Medication Assisted Therapy (MAT) of Opioid Dependence with Buprenorphine (Suboxone) at the Brattleboro Retreat

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Overview - Morning

• Discussion: as we go, please

• Background
  ◆ Opioid epidemic
  ◆ Pain is subjective
  ◆ Neurobiology – How nature works
    ◦ Behavior, addiction, powerlessness
    ◦ Recovery
  ◆ DATA 2000

• Pharmacology of opioids and MAT

• Controversies
  ◆ Diversion
  ◆ What is abstinence?
Overview – Afternoon, 1

• Discussion: as we go, please
• Starting Now MAT Program
  ◆ Group vs. individual sessions
  ◆ Urine drug testing
  ◆ Reasonable dose
  ◆ Confidentiality
  ◆ Documentation – now with electronic record
  ◆ Treatment stages
  ◆ Gold Book
  ◆ Treatment outcomes

Overview – Afternoon, 2

• Discussion: as we go, please
• MAT during pregnancy
• Management of acute pain on MAT
• Reimbursement
  ◆ Professional services
  ◆ Medication
  ◆ Regional issues
• Dilemmas
  ◆ Harm reduction vs. enabling
  ◆ Setting limits (including geographical)
• Wrap up
Opioid Epidemic

- Statistics
  - Overdose deaths
  - ER visits
  - Program admissions
- Availability and permissive attitudes toward use
- Prescription meds and heroin
- Drug diversion

Alarming Stats (U.S.)

- About 100 people die of overdoses every day
- In 2009 unintentional overdose deaths (37,485) exceeded deaths from vehicular crashes (36,284)
- Overdose death rates have *tripled* since 1990
- Opioid pain relievers cause nearly 3 of 4 prescription overdose deaths (14,800 in 2008)
Extent of Opioid Abuse

• Prescription drug abuse—4.4 million used narcotic pain relievers non medically
• 1.9 million people over 12 used OxyContin® non medically at least once in their lives
• For ages 12-17 use of pain meds increased from 1.2% in 1989 to 11.2%

Critical Factors in Addiction and Recovery

• Drug Availability
  ◆ Influences new users
  ◆ Influences relapse rates
• Social Norms
  ◆ Influence new users
  ◆ Influence relapse rates
• Neurobiology
  ◆ Drugs change the brain
  ◆ Relationships change the brain
Increase in Unintentional Overdose Deaths Involving Opioid Analgesics, 1999–2008

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics, accessed through CDC WONDER Online Database, released 2011.
Characteristics of Areas with OxyContin® Problems

- Small, rural communities
- High poverty and unemployment
- Little access to specialty medical care
- High rate of chronic pain due to illness and injury
- Cultural norms of heavy alcohol use and acceptance of intoxication

- Maine Substance Abuse Services Commission

Social Factors in Onset and Continuation of Use

- To be cool
- To be accepted
- “Fellowship” of use
  - Pool money
  - Pool drugs
  - Pool information
  - “Misery loves company”
- Thrill of beating the system
- Other incentives
  - Biggest dose, “Baddest”
  - Money, high lifestyle
### Opioids: A Few Dates

**4000 B.C.** First reference to “joy juice” from poppy

**1500s** Opium established in European medical practice

**1806** Morphine isolated from opium

**1914** Harrison Narcotics Tax Act

**1995** Introduction of OxyContin®

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### Heroin

Manufactured by Bayer as a cough medicine for TB patients in 1870’s

### Cocaine

Available for $1.50 in a small syringe in the Sears & Roebuck Catalog in 1890’s
Two very serious problems with opioid pain medications:

- **Underprescribing**

- **Overprescribing**

**History: Opioids and the Management of Chronic Pain - Mixed Messages**

- Pre-1990s – malignant pain, end of life

- 1990s – neglect of pain, 5th vital sign

- 1990s & 2000s – don’t worry / do worry about addiction

- 2000s – misuse of abundant opioids and continued neglect of pain
“Perhaps the one clinical scenario in which physicians must limit and monitor their open trusting nature is in the area of controlled substance prescriptions and refills.”

