New Highs for the New Millennium

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Assistant Clinical Professor
Wayne State University

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Disclosures

- No financial disclosures

- All treatments mentioned in this talk are FDA approved.

- Treatment dosing may exceed package insert
Objectives

• What are “Bath Salts”?
• What is “Spice or K2”?
• Epidemiology
• Were did designer drugs come from?
• Were are designer drugs going?
What are “Bath Salts”?
Testimonials

• “I don’t believe in the hype so I ordered some offline and received in roughly a week and a half. It came in a 250mg package that ran me roughly 18 dollars with tax and shipping included. I tried roughly 10mg and absolutely loved it. Immediately after ingestion of the bath salts I felt a rush of energy and even a slight euphoria to go along with it. My mind felt like it was working in overdrive and I wanted to talk to anyone about anything I possibly could…”

• “At about 1 hour and 10 minutes in I got the strongest urge to redose I have ever felt from a drug, including cocaine.”
Physical Properties

- White to Light Brown
- Hydrophilic
- Crumbly powder
- Slight odor
Michigan; How it Began

• First call December 18, 2010
• First Death February 3 2011
• February 2-7 10 cases

• Reported
  – Bay City
  – Iron Wood
  – Mt. Clemons
## PCC & Health Department

<table>
<thead>
<tr>
<th>Need</th>
<th>PCC</th>
<th>MDCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>24/7 Call Center</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Able to give medical advice</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Real-time reporting</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Able to mandate reporting</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Able to take legal action</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Able to create EPI-X alerts*</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Able to create HAN*</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>Able to submit MMWR*</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Participates in SENTRY drugs of abuse reporting*</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

PCC – Poison Control Center  
MDCH – Michigan Department of Community Health  
* - In Collaboration  
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The Plan

• Poison Center will act as part of Health Department
• Mandatory reporting to Poison Center
• Poison Centers will report to MDCH
• MDCH take care of bureaucracy

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Demographics

Cases Per 3 Digit Zip Code

- 1-5
- 6-15
- 16-25
- 26-36
- >36

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Cases Per State Per Month

- MI
- KY
- IL
- WI
- MN
- IN
- OH

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<table>
<thead>
<tr>
<th>Clinical Effects</th>
<th>Percentage</th>
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<tr>
<td>Agitation</td>
<td>61.4%</td>
</tr>
<tr>
<td>Tachycardia</td>
<td>56.8%</td>
</tr>
<tr>
<td>Hallucination</td>
<td>30.0%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>25.7%</td>
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<tr>
<td>Confusion</td>
<td>19.5%</td>
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<tr>
<td>CPK</td>
<td>16.1%</td>
</tr>
<tr>
<td>Drowsy</td>
<td>11.0%</td>
</tr>
<tr>
<td>Mydriasis</td>
<td>7.7%</td>
</tr>
<tr>
<td>Tremor</td>
<td>7.5%</td>
</tr>
<tr>
<td>Electrolytes</td>
<td>7.1%</td>
</tr>
<tr>
<td>Hypotension</td>
<td>3.4%</td>
</tr>
<tr>
<td>Coma</td>
<td>3.3%</td>
</tr>
<tr>
<td>Seizures</td>
<td>2.8%</td>
</tr>
</tbody>
</table>

**Clinical Outcome**

- Moderate Effect: 63.1%
- Major Effect: 11.3%
- Minor Effect: 16.6%
- Not Followed: 8.4%
- Death: 0.5%
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<tr>
<th>Co-Ingestant</th>
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<th>Percent</th>
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</thead>
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<tr>
<td>THC Homologs</td>
<td>143</td>
<td>10.9%</td>
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<tr>
<td>Opioids</td>
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<tr>
<td>THC</td>
<td>78</td>
<td>5.9%</td>
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<tr>
<td>Ethanol</td>
<td>53</td>
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<tr>
<td>Benzos</td>
<td>32</td>
<td>2.4%</td>
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<tr>
<td>Cocaine</td>
<td>30</td>
<td>2.3%</td>
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<tr>
<td>Amphetamines</td>
<td>24</td>
<td>1.8%</td>
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<tr>
<td>Antipsycotics</td>
<td>9</td>
<td>0.7%</td>
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<tr>
<td>Tramadol</td>
<td>5</td>
<td>0.4%</td>
</tr>
<tr>
<td>Top Brand</td>
<td>Number of cases</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
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<td></td>
</tr>
<tr>
<td>White Rush</td>
<td>43</td>
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</tr>
<tr>
<td>Ivory Wave</td>
<td>14</td>
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<tr>
<td>Zoom</td>
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<td></td>
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<tr>
<td>White Lightning</td>
<td>30</td>
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<td>MDPV</td>
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<tr>
<td>Bliss</td>
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<td>Cloud Nine</td>
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**Compounds Found**

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<tr>
<th>Methylylone</th>
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<tr>
<td>Butylone</td>
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<td>MDPV</td>
<td>MPA</td>
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<td><strong>Lidocaine</strong></td>
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<tr>
<td>p-MMA</td>
<td>2-BPMP</td>
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<tr>
<td>4-MEC</td>
<td>2-DPMP</td>
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<tr>
<td>4-MPPP</td>
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Current Federal Legislation

- September 7, 2011
- Emergency Schedule I
  - MDPV
  - Methylone
  - Mephedrone
- Permanent paper work pending
- Based on PCC data
Website Following DEA Announcement

IVORY WAVE 1
CONCENTRATED BATH SALTS
Legal in all USA states except:

IVORY WAVE 2
CONCENTRATED BATH SALTS
Legal in most USA states except:
Arkansas, Idaho, Kansas, Kentucky, Louisiana, Maine, Michigan, Mississippi, North Carolina, North Dakota, Texas

NOT FOR SALE IN UK.

