Opioid Addiction & Treatment: Understanding the Disorder, Treatment and Protocol

A Training for Multidisciplinary Addiction Professionals
According to the Webster Dictionary definition

To **Blend** means:
   a. combine into an integrated whole;
   b. produce a harmonious effect

http://www.merriam-webster.com/dictionary/blend
NIDA/SAMHSA Blending Initiative

• Developed in 2001 by NIDA and SAMHSA/CSAT, the initiative was designed to meld science and practice to improve addiction treatment.

• "Blending Teams," include staff from CSAT's ATTCs and NIDA researchers who develop methods for dissemination of research results for adoption and implementation into practice.

• Scientific findings are able to reach the frontline service providers treating people with substance use disorders. This is imperative to the success of drug abuse treatment programs throughout the country.
Blending Team Members

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The ATTC National Office
Goals for the Training

• Participants will be able to state facts regarding:
  – the history of opioid treatment in the United States.
  – changes in the laws regarding treatment of opioid addiction and the implications for the treatment system.
  – how medication will benefit the delivery of opioid treatment.
  – the types of medications used to treat opioid use disorder
• And to identify groups of people who are using opioids.
Introduction

• Please introduce yourself:
  • Your **name** and the **organization** in which you work
  • **Experience** with opioid treatment
  • Your **expectations** for this training
An Introduction to SAMHSA/CSAT
CSAT's Mission:

- To improve the lives of individuals and families affected by alcohol and drug abuse by ensuring access to clinically sound, cost-effective addiction treatment that reduces the health and social costs to our communities and the nation.

- CSAT's initiatives and programs are based on research findings and the general consensus of experts in the addiction field that, for most individuals, treatment and recovery work best in a community-based, coordinated system of comprehensive services.

- Because no single treatment approach is effective for all persons, CSAT supports the nation's effort to provide multiple treatment modalities, evaluate treatment effectiveness, and use evaluation results to enhance treatment and recovery approaches.
The ATTC Network
The ATTC Network

10 Regional Centers

- Northwest ATTC
- Central Rockies ATTC
- Great Lakes ATTC
- Northeast & Caribbean ATTC
- Central East ATTC
- Southeast ATTC
- Pacific Southwest ATTC
- Mid-America ATTC
- South ATTC
- Pacific Ocean

Pacific Islands
- Northern Mariana Islands
- Guam
- Marshall Islands
- Palau
- Federated States of Micronesia
- American Samoa

Atlantic Ocean
(Puerto Rico & US Virgin Islands)

SAMHSA
• 4 National Focus Area Centers
  – National SBIRT ATTC
  – National Hispanic & Latino ATTC
  – National Rural & Frontier ATTC
  – National Native American & Alaska Native ATTC

• Network Coordinating Office
An Introduction to NIDA
The Mission of the National Institute on Drug Abuse

• To lead the Nation in bringing the power of science to bear on drug abuse and addiction

• This charge has two critical components.
  – Strategic support and conduct of research across a broad range of disciplines
  – Ensuring the rapid and effective dissemination and use of the result of that research to significantly improve prevention, treatment and policy as it relates to drug use and addiction
What do you think?

• What are your thoughts about the use of medication to treat opioid use disorders and other substance use disorders?

• What thoughts do you have about treatment programs coming to your community?
Medication Assisted Treatment: The Myths and The Facts
MYTH #1: Patients are still addicted

FACT: Addiction is pathologic use of a substance and *may* or *may not* include physical dependence.

✓ Physical dependence on a medication for treatment of a medical problem *does not* mean the person is engaging in pathologic use and other behaviors.
MYTH #2: Those medications are simply a substitute for heroin or other opioids

**FACT:** The medications are corrective, not curative

- ✓ When taken as prescribed, they are safe.
- ✓ They allow the person to function normally, not get high.
- ✓ They are legally prescribed, not illegally obtained.
MYTH #3: Providing medication alone is sufficient treatment for opioid addiction

FACT: Medication is an important treatment option. However, the complete treatment package must include other elements, as well.

✓ Combining pharmacotherapy with counseling and other ancillary services increases the likelihood of success.
MYTH #4: Patients are still getting high

FACT: When taken as prescribed, the person will feel normal, not high.

✓ Buprenorphine has a ceiling effect resulting in lowered experience of the euphoria felt at higher doses.
✓ Naltrexone/Vivitrol has non-narcotic effects
✓ Methadone is highly medically monitored
A Brief History of Opioid Treatment
A Brief History of Opioid Treatment

• 1964: Methadone is approved.

• 1974: Narcotic Treatment Act limits methadone treatment to specifically licensed Opioid Treatment Programs (OTPs).

• 1984: Naltrexone is approved, but has continued to be rarely used (approved in 1994 for alcohol addiction).

• 1993: LAAM is approved (for non-pregnant patients only), but is underutilized.
A Brief History of Opioid Treatment

  – Expands the number of treatment slots
  – Allows opioid treatment in office settings (OBOT)
  – Establishes physician qualifications for prescribing
• Establishes Physician Qualifications:
  – Be licensed to practice by his/her state
  – Have the capacity to refer patients for counseling
  – Limit number of patients to 30 patients for the first year
  – File for a new waiver after first year to increase to 100 patients.
A Brief History of Opioid Treatment

Be qualified to provide buprenorphine and receive a license waiver:

- Board certified in Addiction Psychiatry
- Certified in Addiction Medicine by ASAM or AOA
- Served as Investigator in buprenorphine clinical trials
- Completed 8 hours of training by ASAM, AAAP, AMA, AOA, APA (or other organizations that may be designated by Health and Human Services)
- Training or experience as determined by state medical licensing board
- Other criteria established through regulation by Health and Human Services
A Brief History of Opioid Treatment

- October 8, 2002: Tablet formulations of buprenorphine (Subutex®) and buprenorphine/naloxone (Suboxone®) were approved by the FDA.
  - Product launched in U.S. in March 2003
  - Interim rule changes to federal regulation (42 CFR Part 8) on May 22, 2003 enabled Opioid Treatment Programs to offer buprenorphine.

- 2004: Sale and distribution of ORLAAM® is discontinued.

- October, 2010: Vivitrol is approved for the treatment of opioid use disorder.
A Brief History of Opioid Treatment

• August 2016: CARA (Comprehensive Addiction and Recovery Act of 2016)
  – On July 6, 2016, the Department of Health and Human Services (HHS) released a final rule to increase access to medication-assisted treatment with buprenorphine products in the office setting by allowing eligible practitioners to request approval to treat up to 275 patients.
  – The final rule also includes requirements to ensure that patients treated by these practitioners receive high-quality care, and that aim to minimize the risk of diversion.
  – This will be effective on August 8, 2016.
A Brief History of Opioid Treatment

To be eligible for a patient limit increase to 275, a physician must possess a current waiver to treat up to 100 patients, must have maintained that waiver without interruption for at least one year, and meet one of the following requirements:

- Hold “additional credentialing,” meaning board certification in addiction medicine or addiction psychiatry by the American Board of Addiction Medicine (ABAM) or the American Board of Medical Specialties (ABMS) or certification by the American Osteopathic Academy of Addiction Medicine, ABAM or ASAM; or
A Brief History of Opioid Treatment

• Practice in a “qualified practice setting,” meaning a practice that:
  – Provides professional coverage for patient medical emergencies during hours when the practitioner’s practice is closed;
  – Provides access to case-management services for patients including referral and follow-up services for programs that provide, or financially support, the provision of services such as medical, behavioral, social, housing, employment, educational, or other related services;
  – Uses health information technology (health IT) systems such as electronic health records, if otherwise required to use these systems in the practice setting. Health IT means the electronic systems that health care professionals and patients use to store, share, and analyze health information;
  – Is registered for their State prescription drug monitoring program (PDMP) where operational and in accordance with Federal and State law.
  – Accepts third-party payment for costs in providing health services, including written billing, credit, and collection policies and procedures, or Federal health benefits.
A Brief History of Opioid Treatment

• Additionally, practitioners may not have had Medicare enrollment and billing privileges revoked under 42 CFR 424.535 nor have been found to have violated the Controlled Substances Act pursuant to 21 U.S.C. 824(a) to be eligible for the higher limit.
• It is expected that Nurse Practitioners and Physician Assistants will have prescribing privileges within 18 months of the enactment of this law. The specific requirements are currently unknown.
Prevalence of Opioid Use and Abuse in the United States
Rates of Current Heroin Use

- The abuse of and addiction to opioids such as heroin, morphine and prescription pain relievers is a serious global problem.

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(SAMHSA, NSDUH: 2009 and 2014) and NIDA 2014
Prevalence of Opioid Use

Of the 21.5 million Americans 12 or older that had a substance use disorder in 2014, 1.9 million had a substance use disorder involving prescription pain relievers and 586,000 had a substance use disorder involving heroin.
2014 Statistics: Use and Deaths

2014 Statistics
• 26.4—36m abusers worldwide
• 2.1m Rx abusers in US
• 467k heroin addicts
• Unintentional overdose deaths quadrupled since ’99.
• In 2012, 23.9 percent of 18- to 20-year-olds reported using an illicit drug in the past month.

FIGURE 1. Age-adjusted rate* of drug overdose deaths† and drug overdose deaths involving opioids §,¶ — United States, 2000–2014

Taken from: America’s Addiction to Opioids: Heroin and Prescription Drug Abuse—Nora D. Volkow, M.D.
General Statistics

- Drug overdose is the leading cause of accidental death in the US, with 47,055 lethal drug overdoses in 2014. Opioid addiction is driving this epidemic, with 18,893 overdose deaths related to prescription pain relievers, and 10,574 overdose deaths related to heroin in 2014.

- From 1999 to 2008, overdose death rates, sales and substance use disorder treatment admissions related to prescription pain relievers increased in parallel. The overdose death rate in 2008 was nearly four times the 1999 rate; sales of prescription pain relievers in 2010 were four times those in 1999; and the substance use disorder treatment admission rate in 2009 was six times the 1999 rate.

- In 2012, 259 million prescriptions were written for opioids, which is more than enough to give every American adult their own bottle of pills.
General Statistics

• Four in five new heroin users started out misusing prescription painkillers. As a consequence, the rate of heroin overdose deaths nearly quadrupled from 2000 to 2013. During this 14-year period, the rate of heroin overdose showed an average increase of 6% per year from 2000 to 2010, followed by a larger average increase of 37% per year from 2010 to 2013. 94% of respondents in a 2014 survey of people in treatment for opioid addiction said they chose to use heroin because prescription opioids were “far more expensive and harder to obtain.”
Impact on Special Populations

• Adolescents (12 to 17 years old) In 2014, 467,000 adolescents were current nonmedical users of pain reliever, with 168,000 having an addiction to prescription pain relievers. In 2014, an estimated 28,000 adolescents had used heroin in the past year, and an estimated 16,000 were current heroin users. Additionally, an estimated 18,000 adolescents had a heroin use disorder in 2014. People often share their unused pain relievers, unaware of the dangers of nonmedical opioid use. Most adolescents who misuse prescription pain relievers are given them for free by a friend or relative. The prescribing rates for prescription opioids among adolescents and young adults nearly doubled from 1994 to 2007.
Impact on Special Populations

• Women are more likely to have chronic pain, be prescribed prescription pain relievers, be given higher doses, and use them for longer time periods than men. Women may become dependent on prescription pain relievers more quickly than men.

• 48,000 women died of prescription pain reliever overdoses between 1999 and 2010. Prescription pain reliever overdose deaths among women increased more than 400% from 1999 to 2010, compared to 237% among men. Heroin overdose deaths among women have tripled in the last few years. From 2010 through 2013, female heroin overdoses increased from 0.4 to 1.2 per 100,000.
Who Uses Heroin?

Individuals of all ages use heroin:

- Today’s average first time heroin user is no longer a 16 year old male of color as it was in the ‘60’s, but more likely a 23 year old white woman.
- White women among heroin users increased from 20% in the 50’s to approximately 52% in 2014.
- White men and women have embraced prescription pills and turn to heroin when the source runs out.
- 90% of people who started using heroin in the past decade are white, most of them in their late 20’s.
- Heroin use increased significantly in suburbia.

