Abusing Drugs with No “Abuse Potential”

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This program has been supported by
PharmCon

Abusing Drugs with No “Abuse Potential”

Accreditation:
Pharmacists: 0798-0000-11-009-L05-P
Pharmacy Technicians: 0798-0000-11-009-L05-T
Nurses: 7-647

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Goals and Objectives

- Describe the abuse potential of both over the counter (OTC) and prescription drugs.
- Identify OTC and prescription drugs, such as inhalants and bath salts, that have unusual abuse potential.
- Outline preventative strategies to combat Rx and OTC drug abuse.

Speaker Disclosure:
Mr. Kreckel has no actual or potential conflicts of interest in relation to this program.

Speaker: Peter A. Kreckel R.Ph., is a graduate of the University of Pittsburgh, Bachelor of Science in Pharmacy, Magna Cum Laude, Class of 1981. He served as the President of the Pharmacy School Class of 1981 for 3 years, and President of the Pharmacy School Student Council for 2 years. During this time he received the Upjohn Achievement Award for leadership and academic achievement. In addition to managing a retail pharmacy, pharmacist Kreckel is an Adjunct Assistant Professor of Pharmacology, Department of Physician Assistant Sciences, St. Francis University. His assignments include teaching a 16-week pharmacotherapy course for Physician Assistant students, currently doing their clinical rotations, that are pursuing a Masters of Medical Science Degree from St. Francis University.

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<table>
<thead>
<tr>
<th>RX drug abuse trends</th>
<th>RX drug abuse trends</th>
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</thead>
<tbody>
<tr>
<td><strong>Abusing Drugs with No “Abuse Potential”</strong></td>
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<tr>
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<tr>
<td><strong>RX drug abuse trends</strong></td>
<td></td>
</tr>
<tr>
<td>In 2008, 15.2 million Americans age 12 and older had</td>
<td>Vicodin (hydrocodone/acetaminophen) abuse:</td>
</tr>
<tr>
<td>taken a prescription pain reliever, tranquilizer,</td>
<td>- 2.9% of 8th graders</td>
</tr>
<tr>
<td>stimulant, or sedative for nonmedical purposes at least</td>
<td>- 6.7% of 10th graders</td>
</tr>
<tr>
<td>once in the year prior to being surveyed.</td>
<td>- 9.7% of 12th graders</td>
</tr>
<tr>
<td></td>
<td>for nonmedical purposes at least once in the year prior to being surveyed.</td>
</tr>
<tr>
<td>Source: National Survey on Drug Use and Health (Substance</td>
<td>Source: Monitoring the Future (University of Michigan Web Site)</td>
</tr>
<tr>
<td>Abuse and Mental Health Administration Web Site).</td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RX drug abuse trends</strong></td>
<td>A HUGE nationwide problem</td>
</tr>
<tr>
<td>Oxycontin® (oxycodone ext release) abuse</td>
<td></td>
</tr>
<tr>
<td>- 2.1% of 8th graders</td>
<td>Between 2004 and 2008, the number of emergency room visits specifically for non-</td>
</tr>
<tr>
<td>- 3.6% of 10th graders</td>
<td>medical use of prescription medications surged by 111%, from 144,644 to 305,885. The</td>
</tr>
<tr>
<td>- 4.7% of 12th graders</td>
<td>new CDC assessment, based on data from more than 200 emergency departments at</td>
</tr>
<tr>
<td>for nonmedical purposes at least once in the year</td>
<td>hospitals across the U.S., suggest that abuse of painkillers and sedatives in</td>
</tr>
<tr>
<td>prior to being surveyed.</td>
<td>particular may be driving the trend.</td>
</tr>
<tr>
<td>Source: Monitoring the Future (University of Michigan</td>
<td>Source: <a href="http://healthland.time.com/2010/06/18/er-visits-surge-for-abuse-of-legal-">http://healthland.time.com/2010/06/18/er-visits-surge-for-abuse-of-legal-</a></td>
</tr>
<tr>
<td>Web Site)</td>
<td>drugs/#ixzz1CMi8T4WD</td>
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<td></td>
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</tbody>
</table>
Legal medications see an increased abuse.

