Opioid Use Disorder Education and Treatment ECHO Series

Session 8 – Inductions

March 1, 2022

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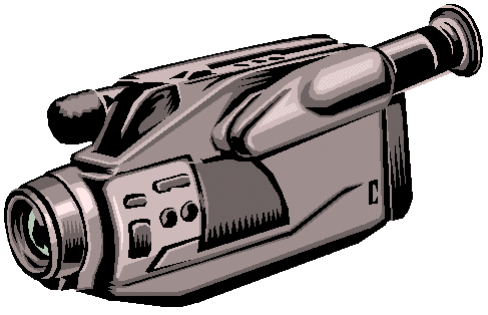
Family Medicine and Addiction Physicians

MINNESOTA ACADEMY OF FAMILY PHYSICIANS
STRONG MEDICINE FOR MINNESOTA

Announcements



SESSIONS ARE RECORDED

YES, THERE'S *FREE* CME

Attendance

- Please chat us the names of people on ECHO if there are multiple people in your room!
- "Re-name" your self so we know who's here!
- Please turn your video on!
  - Human connection!
  - And we do NOT care if you are eating!

Case Presentations!

The ECHO model is based on case-based learning! The case presentation form is on the MAFP website and also on the announcements email!
BUT feel free to present in any de-identified format!

Upcoming *Tuesday* ECHO Sessions

- **Tuesday, March 15, 2022:** Infectious Disease Complications
- **Tuesday, April 5, 2022:** Role of the Emergency Department
- **Tuesday, April 19:** OUD and Benzodiazepines
- **Tuesday, May 3, 2022:** OUD and Ethanol Alcohol

Upcoming *Wednesday* ECHO Sessions

- **Wednesday, March 2, 2022:** Fentanyl Test Strips Part 2
  THE Dr. Charles Reznikoff
- **Wednesday, March 9, 2022:** HIV Part 2. Dr. Amanda Noska
- **Wednesday, March 16, 2022:** Contingency Management:
  Dr. Sarah Spencer (Live from Alaska!)

"The Addiction Connection Podcast"

Weekly addiction topics- Tuesday release day!

www.buzzsprout.com/954034
(Or anywhere you get your podcasts!)
Email us questions:
theaddictionconnectionpodcast@gmail.com

TECHNICAL ASSISTANCE

- **We are ALWAYS here for you!**
  - Program implementation
  - Inductions
  - Difficult cases
  - Trouble-shooting
  - Anything!
- **Call us anytime:**
  - Heather Bell: 320-630-5607
  - Kurt DeVine: 320-630-2507

Objectives:

- Learn how to evaluate a patient for the appropriateness for buprenorphine medication-assisted treatment (MAT)
- Understand how assessing patients' social needs might lead to better outcomes
- Describe the intake, induction, and follow up process for MAT
- Understand potential pitfalls and long-term follow up and tracking

Intakes

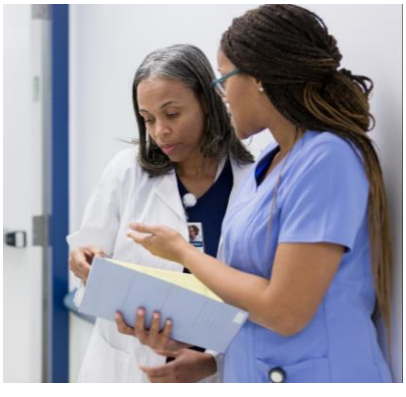
- The important questions:
  - Where do you live?
    - Location matters
  - Previous buprenorphine/naloxone treatment
    - Why changing providers
    - What was your experience
    - records

Intakes cont.

- Previous treatment
- Current medications
  - Benzos?
  - Stimulants?
  - Methadone?
- Drug of choice?
  - Sometimes records/ER visits will tell the story

Intakes cont.

- RN brings form to doctors
- Physicians review forms
- If patient is felt to be appropriate: appointment is made



Patient in Withdrawal

Patients May Come to Clinic In Two Ways

- "Appropriate" and "sick"
  - Forms filled out: consents, contract/care plan, releases
  - UDAS
  - Medication called in: PA, foundation
  - Go pick up meds and come right back
  - Induction
  - Social Worker: insurance, talk about Rx
  - Follow up next day

Patients May Come to Clinic In Two Ways cont.

