Crystal Meth

Presented By: Steven Jones, NREMT-P
METHAMPHETAMINE
Ruining promising prostitution careers everywhere.
\o/ MotivatedPhotos.com
Worst drug to hit America

“A ferociously addictive drug that is spreading... it’s hard to imagine overstating the magnitude of the meth problem.”

- former U.S. Drug Czar
Barry McCaffrey
Overview

The facts about Crystal Meth

- Why people choose to use it
- Short and Long Term Effects
- How it works
What do you know about Crystal Meth
History of Meth

• Amphetamine created in Germany in 1887

• Used widely during WWII by the Nazi and Japanese armies

• Japanese kamikaze pilots were documented to be high on meth

• Major challenge in postwar Japan

• Biker gangs in California after WWII began to distribute meth
What is Meth?
What is Meth?

Crystal methamphetamine is a colorless, odorless form of d-methamphetamine, a powerful and highly addictive synthetic (man-made) stimulant. Crystal Meth typically resembles small fragments of glass or shiny blue-white "rocks" of various sizes. Like powdered methamphetamine (another form of d-methamphetamine), crystal methamphetamine is abused because of the long-lasting euphoric effects it produces. Crystal methamphetamine, however, typically has a higher purity level and may produce even longer-lasting and more intense physiological effects than the powdered form of the drug.
How is it Used?

- Smoke
- Inject
- Snort
- Swallow
Commonly known as:

• Speed
• Chalk
• Crystal
• Crank
• Glass
• Ice
Why Do People Start Using it?

- Improve mental and physical performance
- Alert
- Weight loss
- Energy
- Feel really good
Social Influences

• Media
• Friends
• Family
General Use Effects

- Beginning
- Length
- The “Flash”
Patterns of Use

• **Low Intensity User**
  – This is a person who uses the drug by snorting or swallowing so they don’t get the ‘flash’ or intense rush that people who smoke or inject get. These users most likely don’t use large quantities or on a consistent basis. However, negative drug effects and addiction can still be major problems.

• **Chronic Periodic User**
  – The user takes hits throughout the day, as often as every half hour. However, they usually stop early enough to get at least some sleep.

• **Binge and Crash User**
  – Meth users often follow a "binge and crash" pattern and may continue taking the drug over several days. They may go without food and sleep and inject the drug every 2 to 3 hours to prolong the high and postpone the inevitable crash.
  – **The period just before the “crash” is commonly referred to as “tweaking”**
Binge and Crash

The rush: 5-30 minutes

The high: 6-12 hours or more

Bingeing: 3-15 days

Tweaking:

Crash: 1-3 days

Withdrawal:
Short Term Effects

- Pleasure
- Confidence
- Sexy
- Joy
- Irritability
- Aggression
- Power
- Fatigue
Short Term Effects II

- Increased wakefulness, breathing, and heart rate
- Decreased appetite
- Dry mouth
- Overheating
- Tremors and Convulsions
- Depression as it wears off
Meth Causes...

- Increased alertness
- Decreased appetite
- A distorted sense of well-being
- Effects that can last 8 to 24 hours
Toxic Effects

• The acute toxic effects of sympathomimetic stimulant drugs such as methamphetamine include hypertensive crisis, coronary and cerebral vasospasm, cardiac dysrhythmias, seizures, hyperthermia, and metabolic derangements such as hyperglycemia, and metabolic acidosis.

• Methamphetamine users can have body core temperatures often exceeding 110°F.
  – IV fluid challenges and aggressive cooling measures must be performed to improve survivability in cases methamphetamine overdose is suspected.
A Side Note

• **Overdose**
  – Overdose can occur with relatively little amounts of crystal meth, especially for new users. Overdose can cause delusions, hallucinations, seizures, stroke, and coma. And some of the effects of an overdose, like convulsions, overheating, and heart failure can result in death. Seizures, however, are probably the most common cause of death of Crystal Meth users.

• **Tolerance**
  – Tolerance is when you have to use more of the drug to get the same effect.

• **Addiction**
  – Crystal Meth is 5 times as addictive as crack cocaine. Although addiction to Crystal Meth occurs quickly, often after the 1st use, addiction is generally considered a long-term effect.
Long-Term Effects

- Anxiety, confusion, and sleep problems
- Hallucinations and delusions
- Methamphetamine Psychosis
- Psychotic behaviour
- Chronic depression
- Severe weight loss
- Brain damage
<table>
<thead>
<tr>
<th>Behavior changes</th>
<th>Health changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Psychotic behavior</td>
<td>• Stroke</td>
</tr>
<tr>
<td>• Paranoia</td>
<td>• Brain damage</td>
</tr>
<tr>
<td>• Aggression</td>
<td>• Weight loss</td>
</tr>
<tr>
<td>• Anxiety</td>
<td>• Death</td>
</tr>
<tr>
<td>• Fatigue</td>
<td></td>
</tr>
<tr>
<td>• Depression</td>
<td></td>
</tr>
<tr>
<td>• Delusions</td>
<td></td>
</tr>
<tr>
<td>• Mood swings</td>
<td></td>
</tr>
<tr>
<td>• Confusion</td>
<td></td>
</tr>
<tr>
<td>• Insomnia</td>
<td></td>
</tr>
<tr>
<td>• Hallucinations</td>
<td></td>
</tr>
</tbody>
</table>
How Does It Work?