- A study published in the *American Journal of Preventive Medicine* found that hospitalizations for abuse of prescription drugs such as OxyContin, Vicodin and Valium grew by 65% between 1999 and 2006. And previous data from the CDC found that roughly 70,000 American teens overdose each year on common household medications.


### Review DEA Schedules

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Abuse Potential</th>
<th>Physical dependence</th>
<th>Physiological dependence</th>
<th>Examples</th>
<th>Refills</th>
<th>Phoned in?</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Highest</td>
<td>High</td>
<td>High</td>
<td>Heroin, LSD, Marijuana</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>II</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>Oxycodone, Amphetamine, Methadone</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>III</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
<td>Phencyclidine</td>
<td>X5 exp 6 months</td>
<td>Phone, fax or orig</td>
</tr>
<tr>
<td>IV</td>
<td>Lower</td>
<td>Lower</td>
<td>Lower</td>
<td>Valium, Xanax</td>
<td>X5 exp 6 months</td>
<td>Phone, fax or orig</td>
</tr>
<tr>
<td>V</td>
<td>Lowest</td>
<td>Lowest</td>
<td>Lowest</td>
<td>Codeine cough syrup</td>
<td>X5 exp 6 months</td>
<td>Phone, fax or orig</td>
</tr>
</tbody>
</table>

### Non Schedule Rx Drugs With Abuse Potential: TRAMADOL

- Tramadol (Ultram®)
- FDA strengthened warnings on May 25, 2010 about tramadol abuse due to its opioid effects. They also caution about deaths due to overdose and suicide in patients prone to addiction or with emotional problems or those taking CNS depressants. (FDA Medwatch)

### Tramadol Abuse

- Treatment of overdose: Naloxone (Narcan) 2mg IV up to 18 mg. Naloxone may increase seizure risk in tramadol overdose.
- Watch for abuse and diversion
- Minimal street value. (.25 each)
Non Schedule Rx Drugs With Abuse Potential: GABAPENTIN

- Gabapentin (Neurontin®)
- Mechanism: unknown. Structurally related to GABA, does not interact with GABA receptors
- NOTE: NOT indicated for Diabetic Peripheral Neuropathy

Gabapentin Abuse

- 7 g/day or more are used to reduce alcohol or cocaine cravings or for euphoria and relaxation. Available as 100,300,400,600 and 800mg dosage units
- Abrupt stoppage can cause withdrawal symptoms and precipitate seizures.
- Overdose: diarrhea, double vision, drowsiness, lethargy, slurred, speech.
- Treatment of Overdose: supportive care, Activated charcoal and dialysis may be helpful.

Non Schedule Rx Drugs With Abuse Potential: QUETIAPINE

- Quetiapine (Seroquel®)
- Nickname: “baby heroin”, “Suzie-Q”, “quall” “Q-ball”
- Mechanism: Second Generation antipsychotic (“atypical antipsychotic”) postulated mechanism Dopamine 2 and serotonin Type-2 antagonism. H1 antagonism may cause sedation
- Use: treatment of schizophrenia and manic episodes associated with bipolar disorder.

Quetiapine Abuse

- Abusers want its anti-anxiety and sedating effects
- Commonly abused (through cheeking) in prisons.
- Patients may complain of “hearing voices” to get prescribers to write for the drug.
- Other options: Buspirone for anxiety, Ramelteon for sleep.
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Non Schedule Rx Drugs With Abuse Potential: CLONIDINE

- Clonidine (Catapres®)
- Mechanism: stimulates alpha-2 receptors in the brain stem, activates an inhibitory neuron and decreases sympathetic outflow from the CNS. Decreases peripheral vascular resistance, heart rate, and BP.