(JAMA Psychiatry, 2014)
Initiation of *Heroin* Use

- During the latter half of the 1990s, the annual number of heroin initiates rose to a level not reached since the late 1970s.
- In 1974, there were an estimated 246,000 heroin initiates.
- Between 1988 and 1994, the annual number of new users ranged from 28,000 to 80,000.
- Between 1995 and 2001, the number of new heroin users was consistently greater than 100,000.
- Between 2002 and 2008, the number of new heroin users ranged from 91,000 to 114,000.

(SAMHSA, OAS, 2008; SAMHSA, NSDUH, 2009)
New Non-Medical Users of Pain Relievers

- In 2008 – 2.2 million new non-medical users (a decline from 2.5 million in 2003, but still a lot!)
- 6,000 new users per day
- Among youth aged 12-17, females more likely to use non-medically
- Among young adults aged 18-25, males more likely to use non-medically (SAMHSA, OAS, 2009)
Four Reasons for Not Entering Opioid Treatment

1. Limited treatment options
   - Methadone or Naltrexone
   - Drug-Free Programming
   - Limits placed on Suboxone prescribers

2. Stigma
   - Many users don’t want methadone
     • “It’s like going from the frying pan into the fire”
     • Fearful of withdrawing from methadone
   - Concerned about being stereotyped
   - Not accepted by many abstinence-based programs and self-help groups.

3. OTP’s are highly structured
   - Standing in line regardless of weather
   - Standing in line and having access to pills, urine, etc.
   - Going to the clinic every day until take-homes are earned
N.I.M.B.Y. Syndrome

Methadone clinics are great, but Not In My Back Yard

- New opioid treatment programs are difficult to open.
- Zoning regulations and community reaction often create delays or prevent programs from opening.
- Some states have few, one has none (ND)
A Need for Alternative Options

• Move outside traditional structure to:
  – Attract more patients into treatment
  – Expand access to treatment
  – Reduce stigma associated with treatment

• Buprenorphine and Vivitrol is a potential vehicle to bring about these changes.
Module I - Summary

• Use of medications as a component of treatment can be an important in helping the person to achieve their treatment goals.

• DATA 2000 expands the options to include both opioid treatment programs and the general medical system.

• Opioid addiction affects a large number of people, yet many people do not seek treatment or treatment is not available when they do.

• Expanding treatment options can
  – make treatment more attractive to people;
  – expand access; and
  – reduce stigma.
Continue only if presenting the 3-hour training!
Review of Opioid Pharmacology, Medication-Assisted Treatment, and the Role of the Multidisciplinary Treatment Team
Opioid Addiction and the Brain

• Opioids attach to specific receptors in the brain called mu receptors.

• Activation of these receptors causes a pleasure response.

• Repeated stimulation of these receptors creates a tolerance – requiring more drug for same effect.
Basic Opioid Facts

**Description:** Opium-derived, or synthetics which relieve pain, produce morphine-like addiction, and relieve withdrawal from opioids

**Medical Uses:** Pain relief, cough suppression, diarrhea

**Methods of Use:** Intravenously injected, smoked, snorted, or orally administered
Basic Opioid Facts

When Opiate Receptors are activated, they reduce the perception of pain and produce a sense of well-being.

They can also cause drowsiness, mental confusion, nausea and constipation.

With repeated illicit use, the production of endogenous opioids is inhibited and atrophies.

With repeated use, tolerance sets in which results in need for more of the drug to achieve the desire effect. Some deaths due to lapse/relapse are related to tolerance; the user’s tolerance decreased during recovery.
Agonist Therapy: Methadone

By the mid- and late 1960’s, heroin related mortality was the leading cause of death for young adults between ages 15-35 in New York City.

In 1962, Dr. Vincent Dole received grant to study feasibility of opiate maintenance in NY/Rockefeller University

Dr. Nyswander and Dr. Mary Jeanne Kreek joined Dr. Dole’s staff in 1964
Agonist Therapy: Methadone

- No euphoric/analgesic effects
- Doses between 80-120mg held at level to block their euphoric and tranquilizing effects
- No change in tolerance level over time
- Could be taken once a day
- Relieved craving attributed to relapse
- Medically safe and nontoxic
Agonist Therapy: Methadone

• Proper dose lasts between 24 - 36 hours
• Does not create euphoria, sedation or analgesia
• Duration of treatment individualized
• Most significant long term effects on health is marked improvement
• Side effects usually subside within a month
Agonist Therapy: Methadone

- "Loaded"
- "High"
- Normal Range
- "Comfort Zone"
- Subjective w/d
- "Sick"
- Objective w/d

Time (hrs): 0 to 24
The Role of Buprenorphine in Opioid Treatment

• Partial Opioid Agonist
  – Produces a ceiling effect at higher doses
  – Has effects of typical opioid agonists—these effects are dose dependent up to a limit
  – Binds strongly to opiate receptor and is long-acting

• Safe and effective therapy for opioid maintenance and detoxification
Partial-Agonist Therapy: Buprenorphine

• A synthetic opioid

• Described as a mixed opioid agonist-antagonist (or partial agonist)

• Available for use by certified physicians outside traditionally licensed opioid treatment programs
Partial-Agonist Therapy: Buprenorphine

• Each tablet contains buprenorphine and naloxone in a 4:1 ratio
  – Each 8 mg tablet contains 2 mg of naloxone
  – Each 2 mg tablet contains 0.5 mg of naloxone

• Ratio was deemed optimal in clinical studies
  – Preserves buprenorphine’s therapeutic effects when taken as intended sublingually
  – Sufficient dysphoric effects occur if injected by some physically dependent persons to discourage abuse
Buprenorphine Research Outcomes

- Buprenorphine is as effective as moderate doses of methadone (Fischer et al., 1999; Johnson, Jaffee, & Fudula, 1992; Ling et al., 1996; Schottenfield et al., 1997; Strain et al., 1994).

- Buprenorphine is as effective as moderate doses of LAAM (Johnson et al., 2000).

- Buprenorphine's partial agonist effects make it mildly reinforcing, encouraging medication compliance (Ling et al., 1998).

- After a year of buprenorphine plus counseling, 75% of patients retained in treatment compared to 0% in a placebo-plus-counseling condition (Kakko et al., 2003).
Partial-Agonist Therapy: Buprenorphine

- Treatment with buprenorphine-naloxone was associated with a reduction in opioid utilization and cost in the first year of follow-up (Kaur & McQueen, 2008).

- Systematic review found good studies supporting buprenorphine as a cost effective approach to opioid treatment (Doran, 2008).
Antagonist Medication: Vivitrol

• Approved for use in treatment for opioid use disorder on October 12, 2010.
• Approval followed a six-month clinical trial in which recovering adults were given either Vivitrol or a placebo.
• 36% of those on Vivitrol were still in treatment at the end of the study compared to 23% on the placebo.
Antagonist Medication: Vivitrol

- The recommended dose of VIVITROL is 380 mg delivered intramuscularly every 4 weeks or once a month. The injection should be administered by a health care professional as an intramuscular (IM) gluteal injection, alternating buttocks, using the carton components provided. VIVITROL must not be administered intravenously.

- If a patient misses a dose, he/she should be instructed to receive the next dose as soon as possible.

- Effectiveness in opioid treatment is related to:
  - Binding to opioid receptors in the brain,
  - Blocking neurotransmitters in the brain,
  - Eliminating pleasurable effects of recreational drugs such as alcohol, heroin and morphine.
Antagonist Medication: Vivitrol

- Unlike methadone and buprenorphine, Vivitrol is administered via intramuscular injection.
- Unlike methadone and buprenorphine which must be taken daily, Vivitrol is effective for 30 days.
- It can be prescribed by a Prescribing Nurse, unlike buprenorphine.
Antagonist Medication: Vivitrol

- Few to no side-effects occur when administered 7-10 days after the last use of an opioid.
- Switching from Methadone or Buprenorphine to Vivitrol will require the 7-10 day abstinence in order to have no opioids in the person’s system.
- If opioids are present when the injection occurs, the person will be put into withdrawal.
Antagonist Medication: Vivitrol

• There are no withdrawal symptoms when a person stops taking Naltrexone, or misses his/her next injection.

• Some persons will take especially large amounts of opioids with the hope of being able to get high. This can lead to overdose and death.

• Methadone is still the preferred and safer medication for pregnant women.

• Naltrexone/Vivitrol will prohibit effectiveness of pain relieving narcotic medications.
Patient Selection

• Counselors can screen and recommend patients for referral to qualified physicians.

• Physicians will consider the following questions:
  • Is the patient currently addicted to opioids?
  • Is buprenorphine the best medication?
  • Is the office the best setting for treating the patient?
Patient Selection
Assessment Questions

- Is the patient addicted to opioids?
- Is the patient aware of other available treatment options?
- Does the patient understand the risks, benefits, and limitations of buprenorphine treatment?
- Is the patient expected to be reasonably compliant?
- Is the patient expected to follow safety procedures?
Patient Selection: Assessment Questions

- Is the patient psychiatrically stable?
- Is the patient taking other medications that may interact with buprenorphine?
- Are the psychosocial circumstances of the patient stable and supportive?
- Is the patient interested in office-based buprenorphine treatment?
- Are there resources available in the office to provide appropriate treatment?
Issues Requiring Consultation with the Physician

- Dependence upon high doses of benzodiazepines or other CNS depressants
- Significant psychiatric co-morbidity
- Multiple previous opioid treatment episodes with frequent relapse
Issues Requiring Consultation with the Physician

- High level of dependence on high doses of opioids
- High risk for relapse based on psychosocial or environmental conditions
- Pregnancy
- Poor support system
Issues Requiring Consultation with the Physician

- HIV and STDs
- Hepatitis or impaired liver function
Issues Requiring Consultation with the Physician

• Use of alcohol

• Use of sedative-hypnotics

• Use of stimulants

• Poly-drug addiction
General Counseling Issues

- Confidentiality
- Urine toxicology testing
- Working with, not against, medication
- Psychosocial treatment
- Supporting medication maintenance
- Patient comfort during withdrawal
Areas of Needs Assessment

- Drug use
- Alcohol use
- Social Issues
- Social Services
- Psychological history and status
- Education
- Vocational
Patient Management: Treatment Monitoring

Goals for treatment should include:

- No illicit opioid drug use
- No other drug use
- Absence of adverse medical effects
- Absence of adverse behavioral effects
- Responsible handling of medication
- Adherence to treatment plan
Patient Management: Treatment Monitoring

Weekly visits (or more frequent) are important to:

1. Provide ongoing counseling to address barriers to treatment, such as travel distance, childcare, work obligations, etc
2. Provide ongoing counseling regarding recovery issues
3. Assess adherence to dosing regimen
4. Assess ability to safely store medication
5. Evaluate treatment progress
Patient Management: Treatment Monitoring

• Urine toxicology tests should be administered at least monthly for all relevant illicit substances.
• The medication can be tapered while psychosocial services continue.
• The treatment team should work together to prevent involuntary termination of medication and psychosocial treatment.
• In the event of involuntary termination, the physician and/or other team members should make appropriate referrals.
• Physicians should manage appropriate withdrawal of medication to minimize withdrawal discomfort.
Medication Assisted Treatment:
A Training For Multidisciplinary Addiction Professionals

Module II – Opioids 101
Goals for Module II

This module reviews the following:

• Opioid addiction and the brain
• Descriptions and definitions of opioid agonists, partial agonists, and antagonists
• Receptor pharmacology
Opiate/Opioid: What's the Difference?

Basic Terminology

Opiate

• A term that refers to drugs or medications that are derived from the opium poppy, such as opium, codeine and morphine.

