



ASAM
**THE Treatment of Opioid
Use Disorder Course**
Includes waiver qualifying requirements

Session 4
Special Populations

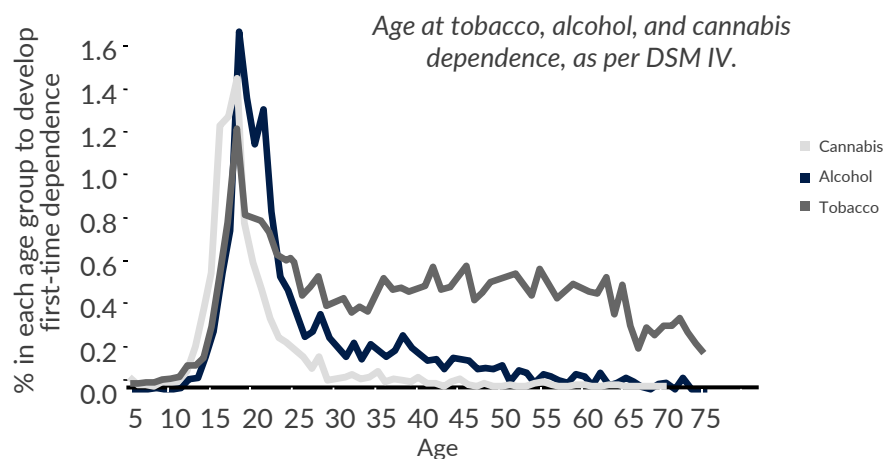


Session Learning Objectives

1. Describe unique issues of treating adolescents, young adults, pregnant and postpartum patients, elderly patients, and healthcare professionals maintained on medications for opioid use disorders.
2. Summarize acute (e.g., postoperative pain) and chronic pain management strategies for patients with an opioid use disorder.



Addiction is a Developmental Disease *Often Starts in Childhood and Adolescence*



National Epidemiologic Survey on Alcohol and Related Conditions, 2003





Medications for Adolescents with OUD

- ***Buprenorphine vs. Clonidine for 28-day withdrawal management.***
 - Participants 13-18 years old (N=36).
 - Compared to clonidine, patients who received 4 weeks of buprenorphine treatment:
 - Had fewer positive opioid drug tests.
 - Stayed in treatment longer.
 - Were more likely to continue treatment after 4-week trial period.

Young Adults

Methadone (OTP)

Methadone may be a good option for young adults (18+) with unstable living arrangements; daily visits provide structure and eliminate the need to manage medications at home.

Naltrexone

Naltrexone is also an option for adolescents; may be clinically useful for adolescents/young adults living away from home, or patients with co-occurring alcohol use disorder.

*There are no published studies on the efficacy of naltrexone for OUD in adolescent patients



Sanchez-Samper X, Levy S. Opioid use by adolescents. Office-Based Buprenorphine Treatment of Opioid Use Disorders. 2nd edition. 2018



Medication-Assisted Treatment of Adolescents With Opioid Use Disorders

COMMITTEE ON SUBSTANCE USE AND PREVENTION

Effective treatments are underutilized; resources are available for this age group.



Levy S, et al. Pediatrics. 2016;138(3).

Barriers for Care

Stigma

- Significant misinformation about what medication treatment is and its benefits.

Lack of Training

- Only 1% of waived providers identify as pediatricians.

Coordinating Care

- These cases are complicated, involve state agencies, families, and children. These cases can be hard to ensure that a consistent plan is offered and implemented.





Maintaining Engagement in School

- *Substance use disorder often interferes with education.*
 - Maintaining education with the most effective combination of pharmacotherapy and psychosocial treatment is important.
- *Properly administered, buprenorphine, methadone, and naltrexone do not impair cognitive function.*
 - After being stabilized, adolescents and young adults should be encouraged to return to school.

Confidentiality

Teens Presenting With Parents

- In many cases, adolescents will present for treatment with the knowledge and support of parents.
- Teens often turn to their parents for help first.
- Managing confidentiality is a clinical decision of what information to share with parents in the context of parents already being aware of the “big picture.”

