



Flakka

Alpha-Pyrrolidinovalerophenone (alpha-PVP)

Susan M. Klarich, Ph.D.



Effects on Palm Beach County

- **PBSO Crime Lab**
 - 2014 - 35 total submissions
 - 2015 - 73 submissions (Jan-June)
 - Under MOU with Broward SO
 - Since November 2014, PBSO has worked 109 Flakka cases for BSO
- **PBSO Narcotics Division**
 - Shipped from China in the form of the chemical “Alpha-PVP”.
 - Sometimes up to several pounds at a time.
- **PBSO Road Patrol**
 - Finding people in possession of small quantities during citizen encounters
- **Palm Beach County Jail**
 - 25 arrests for possession of Alpha-PVP
- **Palm Beach County Medical Examiner**
 - 2 cases where “Bath Salts” were either found at the scene or in the toxicology report



Alpha-PVP



Street Names

Gravel
Bath Salts Meph
Meow Meow
Flakka Drone
Molly





Alpha-PVP

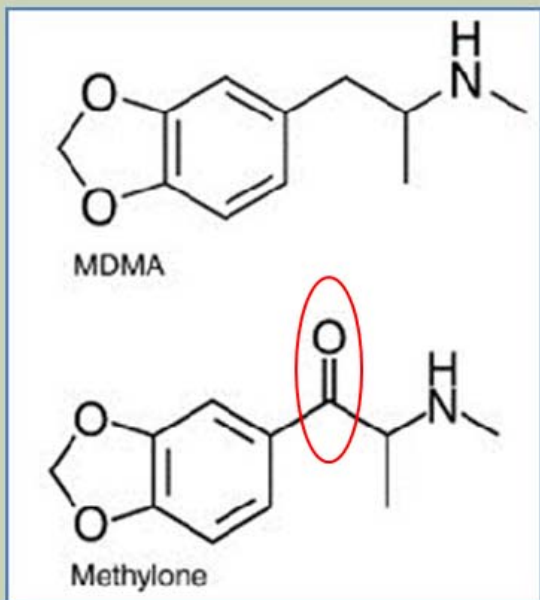
- Research chemical created in 1960's
- Re-emerging drug with a new name
- Past 5 years increase in recreational use
- Powder is snorted
- Ingested orally
- Injected intravenously
- Smoked/Vaped

\$5



Molly

Chemically similar to amphetamines (such as methamphetamine) as well as to MDMA (ecstasy).



**Methylone is
beta-ketone MDMA**

Molly





Synthetic Compounds

1st Generation– 2000-2012

- 3,4-methylenedioxypropylamphetamine (MDPV) **Schedule 1**
- methylmethcathinone (mephedrone)
- 3,4-methylenedioxy-N-methylcathinone (methylone)

2nd Generation– 2014-?

- *alpha*-Pyrrolidinopentiophenone (Alpha-PVP) **Schedule 1**

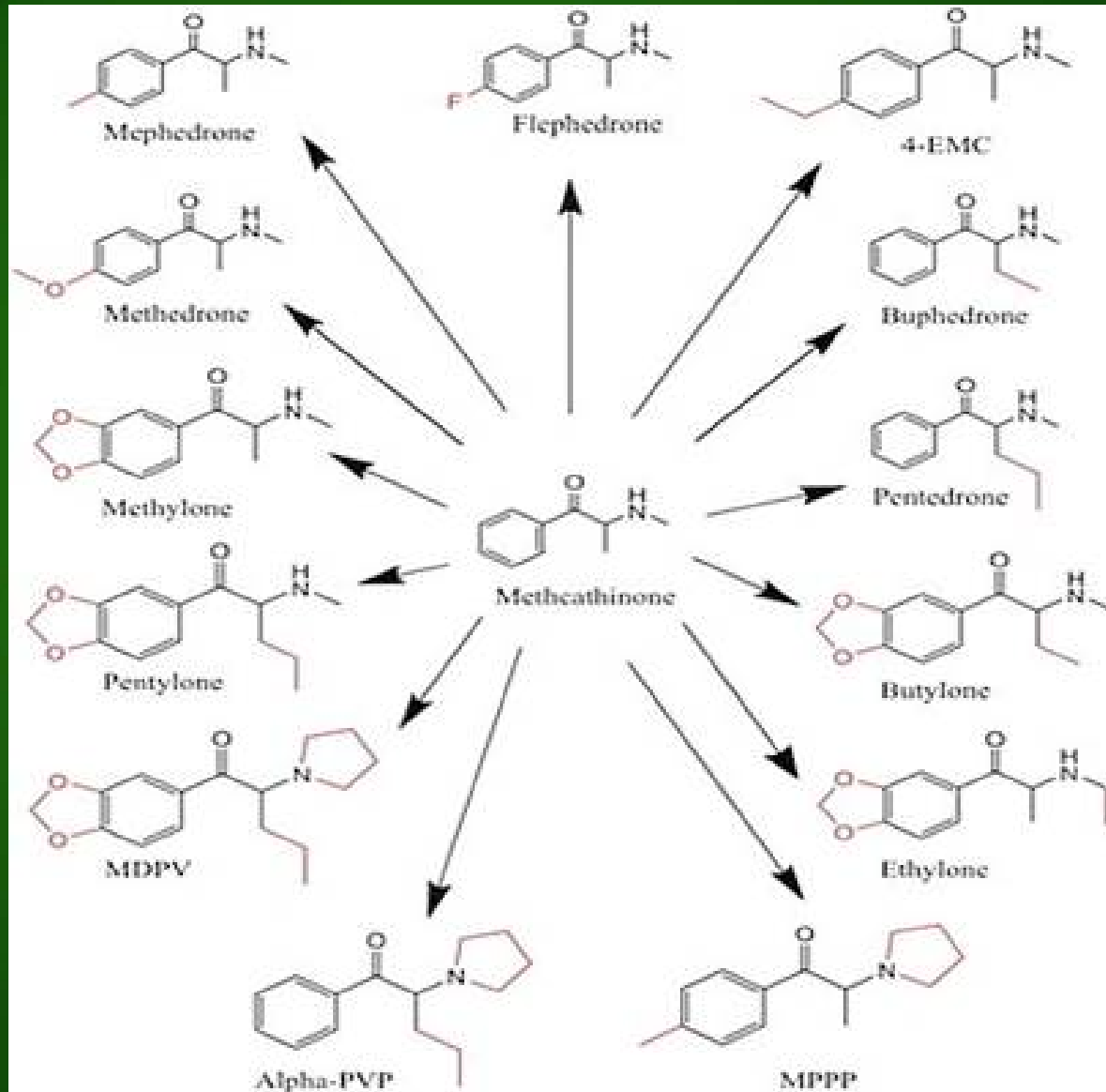
3rd Generation- ?

