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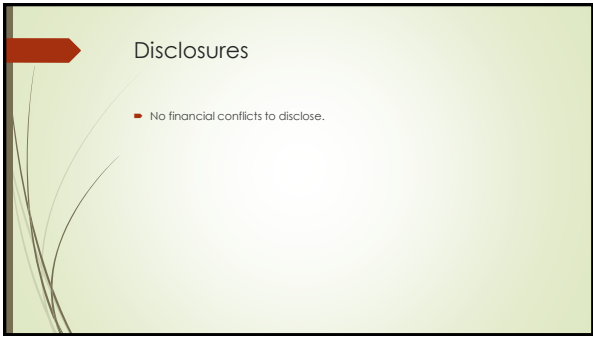
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**Non-Opioid Pharmacological Therapies**

- First-Line Analgesics:
  - NSAID's
    - Ibuprofen 400 mg every 4 hours, 600 mg every 6 hours, and 800 mg every 8 hours
  - Acefenaminophen
    - Arthritis Strength
  - Topical Lidocaine
- Second Line Analgesics:
  - Serotonin and Norepinephrine reuptake inhibitors.
  - TCA's.
  - Pregabalin and Gabapentin – not good evidence for pain control
    - Gabapentinoid (pregabalin and gabapentin) abuse is increasingly being reported.

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**Opioids – No place in Chronic Pain syndromes**

- Immediate-Release/Short-Acting:
  - Codeine
- Extended-Released/Long-Acting:
  - Metadone
  - Fentanyl Transdermal
  - Buprenorphine Transdermal
- Available in both forms:
  - Morphine
  - Hydrocodone
  - Hydromorphone
  - Oxycodone
  - Oxymorphone
  - Tramadol
  - Tapentadol

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**Pain Management**

- Referral for Pain Management – multidisciplinary team approach

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### Medication-Assisted Treatment (MAT)

- Medication-assisted treatment (MAT) is the use of medications with counseling and behavioral therapies to treat substance use disorders and prevent opioid overdose.
- The prescribed medication operates to normalize brain chemistry, block the euphoric effects of alcohol and opioids, relieve physiological cravings, and normalize body functions without the negative effects of the abused drug.

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### Medical Assisted Treatment

- There are three medications commonly used to treat opioid addiction:
- Methadone – clinic-based opioid agonist that does not block other narcotics while preventing withdrawal while taking it; daily liquid dispensed only in specially regulated clinics
- Naltrexone – office-based non-addictive opioid antagonist that blocks the effects of other narcotics; daily pill or monthly injection
  - Also used for Alcohol treatment
- Buprenorphine – office-based opioid agonist/ antagonist that blocks other narcotics while reducing withdrawal risk; daily dissolving tablet, cheek film, or 6-month implant under the skin

<https://www.samhsa.gov/medication-assisted-treatment>

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### "Perceived Feeling" Graph

Week	Normal High	Normal Low	Heroin	Methadone	Buprenorphine
1	4.5	4.5	4.5	9.5	9.5
2	4.5	4.5	10.0	8.5	8.5
3	4.5	4.5	7.5	7.5	7.5
4	4.5	4.5	6.5	6.5	6.5
5	4.5	4.5	5.5	5.5	5.5
6	4.5	4.5	4.5	4.5	4.5
7	4.5	4.5	4.5	4.5	4.5
8	4.5	4.5	4.5	4.5	4.5
9	4.5	4.5	4.5	4.5	4.5
10	4.5	4.5	4.5	4.5	4.5
11	4.5	4.5	4.5	4.5	4.5
12	4.5	4.5	4.5	4.5	4.5
13	4.5	4.5	4.5	4.5	4.5
14	4.5	4.5	4.5	4.5	4.5
15	4.5	4.5	4.5	4.5	4.5
16	4.5	4.5	4.5	4.5	4.5
17	4.5	4.5	4.5	4.5	4.5
18	4.5	4.5	4.5	4.5	4.5
19	4.5	4.5	4.5	4.5	4.5
20	4.5	4.5	4.5	4.5	4.5
21	4.5	4.5	4.5	4.5	4.5
22	4.5	4.5	4.5	4.5	4.5
23	4.5	4.5	4.5	4.5	4.5
24	4.5	4.5	4.5	4.5	4.5