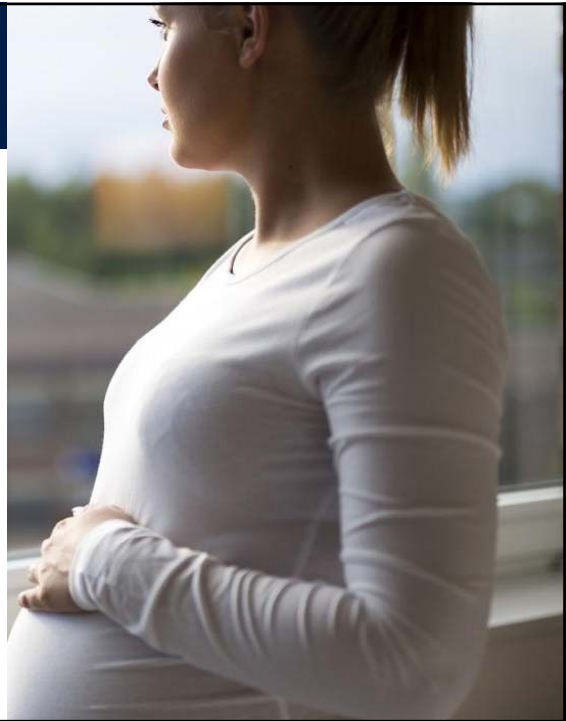
Teens Presenting Without Parents

- Teens may present for treatment without the knowledge or consent of their parents.
- In most states, adolescents above a certain age may consent for treatment for SUD without their parents, though details vary.



Pregnancy: Substance Use Disorder

- *Women with SUD often experience dysregulation of their menstrual cycle.*
 - Chronic opioid use alters dopamine/prolactin levels in hypothalamic-pituitary axis leading to amenorrhea and unpredictable cycles.
 - Menstrual cycle alterations can lead to unplanned and often unrecognized pregnancies with delayed initiation of prenatal care.



Pregnancy: Opioid Agonist Maintenance Therapy Remains the Standard of Care

There are safe and effective treatment options in pregnancy.

- Opioid agonist pharmacotherapy with methadone or buprenorphine is endorsed by the American College of Obstetricians and Gynecologists (ACOG) as the optimal treatment for OUD during pregnancy.



Fischer et al. 1998, 1999. Jones et al. 2010. Terplan M, et al. Obstetrics & Gynecology. 2018.

Benefits of Opioid Agonist Therapy

Maternal Benefits

- 70% reduction in overdose related deaths.
- Decrease in risk of HIV, HBV, HCV.
- Increased engagement in prenatal care and treatment.

Fetal Benefits

- Reduces fluctuations in maternal opioid levels thus reducing fetal stress.
- Decrease in intrauterine fetal demise.
- Decrease in intrauterine growth restriction.
- Decrease in preterm delivery.



Klaman SL, et al. J Addict Med. 2017.

Use of Buprenorphine During Pregnancy

- ***Buprenorphine/Naloxone***
 - No known teratogenic effects in animals.
 - Controlled studies have not been conducted in humans.
 - Increasing evidence that buprenorphine/naloxone may be safe in pregnancy.
 - Evidence demonstrates safety of combination formulation in pregnancy.



Pregnancy: Induction of Maintenance Therapy

Goal

Goal is to reach the dose just high enough to stop use and block cravings.

Management

Management of dose should be individualized and based on patient's symptoms.

Adjustments

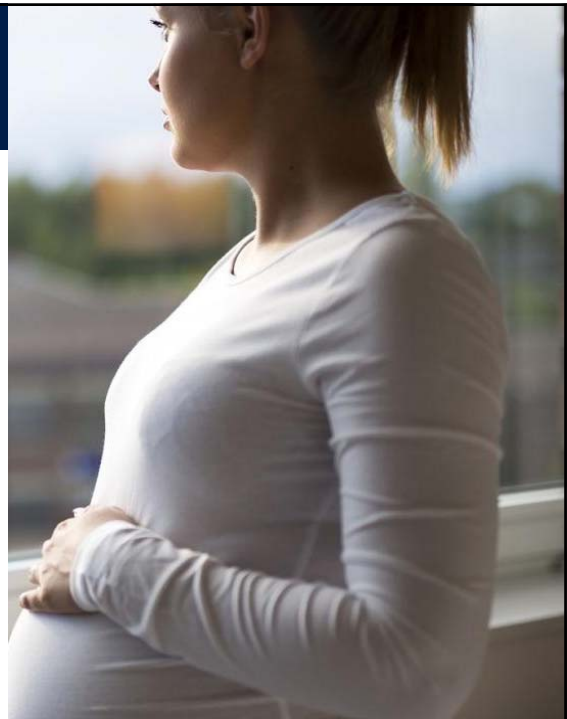
Dose adjustments may be necessary with advancing gestational age based on pregnant physiology.