"Appropriate" and NOT sick

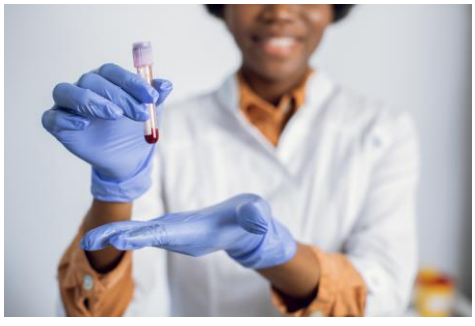
- Forms filled out: consents, contract/care plan, releases
- UDAS
- Overview
- Social Worker: insurance, talk about Rx
- Medication called in: PA
- Schedule for induction

Initial Evaluation

- Physical Exam
  - Withdrawal/using signs
  - Signs of injection site infection
  - Murmur
  - Jaundice, liver size
  - Teeth
  - Sweating

Initial Evaluation cont.

- Blood work
  - CBC
  - Comprehensive profile
  - Pregnancy test in women
  - HIV
  - Hepatitis
  - STIs



Insurance

- Prior authorization- what you need for “approval”

Prior Authorization Rationale:

1. PDMP reviewed
2. Urine drug screen updated and reviewed
3. Pregnancy test, where applicable, negative
4. Avoiding benzodiazepines, and other illicit drugs, reviewed with patient
5. With our program, patient will either need to have completed treatment or be in the process of getting into or going through treatment
6. Patient has been complaint with treatment plan laid out in our clinic

For new starts/induction:

1. Dosage is currently being adjusted to meet patient’s needs
2. Patient will be seen and new prescription give quite frequently until stability reached

For chronic/maintenance:

1. Stable dose in stable patient- maintenance phase of treatment
2. Dosage reviewed and deemed to still be an appropriate dose to meet patient’s needs

Induction

- Same day if possible/indicated
- More convenient when planned

BE FLEXIBLE

Induction cont.

- When will withdrawal occur?
  - Long acting: 36-72 hours
  - Short acting: 12-24 hours
  - Our method: when are you sick?
    - Come then- “highly scientific”

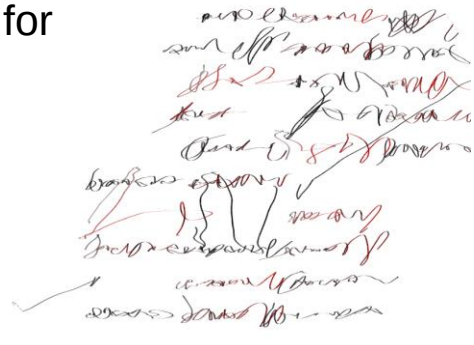
Induction cont.

CLINIC

HOME

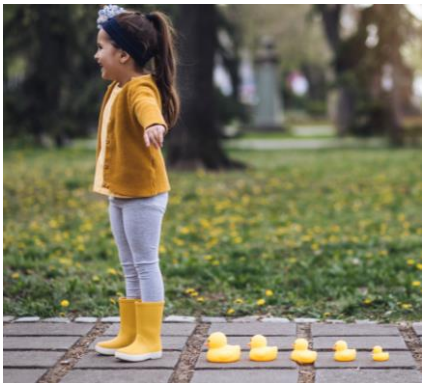
Induction cont.

- Home inductions:
  - Clearly outlined instructions for the patient
  - More convenient for patient
  - Likely no increased risk compared to clinic
  - Does not “tie up a room”



Induction cont.

- In-clinic IN“DUCK”TIONS
  - Gives team time to get to know patient
  - Plenty of time to get forms/releases
  - Staff and family witness the “transformation”
  - Imprinting?



Induction cont.

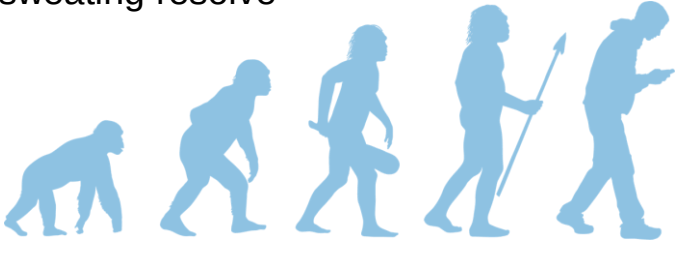
COW???

