

History of drug abuse

- 1800's: Correlated with fringe groups & artists
- 1960's & 70's: Hippies!
- 2000's: 15+ million Americans use illicit drugs

Who's taking what?

- More men than women
- Marijuana most common



Cost of abuse



Drugs of abuse

- Stimulant: Temporary increase of the functional activity or efficiency of an organism



Drugs of abuse

- Depressants: Reduces bodily functional activity



Drugs of abuse

- Cannabis: Ingredients include THC & derived from hemp



Drugs of abuse

- Narcotics: Dulls the senses, may cause stupor, coma & death depending on amount



Drugs of abuse

- Hallucinogens: Induces hallucinations. Intended to produce "mind expansion"



Drugs of abuse

- Inhalants: Fumes inhaled for euphoric effect
 - Ether
 - Nitrous Oxide
 - Spray paint
 - Spray deodorant
 - Hairspray
 - Amyl Nitrate ("poppers" / "snappers")
 - Butyl Nitrate ("poppers" / "snappers")

Drugs of abuse

Inhalants



Drugs of abuse

- Designer drugs: Synthetic versions of controlled substances; altered to avoid classification as illegal



New Drugs



Why so many new drugs?

- Cheap High?!
- Legal options....
- Available ingredients
- Search for a better high

2C-E

- Psychedelic & hallucinogen
- How it's taken:
 - Oral
 - Nasally
 - Rectally
 - **Injected**



2C-E

- | | |
|--|--|
| <ul style="list-style-type: none"> • Effects: <ul style="list-style-type: none"> – Lasts 5-10 hours – Tachycardia – Hyperthermia – Restless – Muscle tension & aching – GI discomfort – N&V – Paranoia – Hallucinations | <ul style="list-style-type: none"> • Street names: <ul style="list-style-type: none"> – Tucey – Europa |
|--|--|

2C-E



- Assessment/Treatment:
 - Scene safety!
 - ABC's
 - IV, O2, ECG
 - Active cooling?
 - Mainly supportive care
 - Consider sedation

Cheese





Cheese



So what is.....Cheese?

- Heroin base
 - Combined with Tylenol PM
 - Black tar heroin may also be mixed




Cheese

- Effects:
 - Hypotension
 - Bradycardia
 - Respiratory depression




Cheese

- Route:
 - snorted
- Street names:
 - Tylenol with smack
 - Monkey juice



Cheese

- Assessment & Treatment
 - ABC's
 - IV, O2, ECG
 - Protect airway & assist ventilations
 - Narcan?
 - ET?



Bath Salts

- No cases in 2009
- 236 cases in 2010
- 6000+ cases in 2011



Bath Salts



- Sold as:
 - Pond scum cleaner
 - Plant food
 - Insect repellent

Bath Salts

Stimulant

- Legal substitute for....
 - Ecstasy
 - Cocaine
 - Amphetamines



Bath Salts

- Categorized
 - Meth
 - MDMA
- Effects
 - Cocaine
 - Dopamine
 - Norepinephrine
 - Epinephrine



Bath Salts

- Increased alertness
- Euphoria
- Hallucinations
- Violent outbursts
- Paranoia
- HTN
- Insomnia
- Nausea
- Stomach cramps
- Hyperthermia
- Difficulty breathing
- Headaches
- Grinding teeth
- Dizziness
- Loss of bowel control
- Muscle spasms
- Nosebleeds
- Dilated pupils

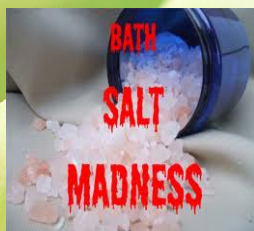
Bath Salts

- Route
 - Snorted
 - Mixed with food
 - Injected
 - Smoked
 - Eye drops



Bath Salts

- Street names
 - Magic
 - Super coke
 - Cloud 9
 - Wave
 - White lightning
 - Euphoria



Bath Salts

Assessment & Treatment

- ABC's
- Quiet environment
- Consider sedation if necessary



K2/Spice

Synthetic Marijuana

- Banned in 2011
- Standard drug screens
- False labeling
- 1st appearance 2004



K2/Spice


- Mix of herbs & spice
- Chemicals bind easily
- THC in marijuana
 - 1980's = 7-10%
 - Today = 45-60%
- THC in K2
 - 100%



K2/Spice

Effects/Side Effects

- Agitation
- Tachycardia
- HTN
- CP; MI?
- Vomiting
- Paranoia
- Seizures
- Excited delirium



K2/Spice

<ul style="list-style-type: none"> • Route <ul style="list-style-type: none"> – Smoked – Brewed as tea 	<ul style="list-style-type: none"> • Street names <ul style="list-style-type: none"> – Fake weed – Spice – Kush – Bliss – Moon rocks – Mad hatter
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K2/Spice

- ABC's
- IV, O2, ECG
- Quiet, calm environment
- Consider sedation
- Elective airway? Narcan?

