An Overview of Methamphetamine Use

NASTAD/UCHAPS Webinar on Methamphetamine Use and Harm Reduction

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Outline

• Epidemiology: Trends in Methamphetamine Use
• Pharmacology
• Health Effects
• Modes of Delivery
Epidemiology
Trends in Methamphetamine Use

[Graph showing trends in past year initiates and mean age at first use from 2002 to 2013.]

National Survey on Drug Use and Health 2013
Approximately 900,000 people aged ≥ 12 years were current users of meth in 2015.

About 0.3% of total US population 12 years of age or older.
Methamphetamine Use among Sexual Minorities

- Sexual minorities more likely to use substances than heterosexual counterparts
- Prevalence of methamphetamine use among gay-identified men age ≥ 18 years: 4.1%
- Estimates of illicit drug use among transwomen ~26.7%
What is Meth?

Pharmacology & Health Effects
Physical characteristics

- Usually used as white, bitter-tasting pill or powder
- Crystal meth looks like glass fragments or shiny blue-white rocks
Pharmacology

- Potent CNS stimulant
  - Increases activity of the noradrenergic and dopamine neurotransmitter systems
- Can increase dopamine levels in the brain by as much 2600%
  - Feeling of “rush”
  - Increased alertness, confidence, sociability, and energy
  - Elevated blood pressure, heart rate, and body temperature
- Acute effects closely resemble the physiological and psychological effects of epinephrine-mediated fight or flight response
- High doses associated with violent behaviors and psychotic symptoms
- Depression common symptom of comedown
Long Term Effects

- Neurotoxicity
- Neuropsychological impairment
- Severe tooth decay & loss
- Anxiety & chronic psychotic symptoms
- Mood disturbances
- Increased risk for HIV & hepatitis
Adverse (negative) effects of Methamphetamine

Psychological
- Insomnia
- Aggressive behavior
- Paranoia
- Incessant conversations
- Decreased appetite
- Increased alertness
- Irritability
- Slurred speech
- Dizziness
- Confusion
- Hallucinations
- Obsessive behaviors
- Depression
- Panic attacks

Systemic
- Hyperthermia
- Malnutrition
- Impaired immune system

Circulatory
- High blood pressure
- Vessel damage in brain
- Clotting and stroke

Heart
- Chest pain
- Rapid heart rate
- Heart attack

Liver
- Damage

Eyes
- Dilated pupils

Mouth
- Grinding of teeth

Skin
- Sweating
- Numbness

Respiratory
- Shortness of breath

Muscular
- Jerky movements
- Increased activity
- Convulsions
- Loss of coordination

Kidneys
- Damage

Modes of Delivery
<table>
<thead>
<tr>
<th>Modality</th>
<th>How it’s Done</th>
<th>Effect</th>
<th>Time to Effect</th>
<th>Harm Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swallowing</td>
<td>Pill or mixed with drink</td>
<td>Effect can feel less extreme but effects tend to last longer</td>
<td>20-30 minutes</td>
<td>Know the source. If mixing with a drink, make your own cocktail.</td>
</tr>
<tr>
<td>Snorting</td>
<td>Crushed into powder</td>
<td>Euphoric high with less intense rush</td>
<td>3-5 minutes</td>
<td>Chop fine. Don’t share straws.</td>
</tr>
<tr>
<td>Smoking</td>
<td>Meth heated in glass pipe, bowl, or stem</td>
<td>Instantaneous euphoria and rush or “flash”</td>
<td>7-10 seconds</td>
<td>Use your own pipe. Before smoking, know how much to use and stick to that amount.</td>
</tr>
<tr>
<td>Booty Bumping</td>
<td>Inserted into rectal mucosa with syringe, finger, or penis</td>
<td>Euphoria and rush; described by some as same feeling as injecting</td>
<td>3-5 minutes</td>
<td>Have top use condom. Use clean water to dissolve meth. Don’t share booty bump syringes</td>
</tr>
<tr>
<td>Hot Railing</td>
<td>Meth vaporized using heated tip of glass stem</td>
<td>Similar to smoking</td>
<td>7-10 seconds</td>
<td>Have your own stem</td>
</tr>
</tbody>
</table>
| Slamming (injection) | Intravenous                  | Intense euphoria and rush                   | 15-30 seconds  | Use sterile water for mixing. Filter using clean cotton ball. Rotate sites. Clean injection site. Use new syringe/needle each time. Try other
Identifying a stimulant overdose - "overamping"

Someone may experience...

- Fast pulse or no pulse
- Short of breath
- Body is hot/sweaty or hot/dry
- Confusion, hallucinations
- Clenched jaw
- Shaky
- Chest pains
- Cannot talk or walk
What is overamping?

What it can look like....

- Sleep deprivation, crashing, anxiety, paranoia.

If a person is conscious, and you are sure this is not medical in nature, they may just need support and rest.
De-escalation tactics:

- Keep calm. Stay with person. Use their name.
- Give water or fluid with electrolytes or other nutritional supplements.
  - Do not overhydrate.
- Place cool, wet clothes under armpits, back of neck, and head
- If aggressive/paranoid, suggest closing eyes if possible, give person space
- Encourage person not to take more substances
- Doctor may treat agitation and paranoia with a benzodiazepine

If you're not comfortable, call 911.
Medical attention should be sought if:

- Jerking or rigid limbs
- Rapidly escalating body temperature and pulse
- In and out of consciousness
- Severe: headache, sweating, agitation
- Chest pains
- Fixed/ clenched jaw
- Foaming at the mouth

**What to do:**

- Call 911
- Keep person: conscious, hydrated, calm
- If heart stops, do chest compression until paramedics arrive.
A Harm Reduction Service Provider’s Guide to

METHAMPHETAMINE & OTHER STIMULANTS

Understanding the brain chemistry

Neurotransmitters relay information about the environment and our internal states from neuron to neuron through the brain’s circuits and, ultimately, shape how we respond.

Stimulants alter neurotransmitters by interacting with molecular components of the sending and receiving process.

Instead of ending their regular life cycle, stimulants cause neurotransmitters to stay active longer, causing a large amount of stimulus to be sent to the brain.

Basic harm reduction...

1. Some people using stimulants inject more frequently & will need more supplies.
2. If someone is having a hard time on stimulants, remove as much stimulus from the room as possible, or remove the person from the situation.
3. Providing water & nutritional drinks with dietary supplements can help people using stimulants get the nutrition they need to stay healthy.
4. Provide cool down spaces for participants to rest for an agreed upon amount of time.

REVIEW:

People using methamphetamine & other stimulants may need help regulating the amount of stimulus their body is taking in. Empty, cool, neutral spaces can help someone in crisis.

Assess when the last time a participant ate or slept. Encouraging those actions may help the participant to cool down. If the participant is unable to eat, offer them a nutritional drink to help them stay healthy.

Assess the participants needs & provide them with the appropriate supplies.