Crystal Meth acts on the brain’s reward pathway, by affecting a neurotransmitter called dopamine. Neurotransmitters are the chemical messengers which allow different parts of the brain to communicate. The result is a feeling of euphoria, so strong that a user will often do whatever it takes to feel that way again and again.
Dopamine is very active in the reward pathway. Too little dopamine can lead to depression and too much dopamine can lead to mania. Dopamine is also active in the area of the brain that controls movement, as well as somewhat active in the coordination area.
Crystal Meth stimulates the release of extra dopamine, so the reward pathway is getting much more stimulation than normal.

Crystal Meth prevents the brain from being able to reabsorb that extra dopamine.
Loss of Dopamine Neurons After Heavy Methamphetamine Use

Comparison Subject  METH Abuser

Researchers report that the dopamine-producing cells in the brain can be damaged after prolonged exposure to relatively low levels of methamphetamine thus “deadening” the pleasure receptors in the brain.

No more satisfaction from SEX AND CHOCOLATE!
Eroding the Mind

Researchers have mapped brain decay caused by methamphetamine use. The damage affected memory, emotion and reward systems.

Average difference in brain tissue volume of methamphetamine users, as compared with non-users:

Source: Dr. Paul Thompson, U.C.L.A.
Effects of Meth on Teeth

Your teeth on Meth

Meth is a powerfully addictive drug that "eats" your body from the inside out. For a Meth user, by the time the teeth look like this, brain cells have been "eaten" and permanently damaged. As Meth flows through the blood to the heart, muscles, bones and teeth, it eats cells deposits toxins and poisons and destroys healthy tissues.

A 23 year old male's teeth and gums after 3+ years of Meth use.

Facts about your teeth on Meth

- Extremely painful teeth & gums
- Bad taste from infection and nasty smell
- Infected teeth cause an unhealthy body
- Lack of sleep due to painful teeth
- Feel bad about yourself
- Unable to eat or chew many solid foods
- Jawbone loss
- Gum disease
- Costs big bucks to restore or replace teeth
- Rapid decay of teeth
- Loss of teeth

What happens after they pull the Meth eaten teeth?

So you think dentures are the solution?

When teeth are pulled, the jawbone will start to slowly shrink over the years. Dentures sit on the bone ridge. The disadvantage of getting a denture at a young age, like 23 years old, is by the time you're 60 your bone ridge will have shrunk beyond the point of wearing a denture functionally, thus leaving you a denture cripple.

What do you know about teeth and dentures?

Answer the following questions true or false:

- Your blood flows through your teeth.
- When your blood needs calcium it first will take it from the jawbone.
- Natural teeth chew with 150lbs of pressure.
- Gum tissue for dentures can only support 5 to 25lbs of pressure.
- With dentures you cannot bite or chew with your front teeth.
- Dentures need to be replaced every 5 years.
- Dentures only function at 10% of the efficiency of your natural teeth.
- If you have all your teeth pulled then you may instantly look at least 10 years older.

If you answered true to all the above you are 100% correct.
Ephedrine is KEY

The key ingredient of methamphetamine production is ephedrine, a controlled substance. Because it is difficult to obtain ephedrine, drug dealers use pseudoephedrine, found in many over-the-counter medicines. These medicines are processed to remove buffers and produce ephedrine.
alcohol (Isopropyl or rubbing)
toluene (brake cleaner)
ether (engine starter)
sulfuric acid (drain cleaner)
red phosphorus (matches/road flares)
salt (tablet/rock)
iiodine (test dip or flakes/crystal)
lithium (batteries)
trichloroethane (gun scrubber)
MSM (cutting agent)
sodium metal
methyl alcohol (gasoline additive)
muriatic acid
anhydrous ammonia (farm fertilizer)
sodium hydroxide (lye)
pseudo ephedrine (cold tablets)
ephedrine (cold tablets)
acetone
kitty litter
Anhydrous Ammonia
ANHYDROUS WILL CAUSE THE BRASS TO TURN BLUE-GREEN IN COLOR.
An active lab in a home with a vent hood
Methamphetamine Lab
What are signs of a Meth Lab?

- **Items to look for:**
  - Large number of blister packs
  - Coffee filters stained pink or brown
  - Red, pink, gray, or white stained cookware/jars

- **Odors:**
  - Cat urine
  - Ammonia
  - Ether
  - Acetone
Other Signs of a Meth Lab

• Little or no traffic during the day
• Residents never put out the trash
• Covered windows
• Residents go outside to smoke
• Occupant unemployed but seems to have plenty of cash
Booby Trapped!

