

Designer Drugs

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**Who Am I??
Short Bio**

- Experience:
 - 22 Years as a Firefighter/Paramedic
 - 12 Years Law Enforcement

- Current Assignments:
 - Full Time Firefighter/Paramedic
 - Full time Warrant Officer

OBJECTIVES

- Discuss "OLDER" Designer Drugs.

- Discuss "NEW" Synthetic made mind altering substances seen today.

- Identification of these "NEW" mind altering substances.

- Discuss Signs and Symptoms of persons taking these mind altering substances, OLD and NEW.

Designer Drugs of the 1990's Early 2000's

- MDMA (Ecstasy)
- PMA
- DXM
- Ketamine
- GHB
- Rohypnol (roofies)

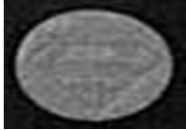
It's a RAVE Culture



MDMA (Ecstasy)-Introduction

- **methylenedioxy-n-methylamphetamine**
- MDMA is *chemically* an amphetamine, but psychologically its what's known as an empathogen-entactogen
- Shares similarities to both mescaline (a hallucinogen) and amphetamines (A type of Stimulant)

MDMA



MDMA (Ecstasy)-STATS

Average Tablet = 300mg Pure MDMA = 100mg

One Kilo MDMA = 10,000 Tablets

- Prices Per Dosage:

- \$.50 to \$2.00 at source (Netherlands/Belgium) (wholesale). \$8.00 bulk quantity U.S. (wholesale). \$20.00 to \$30.00 U.S. (retail).
(One Kilo MDMA Powder = \$200,000 - \$300,000)

MDMA (Ecstasy)- How is it used?

- Taken in Tabs
- Effects generally appear within 15-30 minutes.
- Initial effects include a brief "rush" of energy, usually described as mild but euphoric.
- After this rush, the high levels off to a plateau which lasts 2-3 hours and is followed by a gradual "coming down" sensation, culminating in a feeling of fatigue. In about 4-6 hours
- MDMA exerts amphetamine-like effects
- These side effects are dose dependent.

MDMA

- MDMA exerts a strong paradoxical effect of relaxation which may mask the stimulant side effects, followed by a gradual drop.
- Generally, the side effects of MDMA are similar to those of amphetamine.
- MDMA also appears to exert an adverse action on the immunological response of some individuals, particularly with heavy use.

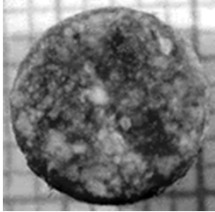
Signs and Symptoms MDMA

- Jaw clenching / Teeth Grinding, and scratching.
 - Think Tweakers
- Dilated Pupils
- Tremors
- Tachycardia (Increased HR)
- Sensation of Chills (Hyperthermia)
- Auditory Hallucinations

PMA- Introduction

- Para-methoxy-amphetamine, PMA, 4-METHOXYAMPHETAMINE
- Chemically similar to MDMA, first created almost 25 years ago
- Since its cheaper to make, and uses non controlled substances, PMA is often misrepresented as MDMA.
- At doses considered "safe" for MDMA, PMA is highly toxic.

PMA



PMA Facts

- Is MORE toxic than MDMA
- It often appears identical to MDMA, sometimes simply thicker.
- Its onset of action is longer (almost 60 minutes) compared to MDMA at 15-30 minutes
- Users will re-dose thinking its MDMA and push them selves into the toxic range
- Some people think they know their MDMA dose and apply this to PMA, thus becoming toxic
- Substances like Cocaine and Methamphetamine may exacerbate the toxic effects of either PMA or MDMA

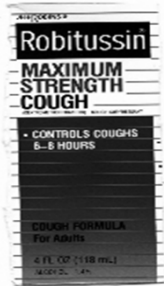
PMA -Toxicity

- Hypertension
- Tachycardia and Cardiac arrhythmias,
- Tachypnea
- Severe hyperthermia (as high as 108 degrees F)
- Dehydration (may be severe)
- Renal Failure
- Hallucinations, Behavioral disturbances (similar to Ecstasy or LSD)
- Nausea, vomiting
- Erratic eye motion
- Seizures
- CHF
- Coma

