Illegal Drugs and the Impact on Anesthesia

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http://ocw.mit.edu/ans7870/SP/SP.236/S09/lecturenotes/drugchart.htm
http://www.drugabuse.gov/drugs-abuse

Dedicated to:
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Financial Disclosure
There is no financial conflicts with this presentation.

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Mentioning a product or company does NOT represent endorsement.

Why we do what we do?
- As Human beings we do
- whatever we do for a reason

- We do nothing “just because”

- We do whatever we do for one or two reasons and two reasons only:
  - Increase Pleasure
  - Decrease Pain

Before we Start!

Drugs enter the blood stream and head to the brain where they act at certain parts.

- Dependence:
  - A state in which organism functions normally in the presence of the drug. (withdrawal)

- Withdrawal: addicted person looses the addictive drug.
Culture?

6 high school students arrest for drug abuse: Do they have a problem?

Adderall?

Sexting?

Parties?

How crazy?

Racing fuel?

Teens who died were possibly drinking racing fuel and Mountain Dew

Snorting Smarties

There are actual YouTube videos of this crazy practice that is spreading like wildfire among school-going students. And it is unbelievable to what extents people will go just to get high on something.

Those colorful candies known as Smarties are being crushed into a fine powder. Then the kids are snorting it. This could easily lead to internal bleeding in the nose due to the razor sharp bits of the otherwise harmless candy.

Current Drug Crazes

Pharming Parties
Bath Salts
Sisa
Purple Drank
Smoking Alcohol
Ayahuasca
GHB

Whoonga (THC, Detergent, ARV)
YABA (Meth, Caffeine, Nazi creation)

Flakka "Police warn of new synthetic drug 'Flakka' "The $5 Insanity"

Jenkem, Freon, Scopolamine, AH 7921, DIPT, Benzo Fury, DMHP, Yage, Bromo Dragon Fly, Whoonga

Etorphine 3000 more potent than morphine.
Flashblooding?

Very crazy...

Is an intravenous drug administration technique used by recreational drug users in which an individual injects himself with blood extracted from another drug user, most commonly one who has injected heroin. The purpose of the technique is to experience substance intoxication (a “high”) or to help combat symptoms of drug withdrawal. The practice was first documented in an announcement submitted by Sheryl A. McCurdy, et al., in an October 2005 issue of BMJ. First reported to be practiced in Dar es Salaam, Tanzania, the practice had spread to other areas in East Africa by 2010.

Caffeine---Antiemetic? Pain control?

Oral and IV Caffeine:
- Very effective for temporary relief
- 75-80% effective in initial treatment, but 48 hour follow-up revealed that all patients had a return of their headache
- Believed to work by blocking adenosine receptors which in turn leads to vasoconstriction of cerebral blood vessels.
- Methylxanthines derivative such as, caffeine may also stimulate sodium-potassium pumps to increase CSF production, which can aid in headache relief.
- Treatment with IV caffeine was not associated with a decrease in the number of patients who required EBP.
- SE of Methylxanthines derivative; CNS stimulation, seizures, gastric irritation and cardiac dysrhythmias, limited used with patients with CV disease.

Are you an addict?

livingtoxic.wordpress.com

Caffeine Powder

One teaspoon of pure caffeine powder is equivalent to about 25 cups of coffee.

Methamphetamine

Adderall, Crystal Meth, Dexedrine, Crank, Speed, Ice
Methamphetamine
Adderall, Crystal Meth, Dexedrine, Crank, Speed, Ice

- Just this easy...http://www.youtube.com/watch?v=wlrLcqvdkac
- A psycho stimulant
- Increases alertness, concentration, energy and in high doses, can induce euphoria, enhance self esteem and increase libido.
- High potential for abuse and addiction.
- It activates the psychological reward system by triggering a cascading release of dopamine.
- Approved for treatment of ADHD and Obesity (Desoxyn 5mg)
- Off Label: Narcolepsy and treatment resistant depression

