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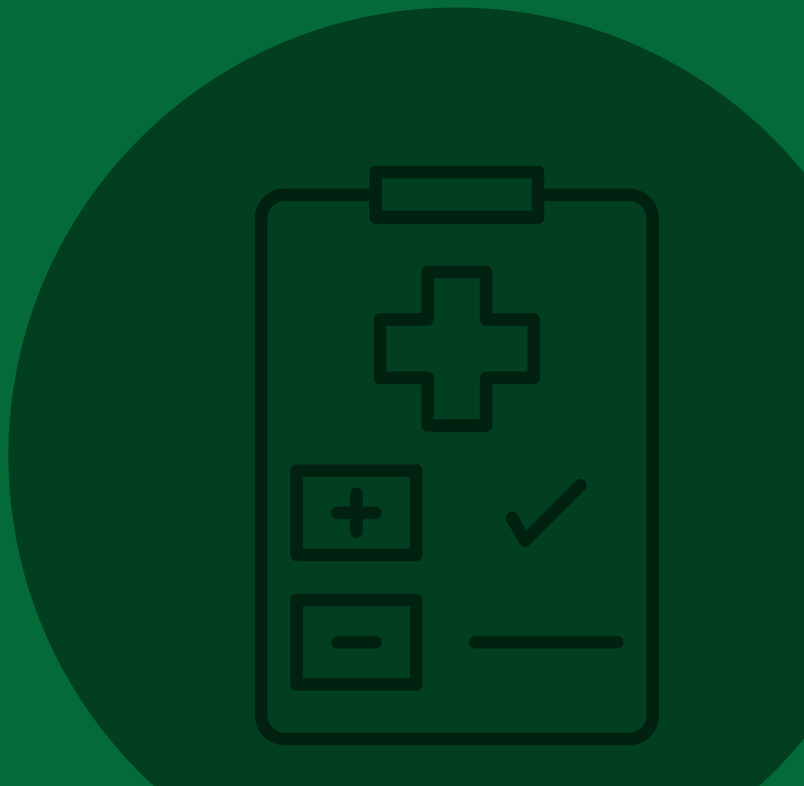
Co-Occuring Disorders - Medical Conditions

Patient Management

- Structured therapies can be helpful in establishing recovery
- Facilitate engagement in building a social support network, e.g. NA/AA
- Relapse Prevention: use relapses as learning tools
- Avoid excessive dependency vs building individual resilience
- Integrate medication management into recovery program
- Use Stages of Change to management

Co Occurring Medical Considerations

- General Criteria for Screening Tests:
  - Public Health Importance
  - Recognizable at an early stage
  - Can be diagnosed before signs and symptoms
  - Effective Treatment available
  - Good Prognosis



Labs

Case

24 yo female patient is seeing you as a new consult for Opioid Use Disorder and is considering starting on buprenorphine/ naloxone.

She has been using Oxycodone illicitly for 5 years since a car accident when she was 19. She is worried about "pressed pills", and after a friend was given a "Perc 10" on Tiktok and had an overdose, she is now wanting to stop oxycodone.

She said another friend who was started on Suboxone a few weeks ago at this facility had testing done here. She would like to know what testing is available for her.

When seeing a patient with a new diagnosis of OUD, what laboratory testing would you discuss with the patient?

Case

Urine Drug Screen

Urine fentanyl

HIV

Acute Hepatitis Panel WITH REFLEX

RPR (WITH REFLEX)

GC/CHL/ Trichomonas – urine vs self swab

TB – PPD/ quant gold

CBC

CMP

Urine Pregnancy Test

SQUIBBISM

When offering STI screen without a breath/pause include that it's a self swab

Many persons with SUD also have history of sexual trauma and will decline STI screen if individual thinks it includes/requires pelvic exam

Correlates of Trichomonas Prevalence Among Street-Recruited, Drug-Using Women Enrolled in a Randomized Trial

Abstract

Objectives. Substance-using women need prevention technologies and programs to reduce risk of HIV/sexually transmitted infection (STI). We examined STI prevalence and identified risk correlates for female drug users.

