

# What are synthetic drugs and how do we combat them?

How to deal with the current trends of synthetic drug use

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What do you know about  
synthetic drugs?

# Objectives

- Be able to identify synthetic drug names and side effects.
- Be able to identify current trends in synthetic drug use/abuse.
- Be able to identify intervention strategies and treatment modalities pertaining to synthetic drug use.

# What are “legal” drugs?

- Synthetic Cannabinoids - Fake marijuana
- Synthetic Stimulants - Bath salts or Designer cathinones
- DXM
- Salvia Divinorum
- Benzo Fury
- Sizzurp
- Energy Drinks
- Jewelry Cleaner
- Marinol - “Medical Marijuana”



# Synthetic Cannabinoids

- Yucatan
- Fire
- Wicked X
- Black Mamba
- Bombay Blue
- Fake Weed
- Pot-pourri
- Buzz
- Pulse
- Hush
- Mystery
- Earthquake
- Ocean Blue
- Stinger
- K2
- K3
- Spice
- Blaze
- Red X Dawn
- Zohai
- Dream
- Genie
- Sence
- Smoke
- Skunk
- Serenity



# General Info

- What is it?
  - A mixture of dried herbs or plant material sprayed with a synthetic compound
  - States on packaging “Not intended for human consumption”
- How do you use it?
  - Smoke it – looks like marijuana, but high is more comparable to cocaine or LSD
- Where do you get it?
  - Head shops
  - Internet
  - Gas stations/Convenience Stores

# How Is It Made?

- Spraying a chemical compound on plant material  
**(Ex. Damiana Leaf – used in herbal remedies & as an aphrodisiac made into tea typically – can turn into cyanide when ingested)**
  - Mix powder chemical with Acetone  
(Ex. AM 2201 – synthetic cannabinoid)





# Side Effects

- Convulsions
- Anxiety Attacks
- Dangerously Elevated Heart Rates
- Increased Blood Pressure
- Vomiting
- Disorientation
- Paranoia
- Giddiness
- Stores in body for long periods of time and long term effects are unknown



# Current Legal Status in U.S.

- July 9, 2012
  - President Obama signed into law “Synthetic Drug Abuse Prevention Act of 2012”
    - Makes the use, possession or distribution of certain synthetic drugs illegal
    - Specifically, this Act added fifteen synthetic cannabinoids, which are commonly known as "Spice," and eleven synthetic cathinones, commonly referred to as "bath salts," along with 5 other synthetic hallucinogens to Schedule I of the Controlled Substances Act (31 substances total).

# Legal Status History

- March 1, 2011 Order issued temporarily placing 5 synthetic cannabinoids in Schedule I to avoid imminent hazard to public safety for 1 year (research must be collected to place permanently on Schedule)
  - 1-pentyl-3-(1-naphthoyl)indole (JWH-018)
  - 1-butyl-3-(naphthoyl)indole (JWH-073)
  - 1-[2-(4-morpholinyl)ethyl]-3-(1-naphthoyl)indole (JWH-200)
  - 5-9(1,1-dimethylheptyl)-2-[(1R,3S)-3-hydroxycyclohexyl]-phenol (CP-47,497)
  - 5-(1,1-dimethyloctyl)-2-[1R,3S)-3-hydroxycyclohexyl]-phenol (cannabicyclohexanol; CP-47,497 C8 homologue)

# Synthetic Marijuana Stats

- **Poison Control Centers**

<b>Year</b>	<b>Number of Calls</b>
2010	2,906
2011	6,968
2012	5,205
2013 (As of June 30, 2013)	1,413

# Poison Control Center Calls

<b>2013 by Month</b>	<b>Number of Calls</b>
January 2013	173
February 2013	244
March 2013	247
April 2013	256
May 2013	272
June 2013	221
July 2013	
August 2013	
September 2013	
October 2013	
November 2013	
December 2013	
<b>Total</b>	<b>1,413</b>

<b>2012 by Month</b>	<b>Number of Calls</b>
January 2012	657
February 2012	633
March 2012	643
April 2012	498
May 2012	507
June 2012	497
July 2012	455
August 2012	343
September 2012	307
October 2012	249
November 2012	200
December 2012	216
<b>Total</b>	<b>5,205</b>



# Synthetic Stimulants “Bath Salts”

- Bliss
- Blue Silk
- Cloud Nine
- Drone
- Energy-1
- Ivory Wave
- Lunar Wave
- Meow Meow
- Ocean Burst
- Pure Ivory
- Purple Wave
- Red Dove
- Snow Leopard
- Stardust
- Vanilla Sky
- White Dove

- Hurricane Charlie
- Cloud-9
- White Girl
- Molly’s Plant Food
- Super Molly’s
- Ivory Snow
- Scarface
- Jamaican Me Crazy
- Charlie Sheen
- Sprinkles
- Sprinklezz
- Lucky
- Purple Monkey
- White Knight
- White Lightening
- Ocean Snow
- NRG-1





# Where Did They Come From?

- From 1920s
  - University research labs & Pharmaceutical companies
  - Explored in attempts to find new and better antidepressants
- Problems in Europe for several years before coming to U.S.
- After becoming illegal in the European Union, labs began opening in the U.S.