Methamphetamine
- Neurotoxin to dopaminergic neurons; Long term withdrawal. Japanese study up to a year of psychosis resembling schizophrenia
- Physical destruction and damage to the cardiovascular system.
- Routes: Ingestion (62.7%) peaks in 3 hours; IV (100%); Nasal (79%);
- Inhalation (90.3%); Suppository either rectal or vaginal (99%)
- Metabolites peak in 10-24 hours
- Route of administration also leads to increased risks for anesthesia
- Metabolism Hepatic
- Half-Life: 9-12 hours
- Excretion: Renal
- Addiction Treatment: Bupropion, aripiprazole, baclofen and Modafinil

Effects:
- Physical: tachycardia; hypertension; hypotension; hyperthermia; convulsions; heart attack; arrhythmia; vasospasms; bronchodilation; hyperglycemia; PE; Pulmonary Hypertension
- Psychological: Lots and lots of complications
- Natural depletion by massive firing of NE, EPI and Dopamine; 5HT receptors.
- Meth Mouth:..... cardinal sign

Shake ‘n Bake
- New way to make meth...

Methamphetamine
- Meth (beta buster powder equivalent to 1.5 Cold Compress pack, 1.5 box of Ephaedrine. 1 box of Ephaedrine, Indian spice between 200mg and 500mg, 1 bottle of Coleman fuel, 2 AA lithium batteries, Coleman fuel, Iodized salt, sulfuric acid or Muriatic acid, 2 20oz bottles, funnel, 2 pint Mason jars, and lineman pliers.

- When making your shake ‘n bake, always work in a clean and safe area. Make sure all of the bottles are clean. Put a funnel and coffee filter in each bottle, put 8 ounces of Coleman fuel in the bottle and get your lithium strips. After you get your lithium strips, using your lineman pliers, tear the batteries into small pieces and put them into the bottle.

- After you get your lithium strips in, add 3 tablespoons of crushed Ammonia nitrate from the cold compress pack and 3 tablespoons of lye crystals. Shake the bottle and get a reaction going. After you get a good reaction add your crushed pseudo ephedrine and let it cook for 45 minutes to an hour. Burping the bottle when it get tight. refrain from shaking the bottle in the during the last 15 minutes of the cook.

- There should be a good amount of copper “b.b.s” floating with your lithium strips. this is a good sign your cook is close to finished. Clean out the mason jar you have ready , and use 3-4 filters to filter off your cook into the mason jar.

- Now it’s time to make a smoke bottle, either using sulfuric acid or Muriatic acid. Clean the 20oz bottle like before, and make a hole in the cap large enough for your hose. If you are using sulfuric acid, add 1 tablespoon of salt to the bottle and just a couple drops of sulfuric acid. If you are using Muriatic acid, put 3-4 balls of aluminum foil in the bottle and a couple drops of Muriatic acid.

- Put the hose right above your fuel and watch your smoke drop. Hit it with the smoke a couple times and stir it up until it doesn’t drop anymore, then filter this into another mason jar, and you got your first pull in the filter. Dry it out and test it. Then take the fuel you poured off and put it back in the cook bottle. Cook it for about 30 minutes and try for a second pull.

- You should yield about a gram, to a gram and a half of Methamphetamine.
**Heroin**
- Opioid analgesic synthesized from morphine.
- Used to treat severe pain.
- Inhalation (44-61%); Trans mucosal; IV (99%); Intranasal; Rectal; Vaginal; IM
- Metabolism; Hepatic
- Half-life: <10 minutes
- 90% renal as glucuronides rest biliary
- Pain Control — Diamorphine, Diacetylmorphine

**Physiological Responses to Heroin - Short Term**
- Heroin changes to Morphine and attaches to opioid receptors within the brain
  - “Pleasure Center” of the brain
  - “Dopamine dump”
- Onset = how much and method of ingestion
- Dry mouth
- Heavy extremities
- Suppression of pain
- Clouded mental function
- Warm “Rush” throughout the body

**Long Term Effects On The Human Body**
- Neuro-chemical changes in the brain
- Infection of heart lining and valves
- Arthritis
- Bacterial infections
- Addiction
  - Compulsive drug seeking and use
  - Physical dependence
  - Higher dosage to obtain the same effect

**Five Types of Heroin (Horse, Smack, Junk)**
- Black Tar
- Mexican (Brown)
- South America a.k.a. Columbian
- Southeast Asian
- Southwest Asian

**New Heroin?**
Acetylfentanyl is an opioid analgesic drug that is an analog of fentanyl. Studies have estimated acetylfentanyl is between five to fifteen times more potent than heroin.