"Traditional" Induction

- Clinical Opioid Withdrawal Score (COWS) guidelines > 12
- Training guidelines: 2-4mg first dose, wait 1-2 hours
- In our practice we will give 2mg then give second dose 30-45 minutes later
- Depending on response may give another 2-4 then watch for 30-45 minutes
- Sometimes dosing will need to be significantly increased

Induction – Response…

- Body aches, nausea, sweating resolve
- Hungry
- Tired – nap time
- Crawl in, walk out



After Clinic…

- Instructed how to take until the following morning
  - Max amount 12mg (guideline dosing)
  - Sample: 4mg in clinic, 4mg at supper, 4mg before bed

Induction – In the Real World…

- Patient dose/route/frequency (of substance of abuse) may result in a wide range of dosing for buprenorphine
- Big difference in…
  - Pills vs. snort vs. IV
  - Hydrocodone vs. Oxycodone vs. Heroin
  - Methadone*
  - Fentanyl*

Early Follow Up

- We generally see the following day
- In cases where patient lives a long way away, we will do phone follow-ups

Early Follow-Up

- Why early follow-up?
  - Appropriately taking meds?
  - Set up daily dosing and discuss long range follow ups
  - Patient much more able to discuss issues and problems- they feel better
  - Discuss labs

Follow-Up Visits

Physical Exam

- Vitals - weight loss
- Skin - injection sites
- Lungs - respiratory status
- Cardiovascular - tachycardia
- Signs of abuse/withdrawal
  - Yawning, tremor, sniffing, pupil size
- Mental status
- Showered/clean?

Problems

Cravings

Trigger

Habit

REMEMBER

- **Emphasize to patient to call if they think dose is not working**
- **We are in charge of dosing**

Does “normal” dosing work for everyone?

Answer – it depends on who you are.

Micro-Inductions: Do or Do Not, That is the Question

"Adventure. Excitement. A Jedi craves not these things…."

- Yoda

Micro-Induction

- Why is micro-induction a thing?
  - Fentanyl
  - Methadone
  - The "unknown"

DRUG OF ABUSE SCREEN (AMP, BZD, COC, OPI, PCP, OXYCOD, MDMA, THC) USING AUTOMATED ANALYZER [927038700] Resulted: 07/11/16 1440, Result status: Fir res

(continued)

AMPHETAMINE, UR,QL, SCREENING TEST	Negative	Negative	-	956
BENZODIAZEPINES, URINE SCREEN	Negative	Negative	-	956
COCAINE,UR,QL, SCREENING TEST	Negative	Negative	-	956
OPIATES, URINE, QL	Negative	Negative	-	956
PHENCYCLIDINE, URINE SCREEN	Negative	Negative	-	956
THC, URINE	Negative	Negative	-	956
MDA/MDMA, URINE, SCREEN	Negative	Negative	-	956
OXYCODONE,UR,QL, SCREENING TEST	Negative	Negative	-	956

The Dark Side

The Set Up…

1. Long-term exposure to an opioid with developed tolerance
2. Opioid receptor number increased

The Set Up…Continued…

3. Potent opioid with high activation of MUR

The Set Up…Continued…

The Cast

- Methadone
  - Long ½ life: measured in days
  - High affinity for MUR
  - High activation of MUR

The Set Up…Continued…

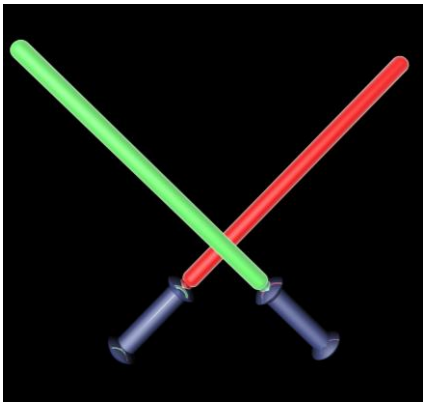
The Cast

- Fentanyl
  - Intermittent use:
    - Snorted ->T ½ 1.5-7 hours
    - IV ->T ½ NEARLY THE SAME
    - Total elimination time: ½-3 days
  - Daily long-term use
    - Lipophilic
    - Elimination
      - Fentanyl: Average 4.9 days
      - Norfentanyl: Average 6.9 days