- Ted Parran, Jr, MD
Influences on Cognitive and Emotional Responses to Pain

**Pain**
- Intensity
- Character
- Location
- Duration
- Precipitants
- Treatments/pharmacology

**Relevant factors**
- Current context
- Meaning
- Past experiences/expectations
- Fatigue
- Depression/anxiety
- Distraction
- “Stress”
- Coping techniques
- Addiction

*Adapted from Compton et al. 2009*

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**Drug-Seeking Behavior: One Definition:**

Overreporting or manufacturing symptoms to obtain controlled substance prescriptions.

*Ted Parran, Jr, MD*
“I got 90 Percocet in 8 days from my dentist.”
- 21 year-old male

“In one year local doctors gave me 500 prescriptions for addictive medications.”
- Petite, frail, somatic 55 year old woman
Prescribers’ Responsibilities

- Assess/screen for substance use disorders (remote history counts; family history is relevant)
- Remember patients with addictive illness have “no brakes”
- Follow basic principles and your experience
- Set time limits

Kane, MD 2003

Risk Factors for Addiction

- Genetics
- Culture
- Trauma
  - Physical injuries
  - Adverse Childhood Experiences
- Poverty
- Smoking
“Truth”

- Unreliability of memory
- Vagaries of psychopathology
- What is historically untrue may be emotionally true
- Conflicts of interest create distortions

Opioid Dependence

- Nationwide data indicate 985,000 daily users
- Opioid-related ER visits increased from 34,000 to 97,287 from 1990 to 2000*
- In the last 10 years heroin use by 12th graders has increased by over 100% from 0.9% to 2.1
- Treatment centers currently available for only 25% of all opiate users

*ONDCP Data
Contributors to Increased Opioid Dependence

- Availability
- Permissive attitudes toward use
- Decreased price / Increased purity
- Removal of the injection barrier
- Speed of physical dependence

“My drug of choice is pharmaceutical heroin.”

-26 year old male from Washington County, Maine
What the Patients Said

- Easy to get drugs
- Hard to get Treatment

“...the essence of addiction: uncontrollable, compulsive drug seeking and use, even in the face of negative health and social consequences.”

- Alan Leshner, PhD
Addiction

• **Subjective: Powerlessness**

• **Objective: Persistent use despite adverse consequences**

Addiction is a Brain Disease

• **Neurobiology**

• **Implications for treatment**
Neurobiology of Behavior: Basics

• **Regions of central nervous system**
  - Thinking brain
  - Feeling brain

• **Lower centers of CNS can, and routinely do, act independently of higher centers**
“I have a passion for alcohol.”

- 25 year old female
“Any addict knows, you’ll do anything to get it.”

- 23 year old male

Neurobiology of behavior

+ Neurobiology of addiction

Neurobiology of powerlessness
Addiction is a Brain Disease

• Neurobiology

• Implications for treatment

Important Distinction

• Treatment – professional responsibility

• Recovery – individual responsibility
Abstinence results from **Skill Power** not **Will Power**

Professionals Influence Client Motivation

- Expectations influence outcomes
- Differences in drop-out rates
- Differences in outcome rates
- Simple actions decrease drop out
- Empathic professionals have better outcomes

*Obert and Farentino*
Counseling Tips

- Be empathic, nonconfrontational
- Offer choices
- Emphasize patient's responsibility
- Convey confidence in patient's ability to change

Laws of Nature

- Addictive chemical substances change the brain and change behavior
- Positive interpersonal relationships change the brain and change behavior
The Two “Pillars” of Addiction Recovery

• You can’t trust yourself, so **Keep your distance!**
  (avoid the negatives)
• You can’t do it alone, so **Ask for help!**
  (chase the positives)

“Suggestions” Made in Addiction Treatment

• 90 meetings in 90 days
• Obtain and use sponsor
• Do some Step work
• Participate in an aftercare group
• Participate in counseling/psychotherapy
Some Recovery Skills/Tips

- Be honest
- Embrace your pain
- Mistrust yourself
- Keep your distance
- Seek people, not chemicals
- Pay attention!