Opioid

• A more general term that includes opiates as well as the synthetic drugs or medications, such as buprenorphine, methadone, meperidine (Demerol®), fentanyl—that produce analgesia and other effects similar to morphine.
Basic Opioid Facts

Receptor
Specific cell binding site or molecule: a molecule, group, or site that is in a cell or on a cell surface and binds with a specific molecule, antigen, hormone, or antibody

Opiate Receptors
are proteins found on nerve cells in the brain and spinal cord, gastrointestinal tract and other organs of the body.

Specific subtypes
mu, kappa and delta naturally activated by endogenous opioid chemicals: endorphins and encephalins.
Basic Opioid Facts

Enkephalin
Either of two pentapeptides that bind to morphine receptors in the central nervous system and have opioid properties of relatively short duration; one pentapeptide is Metenkephalin and the other is Leuenkephalin.

Pentapeptide
Are a biological molecule containing a chain of five amino acids.

Endorphin
Any of a group of peptide hormones that bind to opiate receptors and act as neurotransmitters. Endorphins reduce the sensation of pain and affect emotions.
Basic Opioid Facts

• **Endorphin** and enkephalin are the body's natural painkillers. When a person is injured, pain impulses travel up the spinal cord to the brain. The brain then releases endorphins and enkephalins.

• **Enkephalins** block pain signals in the spinal cord.

• Endorphins are thought to block pain principally at the brain stem.

• Both are morphine-like substances whose functions are similar to those of opium-based drugs.
Small Group Exercise:

Dependence vs. Addiction:
What’s the Difference?

In your small groups, discuss this question.
To avoid confusion, in this training, “Addiction” will be the term used to refer to the pattern of continued use of opioids despite pathological behaviors and other negative outcomes.

“Dependence” will only be used to refer to physical dependence on the substance as indicated by tolerance and withdrawal as described above.
• Addiction may occur with or without the presence of physical dependence.
• Physical dependence does not always result in addiction.
• Physical dependence results from the body’s adaptation to a drug or medication and is defined by the presence of
  – Tolerance and/or
  – Withdrawal
Tolerance
The loss of or reduction in the normal response to a drug or other agent, following use or exposure over a prolonged period.

Withdrawal
A period during which somebody dependent on a drug or other addictive substance stops taking it, causing the person to experience painful or uncomfortable symptoms.
Terminology

Dependence versus Addiction

**Agonist**
a chemical that binds to a receptor and activates the receptor to produce a biological response.

**Partial Agonist**
a compound which binds to a receptor but is not successful at facilitating the same level of reaction as a full agonist at the same receptor site or puts out only a portion of the action put out by the endogenous neurotransmitter which it imitates.

**Antagonist**
a substance that tends to nullify the action of another, as a drug that binds to a cell receptor without eliciting a biological response, blocking binding of substances that could elicit such responses.
Basic Opioid Facts

**Description:** Opium-derived, or synthetics which relieve pain, produce morphine-like addiction, and relieve withdrawal from opioids

**Medical Uses:** Pain relief, cough suppression, diarrhea

**Methods of Use:** Intravenously injected, smoked, snorted, or orally administered
When Opiate Receptors are activated, they reduce the perception of pain and produce a sense of well-being.

They can also cause drowsiness, mental confusion, nausea and constipation.

With repeated illicit use, the production of endogenous opioids is inhibited and atrophies.

With repeated use, tolerance sets in which results in need for more of the drug to achieve the desire effect. Some deaths due to lapse/relapse are related to tolerance; the user’s tolerance decreased during recovery.
Opiates Act on Many Places in the Brain and Nervous System

- Opiates can change the brain stem, an area that controls automatic body functions, and depress breathing.
- Opiates can change the limbic system, which controls emotions to increase feelings of pleasure.
- Opiates can block pain messages transmitted by the spinal cord from the body.
Opioid Agonists

• Natural derivatives of opium poppy
  - Opium
  - Morphine
  - Codeine
Opium

(Opium Poppy (Dried))

Copyright 2000 - Publishers Group

Opium

Copyright 1999 - Publishers Group

(www.streetdrugs.org)
Morphine Tablets

Copyright 1999 - Publishers Group
www.streetdrugs.org

ROXANOL™
Morphine Sulfate
(Immediate Release)
Oral Solution (Concentrate)

20 mg per mL

Copyright 1999 - Publishers Group
www.streetdrugs.org
Opioid Agonists

• Semisynthetics: Derived from chemicals in opium
  - Diacetylmorphine – Heroin
  - Hydromorphone – Dilaudid®
  - Oxycodone – Percodan®, Percocet®
  - Hydrocodone – Vicodin®
BAYER
PHARMACEUTICAL PRODUCTS.

We are now sending to Physicians throughout the United States literature and samples of

ASPIRIN

The substitute for the Salicylates, agreeable of taste, free from unpleasant after-effects.

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Its water-soluble salt.

You will have call for them. Order a supply from your jobber.

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SELLING AGENTS
Opioid Agonists

• Synthetics
  - Propoxyphene – Darvon®, Darvocet®
  - Meperidine – Demerol®
  - Fentanyl citrate – Fentanyl®
  - Methadone – Dolophine®
  - Levo-alpha-acetylmethadol – ORLAAM®
Methadone

Fentanyl

Darvocet

(www.methadoneaddiction.net/m-pictures.htm)
Opioid Partial Agonists

- Buprenorphine – Buprenex®, Suboxone®, Subutex®
- Pentazocine – Talwin®
Buprenorphine/Naloxone Combination and Buprenorphine Alone
Opioid Antagonists

- Naloxone – Narcan®
- Naltrexone – ReVia®, Trexan®
- Vivitrol
DSM 5 Criteria for Substance Use Disorder

• Substance use disorders span a wide variety of problems arising from substance use, and cover 11 different criteria:
  – Taking the substance in larger amounts or for longer than the you meant to
  – Wanting to cut down or stop using the substance but not managing to
  – Spending a lot of time getting, using, or recovering from use of the substance
  – Cravings and urges to use the substance
  – Not managing to do what you should at work, home or school, because of substance use
  – Continuing to use, even when it causes problems in relationships

(American Psychiatric Association, 2000)
Giving up important social, occupational or recreational activities because of substance use
Using substances again and again, even when it puts the you in danger
Continuing to use, even when the you know you have a physical or psychological problem that could have been caused or made worse by the substance
Needing more of the substance to get the effect you want (tolerance)
Development of withdrawal symptoms, which can be relieved by taking more of the substance.

The DSM 5 allows clinicians to specify how severe the substance use disorder is, depending on how many symptoms are identified. Two or three symptoms indicate a mild substance use disorder, four or five symptoms indicate a moderate substance use disorder, and six or more symptoms indicate a severe substance use disorder. Clinicians can also add “in early remission,” “in sustained remission,” “on maintenance therapy,” and “in a controlled environment.”
Symptoms of Substance Use Disorder

<table>
<thead>
<tr>
<th></th>
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<th>Cluster</th>
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<tbody>
<tr>
<td>1.</td>
<td>Uses more than intended</td>
<td>Impaired control</td>
</tr>
<tr>
<td>2.</td>
<td>Efforts to control or cut back were unsuccessful</td>
<td></td>
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<tr>
<td>3.</td>
<td>Large amounts of time spent obtaining, using or recovering from use</td>
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<td>4.</td>
<td>Cravings (the presence of a strong desire to use)</td>
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<td>5.</td>
<td>Recurrent use resulting in problems at work, home or school</td>
<td>Social Impairment</td>
</tr>
<tr>
<td>6.</td>
<td>Continued use despite social or interpersonal problems related to use.</td>
<td></td>
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<tr>
<td>7.</td>
<td>Curtailing important activities in favor of using</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Use despite hazardous outcomes</td>
<td>Risky Use</td>
</tr>
<tr>
<td>9.</td>
<td>Continued use despite knowledge that it is causing persistent physical or psychological problems</td>
<td></td>
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<tr>
<td>10.</td>
<td>Tolerance or a need for increased amounts</td>
<td>Pharmacological Criteria</td>
</tr>
<tr>
<td>11.</td>
<td>Withdrawal symptoms</td>
<td></td>
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</tbody>
</table>
Opioids and the Brain: Pharmacology and Half-Life
Opioid Agonists: Pharmacology

- Stimulate opioid receptors in central nervous system & gastrointestinal tract
- Analgesia – pain relief (somatic & psychological)
- Antitussive action – cough suppression
- Euphoria, stuporousness, “nodding”
- Respiratory depression
Opioid Agonists: Pharmacology

- Pupillary constriction (miosis)
- Constipation
- Histamine release (itching, bronchial constriction)
- Reduce libido
- Tolerance, cross-tolerance
- Withdrawal: acute & protracted
Possible Acute Effects of Opioid Use

- Surge of pleasurable sensation = “rush”
- Warm flushing of skin
- Dry mouth
- Heavy feeling in extremities
- Drowsiness
- Clouding of mental function
- Slowing of heart rate and breathing
- Nausea, vomiting, and severe itching
Consequences of Opioid Use

- Addiction
- Overdose
- Death
- Use related (e.g., HIV infection, malnutrition)
- Negative consequences from injection:
  - Infectious diseases (e.g., HIV/AIDS, Hepatitis B and C)
  - Collapsed veins
  - Infection of heart lining and valves
  - Arthritis and other rheumatologic problems
  - Bacterial infections
  - Abscesses
Short Term Effects

- **Central**
  - Euphoria
  - Alternately alert and drowsy state

- **Mouth**
  - Dryness

- **Skin**
  - Warm flushing

- **Respiratory**
  - Slowed breathing

- **Muscular**
  - Weakness

Long Term Effects

- **Central**
  - Addiction
  - Tolerance
  - Dependence

- **Circulatory**
  - Collapsed veins

- **Heart**
  - Infection of heart lining and valves

- **Respiratory**
  - Pneumonia

- **Liver**
  - Decreased function

- **Systemic**
  - Abscesses
Abscesses from IV Use
Heroin Withdrawal Syndrome

- Intensity varies with level & chronicity of use
- Cessation of opioids causes a rebound in function altered by chronic use
- First signs occur shortly before next scheduled dose
- Duration of withdrawal is dependent upon the half-life of the drug used:
  - Peak of withdrawal occurs 36 to 72 hours after last dose
  - Acute symptoms subside over 3 to 7 days
  - Protracted symptoms may linger for weeks or months
Opioid Withdrawal Syndrome
Acute Symptoms

- Pupillary dilation
- Lacrimation (watery eyes)
- Rhinorrhea (runny nose)
- Muscle spasms ("kicking")
- Yawning, sweating, chills, gooseflesh
- Stomach cramps, diarrhea, vomiting
- Restlessness, anxiety, irritability
Opioid Withdrawal Syndrome
Protracted Symptoms

- Deep muscle aches and pains
- Insomnia, disturbed sleep
- Poor appetite
- Reduced libido, impotence, anorgasmia
- Depressed mood, anhedonia
- Drug craving and obsession
Treatment of Opioid Addiction
Treatment Options for Opioid-Addicted Individuals

BIOPSYCHOSOCIALFAMILIALECONOSPIRITUAL
DISORDER/DISEASE

• Behavioral treatments educate patients about the conditioning process and teach relapse prevention strategies.
• Medications such as Methadone, Naltrexone and Buprenorphine operate on the opioid receptors to relieve craving.

• **Combining the two types of treatment enables patients to stop using opioids and return to more stable and productive lives.**
Module II – Summary

• Opioids attach to receptors in the brain, causing pleasure. After repeated opioid use, the brain becomes altered, leading to tolerance and withdrawal.

• Medications operating through the opioid receptors prevent withdrawal symptoms and help the person function normally.

• Behavioral treatment can also address cravings that arise from environmental cues.
Medication Assisted Treatment:
A Training For Multidisciplinary Addiction Professionals

Module III – Medications 101
Goals for Module III

This module reviews the following:

• Overview of three medications used to treat opioid use disorders: Methadone, Buprenorphine and Vivitrol.

• The development and approval process

• Determining which medication would be most effective

• Phases of Treatment
  – Induction
  – Detox
  – Maintenance
  – Medically-Assisted Withdrawal
Agonist Therapy: Methadone

By the mid- and late 1960’s, heroin related mortality was the leading cause of death for young adults between ages 15-35 in New York City.