Split dosing may be required in pregnancy to meet the accelerated metabolic clearance of pregnancy.



Patient on Buprenorphine

- *Stable patients who become pregnant.*
 - Combination therapy has been avoided due to the unknown exposure risk of naloxone in pregnancy.
 - However, recent studies suggest combination therapy is safe and effective in pregnant/breastfeeding patients.



Wiegand SL et al. 2015.

Should Women Undergo Withdrawal During Pregnancy?

Studies have demonstrated:

- ⊖ Fetal distress and 5-fold increase in still birth rates with antepartum withdrawal management.
- ⊖ Withdrawal management can be safe for the fetus, however, maternal relapse rates prior to delivery range from 70-98%.
- ⊕ **Maintenance therapy in pregnancy has been shown to increase retention in prenatal care, addiction treatment, and in-hospital deliveries.**

Zuspan et al. 1975; Rementeria et al. 1973.
Bell J et al. 2016; Luty et al. 2003; Maas et al. 1990; Dashe et al. 1998.
Jones et al. 2008.



Neonatal Abstinence Syndrome (NAS) or Neonatal Opioid Withdrawal Syndrome (NOWS)

- Results from abrupt discontinuation of opioids at birth after a fetus has become physically dependent through exposure in utero.
- Risk of NAS is greater if opioids are taken close to delivery or for longer periods and if the drugs have short half lives.
- Rate of opioid clearance influences severity.

Volkow ND. BMJ 2016





NAS Management

Non-Pharmacologic Approaches

- Quiet and dimly lit room, handled gently, swaddling, pacifier, gentle rocking
- Rooming: Keeping mother and baby together reduces NAS length of stay and cost
- Non-insertive acupuncture
- Breastfeeding recommended as it soothes agitated infants

Pharmacotherapy

- Oral morphine is preferred first-line medication

Bagley SM et al. *Addiction Science & Clinical Practice*, 2014

Maintenance Therapy in Pregnancy: NAS *Meta-analysis of 12 studies from 1996-2012*

Neonates exposed to buprenorphine (515) compared to methadone (855) had:

- Shorter mean length of hospital stay (-7.23 days, 95% CI: -10.64, -3.83).
- Shorter NAS treatment duration (-8.46 days, 95% CI: -14.48, -2.44).
- Lower morphine dose (-3.60 mg, 95% CI: -7.26, 0.07).



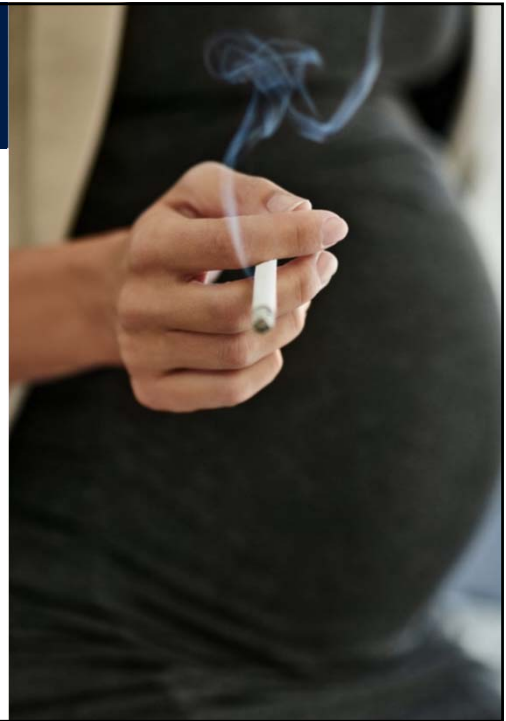
Brogly et al. *Am J Epidemiol*. 2014;180(7):673-86

Maternal Dose and NAS Severity

- No correlation between maternal opioid maintenance therapy dose and duration or severity of NAS.
- Tobacco use is strongly associated with NAS and NAS severity.



