



ECHO Idaho: Opioid Addiction and Treatment TeleECHO™ Session

Buprenorphine/Suboxone Basics

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The speaker has no significant financial conflicts of interest to disclose.

Learning Objectives

- 1) Become familiar with the pharmacological characteristics of Buprenorphine/Suboxone
- 2) Become familiar with the indications and concerns around using Buprenorphine/Suboxone
- 3) Learn general concepts in the clinical use of Buprenorphine/Suboxone
- 4) Become familiar with differences and similarities between Buprenorphine/Suboxone and Methadone.

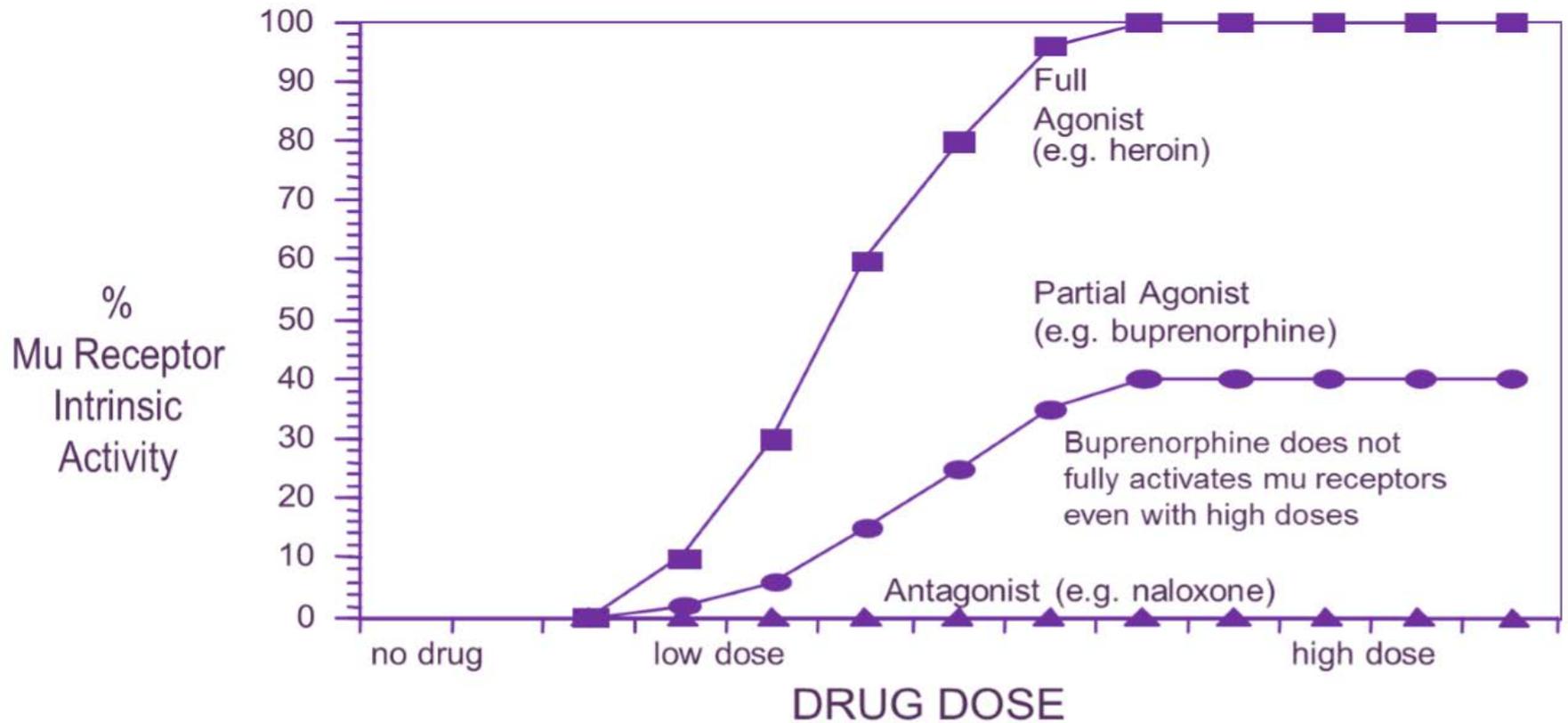
Origin of Buprenorphine Treatment

- Methadone clinics started in 1974. Highly regulated at the federal level. Physicians cannot prescribe methadone outside of a methadone clinics for opioid maintenance.