EMS and first responders are accustomed to the risks associated with dealing with drug addicts and dealers. But a person who is both using and manufacturing methamphetamines will have increased levels of paranoia, anger and mood swings. Many will resort to extreme measures to protect themselves and their labs. Security systems, explosives, guns, attack dogs and poisonous snakes are commonly found at methamphetamine production sites.
How and Why

- There are literally thousands of recipes and information about making meth on the Internet.
- An investment of a few hundred dollars in over-the-counter medications and chemicals can produce thousands of dollars worth of methamphetamine.
- The average “METH COOKER" teaches 10 other people how to make the drug.
“One Pot” or “Shake & Bake”

A one-pot meth lab actually uses a variation of the lithium ammonia method of production; however, in the one-pot method, a combination of commonly available chemicals is used to synthesize the anhydrous ammonia (IE: Windex) essential for methamphetamine production.

Cooks using this method are able to produce the drug in approximately 30 minutes at nearly any location by mixing, or "shaking," ingredients in containers such as a 2-liter plastic soda bottle. Producers often use the one-pot cook while traveling in vehicles and dispose of waste components along roadsides.
Mobile Meth Lab

Mobile meth labs, like this one in a car trunk, pose a real danger to EMS and first responders.

- Explosions
- Toxic Fumes
- Chemical Burns
Smurfing

Smurfing is a method used by some methamphetamine traffickers to acquire large quantities of precursor chemicals. Methamphetamine producers purchase the chemicals in quantities at or below legal thresholds from multiple retail locations. Methamphetamine producers often enlist the assistance of several friends or associates to increase the speed of the smurfing operations and the quantity of chemicals acquired.
"I got it!"
If You Suspect a Meth Lab

• Retreat to safety
• Call local law enforcement
• Do not attempt to stop the chemical reaction

• Do not turn any electrical switches; this could trigger an explosion
Environmental Effects of Meth

- Meth production leaves behind 5 to 6 pounds of toxic waste per pound of meth produced.
- Toxic by-products contaminate sites where meth is produced, posing serious health and environmental hazards to those nearby.
- The cost to clean up one meth lab often exceeds $2,000.
Dismantling a meth lab is a costly and dangerous undertaking
Impacts on families

- Danger of children being exposed to toxic fumes
- Children are more at risk than adults to environmental hazards, as their bodies are immature
- Risk of explosion, fire, and chemical burns
- Exposure to weapons, finished drugs, and unsanitary conditions
Meth can cause severe tooth decay

Because:

• Meth reduces the amount of protective saliva around the teeth

• Meth users consume excess sugared, carbonated soft drinks

• Meth users tend to lack personal oral hygiene

• Meth causes tooth grinding and jaw clenching
Meth Mouth
Meth Mouth
Faces of Meth
Faces of Meth

2005 © "Faces of Meth"

3 months later
Faces of Meth
Faces of Meth
DISTRUBED YET ??

• Results of a 2007 survey of Texas students show that approximately 5.5% of 9th graders, 7.5% of 10th graders, 6.3% of 11th graders, and 7.8% of 12th graders reported using methamphetamine at least once during their lifetimes. (Source: Centers for Disease Control and Prevention, Youth Online: Comprehensive Results, 2008)
HOW ABOUT NOW ??

• Favoring is being added to Meth to entice children
  – Flavored Meth is intended to be eaten and is just as addictive as smoked, snorted or injected forms of Meth
Candy Anyone??

• Flavors Include:
  – Strawberry
    • Called “Strawberry Quick”
  – Grape
    • Called “Grapes”
  – Rock Candy Sticks
    • Are produced in a variety of flavors and resemble rock candy
Strawberry Flavor

“Strawberry Quick”
Grape Flavor

“Grapes”
Rock Candy Sticks

“Ice Sticks”
Meth Labs Leave a Toxic Trail

WINCHESTER, Tenn.

Newlyweds Rhonda and Jason Holt began their family in 2005 in a spacious home. Not long after moving in the Holt’s were plagued by mysterious illnesses.

The Holts' three babies were ghostlike and listless, with breathing problems that called for respirators, repeated trips to the emergency room and, for the middle child, Anna, the heaviest dose of steroids a toddler can take.

Rhonda, a nurse, developed migraines. She and her husband, a factory worker, had kidney ailments.

Five years after they moved in, the couple discovered the root of their troubles: Their house, across the road from a cornfield in Winchester, 70 miles south of Nashville, was contaminated with high levels of methamphetamine left by the previous occupant, who was dragged from the attic by the police.
GRAPEVINE, Texas

Meth contamination can bring financial ruin and long term health concerns to families like that of Francisca Rodriguez. The family dog began having seizures nine days after the family moved into their home and eventually died. Their 6-year-old son developed a breathing problem similar to asthma.

After learning from neighbors that the home had been a known "drug house," the family had it tested. The air ducts had meth levels more than 100 times higher than the most commonly cited limit beyond which cleanup is typically required.

The former owner had marked "no" on a disclosure form asking whether the house had ever been a meth lab. But because he is now in prison for meth possession, among other things there was nothing to gain by suing him.

They moved out and let the house go into foreclosure.
Questions ?