STATE OF OKLAHOMA
DRUG OVERDOSE DEATHS
BY AGE GROUP
5 YEAR COMPARISON

<table>
<thead>
<tr>
<th>AGE GROUP</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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<tbody>
<tr>
<td>0-17</td>
<td>140</td>
<td>123</td>
<td>176</td>
<td>170</td>
<td>132</td>
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<tr>
<td>18-25</td>
<td>158</td>
<td>176</td>
<td>156</td>
<td>173</td>
<td>101</td>
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<tr>
<td>26-35</td>
<td>110</td>
<td>86</td>
<td>66</td>
<td>60</td>
<td>51</td>
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<tr>
<td>36-45</td>
<td>130</td>
<td>176</td>
<td>156</td>
<td>173</td>
<td>101</td>
</tr>
<tr>
<td>46-55</td>
<td>127</td>
<td>127</td>
<td>66</td>
<td>60</td>
<td>51</td>
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<tr>
<td>56 &amp; UP</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Unintentional Poisoning Death Rates by County of Residence, Oklahoma, 2007-2013

Non-Fatal Overdoses 5 Year

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Source: OBN
Aberrant Drug Related Behavior and the Road to Addiction

Layne Subera, DO

Lecture Contents

• Terminology
• Addiction Models
• Aberrant Behaviors
• Substance Use Disorder
• Detecting Drug Abuse
• Buprenorphine & MAT

Pain: A Complex Social Problem

• Pain is the most common patient complaint.
  • ~40% of the adult U.S. population painful musculoskeletal conditions
• Pain imposes a greater economic burden than any other disease.
  • ~$300 billion annually.
• ~4% of U.S. adults are prescribed chronic opioid therapy (2005)
• 165,000 persons in the United States have died from opioid intoxication since 1999.
• The clinical relationship between pain and addiction is a complicated.
Care Centered Thoughts

- Substance use disorder patients can have legitimate pain.
- Many chronic pain patients have pre-existing addictions.
- Patients with previous SUDs are at high risk for “transferring” their addiction to prescribed opioids.
- Addiction is an experiential diagnosis.

Terminology

“The beginning of wisdom is the definition of terms.”
-Socrates

- **Aberrant Behavior** is a patient behavior that breaches of mutually established medical boundaries.
- **Addiction** is a chronic, relapsing brain disease characterized by compulsive drug behavior and continued use in spite of harm.
- **Physical Dependence** is a state of adaptation that causes a drug class-specific withdrawal syndrome with abrupt drug cessation, rapid reduction, or use of an antagonist.
Physical Dependence

• Physical dependence is universal when opioids or benzodiazepines are taken on a continuous basis.
• Physical dependence is present if a **withdrawal syndrome** occurs on cessation of use, dose reduction, or administration of an antagonist.
• Physical dependence is not diagnostic of Opioid Use Disorder.

Characteristics of Withdrawal Syndrome

• Elevated pulse.
• Sweating.
• Restlessness.
• Tremors.
• Mydriasis.
• GI Upset.
• Anxiety or Irritability.
• Bone or Joint Aches.
• Yawning.
• Runny nose or Tearing.
• Goose Flesh.

Physical Dependence Has Varying Significance

• **Major Health Risk**
  • Opioids and Alcohol
  • Paroxetine, Venlafaxine, Clonidine, and Baclofen

• **Minimal Health Risk**
  • Cocaine and Amphetamines

• **Risk Typically Not Present**
  • Hallucinogens and Inhalants
A Major Health Risk Example

ASSESSMENT AND PLAN:
1. Congestive heart failure exacerbation. The patient has markedly improved with Lasix. We will check 2D echo. Meanwhile, continue Lasix, aspirin, Pravax, beta-blockers. No ACE given. The patient’s renal function, current estimate of 20. May recommend low-dose statin despite LDK being M4.
2. Elevated troponin non ST elevation myocardial infarction. Scheduled for MPS. Meanwhile, continue aspirin, Pravax and beta-blockers.
3. Chronic pain syndrome. We will resume the patient’s medication, has been on oxycodone. Unfortunately, was cut off by his pain physician for nonadherence to his contract. He has been off his medications, will resume 50 mg of oxycodone 4-6 times daily.
4. Acute kidney injury. We will continue supportive management. We will check his renal function in a.m.
   Discussed my ___.
  Incomplete dictation BF 7/8

• **Tolerance** is an adaptation state that develops over time to a drug that requires increased doses to create the same drug effect or a reduction in one or more of a drug’s effects over time.