Methods. We used interviewer-administered and computer-assisted surveys, and tested specimens for four treatable STIs (trichomonas, early syphilis, gonorrhea, chlamydia) on 1788 HIV-seronegative, street-recruited, substance-using women enrolled in a randomized trial to reduce HIV/STI risk. Results. Most women were crack users (88%), reported sex exchange (80%) and were not in drug user treatment (74%). Two-thirds were African-American and nearly all were unemployed. Protection during sex was infrequent. African-American women reported fewer unprotected sex acts and fewer sexual partners, but greater crack use and more sex for exchange, than whites or Hispanics. Trichomonas prevalence (36.9%) exceeded that for chlamydia (2.5%), syphilis (1.1%), and gonorrhea (0%). In multivariate logistic regression, having a primary and casual partner more than doubled (AOR 2.46) the risk of having trichomonas and being African-American raised the risk by more than 8 times (AOR 8.43).

Conclusions. African-American, drug-using women, and women with multiple partner types, are in urgent need of effective STI/HIV prevention interventions.

Related articles

Intersection of sexually transmitted infections and substance use among low income minority women: routine care as a critical point for reducing reproductive health disparities

Objective

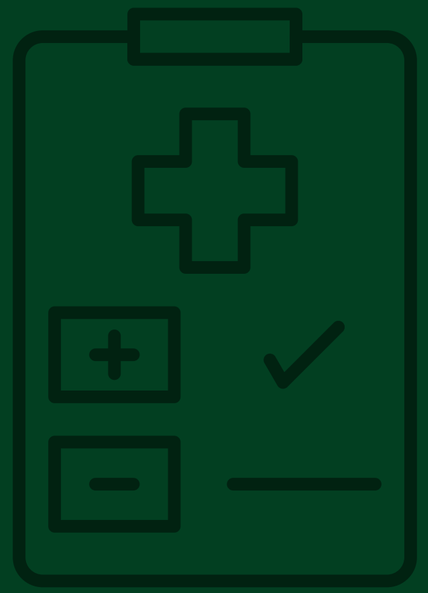
Materials and Methods

Results

THE ASAM NATIONAL PRACTICE GUIDELINE FOR THE TREATMENT OF OPIOID USE DISORDER 2020 FOCUSED UPDATE

Laboratory Tests

- Initial laboratory testing should include a complete blood count, liver enzyme tests, and tests for TB, hepatitis B and C, and HIV.
- Testing for sexually transmitted infections should be strongly considered.
- Hepatitis A and B vaccination should be offered, if appropriate.
- A complete blood count and liver enzyme studies should be conducted to screen for liver dysfunction, infection, and other medical conditions.
- Abnormal results may require further investigation or referral.



Hepatitis C

Testing

Rates in SUD populations:

~60% SUD exposed

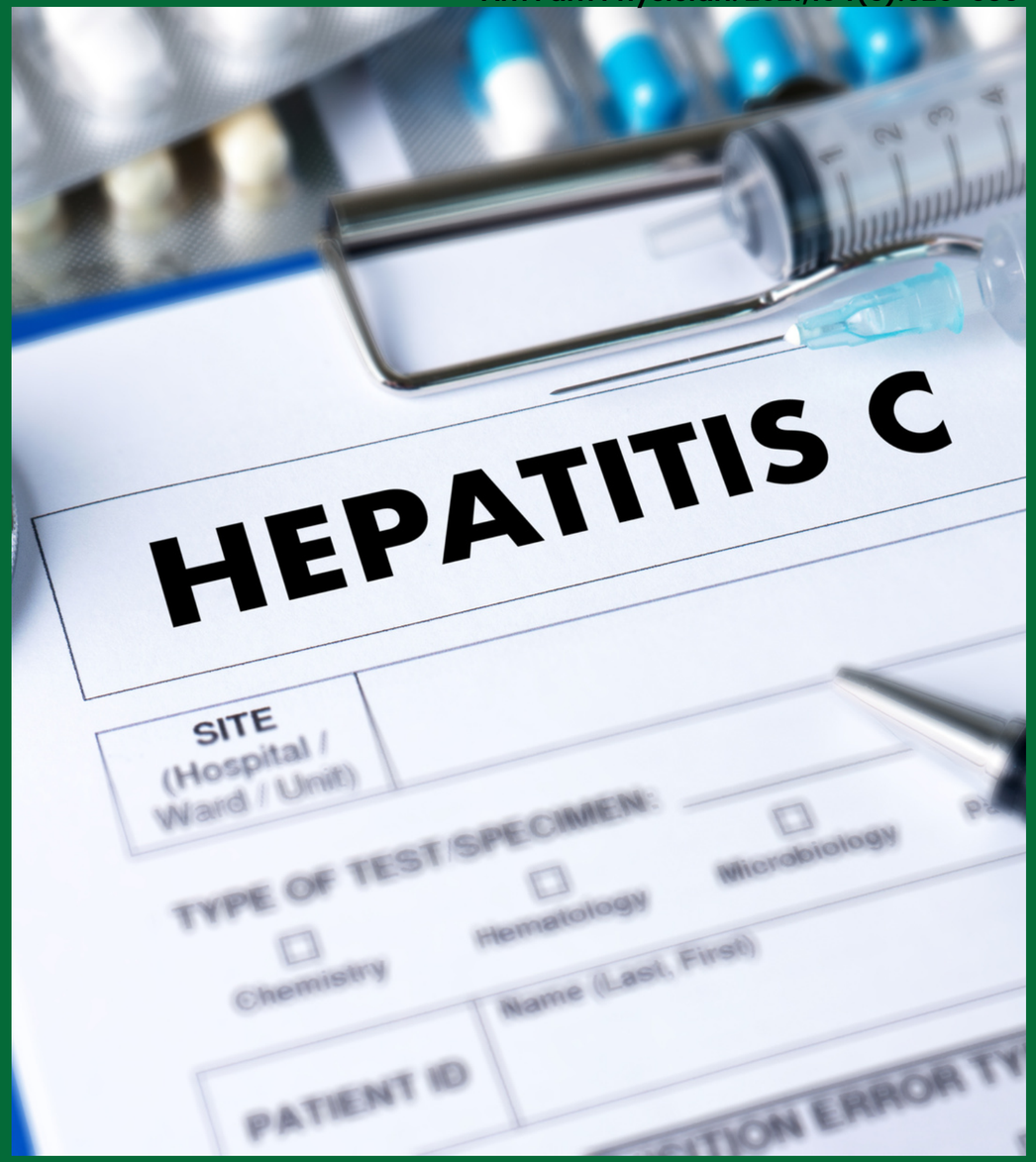
~40% positive

First Step:

Antibody testing, then PLEASE CHECK VIRAL QUANTIFICATION!

Antibody ONLY shows past exposure, does not determine if it is clinically active!!!

Hepatitis C Diagnosis and Management
Am Fam Physician. 2021;104(6):626-635



Hepatitis C

Hepatitis C Diagnosis and Management
Am Fam Physician. 2021;104(6):626-635

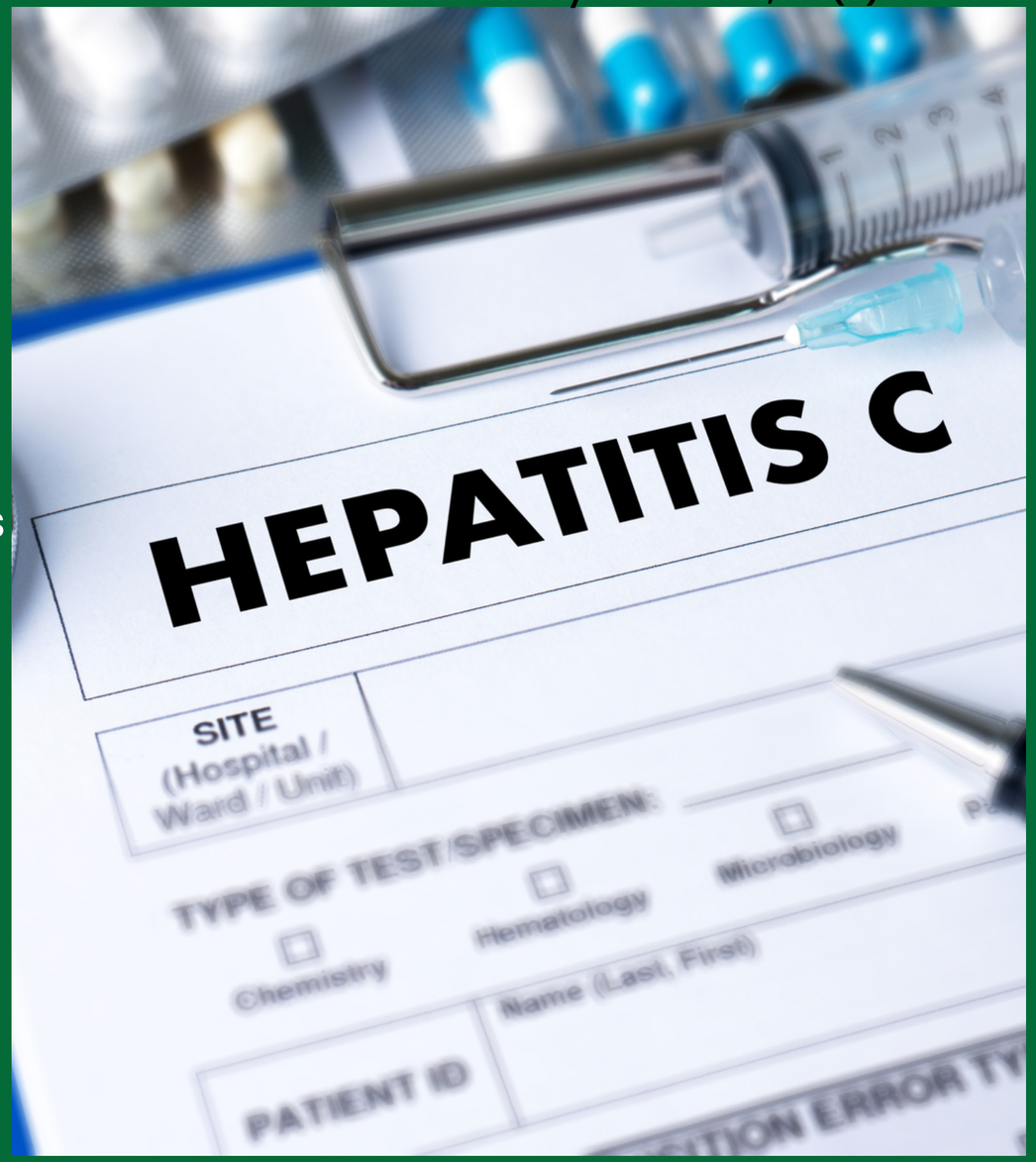
For treatment-naive adults without cirrhosis or with compensated cirrhosis:

