Treatment of Opioid Use

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Disclosures

None

Objectives

- Understand different opioid conditions
- Understand the treatment of the above
- Understand new emerging trends in treatment

Opioid Conditions

- Overdose
- Withdrawal
- Opioid Use Disorder

Opioid Overdose Triad

- Triad of symptoms defines the common signs/symptoms of opioid overdose syndrome:
  - Altered mental status
  - Depressed respirations
  - Miotic pupils
- This triad has a sensitivity of 92% and a specificity of 76%
- Differential:
  - Hypoglycemia
  - Acidemia
  - Complications from end-stage liver disease

Naloxone

- Displaces other opioids bound to mu opioid receptors allowing respiration to take place
- Binds to mu opioid receptors but does not activate the receptors
- Begins working in 1-3 minutes
- Effects last 30-90 minutes in duration
- Not addictive and will not cause overdose
- Can cause withdrawal in some individuals: nausea, vomiting, chills, muscle discomfort, confusion

Naloxone for Opioid Overdose

- Naloxone blockade is short-lived versus opioid agonist systemic duration
- Monitor short-acting opioid overdose patients for at least 12 hours
- Monitor methadone overdose patients for 24-48 hours
- May not work as well for buprenorphine or fentanyl overdose

Opioid Withdrawal

- Results from immediate or rapid cessation of opioids when an individual is physiologically dependent
- Unlikely to produce severe morbidity and mortality
- CNS depression that occurred during use is replaced with CNS noradrenergic neuron hyperactivity in the locus coeruleus
  - Effects can be reversed with clonidine, lofexidine, and opioids

Opioid Withdrawal

- Increase in Gamma-Aminobutyric Acid (GABA) effects and decrease in dopamine release from the nucleus accumbens cause dysphoria, depression, and cravings
  - Effects can be reversed only with opioids
- Onset of withdrawal symptoms depends on half-life of used drug
  - Heroin, Morphine: 4-6 hours
  - Hydrocodone, Oxycodone, Hydromorphone, Oxymorphone: 8-12 hours
  - Methadone, Buprenorphine: 24-36 hours

Spontaneous Opioid Withdrawal Timeframes

Drug	Begin Withdrawal	Peak	Lasts
Morphine Heroin Oxycodone Hydrocodone	6-12 Hours After Last Use	36-72 Hours	Approximately 5 Days
Methadone	36-72 Hours After Last Use *May be as short as 20 hours for rapid metabolizers	96-144 Hours	Several Weeks in Duration

Miller SC. ASAM Principles of Addiction Medicine, 6th Ed. 2019

Signs/Symptoms of Opioid Withdrawal

- Tachycardia
- Hypertension
- Restlessness
- Irritability
- Insomnia
- Opioid craving
- Pupillary dilation
- Lacrimation
- Rhinorrhea
- Piloerection
- Yawning
- Sneezing
- Mild anorexia
- Nausea
- Vomiting
- Diarrhea
- Muscle cramping/pain
- Anxiety

Miller SC. ASAM Principles of Addiction Medicine, 6th Ed. 2019

Clinical Opiate Withdrawal Scale (COWS)

- Clinical staff administered toil that evaluates 11 symptoms/signs of opioid withdrawal based on intensity
  - Pulse rate, sweating, restlessness, pupil size, bone/joint aches, runny nose or tearing, GI upset, tremor yawning, anxiety/irritability, gooseflesh

- Evaluates severity withdrawal based on those 11 domains
  - Score 5-12: mild withdrawal
  - Score 13-24: moderate withdrawal
  - Score 25-36 moderately severe withdrawal
  - Scores greater than 36: severe withdrawal

Wesson DR. The Clinical Opiate Withdrawal Scale. J Psychoactive Drugs. 2003. 35(2): 253-259.