Additionally it is reported as being 80 times more potent than morphine, and 15 times less potent than fentanyl. It has never been licensed for medical use and has only been sold illegally as a designer drug. Acetylfentanyl was discovered at the same time as fentanyl itself and had rarely been encountered on the illicit market in the late 1980s, but was never commonly used. However in 2013, Canadian police discovered a group distributing over 3 kilograms and 12,400 pills of acetylfentanyl equal to 117,400 doses.

**“Narcan” Naloxone Hydrochloride**
- Narcan prevents and/or reverses the effects of opiates, especially the respiratory depression
- Intravenously - reverse effect occurs almost immediately
- Intramuscularly - slightly longer to take effect
- Number of narcan doses depends on how much the abuser used
- Needle exchanges prove free doses of Narcan included w/ new needles
Methadone
- Synthetic Opioid developed in Germany in 1937
- Not chemically related to morphine or heroin
- Cheap and long acting
- Traditionally used with narcotic abuse
- Half life 24-36 hours -- fat soluble
- Mus-receptor with limited action on NMDA
- 5 -10 mg single dose decreases the intra and post operative opioid requirements
    - This may be a great adjunct to both the chronic pain patient and the short term surgical patient.
    - Additionally this drug does not have the euphoric effects that other narcotics have and this may be of great benefit in those with addictive personalities.

Cannabis: THC: Marijuana
- Keif; Hashish; Hash Oil; Residue; Pot; Grass; Weed; Smoke; Dope; Blunt; Reefer; Sinemilla
- 162 million users...very popular
- Psychoactive and physiological effects when consumed
- Heart rate increased; sensations to hot and cold altered, dryness of the mouth, reddening of the eyes, decrease in intra ocular pressure, muscle relaxation, change in long term and short term memory issues
- Psychoactive; possess all properties, stimulant, depressant, hallucinogen.
- Increase risk for lung cancer

Cannabis used medically has several well documented beneficial effects.

Treatment of Nausea and Vomiting; hunger by chemo; glaucoma; pain relief

Medical Use: THC: Marijuana
Prescription includes: Marinol and Cesament

Hashish consists of the THC-rich resinous material of the cannabis plant, which is collected, dried, and then compressed into a variety of forms, such as balls, cakes, or cookie-like sheets. Pieces are then broken off, placed in pipes, and smoked. The Middle East, North Africa, Pakistan, and Afghanistan are the main sources of hashish. The THC content of hashish that reached the United States, where demand is limited, averaged about 5 percent in the 1990s.

Effects: THC: Marijuana
- Oxygen consumption can increase by up to 30%.
  In large doses, orthostatic hypotension and even low blood pressure, syncope, heady, and a drop in body temperature, myocardial infarction, and transient cerebral ischemia
- The cardiovascular risk among users increases in the long run because of the carbon monoxide (CO) absorbed with the cannabis smoke. Avoid drugs that increase heart rate.
- Marijuana smoke contains approximately the same quantity of CO as tobacco smoke, but because of deep and slow inhalation, the concentration of carboxyhemoglobin (COHb) is 5-times higher than with tobacco smoke.

HORRIBLE::: RESPIRATORY EFFECTS
THC: Marijuana

- Cannabis can potentiate the hypnotic and sedative effects of substances that depress the CNS such as alcohol, barbiturates, opiates, benzodiazepines, and phenothiazines.
- As mentioned, cannabis interferes significantly with respiratory function. Problems with ventilation and/or oxygenation under general anesthesia are to be expected, and, if possible, local anesthesia is preferable.
- Smoking cannabis can cause oropharyngitis and uvular edema, leading to airway obstruction under general anesthesia.