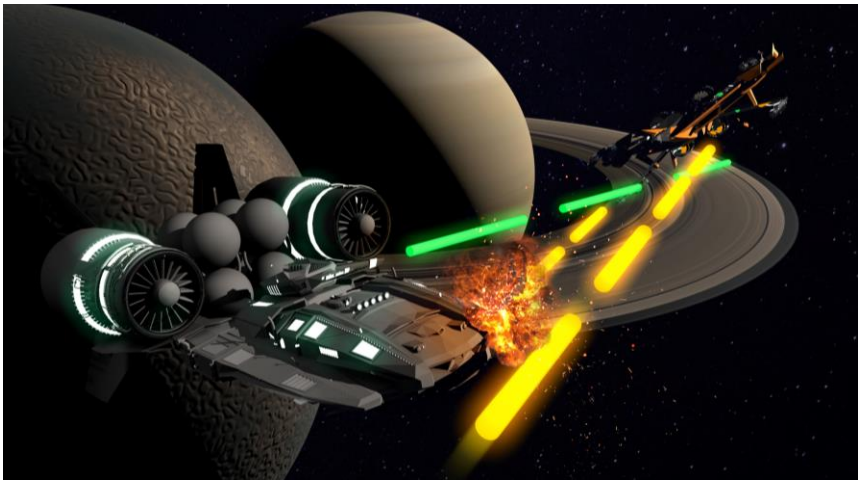
The Set Up…Continued…

4. The administration of buprenorphine:
   - Strong affinity to MUR
   - Activates MUR less

   = withdrawal symptoms



The Results…

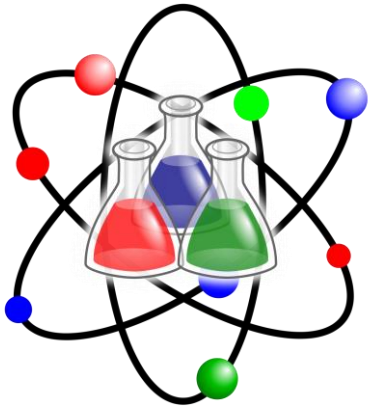


Precipitated Withdrawal

- How can we avoid this?

Precipitated Withdrawal cont.

- How can we avoid this?

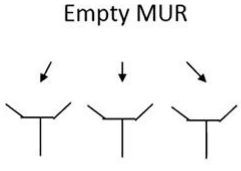


"Normal" Induction vs. "Micro-" Induction

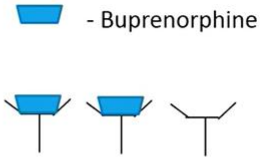
Typical ("Normal") Induction

- Shorter acting opioid (less activating than fentanyl/methadone)
- "Washout" of drug
  - ≥5 T 1/2
- COWS score > 10

Typical ("Normal") Induction cont.

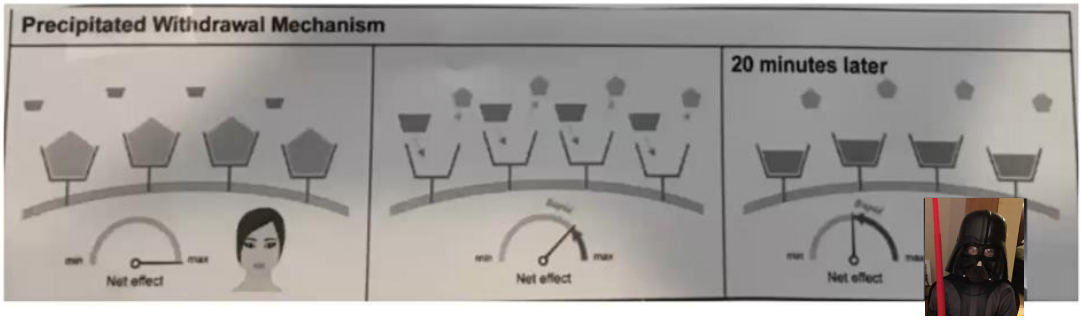


Withdrawal symptoms



Less activating (than full agonists)
Resolves withdrawal symptoms

Precipitated Withdrawal cont.