Berghella et al. 2003; McCarthy et al. 2005; Cleary et al. 2010; Isemann et al. 2010; Jones et al. 2010; Seligman et al. 2011.



Benefits of Breastfeeding for Newborns with NAS



NAS Development
30% decrease



Length of Stay
50% decrease of neonatal stay



Mother-Infant Bonding Improves



Maternal Recovery
Positively reinforced



Pritham UA et al. J Obstet Gynecol Neonatal Nurs. 2012. Welle-Strand GK et al. Acta Paediatr. 2013. Wachman EM et al. JAMA. 2013. Abdel-Latif ME et al. Pediatrics. 2006.



Breastfeeding

- **Maternal HCV infection is NOT a contraindication.**
- Unless mother develops cracked or bleeding nipples. If so, recommend to pump/dump until healed.
- **Maternal HIV infection.**
- **Current maternal substance use.** Mother currently under influence.
- **Recent heavy marijuana use.** Lipophilic, concentration in breast milk. Note: recent study found little THC in breast milk (Baker et al. Ob Gyn. 2018).



Klaman SL, et al. J Addict Med. 2017.

Audience Response

Which of the following is true during pregnancy and postpartum?

- a. Patients should be encouraged to taper to lower doses of buprenorphine to reduce the risk of NAS
- b. Patients should be instructed not to breastfeed with MOUD
- c. Tobacco use is strongly associated with risk of NAS
- d. The preferred treatment for NAS is to start with morphine



Older Adults Caring for Patients

No restrictions on medications for OUD to older patients:

- Be aware of interactions with co-prescribed medications.
- Benzodiazepines commonly used; inquire about alcohol use.
- Decreased renal and/or hepatic function may require dose adjustments.
- Falls and cognitive impairment important in this population.
- Daily dose dispenser helpful reminder.
- Treatment outcome research: older adults do better in treatment than younger counterparts.



Healthcare Providers with SUD

Physician Health Program (PHP)

- 10-12% of physicians in US develop SUD.
- State-based PHPs often mandated for providers with SUD.
- Generally abstinence-based.



Healthcare Providers with SUD

Physician Health Program (PHP)



- About 75% of physicians in PHPs had positive outcomes after 5 years of treatment; *95% who completed the program were licensed and practicing.*
- Goals of PHPs are to help provider achieve long-term treatment, maintain medical career, protect the public, and maintain patient confidence in healthcare providers.



OUD and Increased Pain Sensitivity

- ***Patients with active OUD.***
 - No correlation between maternal opioid maintenance therapy dose and duration or severity of NAS.
- ***Patients with OUD on opioid agonist treatment have less pain tolerance than matched controls.***



Martin J (1965), Ho and Dole V (1979), Compton P (1994, 2001)

Acute Pain Management

Patients on Opioid Agonist Treatment

- **Patients who are physically dependent on opioids:**
 - Must be maintained on daily equivalence (“opioid debt”) before ANY analgesic effect is realized with opioids (or nonopioids) used to treat acute pain.
 - Opioid analgesic requirements are often higher due to increased pain sensitivity and opioid cross-tolerance.



Peng PW, Tumber PS, Gourlay D: Can J Anaesthesia 2005
Alford DP, Compton P, Samet JH. Ann Intern Med 2006

Methadone and Acute Pain

Treating Pain

- Methadone dosed every 24 hours does not confer analgesia beyond 6-8 hours.
- Increased pain sensitivity may necessitate higher doses at shorter intervals.
- Scheduled dosing, not “prn,” during severe acute pain.
- Short course of opioid analgesics during severe acute pain unlikely to compromise recovery.

Clinical Recommendations

- Non-opioid, non-controlled substance analgesia as first line.
- Continue usual verified methadone dose.
- Treat pain aggressively with conventional analgesics.
- Avoid using mixed agonist/antagonist opioids.
- Careful use and monitoring of combination products containing acetaminophen.
- Coordinate care.