Dangers of Opioid Withdrawal

Treatment for Opioid Use Disorder

- Behavioral alone
- Medication Assisted Treatment alone
- Combination of the above

Behavioral Treatment

- Motivational Interviewing
- Individual psychotherapy
- Relapse prevention
- 12 Step groups

Motivational Interviewing

- Engages patient in a non-confrontational explorative conversation
- Evaluates pros and cons
- Primary modality for exploring change

Individual Psychotherapy

- May help to explore underlying personality traits that can contribute to use

- Explore relationship problems to help increase insight and support

Relapse Prevention

- Recognition of people, places and things
- Relapse is a natural process of recovery
- If relapse occurs:
  - Increase treatment
  - Minimize extent and length of use

12 Step Groups

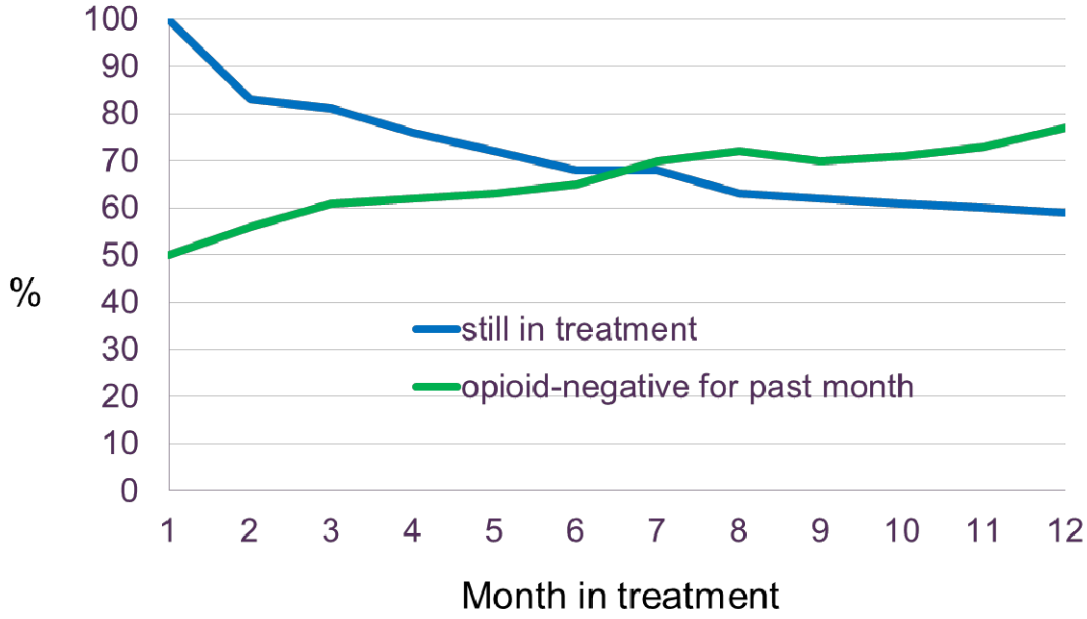
- Varying evidence of efficacy
- Some individuals find it helpful
- Requires some basic religious acceptance
- Located around the world

Medication Assisted Treatment

- Methadone
- Buprenorphine
- Naltrexone

Treatment Retention and Decreased Illicit Opioid Use on MAT

- Buprenorphine promotes retention, and those who remain in treatment become more likely over time to abstain from other opioids