DXM- Introduction

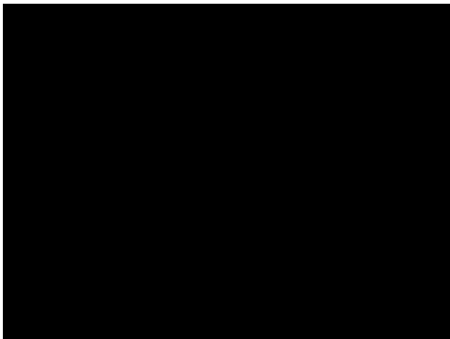
- Yes, Its in cough Syrup
- Dextromethorphan acts as a cough suppressant.
- U.S. Robitussin Cough Syrup (15mg DXM)
- In Canada: Contac CoughCaps (30 mg DXM)
- Related in effects to Ketamine and PCP

DXM



- "Robo-ing" (Old Term from early 90's)
- DXM is available over-the-counter in tablet form in several countries as a cough med. Robitussin Maximum Strength Cough
- **Users often refer to DXM in "plateaus"**
- Dose of Robitussin Maximum Strength Cough syrup is two to five full "shots" using the shot glass that comes with the bottle.

DXM Trip



DXM- Toxicity (Acute)

- Dissociative anesthesia/coma/CNS depression
- Mild hallucinations, Violent Outbursts/ behavior control (may last beyond the period of “intoxication”)
- Seizures
- Enhanced auditory perceptions, Tactile sensations (crawling skin), Visual disturbances with motion. Nausea/vertigo can occur
- DXM has some stimulant effects

DXM- Toxicity (Long Term)

- Olney's Lesions: vacuoles (essentially, tiny holes) in their brains.
- People who have used DMX heavily have shown clear evidence of brain damage ranging from impaired memory to a schizophrenia-like syndrome.

DXM- What does this mean to me?

- Be Careful, take the same precautions you would with a person under the influence of PCP
- DXM differs from other drugs. Its presentation of s/s extend well beyond simple CNS depression and hallucinations but into basic cognitive functions as well.
- Understanding that DXM effects last well beyond the 4 hours of intoxication , and that side effects may include “Psychotic Breaks” will help determine disposition of patients.
- Mental health referral is a necessary step for all DXM overdoses for both substance abuse screening and education **as well** as for neuropsychological evaluation for long-term side effects (Olney's Lesions)

Date Rape Drugs

- There are a few drugs that are used in Drug Facilitated Sexual Assault. (DFSA)
 - Most of these "Date Rape" Drugs, are undetectable, and that is why it's impossible to determine just how often it happens.
- Also Called "Predator Drugs"

Most Common

- Alcohol
- Ketamine
- GHB
- Rohypnol
- Ambien
- Xanax
- Librium

Ketamine

- Dissociative Anesthetic
 - Used in Human and Veterinarian settings as an Anesthesia.
- Originated in United States in the 1970's.
 - Used as another type of "Club Drug" or "Date Rape Drug"
- In a 2006 survey, an estimated 2.3 Million people had used Ketamine at least once in their lifetime.
 - Has become more of a "Private Setting" (Recreational Use)

Ketamine

- Produces similar effects of PCP
- Users may have hallucinations, and feel that they are having an out of body experience (Depersonalization, and/or derealization).
 - At High Doses (75-125MG), users may experience “K-Hole”
 - An episode that mimics schizophrenia.
 - Include profound distortions in or complete loss of bodily awareness, sensations of floating or falling, euphoria, and total loss of time perception

Ketamine

- Users may feel as though their perceptions are located so deep inside the mind that the real world seems distant.
- Some users may not remember this part of the experience after regaining consciousness, in the same way that a person may forget a dream.
- This is why it was widely used as a “Date Rape Drug”

Ketamine

- Slang Terms
 - Special K
 - Kitty
 - Jet
 - Vitamin K
 - Keller
 - Cat Valium
 - Psychedelic Heroin
 - Kellys Day

Ketamine



Ketamine Trip



GHB

- Gama Hydroxybutyric Acid
- Synthetic depressant produced in clandestine labs
 - GHB can be made from ingredients such as GBL (gamma-butyrolactone)
 - a solvent commonly used as a paint stripper
 - or butanediol (1,4-butanediol), a chemical used in the production of plastics and adhesives.
- Both GBL and butanediol are metabolized into GHB in the body
 - GHB, GBL, and butanediol (BD) are difficult to trace because they quickly leave the body and may be difficult to detect in emergency rooms and other treatment facilities.