Clonidine Abuse

- Abused for sedative effect
- May be used to blunt withdrawal if patient can’t get street drugs (availability or cost). Due to its normal side effects, clonidine is effective in curbing withdrawal symptoms of watery eyes, diarrhea, and agitation in patients with addiction.
- High doses can “boost” effects of street drugs, such as opioids, cocaine, or benzodiazepines
- Overdose: supportive treatment IV, for hypotension. Naloxone for CNS depression.
- Rebound hypertension when stopped.
- Patients interviewed 1 study indicated a street purchase price for clonidine ranging from $0.50 to $3.00 per 0.3-mg tablet. (shands.org)

Clonidine, the WONDER DRUG has also been used for the following:

- Alcohol withdrawal
- Atrial fibrillation
- ADD
- Constitutional growth delay in children
- Cyclosporin associated nephrotoxicity
- Diabetic diarrhea
- Hyperhydrosis
- Hypertensive urgencies
- Mania
- Menopausal flushing
- Methadone/opiate detox
- Pheochromocytoma diagnosis
- Post Herpetic neuralgia
- Psychosis
- Reduction of allergen induced inflammatory reaction
- Restless legs syndrome
- Smoking cessation facilitation
- Ulcerative colitis

Neurotransmitter Review

<table>
<thead>
<tr>
<th>Neurotransmitter</th>
<th>Normal</th>
<th>Excessive</th>
<th>Insufficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dopamine</td>
<td>Attention</td>
<td>Pleasure</td>
<td>Reward</td>
</tr>
</tbody>
</table>

Dopamine: Attention > Pleasure > Reward > Motivation

- HO
- OH
- NH₂
**Neurotransmitter Review**

<table>
<thead>
<tr>
<th>Neurotransmitter</th>
<th>Normal</th>
<th>Excessive</th>
<th>Insufficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serotonin</td>
<td>Obsession</td>
<td>Compulsion</td>
<td>Control</td>
</tr>
<tr>
<td></td>
<td>Sex dysfunction.</td>
<td>Apathy decreased attention.</td>
<td>Cognitive slowing.</td>
</tr>
<tr>
<td>Norepinephrine</td>
<td>Alertness</td>
<td>Energy</td>
<td>Tremor</td>
</tr>
</tbody>
</table>

**Pharmacological examples:**
- Serotonin reuptake inhibitors (SSRI): elevate serotonin levels in synapse.
  - Example: Fluoxetine, Sertraline
- Serotonin & norepinephrine reuptake inhibitors: elevate serotonin AND norepinephrine
  - Examples: Venlafaxine & Duloxetine
- Norepinephrine reuptake inhibitors: elevate norepinephrine in the synaptic cleft
  - Examples: amphetamines, cocaine
- Norepinephrine & dopamine reuptake inhibitors: Elevate: Dopamine and norepinephrine:
  - Example MDPV, 3,4-methylenedioxypyrovalerone

**Interactive Slide**
- This condition is due to an imbalance of dopamine and acetylcholine in the brain. What is the name of this disease?
  - Hint: psychoses can be associated with it later on in the disease process.
  - Hint: this disease is characterized by movement disorders, due to lack of dopamine

TYPE YOUR ANSWER IN THE CHAT BOX NOW!!
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Dopamine Depleted??

- Answer: Parkinson's Disease
- Remember to Rule out dopamine receptor "blockers" such as
  - Phenothiazines (1st generation antipsychotics)
  - Metoclopramide (Reglan)

Dextromethorphan ABUSE

- Dextromethorphan, the d-isomer of the opiate agonist levorphanol, is metabolized by the cytochrome P450 2D6 enzyme system in the liver. This metabolite, dextrorphan, has a high affinity for the excitatory amino acid receptor, the N-methyl-D-aspartate (NMDA) receptor, producing a "high."
- Symptoms following ingestion of high doses (five to ten times the normal therapeutic dose) include euphoria, an altered sense of time, paranoia, and disorientation. In addition, tactile, visual, and auditory hallucinations may occur.
- The effects seen with dextromethorphan abuse are similar to those seen after phencyclidine (PCP) use, another agent which blocks NMDA receptors.

