are at risk of contracting HIV and Hepatitis B & C due to needle sharing and unprotected sex.
- In 2005, 2% of 8<sup>th</sup> graders reported using heroin at some point.
- Heroin was created in 1874 and made illegal in 1920 through the Dangerous drugs Act.
- Heroin can change the Limbic system, which is the part of your brain that controls emotions.
- Heroin can block the pain messages that are transmitted by the spinal cord to the rest of the body, creating greater risk for injury.
- Heroin can slow breathing by changing your brain chemistry in the brain stem, which is where functions like breathing and heart beat are controlled.
- Heroin produces extreme degrees of tolerance and physical dependence which increase the likelihood of use and abuse.

## Myths about Heroin

### All Heroin addicts “shoot up,” or inject the drug.

Someone doesn't have to have a body covered in needle marks to be an addict. Today's heroin comes in many forms that can be snorted, smoked or injected.

### Heroin is a harmless recreational drug.

The High potency of today's heroin means that there's greater likelihood of addiction, overdose and death, particularly for the first time user. Heroin is stronger than it's ever been and some people report feeling addicted since the first time they used it. Street heroin can be mixed with substances like sugar, starch, quinine or other materials so you're never sure what you are getting.

### Short Term effects

- Excitability & Restlessness
- Slowed breathing
- Nausea and Vomiting
- Spontaneous abortion
- Suppression of pain
- A surge of pleasurable sensation-“Rush”
- Dry mouth
- Warm flushing of the skin
- Heavy feeling in the arms and legs
- Severe itching
- Slowed heart rate
- Drowsiness
- Clouded mental functioning for hours after using it

### Long Term Effects

- Addiction (physical and mental)
- Risk for infectious diseases (HIV / AIDS, Hepatitis B & C)
- Collapsed veins
- Bacterial infections
- Abscesses (Boils)

- Infection of heart lining and valves
- Arthritis and other joint problems
- Withdrawal

## Other Effects

### Withdrawal

This happens with any substance to which your body has become addicted. People who drink coffee, tea, soda or beverages with a lot of caffeine can become addicted to the caffeine and get headaches or experience other symptoms when trying to stop. With heroin the withdrawal symptoms are much worse. They include restlessness, muscle and bone pain, insomnia, diarrhea, vomiting, sweating, chills with goose bumps and muscle spasms. Some people have shown withdrawal symptoms for months.

### Medical Complications

Scarred veins, soft tissue infections, liver disease, kidney disease and lung complications like pneumonia and tuberculosis can result from heroin usage. Also, many of the additives in heroin do not easily dissolve in your veins and can clog blood vessels and veins that lead to your vital organs, like your brain and lungs. This causes parts of those organs to die and the damage is irreversible.