Marinol

- MARINOL should not be used if you are allergic to dronabinol or any of its ingredients, including marijuana and sesame oil.
- Most patients respond to 5 mg three or four times daily. Dosage may be escalated during a chemotherapy cycle or at subsequent cycles, based upon initial results. Therapy should be initiated at the lowest recommended dosage and titrated to clinical response. Administration of Marinol Capsules with phenothiazines such as prochlorperazine has resulted in improved efficacy as compared to either drug alone, without additional toxicity.
- Marinol has been shown to provide increased pain relief when taken in combination with opioid pain relievers, according to ClinicalTrials.gov. The active ingredient in Marinol, THC, is believed to bind with pain receptors to reduce the transmission of pain through the spinal cord and brain.

K-2 Spice

K2 or “Spice” is a mixture of herbs and spices that is typically sprayed with a synthetic compound chemically similar to THC, the psychoactive ingredients in marijuana.

- The chemical compounds typically include HU-210, HU-211, JWH-018, and JWH-073. K2 is commonly purchased in head shops, tobacco shops, various retail outlets, and over the Internet.

K-2—Cloud 9, MOJO

- New... synthetic cannabinoid, it provides the same euphoric effect of marijuana.
- Is marketed as “incense” on the internet and in locations where it is not illegal.
- Not detectable on urine drug screen.

Smiles

- Smile’s effects have been called a combination of MDMA and LSD, only far more potent.
- 2003 in Europe, now US.
- Legal until recently.
- Not a lot of information about it yet, just horrible stories and lots of death.
MDMA—Ecstasy

Love Drug, Eve

- Can induce a sense of intimacy with others, diminished anxiety, fear treatment, pain and PSTD.
- From Safrole: a black oil extracted from the root of sassafras plants.
- It releases serotonin, norepinephrine and dopamine.
- It acts as a agonist of TAAR1.
- Its unusual entactogenic effects are related to oxytocin secretion via activation of the serotonin system.

- Oral, sublingual, nasal, inhalation, injection, rectal
- Metabolism: Hepatic, CYP450 (2D6)
- Half-Life 6-10 hours, usual effects 3-5 hours
- Excretion Renal

Ecstasy (MDMA) stimulates the release of serotonin. Prozac and other prescription drugs also stimulate the release of serotonin; the difference being that the release is controlled by the strength of the Prozac. MDMA abuse and the trafficking of MDMA is on the rise, posing serious social concerns.

Once confined to major metropolitan areas, MDMA trafficking has now expanded to smaller communities.

Side Effects: MDMA--Ecstasy

- Hallucinations, delusions, muscle twidling, heat production, hyperreflexia, tachypnea, dyspnea, cardiac arrhythmia, shock, vasculitis, cardiotoxicity, hemorrhage, organ failure, stroke, rhabdomyolysis, DIC.
- Succinylcholine (X is a trigger) should be used cautiously given the risk of compounding the malignant hyperthermia like effects of the drug, raising intracranial pressure or potentially worsening hyperkalemia.
- Sympathetic stimulation from MDMA intoxication increases myocardial oxygen demand and causes tachycardia, vasoconstriction, hypertension and occasionally acute myocardial infarction and dilated cardiomyopathy if prolonged. Cerebral auto regulation may fail, allowing dangerous increases in cerebral blood flow.
- Significant hypotension and low cardiac output may be encountered after the initial hyperdynamic state due to catecholamine depletion or autonomic dysregulation.

Molly

The active ingredient in the popular club drug Ecstasy is MDMA (3,4-methylenedioxy-N-methylamphetamine), and Molly is generally considered the most-refined, crystalline form of MDMA. A potent hallucinogen, Molly has been blamed for drug overdoses that killed four people this year, the New York Daily News reports.