- Treatment regimen consisting of eight weeks of glecaprevir/pibrentasvir or 12 weeks of sofosbuvir/velpatasvir results in greater than 95% cure rates.

- Undetectable HCV RNA 12 weeks after completing therapy is considered a virologic cure (i.e., sustained virologic response).

- A sustained virologic response is associated with lower all-cause mortality and improves hepatic and extrahepatic manifestations, cognitive function, physical health, work productivity, and quality of life

- There is NO requirement for SUD remission or treatment to consider treating co morbid Hepatitis C



HIV

Opportunities to Improve HIV Prevention and Treatment:

- Make HIV testing a routine part of healthcare.
- Initiate HAART therapy early to decrease HIV viral load and reduce infectivity.
- Establish a continuum of care to improve linkage to substance use treatment and HIV treatment within the criminal justice system and upon prisoner reentry.
- Improve rates of testing and treatment among African- Americans, MSM, and other groups disproportionately impacted by the epidemic.
- Ongoing substance use is not a contraindication to antiretroviral therapy (ART) (AI). People who use substances can achieve and maintain viral suppression with ART.

Contraception

- As many as **85% of pregnancies in women with opioid use disorder are unintended**.
- The rate of opioid use during pregnancy is 5.6 per 1,000 live births.
- In women with confirmed substance use disorder, physicians should discuss planning for pregnancy and offer the full spectrum of contraceptive options, including emergency contraception, and especially long-acting contraceptives.

Opioid Use and Opioid Use Disorder in Pregnancy | ACOG

A Review of Unintended Pregnancy in Opioid-Using Women: Implications for Nursing

Abstract

Contraception

- The American Society of Addiction Medicine recommends:

- **Prevention, Screening, and Toxicology Testing**

1. Addiction medicine professionals should screen all people of reproductive age for pregnancy intention, and either provide contraception if desired or refer for comprehensive family planning.

ASK and OFFER

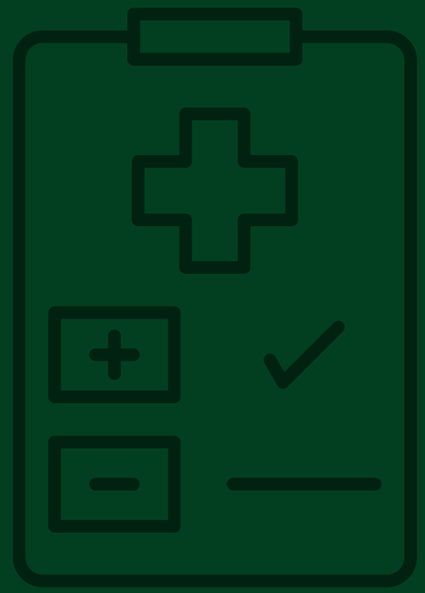
Short Term Contraception
Emergency Contraception
Long Acting Contraception

PRE EXPOSURE PROPHYLAXIS

What's New in the Preexposure Prophylaxis for the Prevention of HIV Infection in the United States - 2021 Update – A Clinical Practice Guideline

- We added a recommendation to inform all sexually active adults and adolescents about PrEP (IIIB).