EFFECTS of DXM abuse

- Increased perceptual awareness
- Altered time perception
- Feelings of “floating” or dissociation of the body
- Visual disturbances
- Tactile, auditory, visual hallucinations
- Paranoia
- Disorientation and lack of coordination
- Slurred speech
- Impaired judgment and mental performance

Sources for Dextromethorphan

- Robitussin DM  10mg DXM + 100mg guaifenesin/ 5cc  ("Roboshake")
- Delsym  30mg  30mg DXM/ 5cc  (*Agent orange) (check out Urban Dictionary)
- Coricidin HBP Cough and Cold: 30mg DXM + chlorpheniramine 4mg (Skittles)
Dosage of DXM for ABUSE

<table>
<thead>
<tr>
<th>Plateau</th>
<th>Dose (mg)</th>
<th>Behavior effects</th>
<th>Robitussin DM</th>
<th>Delsym</th>
<th>Coricidin HBP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>100-200</td>
<td>Mild stimulation</td>
<td>50-100ml</td>
<td>17-34ml</td>
<td>3-7 tabs</td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>200-400</td>
<td>Euphoria hallucinations</td>
<td>100-200ml</td>
<td>34-68ml</td>
<td>7-14</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>300-600</td>
<td>Distorted visual perception. Loss of coordination</td>
<td>150-300ml</td>
<td>50-100ml</td>
<td>10-20</td>
</tr>
<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
<td>500-1500</td>
<td>Dissociative sedation</td>
<td>250-750ml</td>
<td>83-250ml</td>
<td>17-50</td>
</tr>
</tbody>
</table>

**DXM OVERDOSE**
- If ingested over 7.5mg DXM/kg should be referred to Emergency Dept
- Can also overdose on antihistamines, decongestants if included in products
- **Serotonin syndrome** if also taking: SSRI, Zyvox, tramadol:
  - Hyperthermia
  - Muscle rigidity
  - Myoclonus (clonic muscle twitching)
  - Changes in mental status and vital signs

**Loperamide**
- Mechanism: Loperamide is an opioid-receptor agonist and acts on the μ-opioid receptors in the myenteric plexus of the large intestine; Minimal CNS effects
- Similar to morphine, opioid effect, enhancing circular segmental intestinal muscle contractions, retarding forward peristaltic motion and increasing intestinal transit time.
- In high doses helps to ease the drug withdrawal from opioid abuse “OTC methadone” on the street because people use up to 60 mg for opioid withdrawal. May cause CNS depression & intestinal blockage

**Antihistamines**
- First generation are the older, and more sedating antihistamines. They cross the BBB. Example: Benadryl, Bonine, and Dramamine. Avoid in kids under 6 due to paradoxical stimulation. Watch for sedation, BPH, and other warnings.
- The second generation (non-sedating) do NOT cross BBB, causing minimal sedation, and NO anticholinergic side effects. Claritin; Zyrtec
- Should not be given on a “prn” basis. Therapy should be started 2 weeks before a known allergy season, or several hours before a known allergen exposure (dogs, cats, etc)
Antihistamine abuse

- Very high doses of first generation antihistamines are needed to produce a high consisting of euphoria and hallucinations.
- Atropine like delirium consisting of visual & auditory hallucinations.
- First see euphoria>>disorientation>>ataxia>>hallucinations.
- May be diagnosed incorrectly as a psychiatric disorder.

Antihistamine Abuse

- Excessive antihistamine use may lead to: tachycardia, mydriasis, hot flushed skin, dry mouth and mild hypertension. Anticholinergic side effects.
- Commonly abused drugs:
  - Dramamine (dimenhydrinate) (400mg)
  - Benadryl (diphenhydramine)
  - Bonine (meclizine)

Pseudoephedrine

- Recently moved behind pharmacy counter
- Alpha/Beta agonist
- Directly stimulates alpha-adrenergic receptors of the respiratory mucosa causing vasoconstriction and stimulates beta-adrenergic receptors causing bronchial relaxation.

From Sudafed to methamphetamine

- Conversion of Pseudoephedrine (or ephedrine) involves hydrogenation of the hydroxyl group on the ephedrine or pseudoephedrine molecule.
Interactive Slide
Legal Methamphetamine Dealers

- Many pharmacists, especially in my age group (over 25 years of experience) have sold methamphetamine by prescription!!
- What was the major brand name of methamphetamine, and who marketed it in the United States??