  • **Pseudo-addiction** is a condition in which patients taking opioids seek additional opioid medications because of inadequate dosing.
    • Usually a diagnosis made retrospectively.

• **Misuse** is the therapeutic use of medications other than as directed whether willfully or unintentionally and regardless of whether harm results.

• **Abuse** is the use of illicit or licit substances intentionally for non-therapeutic reasons.

• **Nonmedical Use** is the use of medications prescribed for someone else or with the intent of achieving a psychological experience.
NSDUH: Oklahoma vs. US, 2003-2013, by Age

<table>
<thead>
<tr>
<th>Age</th>
<th>Total U.S.</th>
<th>Oklahoma</th>
<th>Total U.S.</th>
<th>Oklahoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illicit Use in Past 1 month</td>
<td>11.44</td>
<td>9.18</td>
<td>20.24</td>
<td>18.55</td>
</tr>
<tr>
<td>Nonmedical Use Prescription Pain Reliever</td>
<td>7.61</td>
<td>5.72</td>
<td>11.7</td>
<td>9.47</td>
</tr>
<tr>
<td>Illicit Drug Dependence or Abuse in the Past Year</td>
<td>5.35</td>
<td>3.76</td>
<td>8.02</td>
<td>7.59</td>
</tr>
</tbody>
</table>


• **Diversion** is the intentional removal of a drug from legitimate distribution and dispensing channels.
• **Diversion** is reportable.
• **Diversion** is a crime.

**Controlled Substances Act**

• The Act reflects the intent of Congress to confine authorized medical practice within accepted limits.
• Gonzales v. Oregon, 126 S. Ct. 904, 925 (2006)
  • The CSA “ensures patients use controlled substances under the supervision of a doctor so as to prevent addiction and recreational abuse.”
  • The provisions also bar doctors from “peddling to patients who crave the drugs for those prohibited uses.”
Responsibility to Prevent Diversion

• In each instance where a physician issues a prescription for a controlled substance, the physician must...
  • Properly determine there is a legitimate medical purpose for the prescription.
  • Be acting in the usual course of professional practice.
  • Take reasonable measures to prevent diversion.

“Each patient’s situation is unique and the nature and degree of physician oversight should be tailored accordingly, based on the physician’s sound medical judgment and consistent with established medical standards.”

United States v. Rosen, 582 F.2d 1032

• The court found the following recurring patterns indicative of diversion:
  1. An inordinately large quantity of controlled substances was prescribed.
  2. Large numbers of prescriptions were issued.
  3. No physical examination was given.
  4. The physician warned the patient to fill prescriptions at different drug stores.
  5. The physician issued prescriptions knowing that the patient was delivering the drugs to others.
  6. The physician prescribed controlled drugs at intervals inconsistent with legitimate medical treatment.
  7. The physician involved used street slang rather than medical terminology for the drugs prescribed.
  8. No logical relationship between the drugs prescribed and treatment of the condition allegedly existing.
  9. The physician wrote more than one prescription on occasions in order to spread them out.


Diversion: A Current Oklahoma Court Case

• The doctor “faces charges for distributing and authorizing the distribution of medical narcotics without a doctor-patient relationship and without establishing a medical necessity, among other charges.”
  • 20 total felonies and one misdemeanor
  • 14 counts of conspiracy to illegally possess/distribute/Dispense/prescribe controlled dangerous substances within 2,000 feet of a public park
  • Five counts of conspiracy to fraudulently obtain personal identity of another person
  • One count of conspiracy to practice medicine without a license
  • Four counts of illegally practicing medicine without a license.

