The Psychology and Physiology of Street Drugs

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Objectives:

- Identify new drugs of abuse
- Describe the pharmacology and treatment of these drugs
- Explain the impact of these drugs on trauma management
The Psychology and Physiology of Street Drugs

Amie Hatch, PharmD, BCPS

September 20, 2014

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Trauma and Critical Care Conference
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Is flesh-eating krokodil in Utah? Hard to be sure

Suspected krokodil a false alarm
Negative tests lead to further skepticism

Doctors Confirm World’s Most Horrifying Drug Has Hit the U.S. in New Article for Scholarly Journal

Flesh-eating 'zombie' drug 'kills you from the inside out'
Desmophrine (aka “krokodil”) 

- Designer drug from Russia 
- Synthesized from codeine 
- 8-15 times more potent than morphine 
- Very fast onset resulting in euphoria 
- Injected or insufflated 
- Impurities in the drug cause toxicity 
  - Grey, green, scabrous wounds at IV site (crocodile skin) 
  - Cases of peripheral limb ischemia and necrosis requiring amputations

Kanye “Mercy”

Rihanna “Diamonds”

Miley Cyrus “We Can’t Stop”

French Montana “Pop That”

NiCKI Mijan “Beez in the Trap”
Molly

- Marketed as “purified ecstasy”
- Spike in use with resurgence of dance music at raves
- Four deaths reported in the summer of 2013
- Serotonergic agonist
- Side effects
  - Tachycardia, hyperthermia, agitation, seizures, dehydration, polydipsia
Utah Poison Control Center reminds everyone not to take poison

“Children Act Fast, So Do Poisons” is the theme for National Poison Prevention Week, arch 20 - 26. The Utah Poison Control Center (UPCC) would like to take the opportunity to remind parents and caregivers that poisonings can be prevented. In 2004, the Utah Poison Control Center responded to over 50,000 calls, the majority of which were about actual potential poisonings.

Over 60 percent of the potential poisoning exposures involved children under age 6. The top five substances that children in this age group are exposed to include: giving or taking medicine. Check the dosage each use.
* Avoid taking medicine in front of children.
* Never refer to medicine as candy.
* Clean your medicine cabinet periodically, safely disposing of unneeded and outdated medicines.

The UPCC, part of the College of Pharmacy, has an active community outreach program. In 2004, representatives of the Utah Poison Control Center provided 126 community presentations and distributed more than 40,000 poison prevention education materials throughout the state of Utah.
2C-I-NBOMe (25I)

- 2C designer phenethylamine
- First appeared in 2010
- Also known as: N-Bomb, legal acid, Smiles, Mr. Happy, Solaris
- Potent hallucinogenic stimulant
- Side effects:
  - Agitation, hallucinations, serotonin syndrome, + hyperthermia, agitated delirium, seizures, death
- Currently legal in Utah

Drug Chem Toxiocol.2014;May 1. [Epub ahead of print]
Methoxetamine (MXE)

- "Legal ketamine"
- First reported in 2010
- Cheap, easily purchased on internet
- Congener of ketamine and PCP- longer duration than ketamine, not as potent as PCP
- NMDA receptor blocker and dopamine agonist
- Reports of euphoria and enlightenment
- Reported routes
  - oral, insufflation, IM, rectal, IV

Gravel

- Small, gray-white stones that look like gravel, sold as plant fertilizer
- $\alpha$-pyrrolidinopentiophenone ($\alpha$-PVP)
  - Analogue of MDPV (bath salts)
  - CNS and CV stimulant
- Often adulterated with meth and clonazepam
- No reports in the medical literature, severe paranoia reported in the press
- Impervious to pain, making them difficult to restrain and control
Breathing oxygen linked to staying alive

Outdoors Outpost
by Kendal Hemphill

The other day I walked into my bedroom and glanced over into the corner, where my desk is supposed to be, and it wasn’t there. My wife had evidently been rearranging the furniture again. She does that periodically, although it’s not for her and me! But I don’t have to move furniture. I would have given her a hairy chest and pointed that wouldn’t stay up in front. I always end up walking into walls and dirtying my shoes when I get up in the middle of the night after one of her moves.

“Honey,” I called, “where did you move my desk to?”