Alford DP, Compton P, Samet JH. Ann Intern Med 2006

Buprenorphine and Acute Pain

Treating Pain

- Analgesia from buprenorphine lasts 6-8 hours while treatment of OUD lasts over 24 hours.
- Buprenorphine has ceiling effect on CNS and respiratory depression, therefore safer than a full opioid agonist from an overdose risk.
- Uncertain if buprenorphine has an analgesic ceiling effect.



Alford DP. "Acute and Chronic Pain," Office-Based Buprenorphine Treatment of Opioid Use Disorder, 2018

Clinical Recommendations

- Continue buprenorphine in divided doses (every 8 hours) AND titrate short-acting opioid analgesics for pain management
- OR, continue in divided doses and add additional low dose (e.g. 2 mg) buprenorphine every 8 hours.

Perioperative Protocol Resources Available

- ***Boston Medical Center***
 - Perioperative Management of Non-Pregnant Patients on Maintenance Therapy for Opioid Dependence.
- ***Pain Medicine Editorial***
 - Patients maintained on buprenorphine for opioid use disorder should continue buprenorphine through the perioperative period.



Buprenorphine Maintenance

Treating Chronic Pain

- ***Buprenorphine can be prescribed in the office for OUD and chronic pain.***
 - Systematic review: 10 studies (low quality) reported effectiveness in treating chronic pain.
 - Buprenorphine for OUD requires X-number while use for chronic pain management (off-label) does not.
 - For pain, buprenorphine will need to be dosed every 8 hours.



Cotes J, Montgomery L. 2014

Naltrexone and Acute Pain

Naltrexone Blockade

- Analgesic effects of opioids blocked at conventional doses.
- Can be overcome by 6-20x usual analgesic dose without significant respiratory depression or sedation *under close observation*.
- Need setting equipped and staffed for resuscitation.

Perioperative Management

- Consult anesthesia, consider nonopioids and regional anesthesia.
- Oral naltrexone blockade 50% gone after 72 hours.
- Extended-release naltrexone blockade decline begins in 14 days, delay elective surgery for a month after last dose.



Dean RL et al. Pharmacol Biochem Behav 2008; Vickers AP, Jolly A BMJ 2006

Audience Response

Patients maintained of opioid agonist therapy for OUD who have an acute pain event should be:

- a. Treated through collaboration with anesthesia, pain and addiction as appropriate to develop a comprehensive pain plan
- b. Immediately tapered off buprenorphine to start full agonists therapy with plans to resume buprenorphine post-event
- c. Maintained on their MOUD without dose adjustment or addition of other controlled substances
- d. Continued on their MOUD with addition of non-opioid analgesia and opioid analgesia



Q&A



SAM'S CASE



Sam's Case

52-year-old male. Maintained on buprenorphine/ naloxone 16/4mg per day for the past 10 years.

His opioid use disorder began after a motorcycle crash resulting in multiple fractures and orthopedic surgeries. He was treated with high dose morphine and quickly escalated his use, losing control of his prescriptions.

He realized he had a problem when he ran out of his morphine and had severe withdrawal symptoms.



Sam's Case

He believes buprenorphine is a “miracle drug” that has saved his life. He is not in counseling but attends AA 3-4 meetings per week and has a sponsor.

He has a history of alcohol use disorder and has been sober for >20 years.

He has severe chronic right knee pain which he has been told is due to arthritis after his traumatic knee injury. His pain had been well controlled on split dose buprenorphine (8/2 mg TID), ibuprofen, and acetaminophen.

Now his pain is so severe, he has had to take time off from work.



Sam's Case

He is now being scheduled for an elective right total knee replacement.

He was told in the preoperative clinic:

- To get off his buprenorphine for at least 5 days before his surgery.
- That the buprenorphine will prevent the pain medication from working.
- That the pain medications will likely put him into withdrawal if he is still taking the buprenorphine.

He is nervous about stopping his buprenorphine and asks you what to do.





Activity 8: Case Discussion – Sam

Discuss:

Work with your group to assess a plan for Sam. What do you recommend regarding his buprenorphine maintenance perioperatively? What do you recommend regarding his pain management perioperatively? What additional information do you need?

10 minutes:

After the discussion, a few groups will share key takeaways with the whole class.

SPECIAL POPULATIONS

End of Session 4