• Co-conspirators are all charged with 14 counts of conspiracy to illegally possess/distribute/Dispense/prescribe controlled dangerous substances within 2,000 feet of a public park and one count of conspiracy to practice medicine without a license.
Models of Addiction
Aberrant Drug Related Behaviors and the Road to Addiction

Brain-based Versus Behavior-based Models

<table>
<thead>
<tr>
<th>Brain-based Neurobiological Disease</th>
<th>Behaviorally-based Disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>A chronic involuntary brain-based neurological disease.</td>
<td>A disorder of motivated behavior or strong liking.</td>
</tr>
<tr>
<td>Genetically based.</td>
<td>Experientially based.</td>
</tr>
<tr>
<td>Behavioral abnormalities are connected to physiologic changes, which mutually reinforce each other.</td>
<td>Effective treatment involves simultaneously changing behavior and addressing the underlying physiologic cues that sustain it.</td>
</tr>
</tbody>
</table>

Agency and Medicalization

- Leshner and Koob (1999)
  - Addiction as chemically "hijacking" the brain to the point addicts lose control over their drug use.
- Foddy and Savulescu (2006)
  - Addicts are simply people with strong appetites for drugs.

Impaired Autonomy

“While Foddy and Savulescu are wrong in thinking that addiction does not significantly impair autonomy, they are right in thinking that there is no special problem with addicts giving informed consent...”


Types of Autonomy
- Decisional
- Executive

Mesolimbic Reward Pathway

- All addictive drugs potentiate positive reward systems that reinforce use.
- For opioids, binding occurs in the nucleus accumbens and induces dopamine release in the ventral tegmental area.
- Withdrawal of the opioid stimulus involves the same pathways and creates a negative reinforcement.

Mesolimbic Reward Prediction

- The dopamine system motivates organisms to pursue beneficial rewards by focusing them on predictors of reward.
  - Not the actual reward.
- Once a cue-reward pair has been learned, dopamine spikes in response to the cue.
- In addiction, the cue and the drug work together to overvalue reward.
Ever Increasing Reward Leads to Craving

- The drugs become perceived as having a better than expected reward.
- The next time a cue (predictor of drug availability) is encountered, the system raises expectations about the greater reward.
- If the drug is consumed, the actual reward experienced is once again greater than expected.
- Upward ratcheting of reward expectation leads to craving.

The “Changed Set Point” Model

- Neurons of the mesolimbic reward pathways are naturally “set” to release enough dopamine to produce a normal level of pleasure.
- Drug abuse alters the physiologic baseline for dopamine.
  - Decreased because of exogenous opioids.
  - An opposite change occurs for norepinephrine release.
    - Increased to balance sedation.

The Dark Side of Mesolimbic Reward

- Tension builds between exogenous opioid activity and increased norepinephrine activity.
- If opioids are suddenly decreased, a withdrawal syndrome occurs.
- Fear of withdrawal promotes aberrant behavior.
Over Time Dopamine Activity Attenuates

- With continued opioid use, dopamine is reduced.
- Increased consumption is needed to maintain normal levels of pleasure.
- Initially, recreational users are motivated by positive reinforcement.
  - Excess dopamine activity.
- After the transition to addiction, users are motivated by negative reinforcement.
  - Deficient dopamine activity.

Levy’s Garden Path Model

- Drugs are treated as having an ever-increasing reward value.
- Changes in the dopamine system start biasing decision making.
- Drug options become tagged by the brain as especially rewarding.
- Critical decision making becomes impaired.
- These effects produce a garden path, down which addicts find themselves wandering to ruin.


Aberrant Drug Related Behaviors
Three Major types of ADRBs

- Loss of control over the drug.
- Compulsive drug use.
- Continued use despite harm.

ADRBs More Predictive of Addiction

- Prescription forgery.
- Stealing or “borrowing” drugs from others.
- Injecting oral formulations.
- Obtaining prescription drugs from nonmedical sources.
- Concurrent abuse of alcohol or illicit drugs.
- Multiple dose escalations or other noncompliance despite warnings.
- Multiple episodes of prescription “loss”.
- Repeatedly seeking prescriptions from other clinicians or from emergency departments (EDs) without informing the prescriber or after a warning to desist.
- Evidence of deterioration in the ability to function at work, in the family, or socially that appears to be related to use of the drug.
- Repeated resistance to changes in therapy despite clear evidence of adverse physical or psychological effects from the drug.
- Selling prescription drugs.