- Need for access to care for opioid addiction led to data 2000. This was the Drug Addiction Treatment Act of 2000 which allowed physicians to prescribe certain narcotic drugs for maintenance treatment or detoxification treatment.
- But, there are certain requirement, ie. Take course.
- Max 30 patients in first year, 100 after that but must report that are doing so.
- Provider must endorse that they have the capacity to refer patients for appropriate counseling and ancillary services.

Buprenorphine characteristics

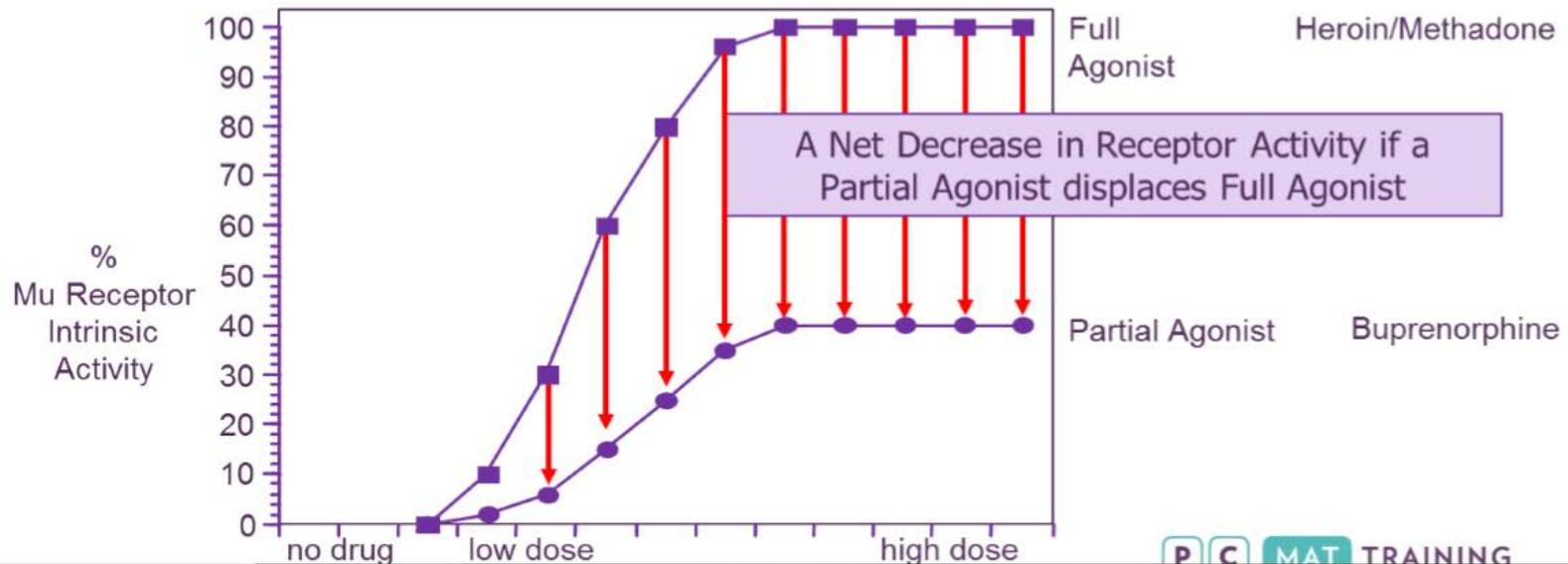
- Opioid partial agonist
- High affinity for Mu receptor, therefore displacing full Mu agonist like heroine or methadone.
- Disassociates from the Mu receptor slowly therefore blocking other opioids from the receptor