“The treatment of addiction is [still] people.”
Pharmacology of Opioids and MAT
Opioid Dependence is a Brain Disorder

- Receptor / neuroadaptive changes in the brain are long lasting
- Treatment with opioid replacement stabilizes patients
- Relapse to opioid use is common after attempted detoxification despite “best intentions”

The shape of the chemical molecules of opioids all resemble morphine, which is made from opium.

Opioids work in the brain by fitting into the receptor sites of the brain’s natural opioids, the endorphins.
Opioids

- Morphine
- Codeine
- Heroin
- Buprenorphine
- Butorphanol
- Nalbuphine
- Pentazocine
- Oxycodone
- Hydrocodone
- Hydromorphone
- Meperidine
- Methadone
- Levorphanol
Effects of Opioids

- Relief of Pain
- Sedation
- Sleep
- Impaired thinking
- Constipation

Euphoria, pleasure
- Reduced breathing
- Reduced cough
- Small pupils
- With prolonged use:
  - reduced effects
  - illness if stop

Opioids Affect Pain

- Most potent analgesic
- Lower pain thresholds
- Withdrawal hyperalgesia
- Subtle withdrawal/rebound
- Opioid-induced hyperalgesia (OIH)
  - Acute or chronic opioid use
  - Diminished tolerance for pain
  - Independent of withdrawal state
Many opioids act like morphine or endorphins and stimulate the receptor sites to relieve pain and produce pleasure.

Some block the receptor sites.

Others do some of each.

Pharmacology

- **Agonist** – drug-receptor interaction completely turns on cell machinery
- **Antagonist** – drug sits on receptor and DOES NOT turn it on--prevents turn on
- **Partial agonist** – drug-receptor interaction partially turns cell on
  - Ceiling on all clinical effects
Buprenorphine

- A partial mu-agonist for the treatment of opioid-dependence (moderate activity/high affinity)

Buprenorphine

- Effective if used IV, somewhat effective if used sublingually, NOT effective if swallowed
Buprenorphine

• **Suboxone®** is buprenorphine combined with naloxone (Narcan®), which is inactivated when swallowed but precipitates withdrawal when injected
• 2 mg and 8 mg tablets and film
• 4 mg & 12 mg film
• 12 mg Bup = 50-60 mg Methadone
• 18 mg Bup = 80 mg Methadone

Buprenorphine

• Studied since late 1980s for the treatment of opioid dependence; works as a partial agonist at the mu receptor.
• Very safe due the ceiling effect of the drug.
• Useful in the treatment of patients with moderate drug habits. Peak effects seen at around 18-24 mg of Bup.
• Doses higher than that produce no more of an effect but cause a longer duration of action allowing for dosing intervals of up to 4 days.
• Low risk of respiratory depression and little possibility of overdose.
Buprenorphine

- Approved by the FDA for Office Based Treatment as a Schedule III drug in October 2002 and released for use in January 2003
- Designed so that physicians can treat patients in their offices
- No stigma of having to go to a clinic
- Flexibility in dosing and dispensing
- Few drug interactions except respiratory depression in combination with benzodiazepines and other sedatives
Methods of Drug Diversion

- Multiple doctoring: 39% of addicted patients
- Street purchases: 26% of addicted patients
- Thefts and losses: very small % of # of prescriptions filled
- Forged scripts: very small % of # of prescriptions filled

- Brian Goldman, MD
“Benefits” of Drug Diversion

- Guaranteed strength/safety
- Oral use: no risk of HIV/Hep C
  (there is risk when pills are crushed and injected)
- Obtained from licit sources
- Often paid for by 3rd party/welfare
- Used/sold/bartered for illicit drugs

- Brian Goldman, MD

Diverted Opioids

- Schedule II and III pills
- Injectable opioids
- Transdermal patches
- Nasal sprays

- Brian Goldman, MD
Current Preferences of Drug Seekers

- Short acting narcotics: oxycodone, hydrocodone
- Tramadol (Ultram): alone or in combination
- Methadone
- Used Duragesic patches; 28-84% of drug remains in used patches
- Sustained release drugs