Kakko et al, 2003
Soeffing et al., 2009

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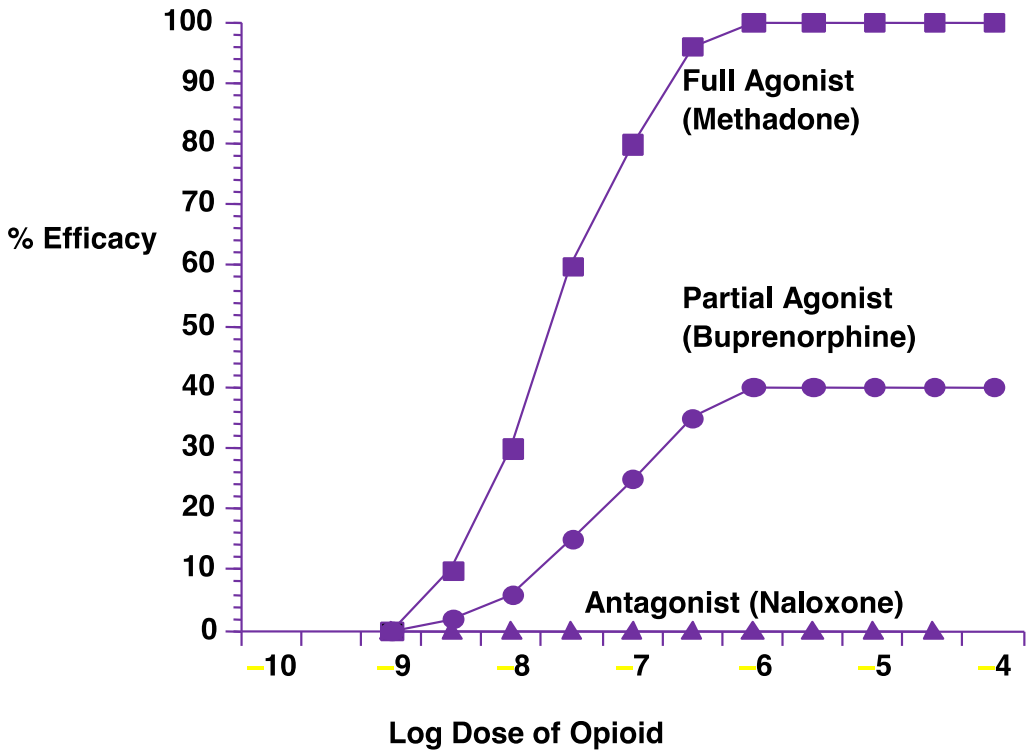
Opioid Ligand Pharmacology



SAMHSA, 2018
Orman & Keating, 2009

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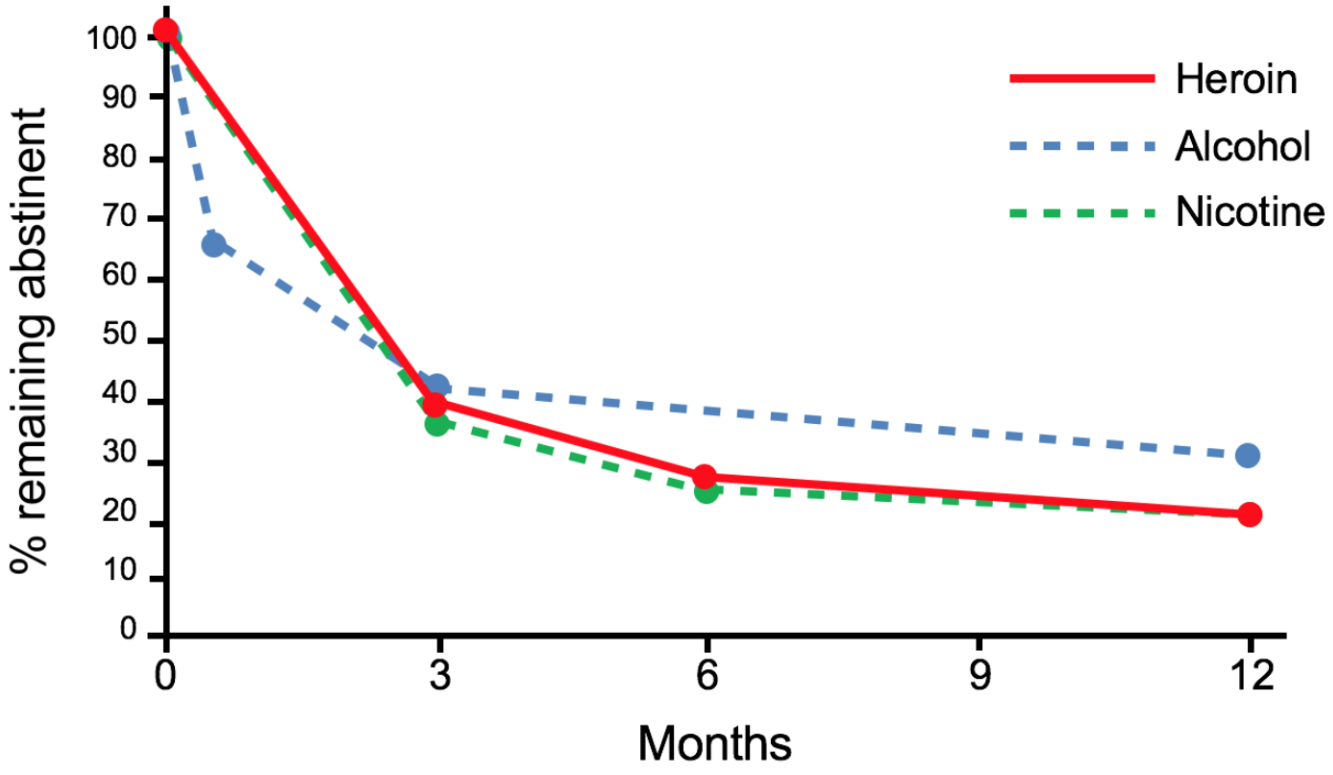
Abstinence Without MAT