Buprenorphine is a Partial Agonist



Pharmacology of Full vs. Partial Agonists

- Buprenorphine can precipitate withdrawal if it displaces a full agonist from the mu receptors
- Buprenorphine only partially activates the receptors; therefore, a net decrease in activation occurs and withdrawal develops



Suboxone (Buprenorphine/Naloxone)

- Naloxone is 100 times more potent when injected verses taken sublingually. So if injected receptors get blocked, but SL, not enough Naloxone effect to significantly interfere with Buprenorphine.
- Also, Buprenorphine is given SL because it has poor bioavailability if given PO.
- Subutex is Buprenorphine only. Used in pregnancy. Has more diversion potential than the bup/nx combination; hence, the combination is the recommended form for treatment of opioid addiction except in pregnant, opioid dependent, women

Formulations of Buprenorphine

- Parenteral form for treatment of moderate to severe pain (not approved for opioid dependence treatment)
- 7-day Transdermal Patch (5, 10, and 20 $\mu\text{g}/\text{hour}$) for severe pain
- Sublingual forms (tablets and films) for treatment of opioid addiction; not approved for pain management
- Implant now in clinical trials for treatment of opioid addiction
- Buprenorphine/naloxone film (FDA approved 8/31/10) Equivalent in strength to tablets. Dissolves more rapidly (5-6 min) than tablets .Participants in clinical trials preferred taste over that of tablets Childproof foil packet improves safety of product
- Buprenorphine/naloxone tablets are now available as generic medications

Side effects

- Nausea/vomiting (consider precipitated withdrawal)
- Constipation
- Sedation (use of other sedating drugs or in those not currently dependent, but eligible for buprenorphine treatment by history)
- Transient elevations in liver transaminases possible (Hep C at higher risk)
- Headaches

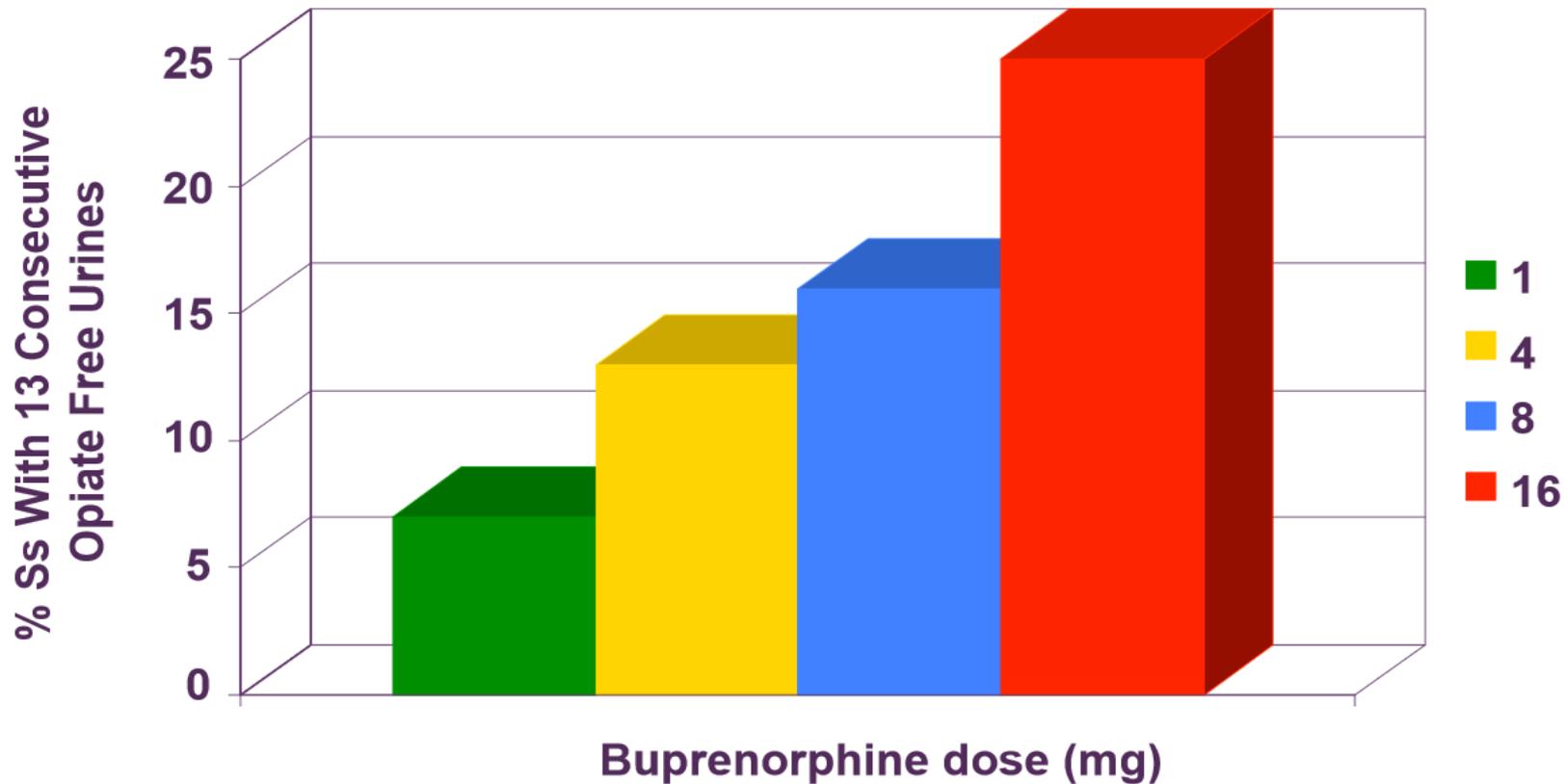
Adverse effects, concerns, and advantages