- ?
- After mephedrone was banned in the United Kingdom in 2010, naphyrone quickly replaced it. Was sold as “jewelry cleaner” under the brand name “Cosmic Blast.”

Chemically, they are similar to amphetamines (such as methamphetamine) as well as to MDMA (ecstasy).



Molecular Tweaking





Effects

- The energizing / agitating effects are consistent with other drugs like amphetamines and cocaine.
- The drugs raise dopamine and norepinephrine levels in the brain
 - Dopamine regulates reward and movement.
 - Norepinephrine regulates attention and response
- A recent study found MDPV raises dopamine the same way as cocaine* but is at least 10 times more potent.

Toxic Effects:

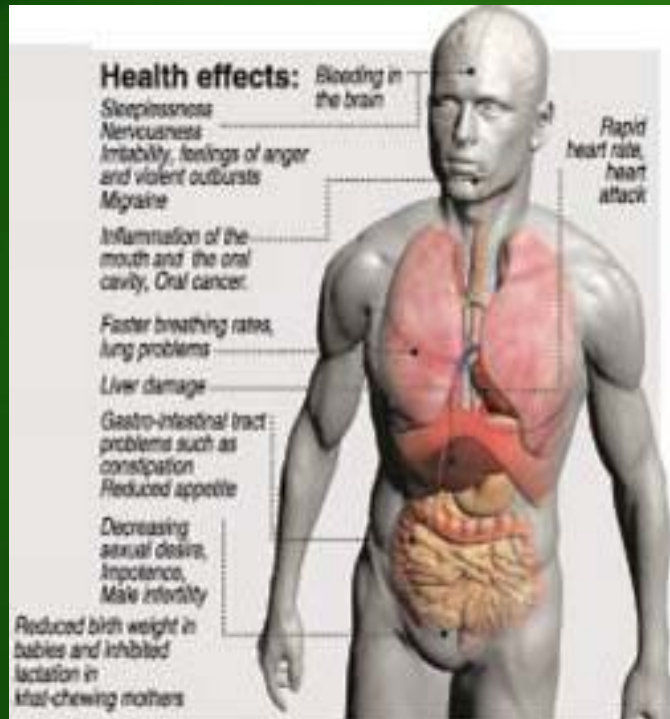
- Tachycardia
- Agitation
- Psychosis
- Violent behavior
- Excited Delirium
 - Hyperthermia
 - Kidney failure
 - Death

Designer drug	Classic drug	Shared desired effects	Designer drug's negative effects
Spice	Marijuana	A mellow high	Psychosis, stroke, heart attack, kidney damage
NBOMes	LSD	Psychedelic trips, hallucinations	Delirium, paranoia, violence, seizures, racing heart, spiking blood pressure
Bath salts	Cocaine, amphetamines	Euphoria, alertness, energetic high	Excited delirium, dehydration, hyperthermia, muscle breakdown, kidney failure

*Powerful Cocaine-Like Actions of 3,4-Methylenedioxypropylvalerone (MDPV), a Principal Constituent of Psychoactive 'Bath Salts' Products



Effects



- Extreme Agitation
- Hallucinations & Delusions
- Chest Pain
- Suicidal Thoughts
- High Blood Pressure
- Acute Toxicity
- Hyperthermia
- Delirium
- Violent Behavior
- Extreme Paranoia
- Psychosis
- Uncontrolled Body Movements
- Severe Insomnia
- Super Human Strength
- **Excited Delirium**

Effects



The physiologic effects of Flakka trigger severe anxiety, paranoia and delusions, leading to a psychotic state, characterized by a surge of violence associated by increased strength and loss of awareness of reality and surroundings.

During this state, body temperature can rapidly elevate to as high as 105-106 degrees Fahrenheit, triggering a cascade of events which could also lead to kidney damage and failure as a result of rhabdomyolysis. Rhabdomyolysis results from the breakdown of muscle and can release a chemical called CPK, or Creatine phosphokinase, which can damage the kidneys.

Under normal functioning, the chemicals are taken back up by cells after they are released. But Flakka blocks this mechanism for reuptake, leading to a concentrated and prolonged effect of dopamine and serotonin, known as a state of “excited delirium.”



Unless someone like you cares a whole awful lot,
nothing is going to get better.
It's not.
Dr. Seuss, *The Lorax*



Susan M. Klarich, Ph.D.
Palm Beach County Sheriff's Office
klarichs@pbso.org
561 688-4055