# Bath Salts

- What is it?
  - Synthetic derivatives of cathinone (CNS stimulant) – active chemical found naturally in the khat plant
  - Mephedrone and MDPV are designer cathinones commonly found in “bath salts”
  - States on packaging “Not intended for human consumption”
- How do you use it?
  - Powder or pill form
  - Usually snorted, but can be smoked or IV use
  - Similar high to Amphetamines, Cocaine, LSD, MDMA
- Where do you get it?
  - Head shops
  - Internet
  - Gas stations/Convenience Stores

# What Do They Do?

- Work on the Serotonin receptors primarily
- Create a sense of well being, euphoria, empathy, hallucinations
- Mephedrone (common base)
  - Increases Dopamine levels greater than amphetamines
  - Increases Serotonin levels greater than Ecstasy
- Psychosis
  - 12 hours up to 3 days for symptoms to resolve

# Side Effects

- Agitation
- Insomnia
- Irritability
- Dizziness
- Depression
- Paranoia
- Delusions
- Suicidal Thoughts
- Seizures
- Panic Attacks
- Impaired Perception of Reality
- Reduced Motor Control
- Rapid Heart Rate
- Jerking Eye Movements
- Teeth Grinding
- High Body Temperature
- Suppressed Appetite
- Diminished Thirst
- Hallucinations
- Significant Violent Outbursts
- Self-Injurious Behavior
- Profuse Sweating
- Nausea/Vomiting
- Death
- Chest Pains
- Nose Bleeds







# Amped



- New bath salt being used in Virginia
  - Reported in May 2012
  - 6 cases of ingestion have been reported to poison control
- Sold as a ladybug attractant
- Same side effects as other bath salts

# How Is It Treated?

- Acute Psychosis - Typically in the ER, ICU or hospital setting
  - Goal is to reduce acute symptoms
  - Large doses of:
    - IV fluids
    - Sedation
      - Benzodiazepines (Versed)



# Legal Status History

- No approved medical use in U.S.
- Recently scheduled under Controlled Substances Act (CSA) on an emergency basis for public health reasons
  - One year research being conducted in order to keep on federal registry
- Louisiana was the 1<sup>st</sup> state to use emergency measures to ban retail products of synthetic stimulants

# Bath Salt Stats

- Poison Control Calls
  - Most popular with people 20-29 yrs old
  - Exposures documented from under 6 yrs old to over 59 yrs old

<b>Year</b>	<b>Number of Calls</b>
2010	304
2011	6,136
2012	2,656
2013 Through June 30, 2013	528

# Poison Control Centers Stats

<b>2013 by Month</b>	<b>Number of Calls</b>
January 2013	95
February 2013	84
March 2013	77
April 2013	99
May 2013	96
June 2013	77
July 2013	
August 2013	
September 2013	
October 2013	
November 2013	
December 2013	
<b>Total</b>	<b>528</b>

<b>2012 by Month</b>	<b>Number of Calls</b>
January 2012	231
February 2012	230
March 2012	266
April 2012	286
May 2012	291
June 2012	422
July 2012	366
August 2012	174
September 2012	121
October 2012	102
November 2012	86
December 2012	81
<b>Total</b>	<b>2,656</b>

# Louisiana Stats

	<b>BATH SALTS</b>		<b>SYNTHETIC MARIJUANA</b>	
<b>2010</b>	<b>Louisiana</b> Number: 168 Rate: 3.71/100,000	<b>Nationally</b> Number: 303 Rate: 0.1/100,000	<b>Louisiana</b> Number: 64 Rate: 1.41/100,000	<b>Nationally</b> Number: 2315 Rate: 0.75/100,000
<b>2011</b>	<b>Louisiana</b> Number: 159 Rate: 3.48/100,000	<b>Nationally</b> Number: 6900 Rate: 2.21/100,000	<b>Louisiana</b> Number: 132 Rate: 2.89/100,000	<b>Nationally</b> Number: 7100+ Rate: > 2.28/100,000

# "Project Synergy"

- DEA Initiative beginning December 2012
- Targeting retailers, wholesalers and manufacturers
- Found that most synthetics come from the Middle East & China
- Since Feb 2013 seized 2,200 lbs of synthetics
- June 26, 2013 - DEA executed 150 arrest warrants, 375 search warrants in 35 states, 49 cities & 5 countries seizing 1,200 lbs of synthetics
- Louisiana had 11 arrests in Terrebonne Parish - 3 businesses & 7 residences