In 1962, Dr. Vincent Dole received grant to study feasibility of opiate maintenance in NY/Rockefeller University

Dr. Nyswander and Dr. Mary Jeanne Kreek joined Dr. Dole’s staff in 1964
Agonist Therapy: Methadone

- No euphoric/analgesic effects
- Doses between 80-120mg held at level to block their euphoric and tranquilizing effects
- No change in tolerance level over time
- Could be taken once a day
- Relieved craving attributed to relapse
- Medically safe and nontoxic
Agonist Therapy: Methadone

• Proper dose lasts between 24 - 36 hours
• Does not create euphoria, sedation or analgesia
• Duration of treatment individualized
• Most significant long term effects on health is marked improvement
• Side effects usually subside within a month
Agonist Therapy: Methadone

Subjective w/d

Objective w/d

“Sick”

“Comfort Zone”

Normal Range

“High”

“Loaded”

0

time

hrs

24 hrs
Agonist Therapy: Methadone

- Indicated for use with pregnant and nursing mothers
  - preferable to street drugs
  - prevents fetal withdrawal
  - does not harm infant
Agonist Therapy: Methadone

- Reduces crime rates, criminal behaviors
  - drug offenses decline
  - predatory crimes decline
  - legitimate employment rates increase
Agonist Therapy: Methadone

• Improves quality of life
  – increased employment
  – improved family relationships
  – improved financial status
  – improved access to general health, dental and mental health care
Agonist Therapy

- Effective prevention of infection from:
  - HIV disease
  - Hepatitis B/C

- Reduces needle use
Agonist Therapy: Methadone

• Dose Determination:
  – History of use
  – History of last agonist treatment
  – Induction Period
  – Achievement of a steady state
  – Peak and trough
Agonist Therapy: Methadone

**DINOVAMP**: An Assessment Tool for Dose Determination

- **Drug abuse** (may include inadequate methadone dose) Dose adequacy must be monitored.
- **Interactions** (with other medications or herbal products may affect methadone potency).
- **Neuroleptics** (Patients with psychiatric illnesses may require methadone dose adjustments)
- **Opioid withdrawal** signs/symptoms
- **Vitamin C** (Urinary acidifiers can cause more rapid elimination of methadone; **Viral Infection** (HCV will sometimes require dose increases)
- **Atmosphere** (Stress at home, work, etc. may foster a request for increase.
- **Menopause** (symptoms may mimic opioid withdrawal; **Medical conditions** may require special management
- **Pregnancy** (affects methadone dose requirements; **Plasma** (serum levels) may need monitoring.
Agonist Therapy: Methadone

**Early Induction**

- Early dose adjustments to get to “Comfort Zone”
- Half of today’s dose will be added to tomorrow's dose resulting in increasing effects with no increase in dose, and so on until steady state is achieved.
- Steady State refers to lack of withdrawal symptoms and craving for the drug.
Agonist Therapy: Methadone

**Late Induction**

Gradual continued dose adjustments beyond initial relief in order to:

- Establish adequate level of cross-tolerance or “Blockade”
- Provide a dose adequate to achieve the desired effect
- Prevent W/D, craving and relapse
Blood Levels: The Peak and Trough

- Peak and Trough provides a clinical picture
- Ensures adequacy of dose
- Documents the need for a dose change
- Determines need for and effectiveness of split dose level
How Can You Treat Opioid Addiction?

Detox Protocols: Short Term vs. Long Term

• Relieves withdrawal symptoms while patients adjust to a drug-free state
• Can occur in an inpatient or outpatient setting
• Typically occurs under the care of a physician or medical provider
• Serves as a precursor to behavioral treatment, because it is designed to treat the acute physiological effects of stopping drug use

(National Institute on Drug Abuse, 2009)
How Can You Treat Opioid Addiction?

Behavioral Therapies

• Contingency management
  – Based on principles of operant conditioning
  – Uses reinforcement (e.g., vouchers) of positive behaviors in order to facilitate change

• Cognitive-behavioral interventions
  – Modify patient’s thinking, expectancies, and behaviors
  – Increase skills in coping with various life stressors

(National Institute on Drug Abuse, 2009)
Agonist Therapy: Methadone

Detoxification Programs

• No prior treatment
• Patient request
• Less than two Admissions to Detoxification Treatment Episodes in one year
Agonist Therapy
Treatment Issues

• Program Choices
  – Short Term Detoxification
  – Long Term Detoxification
  – Methadone Maintenance (MMTP)

• Determinants
  – Length of addiction
  – Amount of opiates being used
  – Previous attempts
Agonist Therapy: Methadone

Length of Detoxification Programs

• Short term
  – 30 days or less
  – Entrée into treatment
  – Starting dose of 20-30mg
Agonist Therapy: Methadone

Length of Detoxification Programs

• Long Term
  – 180 days or less
  – Can work with shorter drug abuse history, lower tolerance
  – Starting dose 20-40mg
  – Individual dosing schedule that will reach 0mg’s no later than 180 days from initial dose.
Agonist Therapy: Methadone

MMTP: Criteria for Admission

• Verified one year of addiction
• Voluntary choice and consent of patient
• Patient education
  – Duration of treatment
  – Adverse effects
  – Program expectations
Agonist Therapy: Methadone

MMTP: Exceptions to current Addiction

• Recently released from correctional facility
• Recent discharge from chronic facility
• Pregnant patient
• Previously treated patients
• Minors
MMTP: Phases of Treatment vs Phases of Recovery

**Phases of Treatment**
1. Stabilization
2. Commitment
3. Rehabilitation
4. Medical Maintenance
   1. Tapering
   2. Reinforcement
5. Transitional

**Phases of Recovery**
1. Stabilization/Assessment
2. Early Recovery
3. Mid-Recovery
4. Advanced Recovery
Agonist Therapy: Methadone

Take-home Privileges

• Federal and State regulations provide the framework from which:
  – Take-home schedules are developed
  – OTP’s requirements for earning privileges are outlined.

• Patients should be informed of take-home privilege requirements during orientation to the program
Agonist Therapy: Methadone

**MMTP: Indications for MSW**
- Different from a Detox Protocol
- Indicators or readiness:
  - Self-motivation
  - Treatment Compliance
  - Support network in place
  - Psychiatric/medical stability
  - Women of child bearing age should be assessed for pregnancy
  - Commitment to abstinence from all mood-altering substances
  - Evidence of long term abstinence (usually six or more months)
Partial-Agonist Therapy: Buprenorphine

- Buprenorphine is currently marketed for opioid treatment under the trade names:

  - Subutex® (buprenorphine)
  - Suboxone® (buprenorphine/naloxone)
  - Zubsolv

- Over 25 years of research
- Over 5,000 patients exposed during clinical trials
- Proven safe and effective for the treatment of opioid addiction
Partial-Agonist Therapy: Buprenorphine

- Probuphine: Implant designed for persons who are stable for 6 or more months. It is indicated for the maintenance treatment of opioid dependence in patients who have achieved and sustained prolonged clinical stability on low-to-moderate doses of a transmucosal buprenorphine-containing product (i.e., doses of no more than 8 mg per day of Subutex or Suboxone sublingual tablet or generic equivalent).

- Probuphine should be used as part of a complete treatment program to include counseling and psychosocial support.
Partial-Agonist Therapy: Buprenorphine

Clinical trials with opioid dependent adults have established the effectiveness of buprenorphine for the treatment of opioid addiction. Effectiveness of buprenorphine has been compared to:

- Placebo (Johnson et al., 1995; Kakko et al., 2003; Ling et al., 1998)
- Methadone (Fischer et al. 1999; Johnson, Jaffee, & Fudula, 1992; Schottenfield et al., 1997; Strain et al. 1994)
- Methadone and LAAM (levo-alpha-acetyl-methadol) (Johnson et al. 2000)
Moving Science-Based Treatments into Clinical Practice

• A challenge in the addiction field is moving science-based treatment methods into clinical settings.

• NIDA and CSAT initiatives are underway to bring research and clinical practice closer.

• Buprenorphine treatment represents an achievement in this effort.
Partial-Agonist Therapy: Buprenorphine

• Buprenorphine is as effective as moderate doses of methadone (Fischer et al., 1999; Johnson, Jaffee, & Fudula, 1992; Ling et al., 1996; Schottenfield et al., 1997; Strain et al., 1994).

• Buprenorphine is as effective as moderate doses of LAAM (Johnson et al., 2000).

• Buprenorphine's partial agonist effects make it mildly reinforcing, encouraging medication compliance (Ling et al., 1998).

• After a year of buprenorphine plus counseling, 75% of patients retained in treatment compared to 0% in a placebo-plus-counseling condition (Kakko et al., 2003).
Partial-Agonist Therapy: Buprenorphine

• A synthetic opioid
• Described as a mixed opioid agonist-antagonist (or partial agonist)
• Available for use by certified physicians outside traditionally licensed opioid treatment programs
Partial-Agonist Therapy: Buprenorphine

• Partial Opioid Agonist
  – Produces a ceiling effect at higher doses
  – Has effects of typical opioid agonists—these effects are dose dependent up to a limit
  – Binds strongly to opiate receptor and is long-acting
• Safe and effective therapy for opioid maintenance and detoxification
Partial-Agonist Therapy: Buprenorphine

1. Patient can participate fully in treatment activities and other activities of daily living easing their transition into the treatment environment

2. Limited potential for overdose (Johnson et.al, 2003)

3. Minimal subjective effects (e.g., sedation) following a dose

4. Available for use in an office setting

5. Lower level of physical dependence
Partial-Agonist Therapy: Buprenorphine

- Discourages IV use
- Diminishes diversion
Partial-Agonist Therapy: Buprenorphine

1. Greater medication cost
2. Lower level of physical dependence (i.e., patients can discontinue treatment)
3. Detectable only in specific urine toxicology screenings
Medication costs are only one factor. Costs of providing treatment also include costs associated with clinic visits, staff time, etc. These costs are greater for methadone.

While not yet studied in young adults, research on adult populations has demonstrated cost effectiveness of buprenorphine across several indicators.
Partial-Agonist Therapy: Buprenorphine

- A cost effective comparison of buprenorphine versus methadone for opioid dependence both demonstrated increases in heroin-free days.

- There no statistical significance between the cost-effectiveness for buprenorphine and methadone.

(Doran et al., 2003)
Partial-Agonist Therapy: Buprenorphine

- Treatment with buprenorphine-naloxone was associated with a **reduction in opioid utilization and cost in the first year of follow-up** (Kaur & McQueen, 2008).

- Systematic review found good studies supporting buprenorphine as a **cost effective approach to opioid treatment** (Doran, 2008).
Another study in Australia found buprenorphine demonstrated lower crime costs and higher quality adjusted life years (QALY), concluding the likelihood of net benefits from substituting buprenorphine for methadone.

(Harris, Gospodarevshaya, & Ritter, 2005)
Why was Buprenorphine/Naloxone Combination Developed?

- Developed in response to increased reports of buprenorphine abuse outside of the U.S.
- The combination tablet is specifically designed to decrease buprenorphine abuse by injection, especially by out of treatment opioid users.
Partial-Agonist Therapy: Buprenorphine

- Each tablet contains buprenorphine and naloxone in a **4:1 ratio**
  - Each 8 mg tablet contains 2 mg of naloxone
  - Each 2 mg tablet contains 0.5 mg of naloxone

- Ratio was deemed optimal in clinical studies
  - Preserves buprenorphine’s therapeutic effects when taken as intended sublingually
  - Sufficient dysphoric effects occur if injected by some physically dependent persons to discourage abuse
Partial-Agonist Therapy: Buprenorphine

Abscesses due to injection of Subutex

Fig. 1. Case 1. Thenar intramuscular abscess. Several smaller subcutaneous abscesses are present along the line of the cephalic vein and in the cubital fossa (arrows).