ADRB Less Predictive of Addiction

- Aggressive complaining about the need for more drug.
- Drug hoarding during periods of reduced symptoms.
- Requesting specific drugs.
- Openly acquiring similar drugs from other medical sources.
- Unsanctioned dose escalation or other noncompliance on one or two occasions.
- Unapproved use of the drug to treat another symptom.
- Reporting psychic effects not intended by the clinician.
- Resistance to changes in therapy.
Opioid Use Disorder
Aberrant Drug Related Behaviors and the Road to Addiction

Addiction Prevalence in Chronic Pain Patients

• Higher than the general population.
  • Reports vary from 1% to 40%.
  • Boscarino and coworkers
    • 35% of patients receiving COT for pain had a history of opioid use disorder.
    • 2% to 54% for lifetime prevalence OUD in chronic pain patients.
  • Up to 61% of patients in addiction treatment facilities suffer from chronic pain.

Pre-existing Addiction is Common

• Many patients with chronic pain disorders have pre-existing or comorbid substance use disorders.
• In the primary care setting, 77% of pain patients using illicit substances had a substance use disorder before the onset of COT.
• The risk of primary induction of an addictive disorder with short-term opioid therapy is thought to be around 3 per 1000.
Cues to Consider Substance Abuse

- Frequent intoxication leading to failure to fulfill major role obligations.
- Recurrent use when it is physically hazardous (e.g., drunk driving).
- Recurrent substance-related legal problems.
- Continued use despite social or interpersonal problems caused or exacerbated by use.
- Persistent desire to cut down.

Addiction Alters Perception

- Addiction alters the experience of pain and changes the reporting of it.
- Trough levels of opioids create hyperalgesia and “pain behavior”.
- Rewards with reinforcing drugs increase “pain behavior”.

Prescription Opioid Misuse

- Prescription misuse is usually the first sign of pathology.
- Treatment of non-cancer pain with opioids is associated with a 40% prevalence of opioid misuse.
Risk Factors for Predicting Prescription Misuse
- Current misuse predicts future misuse.
- Past or current history of an addiction disorder to any substance.
- Negative affective disorders.
  - Major Depression or Anxiety disorders.
- Previous or current history of sexual or physical abuse.
- Family history of substance use disorders.
- History of illegal activities.

The Significance of Opioid Misuse
- Pseudoaddiction vs. Noncompliance vs. Dependence
  - A treatment compliance issue? Addiction?
- Craving is a key feature of opioid addiction.
  - Craving is significantly associated with a substance use disorder.
  - Patients without opioid dependence may report some craving.

Substance Dependence Disorder (DSM-IV)
- Approximated what is generally considered to be “addiction”.
- Requires “a maladaptive pattern of substance use” that leads to “clinically important distress or impairment”.
- Terminology confusing with the “condition” of physical dependence.
Opioid Use Disorder (DSM-V)

- A maladaptive pattern of use leading to significant impairment or distress, as manifested by at least two of the following occurring within a 12-month period:
  1. The opioid is often taken in larger amounts or for a longer period than intended.
  2. There is a persistent desire or unsuccessful efforts to cut down or control use.
  3. A great deal of time is spent on activities necessary to obtain, use, or recover from the effects of the opioid.
  4. Recurrent use results in failure to fulfill major role obligations.
  5. Use despite persistent or recurrent social or interpersonal problems caused or exacerbated by the substance.
  6. Important social, occupational, or recreational activities are reduced because of use.
  7. Use occurs in situations in which it is physically hazardous.
  8. Tolerance is present (not counted for those taking medications under medical supervision).
  9. Withdrawal occurs (not counted for those taking medications under medical supervision).
  10. There is craving or a strong desire or urge to use the opioid.

Patterns that may Suggest Addiction (4 C’s)

- Preoccupation with use because of Craving
- Impaired Control, Over use & Compulsive use
- Adverse Consequences & Harm as a Result of Use

Detecting Drug Abuse

Aberrant Drug Related Behaviors and the Road to Addiction
Avoid Gut Feelings & Self Reports

- Wasan and associates
  - Prescribers had judged only 14% of their chronic pain patients to have ADRBs.
  - ~50% were found to have positive urine drug screens for illicit drugs.
  - 8.7% had no evidence of any opioids in their urine.
- Berndt et al
  - Patient self-reports were compared with urine toxicology screens.
  - 32% of patients’ urine tests did not match with their self reports.
  - Drug abuse was 50% higher than estimated by their self reports

Detecting and Predicting Abuse and Addiction

- Appropriate screening takes considerable time.
  - A self-report questionnaire can facilitate screening.
  - The PMP system should be reviewed.
  - Consider interviewing the patient’s relatives or significant others.
  - Family may reveal sedation, cognitive impairment, and changes in personality.
  - Frame the first appointment as a screening and compatibility visit.
  - Avoid controlled medications on the first visit.