Hunt et al., 1971

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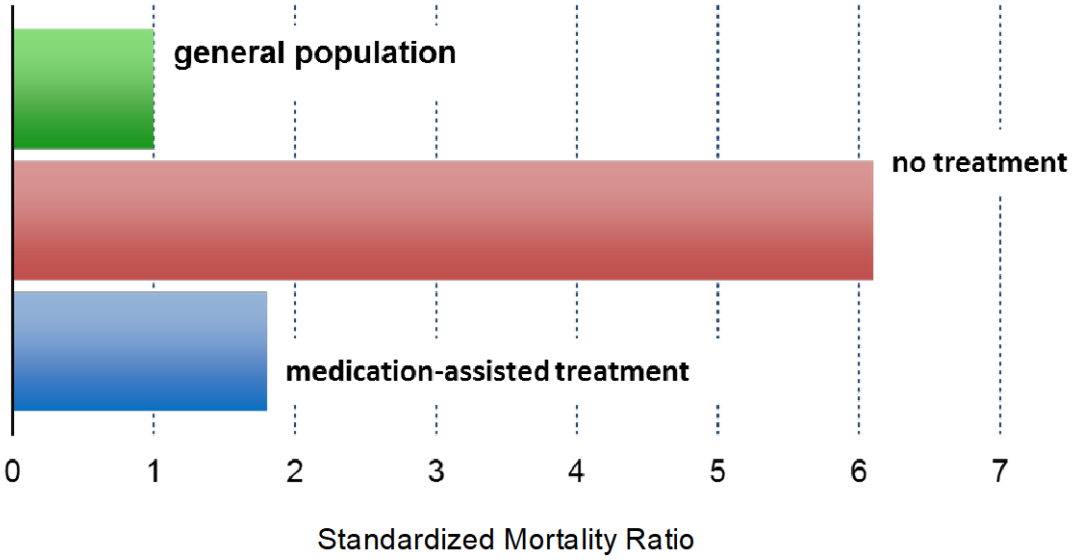
Benefits of MAT: Decreased Mortality

Death rates:



Dupouy et al., 2017
Evans et al., 2015
Sordo et al., 2017

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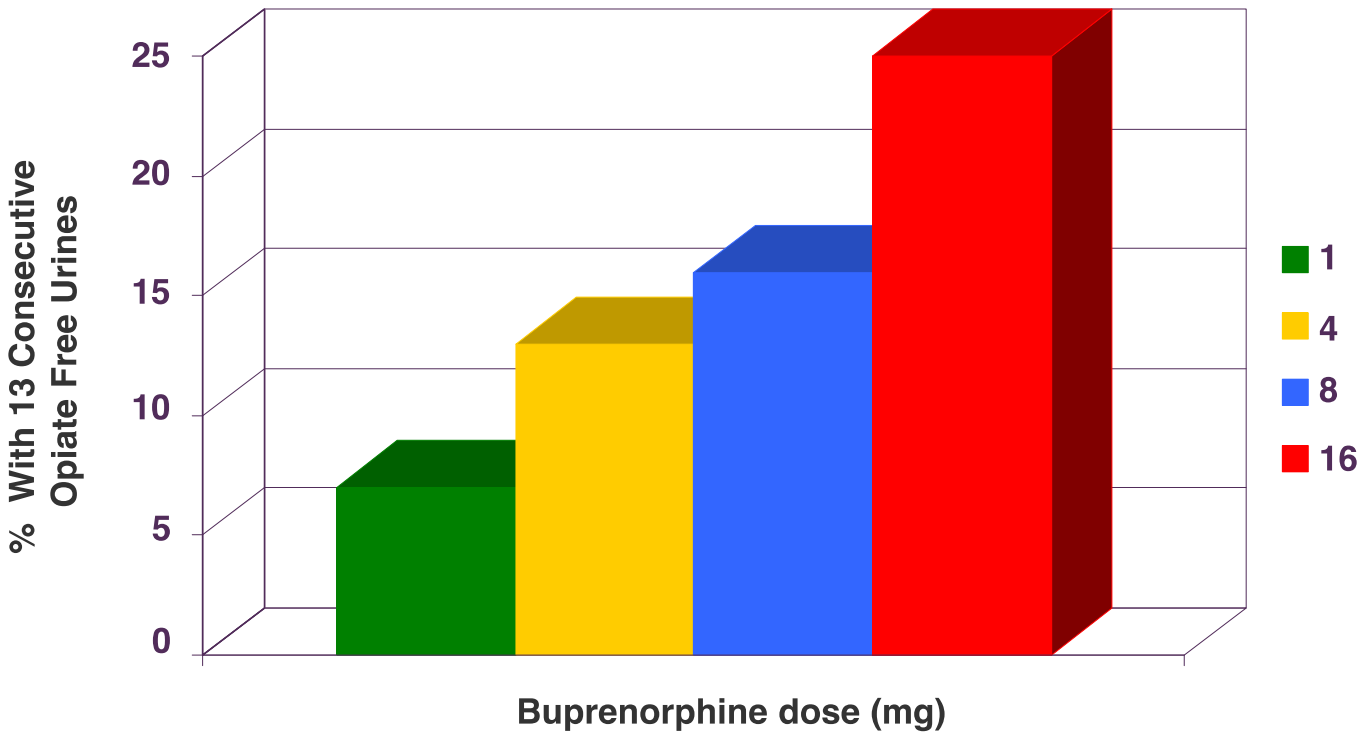
Buprenorphine Dosing: Efficacy