History

Cocaine History

- To Europe, the US
- August Bier.. 1898

Luer Lock

Long History!
Cocaine

- Stimulate of the central nervous system, an appetite suppressant and topical anesthetic. Specifically, it is a serotonin-norepinephrine-dopamine reuptake inhibitor, which mediates functionality of these neurotransmitters as an exogenous catecholamine transport ligand.

- Topical (25–43%), Oral (33%), Insufflation (60–80%), Injectable; suppository

- Metabolism: Hepatic CYP3A4

- Half-Life: 1 hour

- Renal excretion

- Comes in many forms.
  - Traditional Cocaine powder is white.
  - Crack can be yellow or brown in color.

Cocaine 40mg = $59.50 — Medical Use

- The first local anesthetic used medicinally
- Its sole medical use is as a topical local anesthetic for ENT surgery and sometimes for nasal intubations
  - Vasoconstriction decreases bleeding
  - Sensory anesthesia achieved
- Half-life of 45 minutes
- In the presence of ETOH, the metabolic pathway is altered to produce cocaethylene, which is more toxic than cocaine.
- Careful! Coronary artery spasm, risk of ischemia or MI.
- Comes in a 4% liquid solution

Cocaine

- Why—it doesn’t follow the rule of molecules: It has multiple pockets of high hydrophilic and lipophilic efficiency.
- This enables it to cross the blood brain barrier with vastly superior reinforcement than other psychoactive chemicals.
- Increases alertness, feelings of well being and euphoria. It increases energy and motor activity, feelings of competence and sexuality.

Acute verse Chronic Use

- Increased blood pressure, Constricted blood vessels, Dilated pupils, Mental alertness, Increased energy, Increased heart rate
- Decreased appetite, Increased temperature

- Long Term effects of Cocaine: heart disease, heart attacks, respiratory failure, strokes, seizures, and gastrointestinal problems. Other physical symptoms include convulsions, nausea, blurred vision, chest pain, fever, muscle spasms, and coma.
LSD—Acid
Blotter, Microdot

- Lysergic acid diethylamide
- Works on Dopamine and Serotonin receptors. The psychedelic effects are attributed to its strong partial agonist effects at the 5-HT2A receptor. Exactly how it produces this is still largely unknown. It also works on NMDA receptors.
- Assumption is that it increases glutamate in the cerebral cortex and therefore excitation of this area.
- Routes: Oral, IV, Ocular, intramuscular
- Hepatic Metabolism with renal elimination
- Half-life: 3-5 hours
- Not considered addictive. Due to rapid build up of tolerance

LSD—Acid

- LSD can cause pupil dilation, reduced appetite (for some, it increases), and wakefulness
- Other physical reactions to LSD are highly variable and nonspecific, and some of these reactions may be secondary to the psychological effects of LSD
- Numbness, weakness, nausea, hypothermia or hyperthermia (decreased or increased body temperature); elevated blood sugar, goose bumps, increase in heart rate, jaw clenching, perspiration, mucus production, sleeplessness, hyperreflexia, and tremors

LSD Uses

- Psychotherapy, treatment of alcoholism, end of life anxiety, pain and cluster headaches.
- Spiritual effects
- Creativity

Complications: lack of impulse control leading to physical injury, seizures, panic and anxiety attacks, psychosis, suggestibility, PTSD, Flashbacks, HPPD—hallucinogen persisting perception disorder. Premature uterine contractions and genetic defects (mixed results).

LSD Uses

5HE the new LSD

Authorities told reporters the drug is taken orally and produces extreme euphoria and hallucinations. "The teenagers are buying large amounts of the energy drink commonly known as 5-Hour Energy," said Police Captain Eric Roberts. "They drink five or more of these bottles at a time and believe there's only 24 hours in a day, it becomes too much energy for their bodies to handle." Roberts continued, "Three students from Friday's incident each had about 40 hours of energy in them, 16 hours more energy than what is actually possible in a 24 hour day." Authorities told reporters the drug is taken orally and produces extreme euphoria and hallucinations.