Screening/Risk Tools for Substance Abuse

- Screener and Opioid Assessment for Patients with Pain—Revised (SOAPP-R): consists of 24 items and a cut-off score of 14 or higher for classifying those at greater risk for opioid misuse.
- Opioid Risk Tool (ORT): categorizes patients into low (score of 3 or lower), moderate (score of 4 to 7), or high (score of 8 or higher) risk for aberrant drug-related behavior.
- Current Opioid Misuse Measure (COMM): can identify aberrant drug-related behavior in patients who are currently taking opioids.
Urine Toxicology Screening

• The imperfect “gold standard” for detecting illicit substance use.
• Patients should be screened at baseline before starting opioids and then periodically throughout the course of treatment.
• Baseline screening should be interpreted with caution and not considered to be indicative of future aberrant behavior.
• Katz and Fanciullo
  • 72% of pain patients with inappropriate baseline screens did not have evidence of further aberrant behavior after initiation of treatment.

UDT Accuracy Immunoassay vs Chromatography

<table>
<thead>
<tr>
<th>Drug</th>
<th>Sensitivity/False-negation rate</th>
<th>Specificity/False-positive rate</th>
<th>Test efficiency (Agreement)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine, Hydrocodone</td>
<td>92.2%/7.8%</td>
<td>93.1%/6.9%</td>
<td>92.5%</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>75.4%/24.6%</td>
<td>92.3%/7.7%</td>
<td>90%</td>
</tr>
<tr>
<td>Methadone</td>
<td>96.1%/3.9%</td>
<td>98.8%/2.2%</td>
<td>99.7%</td>
</tr>
<tr>
<td>Metha</td>
<td>50.0%/91.1%</td>
<td>98.0%/2%</td>
<td>97.8%</td>
</tr>
<tr>
<td>Cocaine</td>
<td>25.0%/75.0%</td>
<td>100%/0%</td>
<td>99.4%</td>
</tr>
<tr>
<td>Methamphetamine</td>
<td>40%/60%</td>
<td>98.8%/2.2%</td>
<td>98.5%</td>
</tr>
<tr>
<td>Amphetamines</td>
<td>47%/53%</td>
<td>99.1%/0.9%</td>
<td>98.2%</td>
</tr>
</tbody>
</table>


Title 510:5-9.2 PRESCRIBING FOR INTRACTABLE PAIN

1. Allows treatment of a patient’s intractable pain, as long as the benefits of the expected relief outweigh the risks, even if the use of the drug results in a lower quality or shorter duration of life.
2. Requires complete medical history and physical examination which includes assessment of the patient’s past medical and surgical history, mental and physical functioning, medications and other potential contributing factors, and the presence of a recognized medical indication for the use of one or more controlled substances.
3. Baseline pain and other assessments by which treatment success can be measured, such as pain relief and or improvement in function, physical and psychological functioning, quality of life, and safety, as appropriate, shall be conducted.
4. The treatment plan must state objectives by which treatment success can be evaluated, such as pain relief and or improvement in function, physical and psychological functioning, quality of life, and safety, as appropriate.
5. The course of treatment must be reviewed periodically, at least annually, with consideration given to referral for a second medical opinion.
6. The management of intractable pain in patients with a history of substance abuse requires extra care, monitoring, and consultation with addiction medicine specialists.
7. Obtain written consent prior to prescribing. The patient shall be informed of the risks of death and all relevant information.
8. The physician must be licensed in Oklahoma, have a valid controlled substances registration, and comply with federal and state regulations for issuing controlled substances prescriptions.
9. Expert clinical testimony may be used to prove a violation of this rule. As used herein, “expert clinical testimony” is a physician who, by reason of specialized education or substantial experience in pain management, is able to use a “clinical expert” to evaluate the treatment of a patient suffering from intractable pain.
10. Nothing in this rule shall limit a physician’s authority to prescribe or administer prescription drug products beyond the customary indications as noted in the manufacturer’s package insert for use in treating intractable pain, provided the drug is recognized for treatment of intractable pain in standard reference compendia or medical literature.