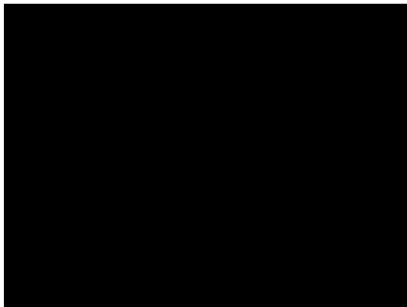
GHB

- GHB was banned (in the U.S.) by the FDA in 1990 because of the dangers associated with its use.
- July 17th, 2002, GHB was approved for treatment of a rare form of narcolepsy.
- Commonly used as a "Date Rape Drug" because it can be mixed with drinks, and renders the consumer helpless, and is almost impossible to detect.

GHB Effects

- Euphoria and relaxation
- Nausea
- Dizziness
- Drowsiness
- Respiratory Distress
- Visual Disturbances
- Seizures
- Coma
- As of November 2000, there has been 71 GHB related Deaths

Man on GHB



Rohypnol

- Prescription Benzodiazepine used as a sedative, anticonvulsant, and severe musk-skeletal relaxant.
- Mostly used in “in-patient” hospital setting for severe insomnia, or as an intermediate muscle relaxant, when other medications have proven ineffective.

Rohypnol Effects

- Physical relaxation
- Sleepiness
- Slowed reaction times
- Dizziness
- Slurred speech
- Inability to focus
- Tremors
- Lowered Blood pressure

Effects of Rohypnol

- Onset is within 15-20 minutes
- Peak is at 2 Hours
- Can last up to 8-12 Hours

Once effects wear off, subject usually has no recollection of events while under the influence of Rohypnol
Takes a specific test to detect Rohypnol in a persons system.
Must be performed within 72 hours of suspected ingestion.

Rohypnol



Now...The Newer Stuff

With drug enforcement being what it is, addicts are being more and more creative when it comes to becoming HIGH.

They are continuously finding ways to get similar effects of High by using common everyday products.

Some of these newer products, aren't addressed in Law, and it takes an epidemic before State government takes action. Local government can attempt to control the epidemic by coming up with ordinances.

New Epidemics

- K2
- Bath Salts
- Smiles
- Salvia
- Krokodil

K2(Synthetic cannabis)

- Also Known as "Spice"
- Sold in stores as a "Herbal Incense"

- Made up of mixture of traditionally used medicinal herbs
 - each of which producing mild effects, with the overall blend resulting in the cannabis-like intoxication produced by the product

- The ingredients mimic THC not copy it.
- Not detectible in Drug testing, however some of the ingredients can be detected in Human urine if specifically tested.

K2(Synthetic cannabis)

- Psychoactive Designer Drug

- Mimic the effects of cannabis

- Acute psychosis

- Worsens previous stable psychotic disorders

- Can trigger Chronic Psychotic behavior

K2 -What it does

- Increases Heart Rate
 - Has been known to cause AMI

- Increased Respiratory Rate

- Increased Anxiety

- Profuse Sweating

- Hallucinations



Bath Salts

- Much like K2, Bath Salts are being sold in stores.
- In an attempt to circumvent law, packages are labeled “Not for Human Consumption”
- Appearance is small white crystals resembles the look of legal bathing salts such as epsom salt.

Bath Salts

- Chemically made up of substitute Cathinones
 - Cathinones have similar effects on the body as Cocaine, and Amphetamines.
- Causes Acute Psychosis, and at a higher dose, can cause Excited Delerium (ED)
- Can be smoked, snorted, and injected.
- Not detectible in normal drug urinalysis

Bath Salts Effects

- Acute Psychosis
- Hallucinations
- Paranoia
- Panic Attacks
- Heart Palpitations
- Extreme Sweating
- Increase in body temperature
- VIOLENT BEHAVIOR

Bath Salts Health Issues

- Have been linked to AMI

- Kidney Failure

- Liver Failure

- SUICIDE

Bath Salts

- Common Street Names
 - Ivory Wave
 - Purple Wave
 - Vanilla Sky
 - Bliss

Bath Salts





Legal

Synthetic Cannabis and Bath Salts became such an epidemic, because state law did not control the items because they were being marketed as "Herbal Incense" and "Not for Human Use/Consumption."

Most Jurisdictions passed ordinances that controlled the sell, and possession of these substances.

Legal

In 2011, 82nd Legislature made Bath Salts and Synthetic Marijuana products illegal under **SB 331 and HB 2118**

Persons can now be charged with **Possession CS PG2A**

- any quantity of a synthetic chemical compound that is a cannabinoid receptor mimicking the effects of naturally occurring cannabinoids, which include substances such as synthetic marijuana, spice and K2 to the list of banned substances.