“It’s right there where it’s–”

One of the letters I found is from a company called OxyContin Systems of Texas, which is based in Arlington. Their motto: Y’all Come Back To Arlington.

The letter is about some thing called The Oxygen Edge, which is a device invented by a fellow named David Eisner, who discovered that a great deal of space was needed. The Oxygen Edge is supposed to help. And one of the first issues is exposure to sunlight and fishing shows on TV.

The problem is that, when the weather gets extremely hot, the fish in the lake will want to go belly up, due to the shortage of oxygen in the water, which causes the fisherman to have to quit fishing. This can happen to in most people, a blessing, but a fisherman must be able to quit fishing. This is called “wasting.”

Another important reason to keep fish alive is that, in order to be a valid entry in a lake fishing tournament, a fish cannot be

This is America, after all, the land of the free and the home of true skiing. We should all do our part by waking up and driving to get our grandchildren and their families to school. I can imagine waking up from a fishing trip and hearing the news on TV, “Fishing Woes Roll Down” on Saturday morning, and when the guest catches a largemouth bass he hands it to Bill and says, “We better get this guy fixed with a size 9 and not right away.” But as it is, he’ll never make it until tomorrow.”
Dab

- Powerful form of marijuana
  - 75-90% THC
- Also known as amber, wax, butter, earwax, glass, shatter and butane hash oil (BHO)
- May cause psychotic behavior lasting 24+ hours
- Prolonged observation and admission often required
Colorado, Washington Become First States to Legalize Recreational Marijuana

By CHRISTINA NG (@ChristinaNg27), ABBY PHILLIPS and CLAYTON SANDELL (@Clayton_Sandel)
Nov. 7, 2012
Evaluation of traffic fatalities in 6 states

- n = 23,591

Results

- 39.7% tested positive for alcohol, 24.8% for other drugs
- Nonalcohol drugs prevalence rose from 16.6% to 23.8% (prevalence of alcohol remained stable)
- Most common detected nonalcohol drug was cannabinol (use increased 4.2% to 12.2%)
- Increased prevalence of nonalcohol drugs observed in all age groups and both sexes
UK man charged after children given trick-or-treat cocaine bags

By the CNN Wire Staff
updated 7:16 AM EDT, Fri November 2, 2012
## Spice and Bath Salts Review

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<th>Pharmacology</th>
<th>Spice</th>
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<td>Synth. marijuana</td>
<td>Synthetic marijuana</td>
<td>Amphetamine-like substances (mephedrone, MDPV)</td>
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<tr>
<th>Common Brands</th>
<th>K2, Mr. Smiley</th>
<th>Ivory Wave, White Rush, Vanilla Sky, Meow Meow</th>
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<th>Duration</th>
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<th>12+ hrs</th>
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<th>Federal I schedule</th>
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<th>Treatment</th>
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# Updates on Spice and Bath Salts

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<tr>
<th><strong>Spice Case Reports</strong></th>
<th><strong>Bath Salts Case Reports</strong></th>
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<tr>
<td>• Acute kidney injury</td>
<td>• Multi-organ failure after IV injection</td>
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<tr>
<td>• Suicidal ideation</td>
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<td>• Psychosis</td>
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<td>• Seizure</td>
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<td>• Myocardial infarction</td>
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Teen narrowly escapes death after smoking synthetic marijuana

By Christina Zdanowicz, CNN
updated 4:28 PM EST, Tue February 5, 2013

Synthetic weed and strokes: Emily's odyssey
Trends

- **Drug use prevalent in all demographics**
- **Information easily accessible**
  - Youtube
  - Erowid
  - Bluelight
  - Silk Road
  - Blogs
- **Readily available**
  - Many new substances “legal”
  - Excitement of “new” susbtance
  - Undetectable on urine drug screens
Approach

- Develop a systematic approach to all patients
- Symptomatic supportive care
- Obtain detailed histories
- Be direct with patients
- Stay informed
- Report cases to the Poison Control Center
Drug Abuse in Trauma

Utah trooper survives crash with semi on I-15

Police: Man high on "bath salts" broke into home, jumped on police car

Police: Woman on heroin at Syracuse McDonald's caused car crash
I sniff glue for two reasons, so I can feel high and so I can forget.

Street Boys of Eldoret, Kenya
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