IVORY WAVE 3
CONCENTRATED BATH SALTS
Legal worldwide including the USA

IVORY WAVE 4
CONCENTRATED BATH SALTS
Legal worldwide including the USA
Not for sale in the USA
Soothing Bath Salts - Relax and soak away in RECHARGE EXTRA Concentrated Bath Salts. Add the contents to a hot bath to naturally soften the water which will leave you feeling very soothed and relaxed.

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PLEASE NOTE:
The RECHARGE Extra line of Bath products provide an immediate and intense experience that is always enjoyable. Once you have experienced RECHARGE EXTRA Bath Salts, you will know which method of application provides the most exhilarating experience for you.

**This Powerful and Immediate rush of heightened sensation lasts from 1-3 hours.**

NOT FOR HUMAN CONSUMPTION

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Alexander and Ann Shulgin
The Past

“I love Alexander Shulgin. I’ve loved him from the first moment I read about him. He is my idol, my hero, my sun, my O2.”

-Hamilton Morris

The Past

Phenethylamines

I Have Known And Loved

- Published in 1991
- 179 chemicals
  - Chemical Synthesis
  - Description of Effects
- 150 others discussed
- Most are legal
- Free at Erowid.com

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Phenethalamines
“How many numbers are to the right of the decimal point in π?”

-Hamilton Morris
Because They Could

Bromo Dragonfly
Present

- Published in 2011
- 1300 Compounds
- Most are legal
- $84 at Transform Press

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What Amazon Reviews Say

9 of 10 people found the following review helpful:

★★★★★ Grandfather of human evolution, April 26, 2011

By Nothing - See all my reviews

This review is from: The Shulgin Index, Volume One: Psychedelic Phenethylamines and Related Compounds (Hardcover)

Alexander Shulgin has done more for humankind than any other in the history of ourselves. He is getting very old, and I believe this to be his last true effort to inform, educate, and help people truly understand these chemicals and how they should be used. A most invaluable source of information never to be printed ever again. Buy it, read it, learn from it, and take more drugs. Thank you.

Help other customers find the most helpful reviews
Was this review helpful to you? Yes No

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Other Books By Shulgin

Tryptamines I Have Known And Loved:
The Chemistry Continues
Other Books By Shulgin

The Simple Plant Isoquinolines

Alexander T. Shulgin
Wendy E. Perry

LSA

LSD
Professional Hippy OR …

• War Hero
• Environmentalist
• Teacher
• DEA Consultant
• Outstanding Researcher

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Who is this Clemson Professor?

- John W. Huffman (JWH)
- Funded National Institute on Drug Abuse
- Studied cannabinoid receptors

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More JWH

- 450 products developed
- More potent than THC
- Structurally different than THC
- UDS-negative for THC
“Herbal Blend”
K2 & Spice
Hebrew University

HU-210

Delta-9 THC
There Are More

WIN 55,212-2

AM-630

Delta-9 THC
In Addition to THC Effects

K2/Spice

• Seizures
• Tachycardia
• Hallucinations
• Agitation
• Withdrawal
Where to buy?

- Gas stations
- “Head Shops”
- Friend
- Internet
Search

Everything
Images
Maps
Videos
News
Shopping
More

Top Research Chemicals Sites
www.top20sites.com/Top-Research-Chemicals-Sites
Looking for the web's Top Research Chemicals Sites? Top20Sites.com is the leading directory of popular Research Chemicals, Chemical Supplier, and ...

Legal Highs USA. Research chemicals: 4-MMC, Mephedrone, 4-FA ...
https://www.buzz-wholesale.com/
Read more about research chemicals custom synthesis! ... Best retail and wholesale deals for herbal incense, herbal highs, unique incense. ... Search this site: ...
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The Best International Research Chemicals Vendor - Topix
www.topix.com/forum/drug/valium/TIDJBNVB46GT7G8TL
Mar 14, 2011 – The Best International Research Chemicals Vendor ... i. get my ...
Top20Sites.com
The web's most popular sites

Top Research Chemicals Sites
Related: Chemical Manufacturers | Chemical Supplier

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Ads by Google
Research Chemicals
Research Chemicals Buy
Buy Research Chemicals

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What you get from Research Chemicals USA is purity of product, availability of research chemicals and all in a convenient, user friendly website - Research Chemicals | Buy Research Chemicals | Buy Research Chem Home Contact About Us Shipping Methods FAQ Testimonials Our Pro...
www.researchchemicalsusa.com
chemicals

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<table>
<thead>
<tr>
<th>Chemical Compound</th>
<th>CAS Number</th>
<th>Price per Gram</th>
<th>Register &amp; Get Quote</th>
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26.09.2011

IMPORTANT INFO

We do not intend to block orders/registrations from countries where customs officers are strict. Everyone has free will and is responsible for their lives so nobody has the right to take the freedom and right to choose. We decide do not block ordering possibility from those countries **but we highly recommend**, think twice if you are from Sweden, Finland and Switzerland... probably your order will not get to you and you will loose your money!