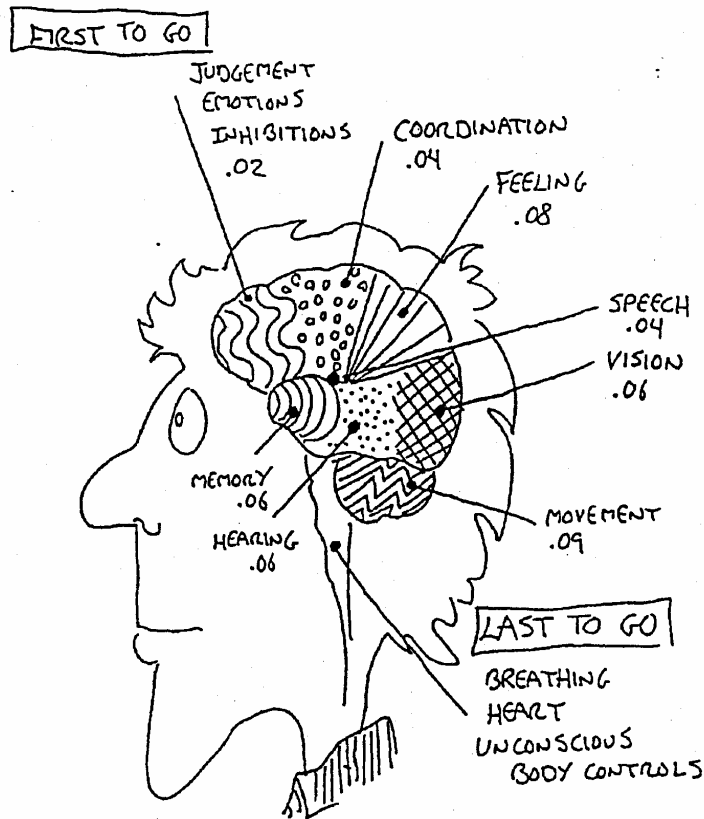
### Social Impact

Beyond the physical symptoms of heroin use are numerous social effects from addiction. Almost any person recovering from heroin addiction will have stories of struggle. A person who is addicted becomes obsessed with obtaining another high, and will devote the majority of their time to making this happen. When they run out of money, many have resorted to stealing. It doesn't matter where the money comes from; a friend, family member or strangers on the street are all potential sources of cash. Many people have shared about how heroin use has impacted their relationships in negative ways.

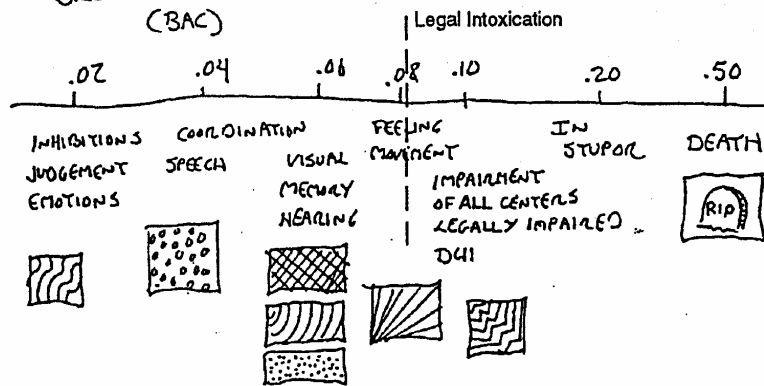
### Hot Topic

In the last few years, Heroin has become a hot topic in Vermont, there have been many local and national news stories on the subject and Senator Leahy held two "town meetings" (Burlington and Rutland) on the topic. In 2002, a documentary film called "Here Today" was released by Kingdom County Productions. It focuses on 6 Vermont families and their struggles with Heroin. The film played to many packed houses in 11 of Vermont's 14 counties. One of the reasons Heroin is becoming such a problem in this state is because Vermont was relatively untouched by this drug until recently.

### THE BRAIN AND BLOOD ALCOHOL CONTENT (called BAC)



BLOOD ALCOHOL CONTENT (BAC)



## HOW ALCOHOL GOES THROUGH YOUR BODY

1. **MOUTH** - the alcohol goes in the body

2. **STOMACH** - it passes quickly through the stomach

3. **SMALL INTESTINE** - goes right through the walls of your small intestine because it doesn't need to be digested

4. **BLOODSTREAM** - it travels in your blood to every part of your body and continues to stay in your blood until it is finally broken down

5. **BRAIN** - once the alcohol gets to your brain it begins to depress certain areas of the brain (see the next chart). The more that you drink, the more of your brain gets put out of commission.

6. **LIVER** - 90% of the alcohol is broken down here. It takes the body about a half-hour to break down 1/2 an ounce of pure alcohol. (A beer has 12 ounces or about 1 ounce of pure alcohol, so it takes about 1 hour to break down the alcohol in one beer.)

7. **LUNGS AND KIDNEYS** - the other 10% of alcohol comes out of your body in your breath and your urine. So just because you've got to pee a lot when you drink DOESN'T mean that the alcohol is leaving your body, it's just the liquid leaving.