Legal Methamphetamine??

- Answer: Desoxyn, by Abbott Labs
- Currently made by Abbott Labs in PR, distributed in US by:
  - Lundbeck Inc., Deerfield, IL 60015, U.S.A.

Combat Meth Act of 2005

- Any products containing oral pseudoephedrine, require a signature, and valid photo ID to purchase.
- The new law limits such purchases to 3.6 grams in any one day and 9 grams in any 30 day period. Mail order maximum per month is 7.5 grams.
- Sudafed 30mg max daily= 120 tablets maximum month= 300 tablets
- Sudafed 60mg max daily= 60 tablets maximum month= 150 tablets

From Sudafed to Methamphetamine

- The Red, White & Blue Method
  - Ingredients:
    - Ephedrine / Pseudoephedrine
    - Iodine
    - Red phosphorus
    - Ether
    - Hydrochloric Acid
    - Sodium hydroxide
    - Methanol
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Shake and Bake Method

- Ammonium nitrate form instant cold packs
- Lithium batteries
- Other common household chemicals: hydrogen peroxide, Coleman fuel,
- Add to plastic soda bottle
- Produces 3gm of meth in 30 minutes
- Portable, can make in the car.
- Toss toxic waste from car window.

BIRCH REDUCTION METHOD

INGREDIENTS:
1) 750 pills containing 60mg pseudoephedrine (preferably Sudafed 24 hr, each pill has 240 mg in it, so you would only have to use about 190 pills instead). Warning: do not try to buy more than 3 boxes of these anywhere, shop around, and don’t buy any pills with acetaminophen in it (it’s for headaches), it will destroy your batch.
2) 5 lithium batteries (these are photo batteries, E2 blue package)
3) 2 cans of Coleman’s, or generic brand lantern fuel.
4) One bottle of heavy duty drain cleaner (go to a hardware store, find the bottle with the skull and cross bones on it).
5) One container of UN-iodized salt
6) This is the tricky part, have to have some kind of to an Anhydrous Ammonia tank, think co-ops or farm fields (your going to have to do this undercover).

Source: The Clandestine Chemist

Environmental impact of Methamphetamine manufacturing

- The process of making methamphetamine – in both large and small laboratories – involves at least one, and sometimes more than one, stage with a significant risk of explosion and/or fire.
- Every pound of methamphetamine produced can yield up to five pounds in toxic waste
- The cost of cleaning up methamphetamine labs has been dropped dramatically, due to improved technology and support from the Drug Enforcement Administration (DEA). DEA estimates that the average direct cost to clean up a lab several years ago was about $17,000, but is now $2K-3K per lab.

Meth Mouth

- According to the American Dental Association, meth mouth “is probably caused by a combination of drug-induced psychological and physiological changes resulting in xerostomia (dry mouth), extended periods of poor oral hygiene, frequent consumption of high-calorie carbonated beverages, and teeth clenching and grinding (bruxism). Penna. Dental Assn. also contends acidic nature of methamphetamine destroys enamel.
Common ingredients for meth manufacturing. Explosion Risk!

- Starting fluid (ether)
- Paint thinner
- Freon
- Acetone
- Anhydrous ammonia
- Iodine crystals
- Red phosphorous
- Brake cleaner (toluene)
- Drain cleaner (sodium hydroxide)
- Battery acid (sulfuric acid)
- Reactive metals (sodium or lithium)

### Inhalants:

**Definition**: The deliberate inhalation of volatile substances to induce a psychoactive or mind-altering effect

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glue, shoe polish, toluene</td>
<td>30.3%</td>
</tr>
<tr>
<td>Gasoline or lighter fluid</td>
<td>24.9%</td>
</tr>
<tr>
<td>Nitrous oxide or “whippets”</td>
<td>24.9%</td>
</tr>
<tr>
<td>Spray paints</td>
<td>23.4%</td>
</tr>
<tr>
<td>Correction fluid, degreaser or cleaning fluid</td>
<td>18.4%</td>
</tr>
<tr>
<td>Other aerosol sprays</td>
<td>18%</td>
</tr>
<tr>
<td>Amyl nitrate, poppers, locker room deodorizers</td>
<td>14.7%</td>
</tr>
<tr>
<td>Lacquer thinner or other paint solvents</td>
<td>11.7%</td>
</tr>
<tr>
<td>Lighter gases (propane or butane)</td>
<td>9.4%</td>
</tr>
<tr>
<td>Halothane, ether, other anesthetics</td>
<td>3.4%</td>
</tr>
</tbody>
</table>