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PCP
PCP (Sernyl)

- PCP (Angel Dust) is a formally used anesthesia agent.
- Works on the NMDA receptor and causes dissociative anesthetics. Also works on the D2 receptor to cause the psychosis effect.
- PCP also has dopaminergic agonist effects, complex actions on both nicotinic and muscarinic cholinergic systems, N-methyl-D-aspartate (NMDA) antagonist effects, and poorly understood interactions with noradrenergic and serotonergic neurotransmission.
- Smoked, Insufflated, Oral
- Half-life 7-46 hours.
- Ketamine... 1/20th the strength of PCP

- Brain Damage leading to Olney’s Lesions in the brain from chronic use
- Schizophrenia, mania, delirium and disorientation
- Psychological effects include severe changes in body image, loss of ego boundaries, euphoria and derealization, hallucinations, aggression, irritability and aggressive behavior
- Common cardiovascular effects, probably due to both sympathomimetic action and decreased baroreceptor activity, include moderate elevations in heart rate (typically 20–30 beats/min) and blood pressure (typically 10–20 mm Hg; with systolic greater than diastolic), resulting in increased cardiac output.
- Noncardiovascular sympathomimetic effects include diaphoresis, lacrimation, and increased bronchial and salivary secretions.

PCP (Sernyl)

- PCP causes a variety of serious medical complications, including coma, seizures, hyperthermia, intracranial hemorrhage, opiate, and acute rhabdomyolysis (often resulting in myoglobinuria and acute renal failure).
- Direct depression of myocardial contractility and decreased peripheral vascular resistance may cause hypotension and circulatory collapse.

TCP

TCP acts primarily as an NMDA receptor antagonist which blocks the activity of the NMDA receptor, however its increased stimulant effects compared to PCP suggests it also has relatively greater activity as a dopamine reuptake inhibitor (DRI).

Due to its similarity in effects to PCP, TCP was placed into the Schedule I list of illegal drugs in the 1970s, although it was only briefly used in the 1970s and 1980s and is now little known.

4-Methylthiomphetamine

- Synthesized amphetamine-type drug
- Very similar to amphetamine and MDMA
- Street Name—Flat liner
- Created in the 1990’s as a slimming and anti-depressant a potential replacement for Prozac.

- It causes a rave culture—effects include: euphoria, increased energy and mild hallucinations. It is 6 times more potent than MDMA at inhibiting 5-HT uptake.
**4-Methylthiomphetamine**

- **Risks:** It can cause massive serotonin release leading to pronounced hyperthermia. This can lead to organ failure and death.
- **During anesthesia:** increased nausea, nystagmus, hyperthermia, pressure on the eyeball, thirst, shivering, confusion, memory loss, coma and heart attack.
- **Amnesia can last hours.**
- **New drug with limited information to date.**

**Ephedra**

- **Contains alkaloids including ephedrine, pseudoephedrine, norephedrine, methylephedrine and norpseudoephedrine.**
- **It has been suggested for weight loss, diet, increased metabolism, bronchodilator, asthma and the common cold.**
- **It causes a dose dependent increase in blood pressure and heart rate. This is done through a noncatecholamine sympathomimetic agent that shows alpha 1 and alpha 2 and beta effects.**
- **FDA banned this product recently—2006—later reversed**
- **Risks include: MI, CVA, uncontrolled BP, increased HR**

**Ephedra**

- Known to cause hypersensitivity myocarditis, tachyphylaxis from long term use that has depleted all catecholamines… This leads perioperative hemodynamic instability,…
- **Uncontrolled hypotension; hypertension (moa) stroke and MI**
- **Stop at least 24 hours prior to surgery. 2 weeks is better**
- **This drug is trouble…. Removed by FDA ban**

**Mix ECA (ACE)**

*Aspirin, Caffeine, Ephedra*

**Inhalant Abuse:**

- Volatile substances that produce chemical vapors that can be inhaled to induce a psychoactive or mild altering effect. They act on the central nervous system except for nitrates. Not sure where, but it appears dopamine is the area that this works on in the brain.
- **Broad range of chemicals but the common characteristic is they are rarely if ever taken by any route but inhalation.**
- **Volatile:** Vapors at room temp
- **Aerosols:** sprays that contain a propellant and solvent
- **Gases:** we use it all the time.
- **Nitrates:** Poppers or snappers. They relax smooth muscle and dilate blood vessels. They alter moods and are sexual enhancers.

