Methamphetamine: The Current Status of Treatment Knowledge

- Richard Rawson, Ph.D.
- UCLA Integrated Substance Abuse Programs

- Supported by NIDA Clinical Trials Network Grant and Clinical Trials Operations Contract and by a CSAT Cooperative Agreement.
Methamphetamine
What Is Methamphetamine?

- Powerfully addictive stimulant that dramatically affects the central nervous system
- Made easily in clandestine labs with OTC ingredients
Methamphetamine Addiction

The brains of people addicted to Methamphetamine are different than those of
Chronic Amphetamine Causes Lasting Changes
MA Treatment Issues

- Acute MA Overdose
- Acute MA Psychosis
- MA “Withdrawal”
- Initiating MA Abstinence
- MA Relapse Prevention
- Protracted Cognitive Impairment and Symptoms of Paranoia
Acute MA Overdose

- Slowing of Cardiac Conduction
- Ventricular Irritability
- Hypertensive Episode
- Hyperpyrexic Episode
- CNS Seizures and Anoxia
Acute MA Psychosis

- Extreme Paranoid Ideation
- Well Formed Delusions
- Hypersensitivity to Environmental Stimuli
- Stereotyped Behavior “Tweaking”
- Panic, Extreme Fearfulness
- High Potential for Violence
Treatment of MA Psychosis

- Typical ER Protocol for MA Psychosis
  - Haloperidol - 5mg
  - Clonazepam - 1 mg
  - Cogentin - 1 mg
  - Quiet, Dimly Lit Room
  - Restraints
MA “Withdrawal”

- Depression
- Fatigue
- Anxiety
- Anergia
- Paranoia
- Cognitive Impairment
- Agitation
- Confusion

• Duration: 2 Days - 2 Weeks
Methamphetamine Clinical Trials Group (MCTG)

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Division of Treatment Research & Development
19 September 2000
Pharmacotherapies Planned for Clinical Trials

- Ondansetron
- Olanzepine
- Bupropion
- Selegline
- Sertraline
Treatment of MA “Withdrawal”

- Intensive Outpatient Treatment
  - No Pharmacotherapy Available
  - Positive, Reassuring Context
  - Directive, Behavioral Intervention
  - Educate Regarding Time Course of Symptom Remission
  - Recommend Sleep and Nutrition
  - Low Stimulation
  - Acknowledge Paranoia, Depression
Initiating MA Abstinence

• Key Clinical Issues
  – Depression
  – Cognitive Impairment
  – Continuing Paranoia
  – Anhedonia
  – Behavioral/Functional Impairment
  – Hypersexuality
  – Conditioned Cues
  – Irritability/Violence
Initiating MA Abstinence

• Key Elements of Treatment
  – Structure
  – Information in Understandable Form
  – Family Support
  – Positive Reinforcement
  – 12-Step Participation

• No Pharmacologic Agent Currently Available
The CSAT Methamphetamine Treatment Project
**Project Goals:**

- To study the clinical effectiveness of the Matrix Model

- To compare the effectiveness of the Matrix model to other locally available outpatient treatments

- To establish the cost and cost effectiveness of the Matrix model compared to other outpatient treatments

- To explore the replicability of the Matrix model and challenges involved in technology transfer
## Baseline Demographics (April 1999 – April 2001)

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Sample size (n)</td>
<td>931</td>
</tr>
<tr>
<td>Age (mean)</td>
<td>32.8 years</td>
</tr>
<tr>
<td>Education (mean)</td>
<td>12.2 years</td>
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<tr>
<td>Monthly income (mean)</td>
<td>$1024</td>
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<tr>
<td>Years of Meth use (mean)</td>
<td>7.7 years</td>
</tr>
</tbody>
</table>
Gender Distribution of Participants

- Gender: Female (57%) Male (43%)

![Bar chart showing gender distribution]

- Y-axis: Percent
- X-axis: Gender (Female, Male)
Route of Methamphetamine Administration

Percent Using by Route

Route of Administration

oral  nasal  smoke  iv

0  11  64  24
Methamphetamine Use

Lifetime Years

Mean Years of Meth Use

BL

7.7

64% decrease in days using

Mean Days of Meth Use, P30

BL

11.6

Tx end

4.14

Days in Past 30
Marijuana Use

**Mean Years of Meth Use**
- BL: 7.25

**Mean Days of Meth Use, P30**
- BL: 4.27
- Tx end: 2.1

51% decrease in days using
Alcohol Use

34% decrease in days using

Mean Years of Meth Use

Mean Days of Meth Use,
P30
Days Paid for Work in Past 30

Mean Days Paid

- **BL**: 7.65
- **Tx end**: 10.33

35% increase in days paid
Total Income (Past 30 days) of Participants

Mean Total Income ($)

10% increase in income