Fig. 2. Case 2. 24 hours after injecting Subutex into the radial artery. There is fixed palmar mottling of the palmar skin similar to a “trash foot”, due to micro-emboli. The tips of the thumb, index, middle and ring fingers are dusky, but the little finger is spared. This pattern may be due to an incomplete palmar arterial arch with separate supply from the ulnar artery to the little finger. Injection marks can be seen along the course of the radial artery at the wrist (arrows). Thenar fasciotomy has been performed.

Fig. 3. Case 2. 2 weeks after injecting Subutex into the radial artery. Dry gangrene of the tips of the thumb, index, middle and ring finger.

Fig. 4. Case 3. 2 months after injecting Subutex into the brachial artery. There is wet gangrene of all the fingers, with blistering and fixed discoloration of the skin of the hand and forearm.
Partial-Agonist Therapy: Buprenorphine

- Buprenorphine and naloxone have different sublingual (SL) to injection potency profiles that are optimal for use in a combination product.

<table>
<thead>
<tr>
<th>SL Bioavailability</th>
<th>Potency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buprenorphine 40-60%</td>
<td>Buprenorphine ≈ 2:1</td>
</tr>
<tr>
<td>Naloxone 10% or less</td>
<td>Naloxone ≈ 15:1</td>
</tr>
</tbody>
</table>

(Chaing & Hawks, 2003)
Partial-Agonist Therapy: Buprenorphine

- Basic pharmacology, pharmacokinetics, and efficacy is the *same* as buprenorphine alone
- Partial opioid agonist; ceiling effect at higher doses
- Blocks effects of other agonists
- Binds strongly to opioid receptor, long acting
Partial-Agonist Therapy: Buprenorphine

Induction
Maintenance
Tapering Off/Medically-Assisted Withdrawal
Partial-Agonist Therapy: Buprenorphine

Induction
Partial-Agonist Therapy: Buprenorphine Induction Phase

Working to establish the appropriate dose of medication for patient to discontinue use of opiates with minimal withdrawal symptoms, side-effects, and craving
Partial-Agonist Therapy: Buprenorphine

If the patient needs a high level of medication to achieve maintenance, the ceiling effect of buprenorphine may result in withdrawal.

![Graph showing the relationship between Log Dose of Opioid and Intrinsic Activity.](image)
Partial-Agonist Therapy: Buprenorphine

Transferring Patients Onto Buprenorphine:
3 Ways Significant Withdrawal Could Occur

- Dose too low?
- Insufficient agonist effects
- Not full agonist
- May not fully replace
- Precipitates Withdrawal
- Ceiling effect
Partial-Agonist Therapy: Buprenorphine

Buprenorphine will replace other opioids at the receptor site; therefore the patient experiences withdrawal.

Intrinsic Activity

Log Dose of Opioid

Current intoxication level

Buprenorphine’s effect
Partial-Agonist Therapy: Buprenorphine

Direct Buprenorphine Induction from Short-Acting Opioids

• Ask patient to abstain from short-acting opioid (e.g., heroin) for at least 6 hrs. and be in mild withdrawal before administering buprenorphine/naloxone.

• When transferring from a short-acting opioid, be sure the patient provides a methadone-negative urine screen before 1st buprenorphine dose.

(Amass et al., 2004; Johnson et al., 2003)
Partial-Agonist Therapy: Buprenorphine

Direct Buprenorphine Induction from Long-Acting Opioids

- Clinical experience has suggest that induction procedures with patients receiving long-acting opioids (e.g. methadone-maintenance patients) are basically the same as those used with patients taking short-acting opioids, except:
  - The time interval between the last dose of medication and the first dose of buprenorphine must be increased.
  - **At least 24 hrs should elapse** before starting buprenorphine and longer time periods may be needed (up to 48 hrs).
  - Urine drug screening should indicate no other illicit opiate use at the time of induction.

(Center for Substance Abuse Treatment, 2004)
Partial-Agonist Therapy: Buprenorphine

Stabilization and Maintenance
Partial-Agonist Therapy: Buprenorphine

Stabilization Phase

*Patient experiences no withdrawal symptoms, side-effects, or craving*
Partial-Agonist Therapy: Buprenorphine

Maintenance Phase

Goals of Maintenance Phase:

- Help the patient stop and stay away from illicit drug use and problematic use of alcohol

1. Continue to monitor cravings to prevent relapse
2. Address psychosocial and family issues
Partial-Agonist Therapy: Buprenorphine

Maintenance Phase

Psychosocial and family issues to be addressed:

a) Psychiatric co-morbidity
b) Family and support issues
c) Time management
d) Employment/financial issues
e) Pro-social activities
f) Legal issues
g) Secondary drug/alcohol use
Partial-Agonist Therapy: Buprenorphine

- Take-home dosing is safe and preferred by patients, but patient adherence will vary and this can impact treatment outcomes.
- 3x/week dosing with buprenorphine/naloxone is safe and effective as well (Amass et al., 2001).
- *Counseling needs to be integrated into any buprenorphine treatment plan.*
Partial-Agonist Therapy: Buprenorphine

Medically-Assisted Withdrawal
(a.k.a. Dose Tapering; a.k.a. Detoxification)
Partial-Agonist Therapy: Buprenorphine

Buprenorphine Withdrawal

• Working to provide a smooth transition from a physically-dependent to non-dependent state, with medical supervision
  – Medically supervised withdrawal (detoxification) is accompanied with and followed by psychosocial treatment, and sometimes medication treatment (i.e., naltrexone) to minimize risk of relapse.

• Medically-supervised withdrawal may lead to early treatment engagement (Brigham et al., 2007).
Partial-Agonist Therapy: Buprenorphine
Medically-Assisted Withdrawal

• Outpatient and inpatient withdrawal are both possible

• How is it done?
  – Switch to longer-acting opioid (e.g., buprenorphine)
    • Taper off over a period of time (a few days to weeks depending upon the program)
    • Use other medications to treat withdrawal symptoms
  – Use clonidine and other non-narcotic medications to manage symptoms during withdrawal
Antagonist Medication: Vivitrol

• Approved for use in treatment for opioid use disorder on October 12, 2010.
• Approval followed a six-month clinical trial in which recovering adults were given either Vivitrol or a placebo.
• 36% of those on Vivitrol were still in treatment at the end of the study compared to 23% on the placebo.
Antagonist Medication: Vivitrol

• Prior to approval for use with opioid use disordered persons, it was already being used to treat alcoholism [as was the shorter acting pill form: Naltrexone (trade name ReVia)].

• When used in conjunction with counseling, it was shown to reduce the number of drinking days and heavy drinking days as well as prolonging abstinence.
Antagonist Medication: Vivitrol

• The recommended dose of VIVITROL is 380 mg delivered intramuscularly every 4 weeks or once a month. The injection should be administered by a health care professional as an intramuscular (IM) gluteal injection, alternating buttocks, using the carton components provided. VIVITROL must not be administered intravenously.

• If a patient misses a dose, he/she should be instructed to receive the next dose as soon as possible.

• Effectiveness in opioid treatment is related to:
  – Binding to opioid receptors in the brain,
  – Blocking neurotransmitters in the brain,
  – Eliminating pleasurable effects of recreational drugs such as alcohol, heroin and morphine.
Antagonist Medication: Vivitrol

• Unlike methadone and buprenorphine, Vivitrol is administered via intramuscular injection.
• Unlike methadone and buprenorphine which must be taken daily, Vivitrol is effective for 30 days.
• It can be prescribed by a Prescribing Nurse, unlike buprenorphine.
Antagonist Medication: Vivitrol

- The following side-effects have been identified:
  - Nausea, dizziness and vomiting
  - Fatigue and decreased appetite
  - Joint pain, muscle cramps and headaches
  - Depression (including suicidal thoughts)
  - Rashes, hives and swelling around the face
  - Liver damage
  - Pnuemonia
Antagonist Medication: Vivitrol

• For extreme stomach pain, vomiting or diarrhea, or if the area of injection becomes red or painful, prescriber should be notified.
• Also, persons should seek medical assistance if the following side-effects appear since they might be indicative of liver damage:
  – Dark or tea-colored urine
  – Bad stomachache
  – Light-colored bowel movements
  – Yellowing in the whites of the eyes or skin.
Antagonist Medication: Vivitrol

• Few to no side-effects occur when administered 7-10 days after the last use of an opioid.
• Switching from Methadone or Buprenorphine to Vivitrol will require the 7-10 day abstinence in order to have no opioids in the person’s system.
• If opioids are present when the injection occurs, the person will be put into withdrawal.
Antagonist Medication: Vivitrol

- Vivitrol blocks opioids from activating the opiate receptors in the brain, therefore it takes away the reward of getting high.
- It may not stop drug-craving. Person should be highly motivated to stay in recovery.
- Prior to the first dose, the person should have a physical examination in order to ensure that the liver will adequately and safely processed.
Antagonist Medication: Vivitrol

• There are no withdrawal symptoms when a person stops taking Naltrexone, or misses his/her next injection.
• Some persons will take especially large amounts of opioids with the hope of being able to get high. This can lead to overdose and death.
• Methadone is still the preferred and safer medication for pregnant women.
• Naltrexone/Vivitrol will prohibit effectiveness of pain relieving narcotic medications.
Antagonist Medication: Vivitrol

- The medications can be used for either detox protocols or maintenance.
- Length of stay on the medication is determined by the person, and can be used as long as need to prevent relapse.
Module III – Summary

• Three effective medications are available.
• These medications have been proven to be safe and effective in the treatment of opioid addiction.
• The multidisciplinary team is critical in medication assisted treatment. Providing psychosocial and supportive treatment to patients maximizes the potential for success.
Medication Assisted Treatment: A Training For Multidisciplinary Addiction Professionals

Module IV: Identification of Patients for Medication Assisted Treatment
Goals for Module IV

This module will assist participants to:

• Define the components of the patient selection process

• Demonstrate the ability to understand the concept of opioid addiction and how a diagnosis is achieved

• Demonstrate an understanding of appropriate patient selection for office-based treatment
Goals for Module IV

• List circumstances where someone may not meet full criteria for opioid addiction and yet still be appropriate for medication assisted treatment.

• Describe the medical contraindications for medication assisted treatment

• Understand the perspectives of patients who are receiving medication assisted treatment
Who is Appropriate for Medication Assisted Treatment?
Patient Selection: Assessment Questions

- Is the patient addicted to opioids?
- Is the patient aware of other available treatment options?
- Does the patient understand the risks, benefits, and limitations of medication assisted treatment?
- Is the patient expected to be reasonably compliant?
- Is the patient expected to follow safety procedures?
Patient Selection: Assessment Questions

- Is the patient psychiatrically stable?
- Is the patient taking other medications that may interact with their addiction recovery medication?
- Are the psychosocial circumstances of the patient stable and supportive?
- In which medication is the person voicing interest and do they meet eligibility requirements?
- Are there resources available in the office to provide appropriate treatment?
Patient Selection
Issues Involving Consultation with the Physician

Several factors may indicate a patient is less likely to be an appropriate candidate, including:

• Patients taking high doses of benzodiazepines, alcohol or other central nervous system depressants
• Significant psychiatric co-morbidity
• Multiple previous opioid addiction treatment episodes with frequent relapse during those episodes (may also indicate a perfect candidate)
• Non-response or poor response to the specific medication treatment in the past
Patient Selection
Issues Involving Consultation with the Physician

Several factors may indicate a patient is less likely to be an appropriate candidate, including:

• Active or chronic suicidal or homicidal ideation or attempts
• Patient needs that cannot be addressed with existing resources or through appropriate referrals
• High risk for relapse to opioid use
• Poor social support system
• Many of these ‘issues’ are assessed in the current version of the ASAM PPC.
Pregnancy-Related Considerations

• Methadone maintenance is the treatment of choice for pregnant opioid-addicted women.

• Opioid withdrawal should be avoided during pregnancy.

• Buprenorphine may eventually be useful in pregnancy, but is currently not approved.

• Naltexone/Vivitrol is not recommended for use with pregnant women.