TITLE 510.05 BOARD OF OSTEOPATHIC EXAMINERS http://www.ok.gov/osboe/documents/RULES.pdf Accessed 1/8/12
Making A Difference
Aberrant Drug Related Behaviors and the Road to Addiction

Humanizing Aberrant Behaviors

- Types of Dignity
  - Human
  - Personal


Universal Precautions (Gourlay 2005)

- Making a diagnosis with appropriate differential.
- Psychological assessment, including risk for addictive disorders.
- Informed consent.
- Treatment agreement.
- Pre-intervention and post-intervention assessment of pain level and function.
- Appropriate trial of opioid therapy with or without adjunctive medication.
- Reassessment of pain score and level of function.
- Regular assessment of the "four A's" of pain medicine (Analgesia, Activity, Adverse effects, and Aberrant behavior).
- Periodic review of the plan.
- Proper documentation.

An Internal Quality Program (Me)

- Use a clinical practice guideline.
- Specific diagnosis as possible.
- Educational consent process.
- Screen for abuse and talk openly.
- Routine monitoring plan.
- Pre-think about crisis management.
- Be respectable.
- Believe in your patient.
- Know when to change the treatment plan.

Key Points

- Craving is the hallmark of addiction.
- Physical dependence occurs when opioid use is prolonged.
- Not all ADRBs mean the same thing.
- People with substance problems are people, too.

References

- Mohammed Issa, James Celestin and Ajay D. Wasan Issues Associated with Opioid Use, Practical Management of Pain, 51, 683-694.e3
Medication Assisted Treatment
Layne Subera, DO
August 22, 2016

Drug Abuse Treatment Act of 2000

• DATA 2000
• Title XXXV, Section 3502 of the Children’s Health Act
• Permits physicians who meet certain qualifications to treat opioid addiction with Schedule III, IV, and V narcotic medications that have been specifically approved by the Food and Drug Administration for that indication.
• “Waiver”


Medication Assisted Treatment (MAT)

• An evidence-based approach that combines medical therapy with an opioid agonist or antagonist with counseling and recovery support.
• Uses agonist therapy with methadone or buprenorphine.
• Superior to withdrawal (“detox”) for:
  • Overdose death
  • Communicable disease transmission
  • Retention in treatment
  • Relapse

Rationale for Expansion

- 2.5 million people in the United States have opioid addiction
- Less than 50% have access to Medication-Assisted Treatment (MAT)
- 2.2% of US physicians have obtained waivers (2014)
- The average state has 8 waivered physicians per 100,000 residents.
- 53.4% of US counties do not have a single prescriber of MAT
- Average number of patients for certified prescribers is 26.
- 25% of physicians with a waiver never prescribe.


Oklahoma’s Imbalance Between Prescribing CDS and Providing MAT

- OBIN Registrants: 17,633
- DATA-2000 Waivers: 120
- DATA-2000 Waivers, In Use: ~60

Why MAT?
MAT vs Tapering & Withdrawal

- Majority of patients relapse with withdrawal management alone
  - Including with tapering
  - Including residential detoxification
    - One 2010 prospective cohort study of 109 patients
    - 91% of patients relapsed
    - 59% relapsing in the first week


The Drawbacks of MAT

- It is not a “cure”.
- It is treating opioid addiction with an opioid.
- Withdrawal occurs upon discontinuation.
- Coverage for the counseling component can be a challenge.
- Abuse and diversion have been documented.

Abuse Potential

- Appalachian community, 503 buprenorphine users
  - 70.1% reportedly used buprenorphine to “get high” in their lifetimes
  - 46.5% used diverted buprenorphine over the 6-month study
  - 50.6% were sporadic users
  - 9.6% were daily users
  - The most common sources of buprenorphine
    - Dealers (58.7%)
    - Friends (31.4%)

Overseas Experiences

**Finland**
- Buprenorphine mono has replaced heroin as the most commonly abused substance among treatment seekers (2002)
- 25% of all lethal intoxications in drug abusers involve buprenorphine. (2007)
- 66% of treatment seekers reported IV use of buprenorphine/naloxone