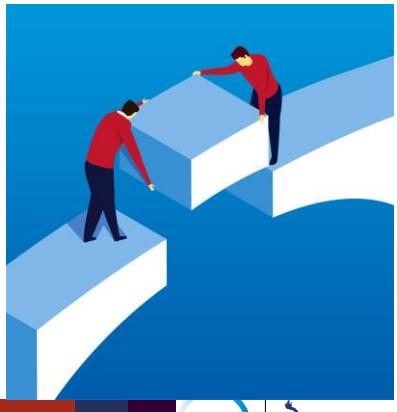


Precipitated Withdrawal cont.

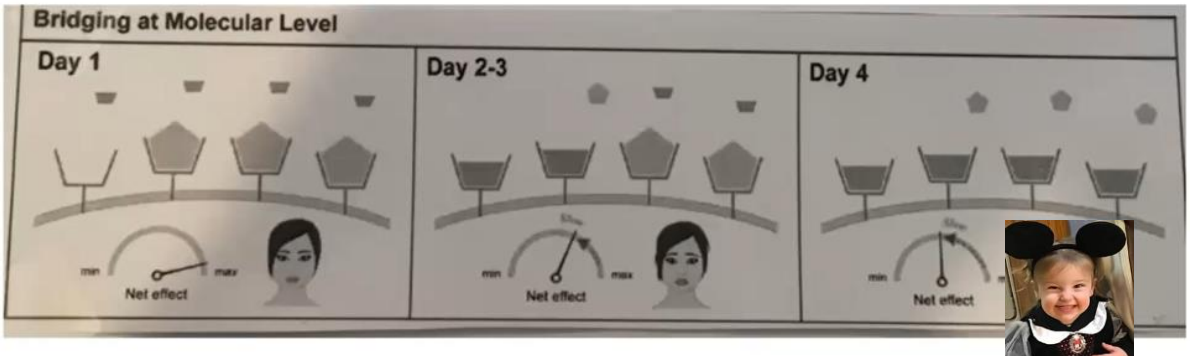
- The Science
  - High activation drug with less affinity pushed off by less activating drug with high affinity
  - Less activation = withdrawal symptoms

Precipitated Withdrawal cont.

- The micro-dose method of bridging
  - Gentle loading of high-affinity long T ½ buprenorphine
  - Slow displacement (metabolism) of opioid
  - Slow titration eliminates potential for precipitated withdrawal

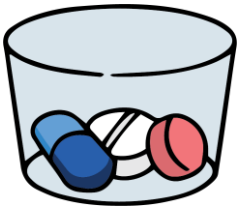


Micro-induction



Micro-dosing

- Patient experience with micro-inductions:
  - Symptoms improved but not gone
  - May still need adjunctive medications:
    - Zofran
    - Clonidine



Micro-dosing cont.

- Use decreased amounts of their drug of choice then taper as induction continues, symptoms minimized
  - Done in other countries
  - Provider 'recommended' not legal in U.S.

Macro Inductions

58

Macro-Dosing

- What is macro-dosing?
  - Dosing >12mg (12/3) on first day

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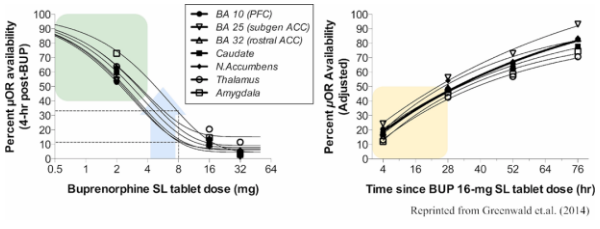
Background

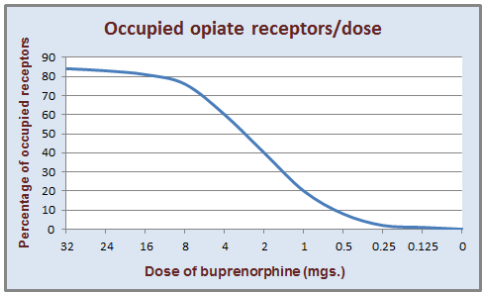
- Why macro-dosing?
  - Often delays in access to follow-up care
  - Increasing potency of the illicit opioid drug supply (fentanyl, fentanyl derivatives/analogs)