- Overdose and deaths, but some protection when taken alone because of partial agonist properties.
- Lack of tolerance
- Higher risk when combined with some other drugs substance (BENZOS, ETOH, other sedative-hypnotics, muscle relaxants).
- Diversion risk
- Lower risk than methadone of arrhythmias, (QT prolongations and Torsads)
- Minimal subjective effects when used sublingually: clearheaded, improved energy/sleep
- Hepatic disease
- Pregnancy
- Seizure disorders
- HIV

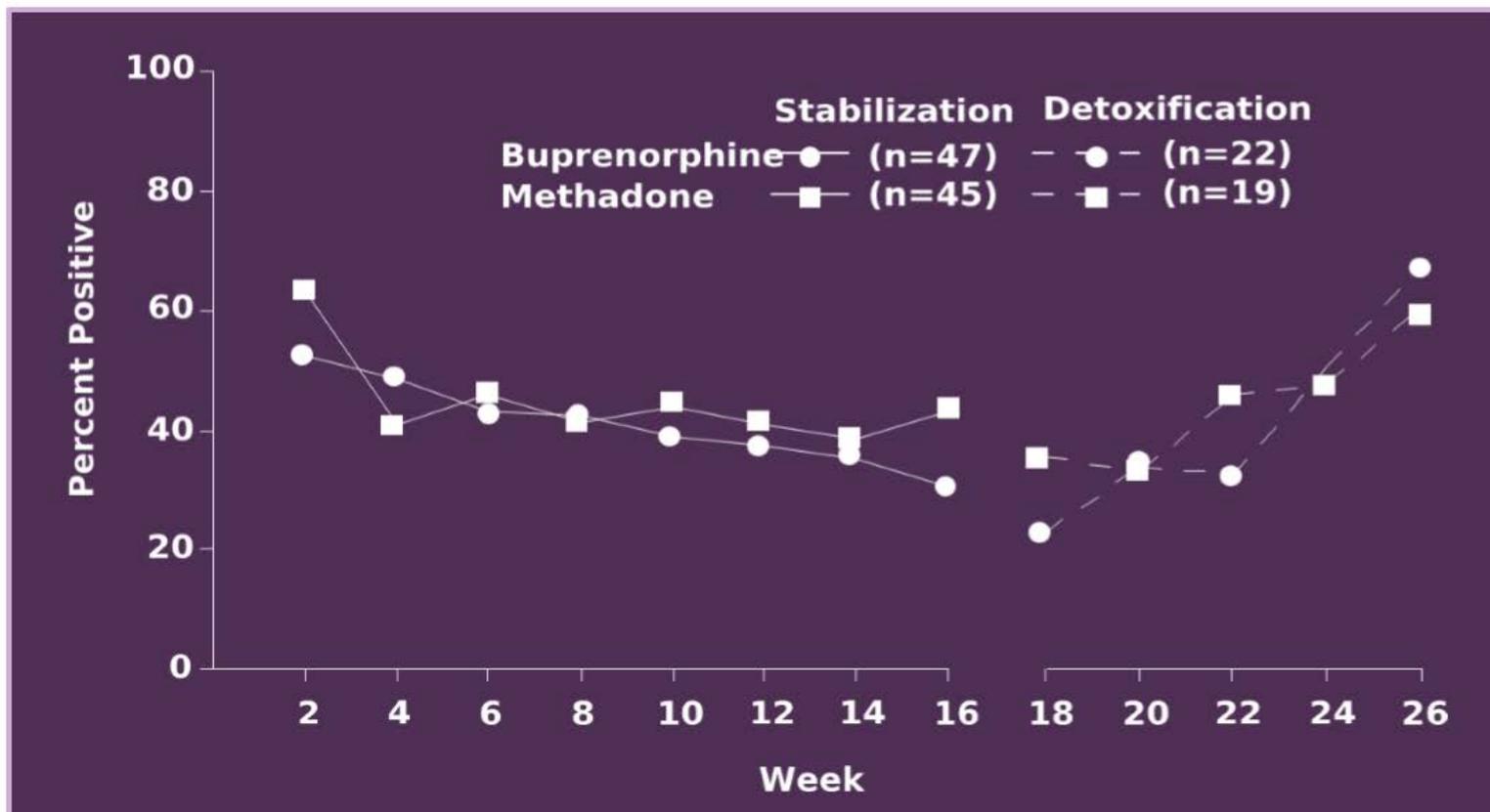
Efficacy

- Trials reliably demonstrated efficacy in preventing relapse to heroin:
- Buprenorphine is more effective than placebo.
- Buprenorphine is equally effective as moderate doses of methadone (e.g.: < 60 mg per day) with respect to treatment retention (59% at 6 months; Stein et al. 2005)
- At higher methadone doses (> 60 mg/day), treatment retention increases to 80% (Hser et al., 2014)

Different Doses of Buprenorphine: Opiate Use Decreases with Increased Dose of Buprenorphine



Buprenorphine – Methadone: Opioid Urine Results are Similar: Fewer Opioid Positive Urine with Treatment



Buprenorphine – Methadone Comparison

	Buprenorphine	Methadone
Regulation/ Diversion	Partial agonist May be diverted Less regulation Can be used in office-based treatment of opioid dependence	Full agonist May be diverted Toxicity risk greater Specialized centers required for treatment of opioid dependence
Dose/side Effects	Preferred is combo: bup/nlx Fewer side effects Precipitated withdrawal potential Reduced risk of overdose	Relatively high dose required for tolerance induction; continued opiate effects, sedation
Ease of Use	Induction generally requires clinical monitoring Available by prescription Withdrawal better tolerated Favorable side effect profile	Induction and dosing straightforward first doses should be monitored Withdrawal challenging; Complaints of significant discomfort Risk of ventricular arrhythmias
Drug Interactions	No clinically significant with HIV meds except atazanavir; rifampin assoc. with withdrawal; BZD (particularly injected) and CNS depressants a concern	Numerous, especially HIV meds, TB meds, some anticonvulsants; concern about interactions with BZDs and other CNS depressants

Clinical use

- Induction
 - Long versus short acting opiates
 - Reduce methadone dose
 - COWS >8
 - Ancillary meds (esp. with methadone)?
 - Home induction?
 - Patients not physically dependent
- Stabilization
- Maintenance
 - How long?
- Withdrawal
 - As primary treatment or termination of maintenance therapy
 - Ancillary meds

Summary

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 - Reduce methadone dose
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