**France**
- Opioid overdose decreased by 79% in 4 years after expansion of buprenorphine access (1999)
- Between 1996 and 2000, a total of 137 buprenorphine-related deaths were reported
- IV buprenorphine combined with large doses of alcohol and sedatives
- Access to buprenorphine therapy has been associated with reductions in heroin mortality of >50% in France


Buprenorphine vs Methadone Abuse

- Nonmedical use of buprenorphine is associated with better outcomes
  - Hospitalization rates (32.2% vs. 67.4%)
  - Admission to intensive care units (35% vs. 50%)
  - Mortality (0% vs. 1.6%)
  - Changing substance abuse patterns may confound this data
    * Risk correlated with routes of use


MAT decreases rates of infectious disease

- MAT decreases rates of infectious disease.
- Methadone treatment was shown to reduce HIV infection rates.
  - 54% reduction in risk of HIV infection among intravenous drug users who were stabilized with methadone vs no treatment
  - Rate ratio, 0.46; 95% CI, 0.32–0.67

Buprenorphine

- Semi-synthetic opioid derived from thebaine
- Opioid partial agonist
- Produce typical opioid effects and side effects
  - Euphoria and respiratory depression
  - Because it is a partial agonist, its maximal effects are less than those of full agonists
  - Heroin and methadone

Partial Versus Full Opioid Agonists

- Full Agonists
  - Drugs that activate receptors and produce an effect in the brain.
- Antagonists
  - Antagonists bind to receptors and effectively block them essentially preventing activation by other agonist compounds.
- Partial Agonists
  - Partial agonists possess some of the properties of both
  - Partial agonists bind to receptors and activate them, but not to the same degree as do full agonists.
  - The Ceiling Effect.
Methadone vs. Buprenorphine MAT

- No difference in retention in treatment.
  - Relative risk, 0.87; 95% CI, 0.69-1.10
- No difference in suppression of illicit opioid use.
  - Standardized mean difference, 0.25; 95% CI, -0.08 to 0.58


The Workflow
Unique Requirements

- Sequestered charts
- Legal privacy issues
- DEA inspection
- Ability to refer

Buprenorphine Induction

- Usually takes 3-5 hours
- Maximum of 8 mg of buprenorphine on day 1
- Maximum of 16 mg of buprenorphine on day 2
- Follow up in 1 week

Protocols

Methadone Transfers

- Transfer from long-acting opioids to buprenorphine is best achieved if the patient’s equivalent methadone dose is first reduced to ≤30 mg/day where possible (normal transfer).
- Transfers are possible between a >30-60 mg/day of equivalent methadone dose (high-dose transfer).
- Patients on a >60 mg/day methadone-equivalent dose should have their dose reduced to a ≤60 mg/day methadone-equivalent dose before attempting a high-dose transfer.
- Transfers from a >60 mg/day methadone-equivalent dose to Suboxone® or Subutex® are not generally recommended.


Drug Diversion

- Concerns about misuse and diversion are increasing.
- When diverted, buprenorphine/naloxone is likely used to manage withdrawal symptoms.
- The lack of access to MAT has been associated with use of diverted buprenorphine/naloxone and that expansion of access may limit diversion.

Adherence to Guidelines

- 50% of doctors routinely induct patients while in opioid withdrawal.
- 50% start while displaying no symptoms of active opioid withdrawal.


Preventing Buprenorphine Diversion

- The 3 most common strategies used by buprenorphine prescribers:
  - Limit 30-day prescriptions to complying patients (72.4%)
  - Prescribe only the lowest effective daily dose (60.6%)
  - Require regular urine screening or other drug screening (59.3%)


Medication-Assisted Treatment Buprenorphine Waiver Training

#medicationOK 8 am - 5:30 pm Saturday, August 27, 2016

Location: Oklahoma City, OK

Who: This course is open to any licensed medical professional who is interested in providing buprenorphine. You must pass a drug screen to qualify for a license. It opens to physicians who have completed approved training in opioid dependence in their practice.

Cost: The course is free of charge to physicians.
FREE MAT Buprenorphine Waiver Training

• Training Date: August 27, 2016
• Register online.
  • By August 19, 2016
• Questions?
  • Event Contact: Justina Andonian
  • Telephone: 403.524.3075
  • Email: justina@aaap.org

Resources