(Jones et al., 2005)
Currently buprenorphine is a Category C medication. This means it is not approved for use during pregnancy.

Studies conducted to date suggest that buprenorphine may be an excellent option for pregnant women.

Randomized trials are underway to determine the safety and effectiveness of using buprenorphine during pregnancy.
Specific Research on Buprenorphine and Pregnancy

- Case series in France: safe and effective, possibly reducing NAS
- One preliminary study in US: examining the use of buprenorphine versus methadone in the treatment of pregnant opioid-dependent patients: effects on the neonatal abstinence syndrome
- Off label prescription of Subutex may be allowed provided that there is sufficient written evidence of discussion with the pregnant woman about methadone being the preferred medication, and the woman signs a waiver.
Specific Research on Buprenorphine and Pregnancy

- Head to head randomized blinded comparison between methadone and buprenorphine in pregnant women
- Women admitted during second trimester
- One statistically significant finding: shorter stay for buprenorphine
- Other trends for buprenorphine: fewer infants treated for NAS, less NAS medication used.
- Multi-site trial in progress now.
Summary: Opioid Addiction and Pregnancy

- Methadone maintenance is still the treatment of choice and standard of care in the US.
- Buprenorphine treatment is possible, evidence still lacking.
- Detoxification is relatively contraindicated unless conducted in hospital setting where the patient can be closely monitored.
- Naltrexone/Vivitrol is NOT recommended for use with pregnant women.
Patient Selection: Issues Involving Consultation with the Physician

Patients with these conditions must be evaluated by a physician for appropriateness prior to medication assisted treatment:

– Seizures
– HIV and STDs
– Hepatitis and impaired hepatic function (Carrieri et al., 2000)
– Use of alcohol, sedative-hypnotics, and stimulants (Reynaud, Petit, Potard, & Courty, 1998; Reynaud et al., 1998)
– Other drugs of abuse
Patient Selection

- Patients who do not meet criteria for opioid addiction may still be appropriate for treatment with medication assisted treatment:
  - Patients who are risk of progression to addiction or who are injecting
  - Patients who have had their medication discontinued and who are now at high risk for relapse
Patient Selection: Additional Details

• Suitability determined by a physician

• What is the relevance to counselors?
  – Patient’s appropriateness may change during treatment
  – Potential patients or other providers may inquire about treatment
  – More useful and informed communication with physician
Determining Individualized Treatment

Case Study #1:
Lena is a 30-year old mother of twin 7-year old boys. She uses prescription opioids and heroin (snorts, no IV use). She is facing 3 counts of forgery and 1 count of prescription fraud. Her sons are in kinship placement with her sister. Lena formerly worked as an LPN but her license was revoked due to diversion. She has had multiple treatments but relapsed within 2 months of treatment. Lena has a significant history of sexual abuse and trauma.
“I just want my boys back. I’ll do whatever I have to do.”

Would you recommend medication-assisted treatment for Lena?
Yes ☐ No ☐

If yes,
☐ Methadone
☐ Buprenorphine with naloxone
☐ Naltrexone pills
☐ Buprenorphine mono formulation
☐ Naltrexone long acting injection
Determining Individualized Treatment

Case Study #2:
Nick is a 26-year old long time heroin users. He is affiliated with a gang and has had numerous arrests for violent crimes. He is awaiting trial for aggravated felonious assault. He was on parole after serving 4 years for a home invasion. He has scars on his neck from IV use. He has been on and off methadone several times. “I can do good if I can get back on the clinic”

Would you recommend medication-assisted treatment for Nick?
Yes ☐ No ☐

If yes,
☐ Methadone
☐ Buprenorphine with naloxone
☐ Naltrexone pills
☐ Buprenorphine mono formulation
☐ Naltrexone long acting injection
Case Study #3:
Stan is a 42-year old man who has been using heroin for at least 2 decades. When possible he likes to inject speedball (heroin/cocaine mix). Stan has early criminal justice involvement. He began using tobacco, alcohol and drugs in his early teens. He’s had repeated arrests and multiple treatment episodes. When he has stopped heroin in the past, he drinks heavily. He engages in daily criminal activities to support his addiction. Stan has a family history of alcoholism and mental illness.

“I am getting too old for this crap”

Would you recommend medication-assisted treatment for Stan?
Yes □ No □

If yes,
□ Methadone
□ Buprenorphine with naloxone
□ Naltrexone pills
□ Buprenorphine mono formulation
□ Naltrexone long acting injection
Renee is a 36-year old pregnant woman who prefers using oxycodone, but has used heroin and other opioids. She has a long history of arrests for prostitution and shoplifting. She experienced juvenile detention, foster homes and multiple traumas. She has a daughter placed in foster care by DCF. She wants to get in a pre-release program for mothers and babies.

“I can’t lose this baby. This is my time to step up and be a mom.”

Would you recommend medication-assisted treatment for Renee?
Yes ☐ No ☐

If yes,
☐ Methadone
☐ Buprenorphine with naloxone
☐ Naltrexone pills
☐ Buprenorphine mono formulation
☐ Naltrexone long acting injection
Module IV – Summary

• Not all opioid-addicted patients are good candidates for all of the medications used to assist recovery.

• Ten simple criteria can help to guide assessment of appropriateness for buprenorphine treatment.

• Patients who have certain medical conditions such as HIV, STDs, hepatitis, etc., should be carefully screened by a physician prior to being started on medication assistance.
Medication Assisted Treatment:
A Training For Multidisciplinary Addiction Professionals

Module V:
Coordinated Care
Effective Coordination of Care

Effective coordination combines the strengths of various systems and professions, including: physicians, addiction counselors, 12-step programs, and community support service providers. The roles of certain providers may vary by state, depending upon the identified scope of practice for each profession.
This module will assist participants to:

- Develop strategies to form links between physicians who are authorized to prescribe buprenorphine and substance abuse treatment providers
- Identify the role of the addiction programs/professionals in providing buprenorphine treatment
- Identify other professionals who have a role in the continuum of care for buprenorphine patients
Goals for Module V

This module will help participants to:

• Identify key issues in coordinating care
• Name key issues in managing care for Patients on medication assistance.
The Benefits of Coordinated Care

• Capacity for physician to refer to treatment is required under the law (DATA 2000)
• Substance abuse treatment providers have expertise in managing and coordinating care for substance using clients
• Combines goals of the medical and behavioral health systems—holistic care rather than compartmentalized care
• Treatment modality (e.g., inpatient vs. outpatient), type (e.g., methadone vs. buprenorphine vs. naltrexone), and setting (office based vs. OTP) can be made to maximize fit with patient needs
Roles of the Physician

• Screening
• Assessment
• Diagnosing Opioid Addiction
• Patient Education
• Prescribing Buprenorphine
• Urinalysis Testing
• Recovery Support
Roles of the Multidisciplinary Team

- Screening
- Assessing and Diagnosing of Opioid Addiction
- Psychosocial Treatment
- Patient Education
- Referral for Treatment
- Urinalysis Testing
- Recovery Support
- Case Management and Coordination
Roles of the Community Support Provider

- Screening
- Assessment
- Referral for Treatment
- Recovery Support
- Meeting Ancillary Needs of the Patient
Roles of the 12-Step Program

• Recovery Support
  – Being on an opioid treatment medication may be an issue in some 12-step meetings.
  – Program staff should be prepared to coach patients on how to handle this issue.
# A Model of Coordinated Care

<table>
<thead>
<tr>
<th>Role</th>
<th>Physician</th>
<th>Nurse</th>
<th>Pharmacist</th>
<th>Addiction Counselor</th>
<th>12 Step Program</th>
<th>Community Support Provider</th>
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<tr>
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<td>X</td>
</tr>
</tbody>
</table>
CAN THE ADDICTION COUNSELOR DIAGNOSE OPIOID ADDICTION?

CAN THE ADDICTION COUNSELOR PRESCRIBE MEDICATIONS?

Other addiction professionals may make the diagnosis, but the physician or prescriber would confirm the diagnosis prior to prescribing buprenorphine.
Use The SAMHSA Physician Locator Service To Find a Physician Authorized To Prescribe in Your State

[www.buprenorphine.samhsa.gov.bwns_locator](http://www.buprenorphine.samhsa.gov.bwns_locator)
[www.samhsa.gov](http://www.samhsa.gov) and click onto Behavioral Health Treatment Locator.
Notice: The Drug Addiction Treatment Act of 2000 limits physicians or physician group practices to prescribing buprenorphine for opioid addiction to a maximum of 30 patients at one time. Because of this, some physicians listed on the Locator may not be accepting new patients at this time. If you are unable to find a physician within your area who is accepting new patients, please check our site later, as new physicians are being added weekly.

To locate the physicians authorized to prescribe Buprenorphine nearest you, find your State on the map below and click on it.
Challenges for Addiction Treatment Professionals

• Not all physicians who are trained have consented to be listed on Physician locator. Community outreach is still critical.

• Linking patients to primary care who have not been within the medical mainstream

• Coordination with other professionals not accustomed to working with non-medical partners

• Covering the cost of medication
Barriers to Effective Care Coordination

- Misunderstanding respective roles
- Conflicting goals for treatment
- Confidentiality restrictions
- Control issues
- Misconception of other professional perspectives
Barriers to Effective Care Coordination

• What are some of the barriers that you have encountered with respect to care coordination?

• What are some potential barrier-removers?
Attributes of Successful Care Coordination

• Understanding roles for each participant in the treatment team

• Ongoing communication across professions

• Personal contact between partners in the system
Module V – Summary

• Not all opioid-addicted patients are good candidates for medication assisted treatment.
• Selection of treatment type and setting should be done to maximize fit with patient needs
• Treatment success is enhanced by good patient assessment and selection.
• Open communication amongst the various care providers helps to ensure successful coordination of care.
Medication Assisted Treatment:
A Training For Multidisciplinary Addiction Professionals

Module VI:
Counseling Persons on MAT
Goals for Module VI

This module reviews the following:

• Issues in Opioid Recovery
• Craving and Triggers
• Special Populations
• Medication Assisted-Related Patient Management Issues
Issues in Recovery

• 12-Step meetings and the use of medication
• Drug cessation and early recovery skills
  – Disposing of drugs and related paraphernalia
  – Dealing with triggers and cravings
• Treatment should be delivered within a formal structure.
• Relapse prevention is not a matter of will power.
A trigger is a stimulus which has been repeatedly associated with the preparation for, anticipation of, or use of drugs and/or alcohol. These stimuli include people, things, places, times of day, and emotional states.
Issues in Recovery: Triggers

- People, places, objects, feelings and times can cause cravings.
- An important part of treatment involves stopping the craving process:
  - Identify triggers
  - Present exposure to triggers
  - Deal with triggers in a different way

(Center for Substance Abuse Treatment, 2006)
Issues in Recovery: Triggers

- Secondary drug use
- Internal vs. external triggers
- “Red flag” emotional states
  - Loneliness
  - Anger
  - Deprivation
  - Stress
- Others?
Issues in Recovery: Craving

- A strong desire for something
- Does not always occur in a straightforward way
- It takes effort to identify and stop a drug-use related thought.
- The further the thoughts are allowed to go, the more likely the individual is to use drugs.

(Center for Substance Abuse Treatment, 2006)
During addiction, triggers, thoughts, and craving can run together. The usual sequence, however, is as follows:

The key to dealing with this process is to not allow for it to start. Stopping the thought when it first begins helps prevent it from building into a craving.