- Brian Goldman, MD

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Starting Now MAT Program

- **Evolving format**
  - Group sessions
  - Prerequisites
  - Urine drug screens
  - Stages
  - Workbook

- **Patient focus**
- **Outcomes**

What are the characteristics of patients you think will do well on Suboxone® maintenance?
Patient Selection: Possible Exclusion Criteria

- Secondary substance use
- Unstable living situation
- Poor social supports
- Psychiatric comorbidity

Patient Selection: Possible Exclusion Criteria

- Active benzodiazepine or alcohol abuse/dependence
- Pregnant women
- High level of opioid dependence
- Medically unstable
- Chronic pain
Why bother to obtain urine drug tests on patients in outpatient Suboxone® treatment?

Types of Pain

- Acute pain
- Chronic malignant pain/palliative care
- Chronic nonmalignant pain
  - Musculoskeletal
  - Neuropathic
  - Abdominal/pelvic
  - Headache
Long-Acting and Sustained-Release Opioids

- Methadone
- Morphine sulfate ER (MS Contin®)
- Oxycodone ER (OxyContin®)
- Transdermal Fentanyl (Duragesic®)

Patients with Addiction:
Precautions for Prescribing Opioids for Acute Pain

- Patient discusses addiction with provider in advance of treatment whenever possible
- Prescriber decides how long based on the clinical problem, not patient symptoms/complaints
- Patient never controls the supply of opioid
- During treatment, patient talks about being on opioid with sponsor/counselor
Avoid in Patients with Substance Use Disorders

- Benzodiazepines
- Opioids
- Barbiturates (esp. Butalbital)
- Stimulants
- Meprobamate (including carisoprodol)
- Alcohol

Kane, MD 2003

Use With Caution in Patients with Substance Use Disorders

- Antihistamines
- Muscle relaxants
- Sedating medications (psychiatric and other)

Kane, MD 2003
Your Responsibilities With Prescribers

- Look for alternatives before accepting an addictive medication
- Tell them you have an addictive disorder even if the problem was a long time ago
- It’s best to tell them this before you are sick
- Remember you have “no brakes” when it comes to addictive substances
- Ask the prescriber to set a time limit
- Have someone else control the supply of medication

If You Have an Addictive Illness:
Avoid These Medications

- Benzodiazepines
- Opioids
- Barbiturates (esp. Butalbital)
- Stimulants
- Meprobamate (including carisoprodol or Soma)
- Alcohol
And Be **Cautious** Taking Any of These:

- **Antihistamines**
- **Muscle relaxants**
- **Sedating medications (psychiatric and other)**

If you are convinced the **only** treatment that can help you is an addictive medication: **worry and ask for help** because that’s a sign of addiction.
Dilemmas

- Broken rules vs. harm reduction
- Symptoms vs. reasonable dose
- Small groups vs. accessibility

Harm Reduction

- Accepts alternatives to abstinence when abstinence not realistic
- Not moralizing or criminalizing
- Focuses on consequences, not drug
- Patient-centered (not “top-down”)
- Easier access to treatment
Spirituality
Involves Relationships With:

- Self
- Other Human Beings
- Nature
- Creator, God, Higher Power
Important Distinctions

- **Treatment** – professional responsibility
- **Recovery** – individual responsibility
- **Prevention** – community responsibility

### Treatment/Recovery Essentials

**Patient**
- Understand & accept “laws”
- Avoid or manage “triggers”
- Use supports, human & spiritual
- Avoid abusive relationships
- Take meds when appropriate

**Community**
- Understand “laws”
- Reduce drug availability
- Make professional and other positive relationships available continuously
- Protect people from abusive relationships
- Make appropriate meds available
Challenges to Communities

- **Opioids**: reduce diversion & trafficking
- Reduce social acceptability of intoxication
- Educate, esp. youth, re dangers of use
- Promote alternatives & values clarification for youth
- Increase availability of agonist therapy
- Increase availability & social acceptability of long-term (6+ months) residential treatment
- Establish a recovering community
- Reducing poverty and unemployment is essential