# DXM Cough Suppressor

- Street Names: CCC, Dex, DXM, Poor Man's PCP, Robo, Rojo, Skittles, Triple C, Velvet
- Prevalence: 2009 Monitoring the Future (MTF) Report indicated that the annual prevalence of non-medical use of cough and cold among students in 8th, 10th, and 12th grades was 2.6%, 5.0%, and 6.3%, respectively.
- What is it?
  - Dextromethorphan
  - Cough suppressor found in more than 120 OTC cold meds
  - Robitussin
- How do you use it?
  - Orally or powder (sold on internet)
- Where do you get it?
  - Any pharmacy or store



# Side Effects

- Hallucinations
- Confusion
- Agitation
- Paranoia
- Lethargy
- Loss of Coordination
- Sweating
- Slurred Speech
- Hypertension
- Involuntary
- Spasmodic Movement of the Eyeballs
- Liver Damage
- Vomiting
- Seizures
- Coma

# Salvia Divinorum



- Street Names: Maria Pastora, Sally-D, Salvia
- Prevalence
  - Poison centers treated 117 Salvia divinorum exposures in 2010, up from 81 the year before
  - 6 percent of high school seniors and college students reported using the drug in 2009
- What is it?
  - Perennial herb in the mint family abused for hallucinogenic effects
  - Native plant of Sierra Mazaleca region of Oaxaca, Mexico used by Mazatec Indians for ritual divination
  - Can be grown outside of region indoors or outdoors
- How do you use it?
  - Chew, smoke, vaporize
- Where do you get it?
  - Internet from botanical companies
  - Not sold at garden stores





# Side Effects

- Effects are immediate and last about 8 minutes (study done by San Diego State University)
  - perceptions of bright lights
  - vivid colors/shapes/body movement
  - body/object distortions
  - fear/panic
  - sense of overlapping realities
  - hallucinations
  - loss of coordination
  - dizziness
  - slurred speech



# Brett's Law



- Delaware Statute prohibiting use of Salvia
- Named after Brett Chidester -17 year old who committed suicide by carbon monoxide poisoning (January 2006)
- Parents allege that salvia-induced depression caused his death
- Journal entries from Brett document his experiences with Salvia
- Louisiana – only legal when not used for human consumption

# Benzo Fury

- Street names: APB, White Pearl, 6-APB, 5-APB, 5-APDB, 6-APDB
- Stimulant similar to speed or ecstasy
- Banned June 10, 2013 under temporary order
- Causes temporary love & affection for others, anxiety, panic attacks, paranoia, confusion, increase in body temperature (can lead to overheating), insomnia, psychosis
- Deaths in the UK and Sweden have been linked to APB
- “Comedown” may last days – tiredness, low mood



# Sizzurp

- Rapper Lil Wayne uses & Pimp C died of overdose in 2008
- Linked to Justin Bieber
- Gained popularity in hip-hop culture of the south – 1990s in Houston underground rap scene
- 2012 survey found 5.5% of 12<sup>th</sup> graders have used cough syrup to get high
- Street names: purple drank, lean, syrup, barre, purple jelly
- Highly addictive – euphoria, hallucinatory, increased heart rate, fever, liver damage
- Made by combining prescription strength cough syrup, sugary soda & Jolly Ranchers
  - Codeine (narcotic) or Promethazine (sedative antihistamine)



# Jewelry Cleaner



- Stimulant “fake cocaine”
- Street names: MRG-1, Energy1, Cosmic Blast
- Powdery drug
- Contains MDPV – similar to MDMA
- Euphoric high, hallucinations
- Raises body temperature to over 108 degrees – fries the brain
- Body changes can last for days

# Energy Drinks



- Not regulated by FDA due to being considered dietary supplements
- Difficult to know how much caffeine is in drink due to caffeine-containing ingredients are not separately listed (yerba mate, taurine, cacao, guarana)
- Jan – June 2013 – Poison control has received 1,575 calls related to energy drinks (988 children 18 or younger)
- Side effects: nausea, vomiting, nervousness, tremors, insomnia, restlessness, delirium, sweating, headache, seizures, elevated heart rate, kidney problems, mood changes, diarrhea, chest pains, dehydration

# Treatment

- Add to Intake Assessment
  - Especially if reporting psychotic symptoms
- Adolescent-Early 20s Focus
- Medical evaluation/Psychiatric evaluation
- Motivational Interviewing/MET/Stages of Change
- Education on bodily effects
- Incorporate into Traditional Treatment Interventions
  - CBT
  - 12 Step Recovery
- Drug Testing for Synthetics more widespread
  - Drug Screening Services (Franklinton, LA)
  - Redwood Toxicology
  - Quest Diagnostics
  - Sterling
  - Dominion

# Resources

- [www.k2info.org](http://www.k2info.org)
- [www.justice.gov/dea](http://www.justice.gov/dea)
- <http://bathsaltsdrug.com/>
- [www.samhsa.gov](http://www.samhsa.gov)



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