Bizarro

- Mix of K2 and Bath Salts
- Very potent mixture
- Drug screen?



Dabbing

- Hallucinogenic
- 80% THC
- Mixed with butane



Dabbing



- Heated & smoked
- Street Names:
 - Wax
 - Budder
 - Errl

Dabbing

- Effects/Side Effects
 - Agitation
 - Tachycardia
 - HTN / CP
 - Vomiting
 - Paranoia
 - or –
 - Unconscious
- Treatment
 - ABC's
 - IV, O₂, ECG
 - Quiet, calm environment
 - Consider sedation

Krokodil

- Cheap substitute for heroin
- Black/green scaly skin
 - Damage veins & soft tissue
 - Clumps in veins

Krokodil

- Combine codeine with:
 - Kitchen/bathroom cleaners
 - Hydrochloric acid
 - Red phosphorous
 - Paint thinner



Krokodil



- Signs & Symptoms
 - Hemorrhage
 - Ruptured arteries
 - Necrosis
 - Gangrene

ABC's similar to Heroin

Krokodil


- ABC's first
- Airway management
- Fluid bolus?
- Support physical symptoms; bleeding/wounds

Molly

- Synthetic = variation of MDMA
- CNS stimulant
 - Euphoric highs



Molly



- Signs & Symptoms
 - Tachycardia
 - HTN
 - Vasoconstriction
 - Hyperthermia
 - Panic attacks
 - Seizures

Molly

- Route:
 - Oral; capsules
 - Blotter paper; LSD
 - Injectable
- Treatment:
 - Support ABC's
 - Quiet environment
 - Sedation?

K3

- K2 + Damiana
- Sold as K2
- Treatment
 - Based on symptoms
- Symptoms similar to rabies!
 - flu like symptoms
 - anxiety
 - confusion
 - delirium
 - hallucinations
 - convulsions

Old drugs with a twist



Methamphetamine

- Type of amphetamine + methyl
- Pleasure receptors in brain
- Amphetamine = psycho-stimulant



Methamphetamine

Effects/Side Effects

- Agitation
- Paranoia
- HTN
- Tachycardia
- Hyperthermia
- Seizures

Methamphetamine



Methamphetamine



Methamphetamine



Methamphetamine

- Route
 - Snorted
 - Smoked
 - Injected



- Street Names
 - Meth
 - Crystal Meth
 - Ice
 - Yaba
 - Tweak
 - Crank

Methamphetamine

Assessment & Treatment

- Protect airway....vomiting
- Sedation Ativan? Valium?
- Unresponsive
 - Check temperature
 - active cooling

Meth Labs

- Trash
 - cold tablet packaging
 - lithium ion batteries
 - used coffee filters
 - antifreeze
 - white gas
 - Freon
 - drain cleaner
 - plastic bottles
- Odors
 - ammonia
 - ether
- Security
 - heavy window covers
 - video cameras
 - baby monitors outside

Meth Labs



Meth Labs



Meth Labs




Cocaine

Effects/Side Effects

- Exhilaration
- Fatigue
- Cold sweats
- Fever/hyperthermia
- Dilated pupils
- HTN
- Seizures
- CVA
- MI
- Increase O₂

Cocaine

- Route
 - Freebase
 - Snorted
- Street names
 - rock
 - base
 - coke
 - crack
 - blow dust
 - snow



Cocaine

Assessment & Treatment

- IV, O₂, ECG.....including 12-lead
- MI; protocol
- Arrest; Epi 5-10 minutes
- Sedate if violent
- Excited delirium? Sedate



Heroin

- Derived from poppy seeds
- Frequently mixed with Fentanyl



Heroin

Effects/Side Effects

- Decreased LOC
- Respiratory depression
- Constricted pupils
- Hypotension
- Bradycardia
- Pulmonary edema
- Seizures



Heroin

- | | |
|------------|----------------|
| • Route | • Street names |
| – Injected | – Tar |
| – Snorted | – Smack |
| – Smoked | – Thunder |
| | – Big H |




Heroin

Assessment & Treatment

- Safety #1!
- Respiratory depression
- Narcan? ETT?