**Sudden Sniffing Death**

Inhalant Abuse:

- Growing group of abused drugs... Under 18 is the biggest group.
- Easy to get and easy to use. You can pick it up anywhere.
- Inhalants cause severe damage to the lungs, liver, kidneys, bone marrow and the brain. Can cause suffocation, stroke, loss of consciousness and death.
- Sniffing or snorting
- Spraying
- Bagging
- Huffing
- Inhaling
- Gasoline, glue, vegetable spray, hairspray, deodorant spray, paint thinner, transmission fluid, air freshener, Nitrites, Rush, Locker room pepper, Whippets, Nitrous

- Irregular and rapid heart rate; heart failure
- Sudden sniffing death
- Asphyxiation, suffocation, convulsions, seizures, choking
- Trauma related to use
- Pulmonary damage and inability to ventilate
- Organ failure
- Aggressive and violent behavior
- Withdrawal Symptoms: Insomnia, irritability, cramps, nausea, tremors, depression, headache, confusion, convulsions

Bath Salts

- Informal "street name" for a family of designer drugs often containing substituted cathinones, which have effects similar to amphetamine and cocaine.
- Their crystals often resemble legal bathing products like epsom salts, but are chemically dissimilar to actual bath salts. Bath salts' packaging often states "not for human consumption" in an attempt to avoid the prohibition of drugs.
- Users of bath salts have reported experiencing symptoms including headache, heart palpitations, nausea, and cold fingers.
- Hallucinations, paranoia, and panic attacks have also been reported.
- News media have reported associations with suicidal behavior, heart attack, kidney failure, liver failure, suicide, and an increased tolerance for pain.
- Visual symptoms similar to those of stimulant overdoses include dilated pupils, involuntary muscle movement, rapid heartbeat, and high blood pressure. Many documented users also have a history of mental illness.

And... Really Scary!

- Krokodile...Codeine, Lighter fuel or Gas, oil, paint thinner
Oxi…Cocaine, lighter fuel and Gas…Oxi: Twice as powerful as crack cocaine at just a fraction of the price.

2C-P
A little-known synthetic hallucinogen with only a brief history of use, 2C-P is reportedly a long-lasting and very potent drug.

Its intense psychedelic effects don't begin until a few hours after a person takes it, but they can last for 10 to 20 hours, according to law enforcement officials.

Butane Hash Oil
Amber, honey wax, ear wax...
High concentration of THC
Dabbing.... Little oil on a hot metal surface

Top Abused Prescription Drugs
- Ambien
- Seroquel
- Dilaudid—Little D, Lords
- Xanax
- Desoxyn
- Phenergan
- Adderall
- Laundanum
- OxyContin
- Opana

I didn’t even talk about the big one...
- Ethyl Alcohol:
  - Beer, wine, ale, liquor, Spirits, booze.
  - You all know several addicts.

Smoking...
Obesity is the new smoking addiction.

Sound crazy...
Cigarettes, Smokeless Tobacco, Chew, Dip, Cigs
Now introducing to YOU!

- OTP... ????

What is OTP?

OTP = Other Tobacco Products

- Chewing/Spit Tobacco
- Snus
- Dissolvable
- Cigars/Cigarillos

Snus

Dissolvable

Dissolvable:
- Sticks

Dissolvables:
- Strips
**Camel Dissolvable: Orbs**

*Photo source: FACT collection*

**Point of Purchase**

**Additional thoughts to consider**

- Where do you Live?
- Khat....

**TAKE HOME**

With so many new street drugs!

WHEN IN DOUBT LOOK IT UP!

**Thank you...**

**Questions...**