Inhalants – the numbers

**Source**: Samhsa.gov NSDUH report

- In 2002 to 2004, an average of 598,000 youths aged 12 to 17 per year reported that they initiated inhalant use in the 12 months prior to being surveyed
- The types of inhalants most frequently mentioned as having been used by recent initiates included glue, shoe polish, or toluene (30.3 percent); gasoline or lighter fluid (24.9 percent); nitrous oxide or “whippets” (24.9 percent); and spray paints (23.4 percent)
- Among recent inhalant initiates, 19.4 percent used inhalants on 13 or more days in the past year

**Inhalants abuse**

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior Cigarette Use</td>
<td>59.7</td>
<td>67.6</td>
<td>42.4</td>
<td>35.9</td>
<td></td>
</tr>
<tr>
<td>Prior Alcohol Use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prior Marijuana Use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prior Cigarette, Alcohol, and Marijuana Use</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Inhalants: What happens

- Some inhalants also damage the structure of the brain, particularly the myelin, or insulation, that covers the axons.
- Many inhalants activate the brain's reward system and stimulate the release of dopamine. This is thought to be responsible for the pleasurable feelings associated with inhalant use.

Toxic effects of inhalant abuse

- Inhalant abuse can damage areas of the brain involved in cognitive functions and produce symptoms ranging from mild impairment to dementia, as well as damage brain areas responsible for movement and vision.
- Permanent hearing loss and irreversible damage to nerves throughout the body can occur from using inhalants.
- Inhalants can cause hepatitis, liver failure, and muscle weakness, and aplastic anemia.
- A condition called “sudden sniffing death” may occur when inhaled fumes replace oxygen in the lungs and brain and cause suffocation.
- Can interfere with heart rhythm, leading to a heart attack.

Long-Term Inhalant Abuse

People who use inhalants over a long period of time feel a strong urge to continue using them. Effects of long-term abuse include weight loss, muscle weakness, disorientation, inattentiveness, lack of coordination, irritability, and depression.

Blizzard

- Concentrated Bath salts (Ivory Snow Salts)
- Produces a "meth like high" when ingested- either by eating, smoking or injecting
- Causes anxiety, hallucinations & paranoia
- Doesn't show up (for now) on drug tests

- Preliminary testing indicates that the active ingredients in many brands contain MDPV (3,4-methylenedioxyxypovalerone) and/or mephedrone.
Blizzard- MDPV
source: drugs-forum.com

- MDPV, 3,4-methylenedioxypyrovalerone, is an alkaloid in the pyrrolidine and ketone chemical classes.
- Pharmacologically, it functions as a dopamine-norepinephrine reuptake inhibitor (NDRI) with stimulatory effects on the central nervous system and cardiovascular system.
- It was first synthesized by Boehringer Ingelheim and patented in 1969, but was never marketed. MDPV appeared as a recreational drug in 2005.
- Can blunt effect of increased heart rate with Propranolol
- Dosage: MDPV can be taken orally, sublingually, rectally, intravenously, intramuscularly, insufflated, and inhaled. Oral doses for most users start at about 3-5 mg

Strategies to Combat Abuse

- Education civic groups, high school health classes, parents, Boy and Girl Scout troops.
- Educate your staff:
  - Watch for extreme purchases of lithium batteries, iodine, instant-ice packs
  - Follow all regulations and store policies
  - Know your customers
- Share your ideas with fellow pharmacists, like right NOW!! Use the CHAT BOX!

Questions

??????????????
??????????????
????????????????
????????????????

QUESTIONS?????????

- Type in the chat box now!