Ling et al., 1998

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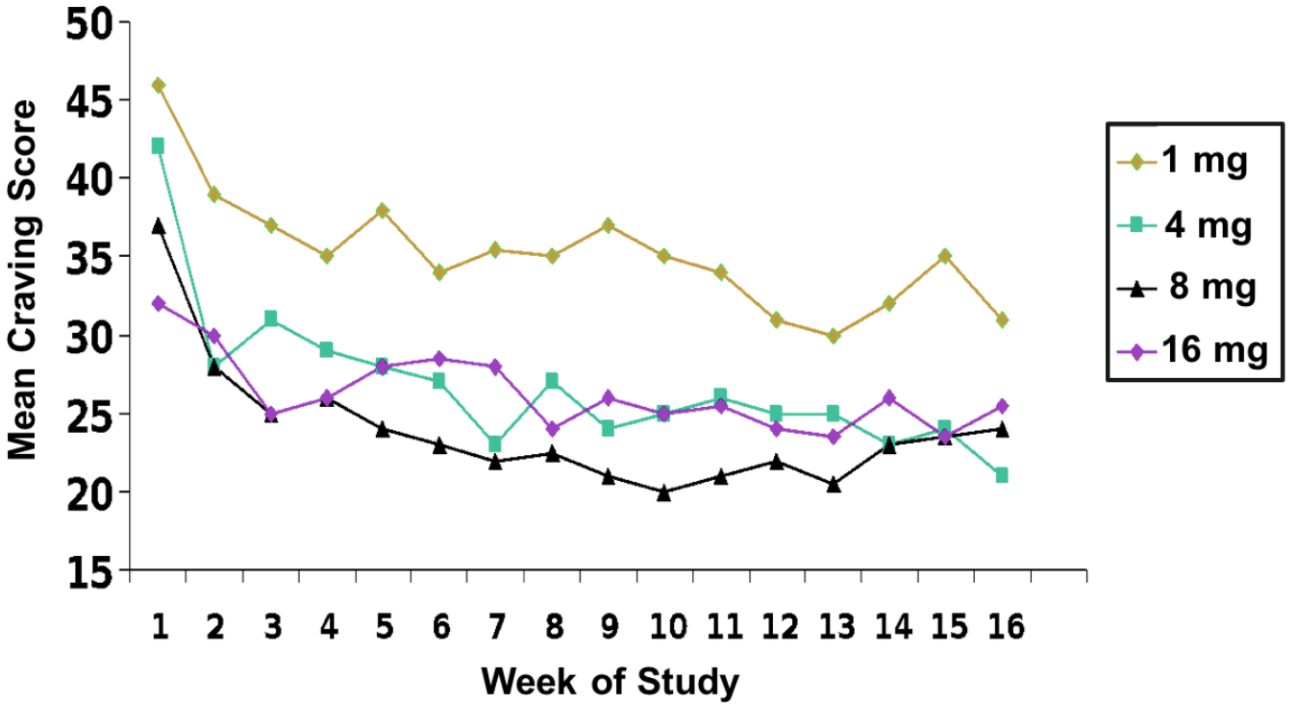
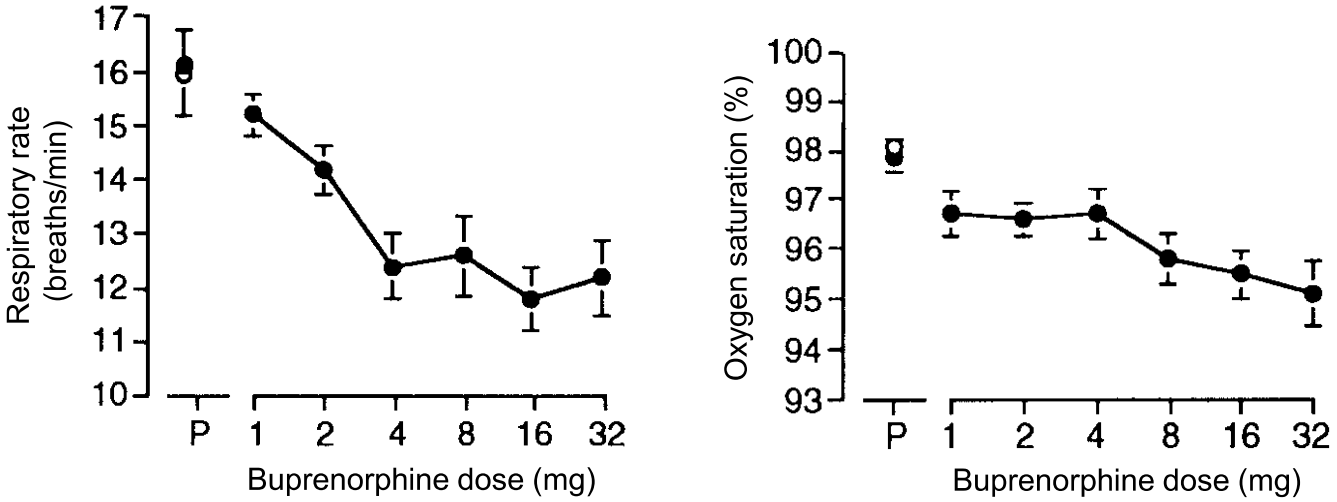
Mean Heroin Craving: 16 Week Completers: Reduced Craving with Therapeutic Buprenorphine Doses