(Center for Substance Abuse Treatment, 2006)
Thought-Stopping Techniques

- Visualization
- Snapping
- Relaxation
- Calling someone

(Center for Substance Abuse Treatment, 2006)
Areas of Needs Assessment

- Drug use
- Alcohol use
- Social Issues
- Social Services
- Psychological history and status
- Education
- Vocational
Patient Management Issues

- Pharmacotherapy alone is insufficient to treat drug addiction.
- Physicians are responsible for providing or referring patients to counseling.
- Contingencies should be established for patients who fail to follow through on referrals.
Patient Management: Treatment Monitoring

Goals for treatment should include:

- No illicit opioid drug use
- No other drug use
- Absence of adverse medical effects
- Absence of adverse behavioral effects
- Responsible handling of medication
- Adherence to treatment plan
Patient Management: Treatment Monitoring

Weekly visits (or more frequent) are important to:

1. Provide ongoing counseling to address barriers to treatment, such as travel distance, childcare, work obligations, etc
2. Provide ongoing counseling regarding recovery issues
3. Assess adherence to dosing regimen
4. Assess ability to safely store medication
5. Evaluate treatment progress
Patient Management: Treatment Monitoring

- Urine toxicology tests should be administered at least monthly for all relevant illicit substances.
- The medication can be tapered while psychosocial services continue.
- The treatment team should work together to prevent involuntary termination of medication and psychosocial treatment.
- In the event of involuntary termination, the physician and/or other team members should make appropriate referrals.
- Physicians should manage appropriate withdrawal of medication to minimize withdrawal discomfort.
Special Populations

• Patients with co-occurring medical disorders
• Patients with co-occurring psychiatric disorders
• Pregnant women
• Adolescents and young adults
Co-occurring Medical Disorders

- Some medical problems are more prevalent in persons with opioid use disorder than in the general population.
- Infectious diseases that are prevalent include: TB, STD’s, viral hepatitis and HIV infection are monitored by the CDC’s.
- Acute infections and chronic disease are important to take into consideration when deciding upon MAT.
- Periodic Assessments should be taken...things change.
Co-occurring Medical Disorders

• Acute Life-Threatening Infections:
  – Endocarditis
  – Soft-tissue Infections
  – Necrotizing Fasciitis
  – Wound Botulism
  – MRSA
Co-occurring Medical Disorders

• Infectious Diseases:
  – Tuberculosis
  – STD’s (Syphilis, Genital Chlamydia, Gonococcus Infections)
  – Hepatitis A, B, C
  – HIV/AIDS
  – Co-Infections
Co-occurring Medical Disorders

• Chronic Conditions:
  – Cardiac Events
  – Cirrhosis
  – Liver diseases
  – Respiratory problems
  – Lung disease
  – Endocrine disorders
  – Insomnia
  – Acute/Chronic Pain
Medication and Pain Management
Medication-Assisted Treatment and Pain Management

Common Misconceptions

• Maintenance opioid agonists provide pain relief.

• Use of opioids for pain relief may result in addiction or relapse.

• Combining opioid analgesics and opioid agonist therapy may cause respiratory and central nervous system depression.

• The pain complaint may be a manipulation to obtain medications to feel “high.”
MAT and Pain Management

- Pain is clearly a stressor
- May predispose those in recovery to relapse
- It stands to reason that if the patient who is in recovery with or without opioid agonist therapy (OAT) and the pain is undertreated or not treated
  - The patient may turn to the street for diverted prescription medication or illicit drugs
  - Or may use legal drugs such as alcohol to anesthetize him or herself to the pain

D Gourlay, HA Heit, A Almahrezi
Universal Precautions in Pain Medicine:
A Rational Approach to the Treatment of Chronic Pain
Buprenorphine and Pain Management

• No peer-reviewed published data or clinical practice guidelines are available to advise as to the type of pain, the severity of pain, appropriate dose or appropriate dosing intervals of buprenorphine SL or buprenorphine/naloxone SL for the management of acute or chronic pain.
  
  • Acute Pain
    – Initially treat with non-opioid analgesics
    – Pain not relieved by non-opioid medications, follow usual pain management protocol
  
  • Chronic Pain
    – May not be good candidate for buprenorphine treatment because of the ceiling effect
Buprenorphine and Pain Management

- General Principles:
  1. Sublingual tablet formulations of buprenorphine and buprenorphine/naloxone are only FDA-approved for the treatment of severe opioid use disorder (addiction).
  2. Sublingual tablet formulations of buprenorphine and buprenorphine/naloxone are not FDA-approved for the treatment of pain. Use of the medications in this manner is not illegal but constitutes off-label prescribing.
Buprenorphine and Pain Management

3. Sublingual formulations of buprenorphine and buprenorphine/naloxone may provide mild analgesia in opioid-dependent (addicted) individuals with acute and chronic pain

a) Dividing the dose of buprenorphine SL and buprenorphine/naloxone SL to twice, or three, times a day may impart more consistent analgesia effect than single daily doses.

Methadone and Pain Management

A common misconception in evaluating pain is that a patient maintained on a stable dosage of methadone does not require additional pain relief for a medical or surgical procedure. Methadone-maintained patients are often tolerant to their dosage, however, and receive no analgesic effect.

General guidelines for treating acute pain in these patients include continuing daily methadone maintenance at the prescribed dosage.
Methadone and Pain Management

It is also reasonable to divide a patient's dose in half and administer one half intramuscularly before a surgical procedure and the other half afterward.

Nonnarcotic agents should be considered the first option for the treatment of pain. If nonnarcotic analgesics are inadequate in managing acute pain, it is appropriate to prescribe short-acting opioid agonists.
Methadone and Pain Management

Chronic pain is more difficult to treat than acute pain in this population. These patients typically have a history of multiple surgical procedures, unsuccessful pain treatment and increased drug abuse.

Pain clinics offer a broad spectrum of interventions to address chronic pain syndromes. Adjunctive therapies such as biofeedback, acupuncture, behavioral management and neuroablative procedures are often available at such clinics.
Methadone and Pain Management

Those on medications, including Vivitrol, should wear a med-alert tag or ID card so that providers of emergency medical care will know that you are being prescribed.

After receiving Vivitrol, the person may be more sensitive to the effects of narcotic pain medications.
Co-Occurring Psychiatric Disorders

• Co-occurring Disorder: Co-existing Mental Disorder with a Substance Use Disorder

• Common Disorders:
  – Mood Disorders
  – Anxiety Disorders
  – ADHD
  – Cognitive Disorders
  – Eating Disorders
  – Impulse Control Disorders
  – Sleep Disorders
  – Personality Disorders
Co-Occurring Psychiatric Disorders

• Opioid users frequently have concurrent psychiatric diagnoses and need proper diagnosis/treatment.
• Clinicians must consider the duration, recentness, and amount of drug use when selecting appropriate patients.
• Signs of anxiety, depression, thought disorders or unusual emotions, cognitions, or behaviors should be reported to physician and discussed with the treatment team.
• Sometimes the effects of drug use and/or withdrawal can mimic or induce psychiatric symptoms.
Co-Occurring Psychiatric Disorders

- Persons with co-occurring disorders often have poorer prognoses.
  - Untreated co-occurring disorders can impede progress and can lead to difficulties in establishing therapeutic relationship.
  - Symptom severity of the co-occurring disorder should not be considered predictive of treatment outcomes, but may impact treatment intensity.
  - Research suggests that persons with co-occurring are at a higher risk of suicide, psychiatric hospitalization, homelessness, infectious diseases, malnutrition, domestic violence, unemployment, etc.
Co-Occurring Psychiatric Disorders

• Three Models of Treating Co-occurring Disorders:
  – Sequential Model: treat one disorder then the other.
  – Parallel Model: Treat both disorders at the same time but in different treatment settings; mental health center and substance use recovery center.
  – Integrated Model: Patient-centered treatment in which both disorders are treated simultaneously by the same clinician, and involves the whole continuum of care.
Co-Occurring Psychiatric Disorders

• Pharmacological Interventions
  – Some conditions require additional medications in order to stabilize psychiatrically and medically.
  – Some medications are contra-indicated.
  – Close monitoring is important, and any expressed concerns or observations that cause questioning should be reported immediately to the prescriber(s).
  – Important that ALL prescribers are on the same page.
## Co-Occurring Psychiatric Disorders

<table>
<thead>
<tr>
<th>Medication</th>
<th>Action with Methadone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selective Serotonin Reuptake Inhibitors (SSRI’s)</td>
<td>May inhibit metabolism of methadone and increase methadone blood levels</td>
</tr>
<tr>
<td>Fluoxetine (Prozac)</td>
<td>Fluvoxamine is the most dangerous SSRI in terms of Methadone interaction and should be avoided for clients on MAT.</td>
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<tr>
<td>Sertraline (Zoloft)</td>
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</tr>
<tr>
<td>Fluvoxamine (Luvox)</td>
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</tr>
<tr>
<td>Carbamazepine (Tegretol)</td>
<td>Increases production of liver enzymes that metabolize Methadone and can cause opioid withdrawal symptoms.</td>
</tr>
<tr>
<td>Tricyclics</td>
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<tr>
<td>Desipramine</td>
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<td>Nortriptyline</td>
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<td>Imipramine</td>
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<td>Doxepin</td>
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<td>MOA Inhibitors</td>
<td>MOA Inhibitors may have dangerous interactions with substances of abuse.</td>
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# Co-Occurring Psychiatric Disorders

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<tr>
<th>Medication</th>
<th>Action with Buprenorphine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambien</td>
<td>May cause respiratory distress, coma, or even death. Client may need a dose adjustment or more frequent monitoring by the prescriber to safely use both medications.</td>
</tr>
<tr>
<td>Lyrica</td>
<td></td>
</tr>
<tr>
<td>Valium</td>
<td></td>
</tr>
<tr>
<td>Xanax</td>
<td></td>
</tr>
<tr>
<td>Alcohol</td>
<td></td>
</tr>
<tr>
<td>Cymbalta</td>
<td>Using buprenorphine together with Duloxetine may increase side effects such as dizziness, drowsiness, confusion, and difficulty concentrating. Some people, especially the elderly, may also experience impairment in thinking, judgment, and motor coordination.</td>
</tr>
<tr>
<td>Lexapro</td>
<td></td>
</tr>
<tr>
<td>OxyContin</td>
<td>Buprenorphine may also cause the client to experience unpleasant withdrawal symptoms.</td>
</tr>
<tr>
<td>Wellbutrin</td>
<td>Wellbutrin and Buprenorphine may rarely cause seizures, and combining it may increase that risk. Prescribers need to be consulted.</td>
</tr>
</tbody>
</table>
## Co-Occurring Psychiatric Disorders

<table>
<thead>
<tr>
<th>Medication</th>
<th>Action with Vivitrol</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cymbalta</strong></td>
<td>Naltrexone may cause liver problems, and using it with other medications that can also affect the liver such as Duloxetine may increase that risk.</td>
</tr>
<tr>
<td><strong>Buprenorphine</strong></td>
<td>Using naltrexone together with buprenorphine and/or full agonist medications such as Codeine is not recommended. Naltrexone can block the effects and make the medication less effective in treating the co-existing condition.</td>
</tr>
<tr>
<td><strong>Full-Agonist Medications</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Alcohol</strong></td>
<td>Naltrexone may cause liver problems, and using it with other medications that can also affect the liver such as ethanol may increase that risk.</td>
</tr>
</tbody>
</table>
Co-Occurring Psychiatric Disorders

• Non-Pharmacological Treatment Approaches:
    • CBT
    • DBT
    • MET
    • Individual, group, family.
  – Self-help groups such as 12-step based programs, SMART Recovery, Rational Recovery, Women for Sobriety.
Co-Occurring Psychiatric Disorders

With respect to the treatment of Co-occurring D/O’s:

• What are the challenges and/or barriers with providing individual therapy? Group therapy? Family therapy?
  – What are some potential barrier-removers?

• What are the challenges and/or barriers with the use of self-help groups?
  – What are some potential barrier-removers?
Pregnancy-Related Considerations

- Methadone maintenance is the treatment of choice for pregnant opioid-addicted women.
- Opioid withdrawal should be avoided during pregnancy.
- Buprenorphine may eventually be useful in pregnancy, but is currently not approved.
- Vivitrol is FDA pregnancy category C. It is not known whether Vivitrol will harm an unborn baby.