Smiles(2C-I)

- The NEW Psychedelic craze
- Hobby Chemist are making it from ingredients believed to be shipped from China
- Powder form and mixed with usually candy for oral consumption
- Can also be snorted

Smiles (2C-I)

- Has psychedelic, and hallucination effects
- Onset of symptoms after consumption is usually within 2 hours and can last anywhere from 4-12 hours depending on dose
- Mainly young audience. Very popular amongst teenagers and young adults

Smiles (2C-I)

- Side Effects are similar to LSD
 - Dilated pupils
 - High energy
 - Muscle relaxation
 - The feeling of being light
 - Giddy
 - Hallucinations

Salvia

- What is it?
 - Salvia is a perennial herb that is a part of the mint family
- Where is it found?
 - It is commonly found in southern Mexico, Central America and South America
- The plant has large green leaves with white and purple flowers that typically grow in large clusters to more than 3 feet in height

Salvia



Salvia

- Ingredients
 - The **ACTIVE** ingredient in the salvia herb is salvinorin A, a chemical that acts on certain receptors in the brain and causes hallucinations
 - Salvinorin A is one of the most potent **naturally occurring** hallucinogenic chemicals

Salvia

- How is it being used?
 - Fresh leaves can be chewed.
 - Dried leaves are rolled and smoked like a joint, but the most common practice is to smoke the leaves using a water pipe or vaporized and inhaled.
 - The liquid extract can also be drank causing a high.

Salvia

- Onset
 - When chewed:
 - Onset 5-10 minutes
 - When Smoked:
 - Onset within 30 seconds
- Duration
 - "Short Lived" high
 - Generally 10-15 Minutes

Salvia

- What does it do to the body?
 - Short lived effects causing:
 - Visual distortions
 - Hallucinations
 - Intense dissociation and disconnectedness from reality
 - Disorientation and dizziness
 - Can also cause **Synesthesia**
 - where physical sensations become intertwined and it is possible to "hear" colors or "smell" sounds

Salvia



Newer Heroin uses

Monkey Water

- Black tar heroin and Water

Cheese

Black Tar Heroin, Sleep aid pills, and water

Desomorphine
"Krokodil"

- Opioid invented in 1932 in the United States that is a derivative of morphine
- It has sedative and analgesic effects, and is around 8-10 times more potent than morphine

Desomorphine
"Krokodil"

- Desomorphine attracted attention in 2010 in Russia due to an increase in clandestine production
- Easily made from Codeine, Iodine, and **Red Phosphorus**
 - in a process similar to the manufacture of methamphetamine from pseudoephedrine
- Is often highly impure and is contaminated with various toxic and corrosive byproducts

Desomorphine
"Krokodil"

- The street name "Krokodil" is thought to have come from the reportedly due to the scale-like appearance of skin of its users

Desomorphine "Krokodil"

- Due to the cost associated with Heroin, and the ability to manufacture "Krokodil" for a fraction of the cost, Heroin addicts are starting to revert to using "Krokodil"
- Krokodil takes roughly 30 minutes to an hour to prepare with over-the-counter ingredients in a kitchen
- The high associated with "Krokodil" is much shorter lived than that of Heroin

Desomorphine "Krokodil"

- Since the home-made mix is routinely injected immediately with little or no further purification
 - It is notorious for causing severe tissue damage to include
 - Phlebitis
 - Gangrene
 - Sometimes requiring limb amputation
- The tissue damage is said to be so severe, and necrotic, the life expectancy of frequent users is said to be roughly 2-3 years

Desomorphine "Krokodil"

- Although this Drug is very common in Russia, and Germany, it is slowly making its way into the U.S. with several documented cases of users requiring treatment of severe necrotic tissue damage

Krokodil WARNING

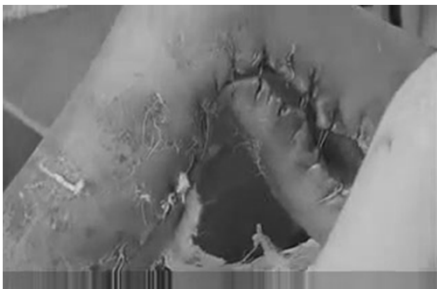
The next few slides are actual pictures of Tissue damage caused by frequent use of "Krokodil."

These Pictures may be very disturbing for anyone with a weak stomach.

Krokodil



Krokodil



Krokodil



Krokodil



Krokodil



THE END

Thank you

Any Questions??