Ling et al., 1998

Buprenorphine Dosing: Safety

- Cognitive and psychomotor effects appear to be negligible



- Nearly all fatal poisonings involve multiple substances

Hakkinen et al., 2012
Walsh et al., 1994

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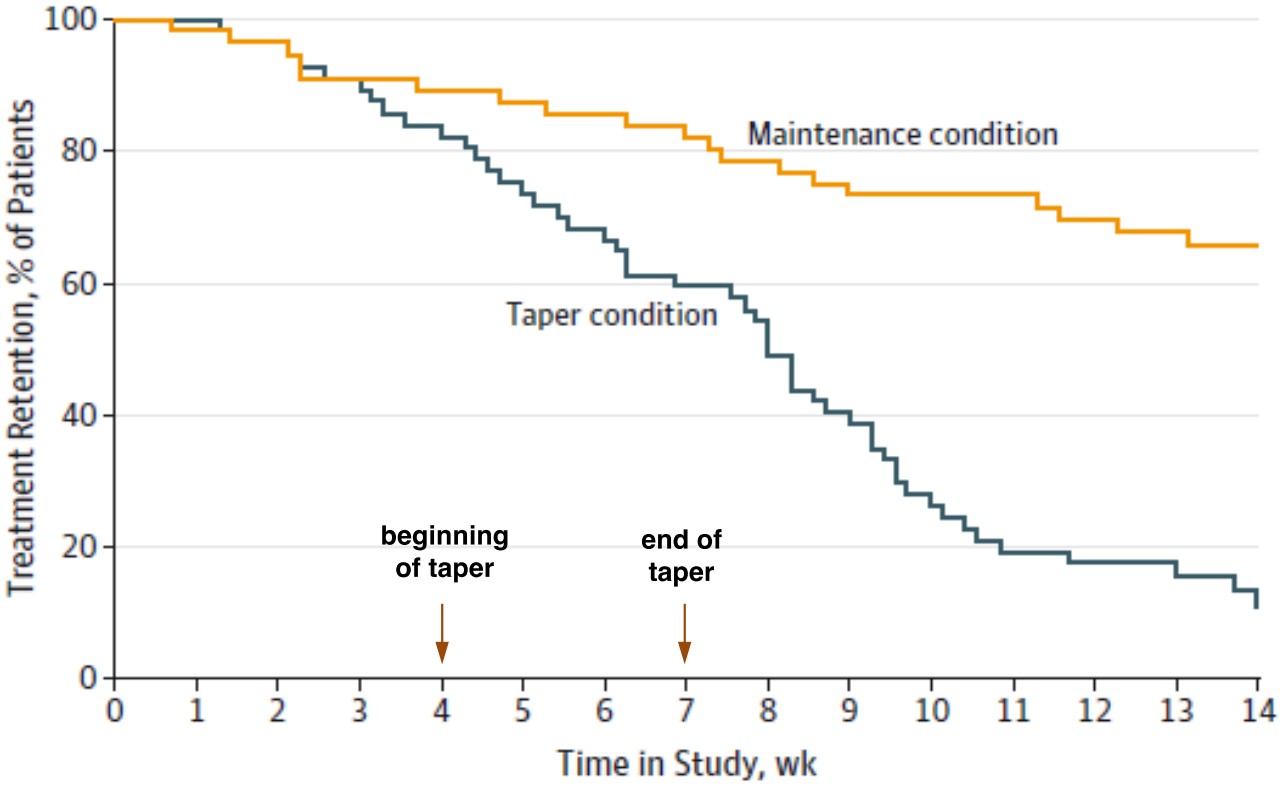
Buprenorphine: Maintenance vs. Taper



Fiellin et al., 2014

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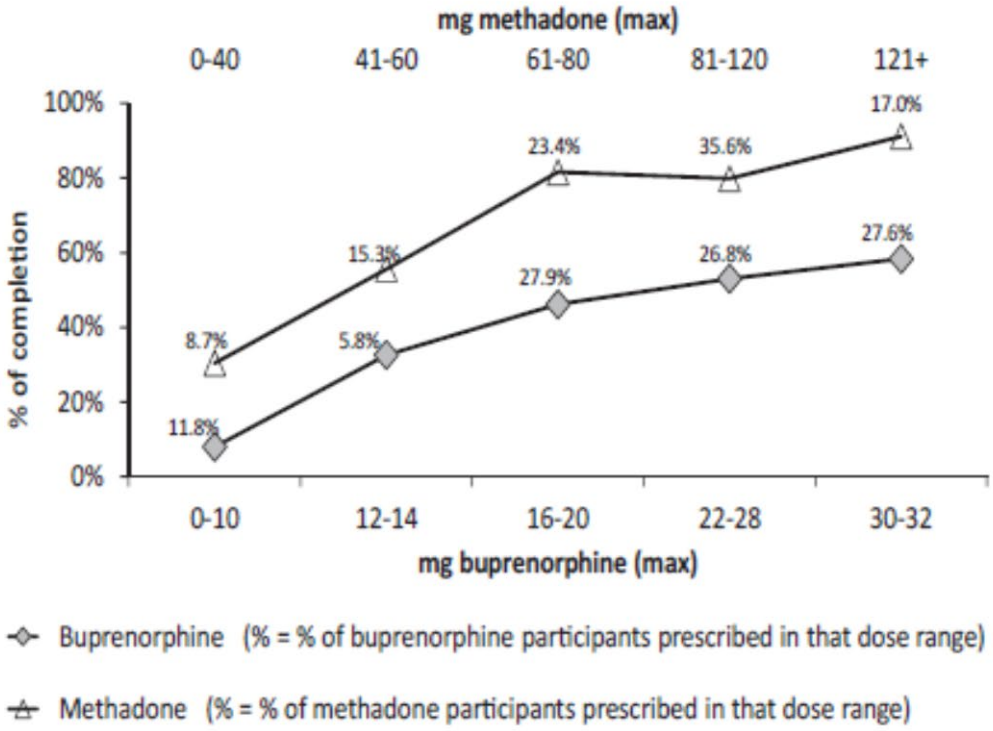
Benefits of Methadone: Treatment Retention