Macro-dosing

- Decrease μOR availability
  - ↓ magnitude/duration of withdrawal symptoms
- Larger doses may be needed to suppress withdrawal from fentanyl and derivatives
- Facilitates accelerated induction
  1. → **therapeutic buprenorphine levels in 3-4 hours** (vs 2-3 days)
  2. ↑ safety between ED discharge and OP treatment



Reprinted from Greenwald et.al. (2014)



High-Dose Buprenorphine Induction in the Emergency Department for Treatment of Opioid Use Disorder

Andrew A. Herring, MD; Aidan A. Vosooghi, MS; Joshua Luftig, PA; Erik S. Anderson, MD; Xiwen Zhao, MS; James Dziura, PhD; Kathryn F. Hawk, MD, MHS; Ryan P. McCormack, MD, MS; Andrew Saxon, MD; Gail D'Onofrio, MD, MS

- Retrospective chart review, EMR data, 579 ED visits for 391 adults with OUD in 2018, single-site urban ED
  - Alameda Health System–Highland Hospital in Oakland, California
- Purpose:
  - Evaluate safety/tolerability of a high-dose clinical pathway for initiation of buprenorphine in ED
- ED physicians/APPs were trained → implemented macro-dosing protocol
  - 54 clinicians

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- Patient demographics
  - Most from vulnerable populations
    - 23% - homelessness
    - 41% - psychiatric disorder
  - 68% male, 45% black, 15% were Hispanic/Latino

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- Outcomes
  - **Primary**
    - Occurrence of precipitated withdrawal
  - **Secondary**
    - Any other serious adverse event attributable to buprenorphine administration
      - Sedation
      - Apnea/bradypnea
      - Hypoxia
      - Naloxone rescue administration in ED or in the 24 hours after
    - LOS

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- During ED induction
  - 63% received >12mg SL bup (standard upper limit)
  - 23% received >28mg
- Results:
  - Higher dose buprenorphine safe/tolerable
  - No buprenorphine toxicity
  - Precipitated withdrawal rare (0.8% of cases), not associated with dose
    - 4 cases occurred after 8mg buprenorphine
  - Few adverse events, unrelated to high-dose
  - N/V rare (2-6% of cases)
  - Median LOS = 2.4 hours (1.6-3.75)

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- Conclusions:
  - High-dose buprenorphine induction safe and well tolerated
  - This is particularly important for vulnerable populations who may benefit from a rapid induction
  - Need prospective study

Macro-dosing vs. Standard Dosing

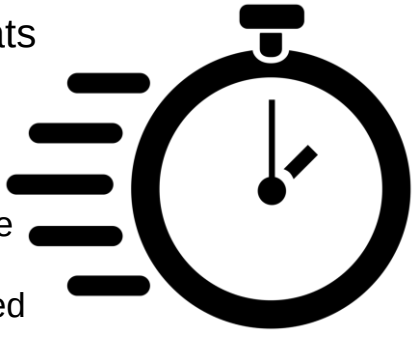
- No clear clinical indication/circumstance for macro-dosing
- High-dose buprenorphine → treats buprenorphine precipitated withdrawal
- Reasonable in an urgent/acute care setting?
  - Rapidly achieve therapeutic levels → bridge to OP care in vulnerable populations
- Other possibilities?
  - Precipitated withdrawal after self/home buprenorphine administration
  - Post-overdose reversal with naloxone, either field administration by EMS or in the ED

Macro-dosing vs. Standard Dosing cont.

- **Contraindications? Absolute? Relative?**
  - AMS
  - Pregnancy
  - Geriatric patients (65+)
  - Methadone use
  - Intoxication/toxicity from alcohol, benzodiazepines, or other sedatives
  - Anticipated surgery
  - Long-term opioid for chronic pain
  - Serious acute medical illness?
  - Post-overdose naloxone administration?

Take-home Points: Macro-dosing

- High-dose buprenorphine effectively treats buprenorphine precipitated withdrawal
- Rapid induction with high-dose buprenorphine (macro-dosing)
  - Rapidly achieves therapeutic buprenorphine levels
  - Recently shown to be safe and well tolerated
  - Important for vulnerable populations
  - Useful in acute/urgent care setting?



Poll Questions

1. Are you currently prescribing buprenorphine for opioid use disorder?
   - **YES**
   - **NO**
2. If yes, what is the approximate number of patients you are treating with buprenorphine?

   _____

Clear as Mud?!

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Podcast: The Addiction Connection

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