Massive sale on RCS-4, SB3 Herbal Incense, JWH-081. Promotion is valid till 22.08. Or until out of stock.
What They Sell

Methylone 500g

Price lowered!
€1,237.50
Out of stock
Add to cart
View

Methylone 1000g

Price lowered!
€2,295.00
Out of stock
Add to cart
View

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Synthetic Cocaine

Dimethocaine/lorococain

3-(p-fluorobenzoyloxy)tropane (pFBT)

cocaine

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Benzylpiperazine BZP

- Glaxo-Wellcome synthesized in 1944 as a potential anti-parasitic agent
- 1970s tested as an antidepressant
- 1990s reported as adulterant
- Frequently found in “Ecstasy”
- Amphetamine like effects
- High rate of seizures

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Derivatives

- Befuraline-antidepressant
- Bifeprunox-antipsychotic
- Buclizine-antiemetic
- Chlorbenzoxamine-GI agent
- Fipexide-Nootropic
- Imatinib-antineoplastic
- Piberaline-Parkinson’s
- Piribedil-antiparkinsonian
- Trimetazidine-antianginal
- Vesnarinone-cardiotonic
- Meclizine-antihistamine
- 4-methyl-1-benzylpiperazine (MBZP)
- 4-Bromo-2,5-dimethoxy-1-benzylpiperazine (2C-B-BZP)
- 1,4-Dibenzylpiperazine (DBZP)
- 3,4-Methylenedioxy-1-benzylpiperazine (MDBZP)
- Trifluoromethylphenylpiperazine

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PCP and Ketamine

- NDMA antagonists
- Dissociative
- Mu agonism

Uses
- Sedation
- Addiction treatment
- Pain syndromes

http://www.metrohealthanesthesia.com/edu/ivanes/ketamine2.htm
PCP Analogs

http://en.wikipedia.org/wiki/Phencyclidine
Analogs that Have Emerged

Piritramide

Tiletamine

2-phenyl-2-N-ethylaminocyclohexanone

lefetamine
Methoxetamine 5G

No shipping restriction for this compound.

Quantity: 1

€90.00

By buying this product you can collect up to 9 loyalty points. Your cart will total 9 points that can be converted into a voucher of €1.35.

Methoxetamine

Use of substance || GC/MS reference.

Strictly not for human consumption!

Formula: C15H21NO2
Molecular Weight: 231.3327 g/mol
CAS- No: 1239943-76-0

GHS- labeling

Hazard Statements:
H302: Harmful if swallowed.
H332: Harmful if inhaled.
What’s Next?

BEAVIS
and you thought he was just a cartoon

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What’s Next?
Challenges to Regulation

- Near infinite compounds
- Important medical compounds
- Easy to make
- Internet
  - Anonymous seller
  - Out of the country
Near infinite compounds

- Controlled Substance Analogue Enforcement Act of 1986

- Problems
  - Analogue definition is vague
  - Substantially similar to or greater than schedule I and II drug
  - Does not cover products not meant for human consumption

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Amphetamines - Sources

• Legal Uses
  – ADHD
  – Weight Loss
  – Narcolepsy
  – Military
    • Modafanil

• Diversion
  – Medical, Law students

• Clandestine production
Non-Amphetamines

• ICU
  – Epi
  – Norepi
  – Dopamine
  – Dobuamine

• Parkinson Drugs

• Antidepressant
  – Bupropion
  – MAOI

• Decongestants

• Asthma/COPD
  – albuterol
  – theophylline
What is this?
"As I said they are so chemically distinct, what possible enzymatic process could result in a common chemical product?"

What’s The Next Drug?

• We will leave that up to the drug companies
• We should be asking
  – Next incense, plant food, bath salt, pond water cleaner, collector's item, or …..
• Labeled product as “Does Not Contain…”
What Can You Do?

• Be curious and suspicious
• **Report cases**
  – Poison Centers
  – Health Department
  – Obtain substances

• Monitor forums like Erowid.com
• Follow trends from [www.ecstasydata.org/](http://www.ecstasydata.org/)
A Special Thanks
Questions
Reference

- Images from Google Images
- Erowid.com
- M. Badioun K2/Spice Lecture to PCC
- T. Kuschel K2/Pyrovalorne and Spice Lecture to PCC
- D. Rhodes Bath-salts May Be Not Lecture to PCC
- B. Dolcourt Phenethamines Grand Round presentation
- Wikipedia.com

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