Hser et al., 2014

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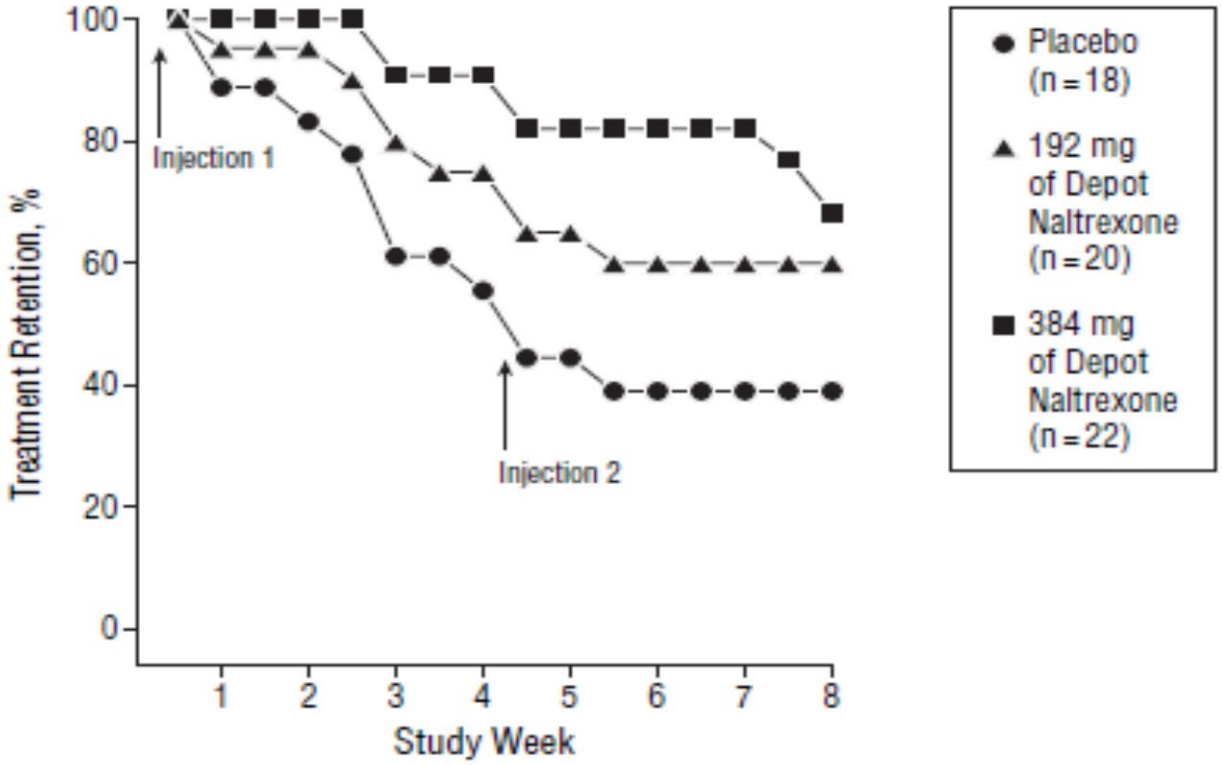
Naltrexone: Dose Response



Comer et al., 2011

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Conclusion

- Opioid use has various manifestations
- Physicians should be aware of the condition their patient is experiencing
- An evidenced based individualized treatment plan can help a person enter recovery

Questions

Questions?

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