Ecstasy


- Stimulant & hallucinogen
- Destroys serotonin neurons
- Reduces inhibitions
- Enhances sexual experiences



Ecstasy

Effects/Side Effects

- Eliminates anxiety
- Hyperthermia
- Tachycardia
- HTN
- Teeth clenching
- Muscle spasms
- Heart failure



Ecstasy

- Route
 - Orally
 - Snorted
- Street names
 - Ecstasy
 - X
 - XTC
 - Hug drug



Ecstasy

Assessment & Treatment

- Hyperthermia
 - Active cooling
- Seizures
 - Protection
 - Medicate



Rohypnol

- Benzo
- Intended to treat severe insomnia
- Short term legal use

Rohypnol

Effects/Side Effects

- Removes inhibitions
- Blackouts
- Memory loss
- Loss of motor control
- Hypotension
- Confusion



Rohypnol

- Route
 - Oral
 - Snorted



- Street Names
 - Roofies
 - Roche
 - Rope
 - R-2
 - Mexican Valium

Rohypnol

Assessment & Treatment

- ABC's
- IV, O2, ECG
- Protect airway
- Consider rape



GHB

- Gamma-hydroxybutyric acid (CNS depressant)
- Increase fat reduction & muscle building



GHB

Effects/Side Effects

- Stimulant
- Aphrodisiac
- Euphoria
- Lack of inhibition

GHB

Effects/Side Effects

- Drowsy
- Nausea
- Dizzy
- Seizures
- Respiratory Depression
- Unconscious



GHB

- Route
 - Orally
 - tablets
 - capsules
 - powders
 - clear liquid
- Street Names
 - Liquid X
 - G
 - Georgia Home Boy
 - Easy lay
 - Vita-G

GHB

Assessment & Treatment

- ABC's
- IV, O2, ECG
- Protect airway
- Seizure precaution
- Rape?



GHB Bottles
Photo by Ernest, © 2003 Encouraging

General Management Nuggets

- What if the drug remains unknown?
 - ABC's priority
- Law enforcement complications



General Management Nuggets

Other causes of Altered Mental Status?

AEIOU TIPS

General Management Nuggets

Alcohol
Endocrine/Exocrine/Electrolytes
Insulin (Hypoglycemia)
Oxygen (Hypoxia)
Uremia (Renal failure)

General Management Nuggets

Toxins/Trauma/Temperature
Infection
Psychiatric
Stroke/Seizures/Shock

The Challenge of New Drugs

- Only the cooks know the ingredients.....
- No DEA information
- Constant evolution

**FREE BONUS
MATERIAL**

Chemical Suicide

Chemical Suicide

- Originated in Japan; 2007
- Mix of common household cleaners
 - Final product; Hydrogen Sulfide (H_2S)



Chemicals Used

- | | |
|-----------------------|---------------|
| • Lysol | • Bath salts |
| • Toilet bowl cleaner | • Latex paint |
| • Kaboom® | • Pesticides |
| • The Works® | • Lime Sulfur |
| • Muriatic acid | |
| • Sulfuric acid | |

Half cup of each produces 1000 ppm
Hydrogen Sulfide

Hydrogen Sulfide

- Heavier than air; accumulates in low areas
- Colorless; rotten egg odor
- Irritant to eyes & upper airway
- Chemical asphyxiate
- Route of exposure = inhalation

Responder Safety

Scene Size-Up

- Warning signs?
- Vehicle
 - note on window
 - windows & doors taped
- Chemical container present



Responder Safety

Scene Size-Up

- Buildings
 - note on windows or doors
 - odor (rotten eggs)
 - taped windows/doors/vents
- Motels

Chemical containers present

Chemical Suicide

Responder Safety

PPE

- Structural turn-out gear or Tyvec suit
- SCBA
- Air monitoring?
- Chemicals may remain hours after mixed

Assessment & Treatment

- Viable patient?
- Irritant
 - eyes, nose, throat
- Headache
- Dizzy
- Nausea & Vomiting
- Dyspnea

Assessment & Treatment

- Strip & decon
 - Potential off gassing
 - lungs
 - clothing
- ABC's
- IV, O2, ECG
- Cyanide kit
- Alert?
 - Potential for violence
 - You have ruined their suicide attempt

Decon

- HazMat team required?
- Responder decon appropriate for level of contamination
- Early ER notification of hazmat patient!

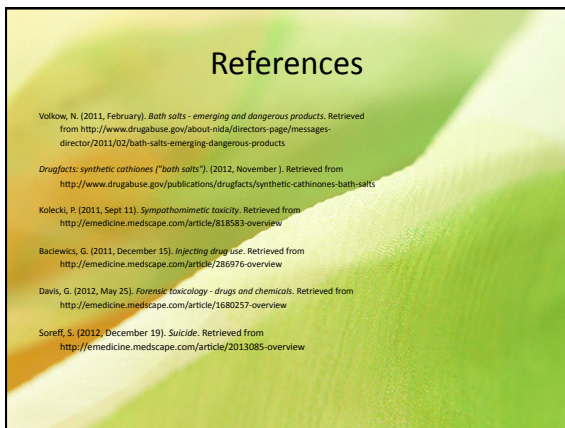
Chemical Suicide

- Instructions readily available on the internet!
- If you haven't seen this yet, you probably will

Final thoughts....

- Every drug related/OD call has potential risk
- Cooks & users are constantly looking for new methods to get what they need
- All patient care starts with a thorough history & physical exam
- Cooking methods & ingredients are readily found by those who take the time to look.







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