<https://www.naatt.org/index.cfm>

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**How effective are medications to treat opioid use disorder?**

- Abundant evidence shows that methadone, buprenorphine, and naltrexone all reduce opioid use and opioid use disorder-related symptoms, and they reduce the risk of infectious disease transmission as well as criminal behavior associated with drug use.
- These medications also increase the likelihood that a person will remain in treatment, which itself is associated with lower risk of overdose mortality, reduced risk of HIV and HCV transmission, reduced criminal justice involvement, and greater likelihood of employment.

[\\*https://www.drugabuse.gov/publications/research-reports/medications-to-treat-opioid-addiction/efficacy-medications-opioid-use-disorder](https://www.drugabuse.gov/publications/research-reports/medications-to-treat-opioid-addiction/efficacy-medications-opioid-use-disorder)

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**Buprenorphine**

- Approved in 2002
- Available in two forms:
  - Buprenorphine alone (Subutex, Probuphine®, Sublocade™, Bunavail®)
  - In combination with the opioid receptor antagonist naloxone (Suboxone®, Zubsolv®).

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**Naltrexone**

- Naltrexone is a medication approved by the Food and Drug Administration (FDA) to treat opioid use disorders and alcohol use disorders.
- Blocks the euphoric and sedative effects of drugs such as heroin, morphine, and codeine.
- Works differently in the body than buprenorphine and methadone, which activate opioid receptors in the body that suppress cravings. Naltrexone binds and blocks opioid receptors, and is reported to reduce opioid cravings.
- There is no abuse and diversion potential with naltrexone.
- If comes in a pill form or as an injectable.
  - The pill form of naltrexone (ReVia, Depade) can be taken at 50 mg once per day.
  - The injectable extended-release form of the drug (Vivitrol) is administered at 380 mg intramuscular once a month.

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### Methadone

- Methadone has been used for decades to treat people who are addicted to heroin and narcotic pain medicines. When taken as prescribed, it is safe and effective.
- Methadone works by changing how the brain and nervous system respond to pain. It lessens the painful symptoms of opiate withdrawal and blocks the euphoric effects of opiate drugs
- Methadone is offered in pill, liquid, and wafer forms and is taken once a day. Pain relief from a dose of methadone lasts about four to eight hours.
- Methadone can be addictive, so it must be used exactly as prescribed.

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### What to do....?

- Medication Assisted Therapy vs Abstinence
- What are insurance companies saying about MAT vs inpatient care?
- How long should we keep people on MAT?
- Is there controversy?

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### Neonatal Abstinence Syndrome

- Not an addiction

\*National Institute on Drug Abuse; National Institutes of Health; U.S. Department of Health and Human Services.

Opioid use during pregnancy can result in a drug withdrawal syndrome in newborns called **neonatal abstinence syndrome**, or **neonatal opioid withdrawal syndrome** (NAS/NOWS), which causes **costly** hospital stays. A recent analysis showed that an estimated **32,000** babies were born with this syndrome in the United States in 2014, a more than **5-fold increase** since 2004.

**EVERY ~ 15 MINUTES, A BABY IS BORN SUFFERING FROM OPIOID WITHDRAWAL.**

Year	Rates per 1,000 Hospital Births
2004	11
2005	14
2006	22
2007	22
2008	23
2009	24
2010	25
2011	28
2012	28
2013	49
2014	61

Year	Inflation-Adjusted U.S. Dollars (millions)
2004	102
2005	112
2006	146
2007	160
2008	171
2009	191
2010	209
2011	268
2012	320
2013	420
2014	500

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NAS

- General Rules: Buprenorphine or Methadone
  - Specialized care
  - Avoid withdrawal during pregnancy
  - Should not transition from one to the other
- Baby is not born ADDICTED

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References:

- SAMHSA
- [www.drugabuse.com](http://www.drugabuse.com)

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Questions??????

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