(Jones et al., 2005)
Pregnancy-Related Considerations

• A 2012 study on Fetal monitoring has suggested that buprenorphine results in less fetal cardiac and movement suppression than does methadone.
• In addition, buprenorphine results in less severe neonatal abstinence syndrome than does methadone.
• Both Methadone and Buprenorphine are Category C medications. Because Methadone has longer use history, it is the standard medication used with pregnant women.
Pregnancy-Related Considerations

• It may be difficult to identify pregnancy because the early signs (fatigue, headache, nausea, vomiting, etc.) mimic withdrawal symptoms.
• Onset of pregnancy may cause an increase in illicit use if it is thought to be withdrawal.
• Using an opioid ANTAGONIST to diagnose addiction is pregnant women is absolutely contraindicated as it can lead to premature labor or other adverse fetal effects.
Pregnancy-Related Considerations

• Obstetrical Complications:
  – Placental abruption, intrauterine death, intrauterine growth retardation, placental insufficiency, premature delivery, septic thrombophlebitis, spontaneous abortion.

• Medical Complications:
  – Anemia, poor nutrition, increase blood pressure, hyperglycemia, STD’s, Hepatitis, Preeclampsia, etc.
  – Be sure to have consent forms to speak directly with OB-gyn. If client refuses, document request and subsequent refusal.
Pregnancy-Related Considerations

• Neo-natal Outcomes:
  – Infants prenatally exposed to opioids have a high incidence of neonatal abstinence syndrome (NAS) characterized by hyperactivity of the central and autonomic nervous systems that are reflected in changes in the GI tract and respiratory system.
  – NAS is influenced by type of substances used by the mother, timing and dosage of methadone before delivery, characteristics of labor, nutrition, etc.
  – NAS may be mild and transient, delayed in onset or incremental in severity.
  – NAS can be treated satisfactorily without any severe effects upon the new born.
  – Two medications most commonly used to treat NAS: methadone and morphine. Phenobarbital and other sedative-type meds are often used as an adjunct.
Pregnancy-Related Considerations

• There are no specific studies examining maternal and neonatal outcomes following buprenorphine treatment during pregnancy using women who were dependent on prescription opioids.

• Overall, findings from comparative studies of methadone and buprenorphine, including randomized clinical trials, indicate that both medications are effective in preventing relapse to illicit opioids in opioid-dependent pregnant patients.

• Although methadone maintenance is associated with better treatment retention than buprenorphine, buprenorphine maintenance during pregnancy was associated with improved maternal and fetal outcomes, compared with no medication-assisted treatment.

Source: Providers’ Clinical Support System for Medication Assisted Treatment. 2014.
Opioid-Addicted Adolescents and Young Adults

BRAIN DEVELOPMENT IN ADOLESCENCE:

• Strengthening the Circuitry: Synaptic connections are strengthened

• Pruning Unused Connections
  • Adolescent brain is in a unique state of flux
  • Neurons are eliminated, pruned and shaped
  • This process is influenced by interactions with the outside world (Gogtay et al., 2004)
  • Pruning occurs from back to front so frontal lobes mature the last.

• Other brain areas are also growing during adolescence (e.g., subcortical areas, receptors)
Opioid-Addicted Adolescents and Young Adults

- The Adolescent Brain, not fully developed, is manifested by:
  - Difficulty in decision making
  - Difficulty understanding the consequences of behavior
  - Increased vulnerability to memory and attention problems

  **This can lead to:**
  - Increased experimentation
  - Opioid (and other substance) addiction
Opioid-Addicted Adolescents and Young Adults

- Alcohol and drugs affect the brains of adolescents and young adults differently than they do adult brains
  - Adolescent rats are more sensitive to the memory and learning problems than adults.
  - Conversely, they are less susceptible to intoxication (motor impairment and sedation) from alcohol.
- These factors may lead to higher rates of dependence in these groups
Opioid-Addicted Adolescents and Young Adults

– Demographic factors
  • Early age of onset
  • Gender difference; heavier use among males

– Social-environmental factors
  • Family/peer approval
  • Family/peer role models for use
  • Incompatibility between parents and peers
  • Absence of closeness to parents
  • Weak parental controls
  • Accessibility to drugs
  • Cultural Aspects and Contributors
Opioid-Addicted Adolescents and Young Adults

– **Intrapersonal factors**
  • Greater value on independence
  • Lower value on achievement
  • Lower expectations for academic achievement
  • Greater tolerance for deviant behavior
  • Lower religiosity
  • Greater expectations of failure

– **Behavioral factors**
  • Various forms of delinquency
  • Sexual activity at a young age
  • Political activism
  • Declining academic performance
Opioid-Addicted Adolescents and Young Adults

• Current treatments for opioid-addicted adolescents and young adults are often unavailable and when found, clinicians report that the outcome leaves much to be desired.

• States have different requirement for admitting clients under age 18 to addictions treatment. It is important to know the local requirements.
Opioid-Addicted Adolescents and Young Adults

• Approved minimum ages for medications:
  – Buprenorphine is approved for use with opioid dependent persons age 16 and older.
  – Vivitrol has not been studied with children and geriatric patients.
  – Minimum age for methadone is 18 however 16-18 year olds can be prescribed via exception.

• Research supports the belief that medical treatment likely needs to be longer than current standard treatment indicates.
Managing Multiple Substance Use

• Persons in MAT commonly use alcohol, amphetamines, benzodiazepines and other prescribed sedatives, cocaine, marijuana and nicotine.

• CNS depressants are especially dangerous when used with opioids.

• Whether to use MAT with a person who abuses multiple substances should be determined on an individual basis.
Managing Multiple Substance Use

- Alcohol-related factors are a major cause of death among persons on MAT.
- Alcohol can lead to overdose, liver damage, increased methadone metabolism.
- Benzo’s can increase the effects of methadone (“boosting”).
- Cocaine and stimulants can:
  - Have cardiovascular effects
  - Respiratory effects
  - Mood swings
  - Decrease methadone concentration in blood.
Managing Multiple Substance Use

• Marijuana use is prevalent among persons on MAT and is often used to self-medicate anxiety or insomnia
• Persons and many professionals will overlook marijuana use, especially as it becomes more legally acceptable.
• What are you thoughts about this?
Managing Multiple Substance Use

- Nicotine-related illnesses are a major cause of morbidity and mortality among MAT clients.
- A 2000 study found that persons in MAT who smoked heavily were more likely to abuse cocaine and opioids.
- How does your program address nicotine use?
Counseling Patients on MAT

- Address issues of the necessity of counseling with medication for recovery.

- Recovery and Pharmacotherapy:
  - Patients may have ambivalence regarding medication.
  - The recovery community may ostracize patients taking medication.
  - Counselors need to have accurate information.
Counseling Patients on MAT

- Recovery and Pharmacotherapy:
  - Focus on “getting off” medication may convey taking medicine is “bad.”
  - Suggesting recovery requires cessation of medication is inaccurate and potentially harmful.
  - Support patient’s medication compliance
  - “Medication,” not “drug”
Counseling Patients on MAT

• Dealing with Ambivalence:
  – Impatience, confrontation, “you’re not ready for treatment”
  or,
  – Deal with patients at their stage of acceptance and readiness
Counseling Patients on MAT

• Counselor Responses:
  – Be flexible
  – Don’t impose high expectations
  – Don’t confront
  – Be non-judgmental
  – Use a motivational interviewing approach
  – Provide reinforcement
Counseling Patients on MAT

• Encouraging Participation in 12-Step Meetings:
  – What is the 12-Step Program?
  – Benefits
  – Meetings: speaker, discussion, Step study, Big Book readings
  – Self-help vs. treatment
  – How to deal with the stigma often surfacing at meetings
Counseling Patients on MAT

• Issues in 12-Step Meetings:
  – Medication and the 12-Step program
    • Program policy
      – “The AA Member: Medications and Other Drugs”
      – NA: “The ultimate responsibility for making medical decisions rests with each individual”
    • Some meetings are more accepting of medications than others
Counseling Patients on MAT

• **A Motivational Interviewing Approach:**
  – Dealing with other drugs and alcohol
  – Doing more than not-using

• **MIA-STEP (Motivational Interviewing Assessment: Supervisory Tools for Enhancing Proficiency)**
  – Developed through the Blending Initiative
  – Empirically supported mentoring products to enhance the MI skills of treatment providers
  – Provides tools to help supervisors offer structured, focused, and effective supervision.
  – The blending products are available at [www.drugabuse.gov/Blending/](http://www.drugabuse.gov/Blending/) [www.attcnetwork.org](http://www.attcnetwork.org)
Counseling Patients on MAT

- Express empathy
- Develop discrepancy
- Avoid argumentation
- Support self-efficacy
- Ask open-ended questions
- Be affirming
- Listen reflectively
- Summarize
Counseling Patients on MAT

- NIDA CTN research shows that treatment retention and drug abstinence are improved by providing low-cost reinforcement (prizes, vouchers, clinic privileges, etc.), for drug negative urine tests.
- The Blending Product Promoting Awareness of Motivational Incentives (PAMI) provides information on this effective technique.
- The blending products are available at: www.drugabuse.gov/Blending/ www.attcnetwork.org
Counseling Patients on MAT

• **Early Recovery Skills:**
  – Getting Rid of Paraphernalia
  – Scheduling
  – Trigger Charts
Counseling Patients on MAT

- **Relapse Prevention:**
  - Patients need to develop new behaviors.
  - Learn to monitor signs of vulnerability to relapse.
  - Recovery is more than not using illicit opioids.
  - Recovery is more than not using drugs and alcohol.
Counseling Patients on MAT

• Relapse Prevention: Sample Topics
  – Relapse Prevention
    • Overview of the concept
  – Using Behavior
    • Old behaviors need to change
    • Re-emergence signals relapse risk
  – Relapse Justification
    • “Stinking thinking”
    • Recognize and stop
Counseling Patients on MAT

• Relapse Prevention: Sample Topics
  – Dangerous Emotions
    • Loneliness, anger, deprivation
  – Be Smart, not Strong
    • Avoid the dangerous people and places
    • Don’t rely on will power
  – Avoiding Relapse Drift
    • Identify “mooring lines”
    • Monitor drift
Counseling Patients on MAT

• **Relapse Prevention: Sample Topics**
  – *Total Abstinence*
    • Other drug/alcohol use impedes recovery growth
    • Development of new dependencies is possible
  – *Taking Care of Business*
    • Addiction is full-time
    • Normal responsibilities often neglected
  – *Taking Care of Yourself*
    • Health, grooming
    • New self-image
Counseling Patients on MAT

• Relapse Prevention: Sample Topics
  – Repairing Relationships
    • Making amends
  – Truthfulness
    • Counter to the drug use style
    • A defense against relapse
  – Trust
    • Does not return immediately
    • Be patient
Counseling Patients on MAT

• Relapse Prevention: Sample Topics
  – Downtime
    • Diversion, relief, escape without drugs
  – Recognizing and Reducing Stress
    • Stress can cause relapse
    • Learn signs of stress
    • Learn stress management skills
Stages of Change

Permanent Exit
Maintenance
Action
Determination
Precontemplation
Contemplation
Relapse

(Prochaska & DiClemente, 1983)
Stages of Change

- **Pre-contemplation**: Not yet considering change or is unwilling or unable to change.
- **Contemplation**: Sees the possibility of change but is ambivalent and uncertain.
- **Determination (or preparation)**: Committed to making change but is still considering what to do.
Stages of Change

• **Action**: Taking steps to change but hasn’t reached a stable state.

• **Maintenance**: Has achieved abstinence from illicit drug use and is working to maintain previously set goals.

• **Recurrence**: Has experienced a recurrence of symptoms, must cope with the consequences of the relapse, and must decide what to do next
Module VI - Summary

• Patients on medication assistance need to learn the skills to stop drug thoughts before they become full-blown cravings.

• A thorough needs assessment should be conducted at the beginning of treatment.

• Various empirically-supported therapeutic approaches are available for use in providing psychosocial treatment to patients.
Module VI - Summary

• Opioid addiction has both physical and behavioral dimensions. As a result, a clinical partnership consisting of a physician, counselor and other supportive treatment providers is an ideal team approach.

• The addiction professionals should work to ensure the successful coordinated functioning of this partnership.