- PrEP and other HIV prevention should be provided and integrated with prevention and clinical care services for the other non-HIV health threats PWID may face (e.g., hepatitis B and C infection, abscesses, septicemia, endocarditis, overdose).5



PREP

Three medications are approved :

Truvada® (or generic equivalent) pills are for all people at risk through sex or injection drug use.

Descovy® pills are for people at risk through sex or injection drug use, except for people assigned female at birth who could get HIV from vaginal sex.

Apretude® shots are for all people at risk through sex.

PrEP 101

If you don't have HIV but are at risk, PrEP can help you stay free from HIV.

WHAT IS PREP?

IS PREP RIGHT FOR YOU?

PrEP can help protect you if you DON'T have HIV and ANY of the following apply to you.

You have had anal or vaginal sex in the past 6 months and
- have a sexual partner with HIV (especially if the partner has an unknown or detectable viral load),
- have not consistently used a condom, or
- have been diagnosed with an STD in the past 6 months.

You inject drugs and
- have an injection partner with HIV, or
- share needles, syringes, or other drug injection equipment (for example, cookers).

You have been prescribed PEP (post-exposure prophylaxis) and
- report continued risk behavior, or
- have used multiple courses of PEP.

If you have a partner with HIV and are considering getting pregnant, talk to your health care provider about PrEP if you're not already taking it.

VISIT YOUR HEALTH CARE PROVIDER

- To find out if PrEP is right for you.
- Routinely as recommended for follow-up visits, HIV tests, and prescription refills or shots.
- If you have any side effects while taking PrEP that become severe or don't go away.
- If you don't have a provider, visit www.preplocator.org.

HOW CAN YOU GET HELP TO PAY FOR PREP?

- Most insurance programs and state Medicaid plans cover PrEP. You may also receive co-pay assistance to help lower the cost of PrEP.
- The Ready, Set, PrEP program makes PrEP available at no cost to those who qualify. Learn more at www.readysetprep.hiv.gov.
- ViiVConnect offers a program to help patients pay for PrEP shots. Learn more at www.viivconnect.com.
- If you don't have insurance, consider enrolling in an insurance marketplace, PrEP assistance program, or your state's Medicaid plan, if you are eligible.
- Learn more about paying for PrEP at www.cdc.gov/hiv/basics/prep/paying-for-prep.

Scan to learn more!

For more information, please visit www.cdc.gov/hiv/basics.

CDC

INFORMACIÓN BÁSICA SOBRE LA PrEP

Si no tiene el VIH pero tiene riesgo de contraerlo, la PrEP puede ayudar a que no lo contraiga.

¿QUÉ ES LA PREP?

RANDOMIZED CONTROLLED CLINICAL TRIAL OF POST-EXPOSURE PROPHYLAXIS (PEP)

Single dose of doxycycline 200 mg

Within 72 hours after oral, anal, or vaginal sex, in men who have sex with men (MSM) and transgender women (TGW) who were living with HIV (PLWH) or taking HIV pre-exposure prophylaxis (HIV PrEP).

The study showed that this regimen significantly reduced acquisition of chlamydia, gonorrhea, and syphilis in these populations.

Postexposure Doxycycline to Prevent Bacterial Sexually Transmitted Infections
April 6, 2023
N Engl J Med 2023; 388:1296-1306
DOI: 10.1056/NEJMoa2211934

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ASAM

ASAM Criteria

- The ASAM Criteria defines the standards for conducting a comprehensive biopsychosocial assessment to inform patient placement and treatment planning. These standards describe six dimensions that should be assessed, including:
  - Acute intoxication and/or withdrawal potential
  - Biomedical conditions and complications
  - Emotional, behavioral, and cognitive conditions and complications
  - Readiness to change
  - Relapse, continued use, or continued problem potential
  - Recovery/living environment

ASAM Levels of Care

52 yo Caucasian cisgender male diagnosed with severe AUD

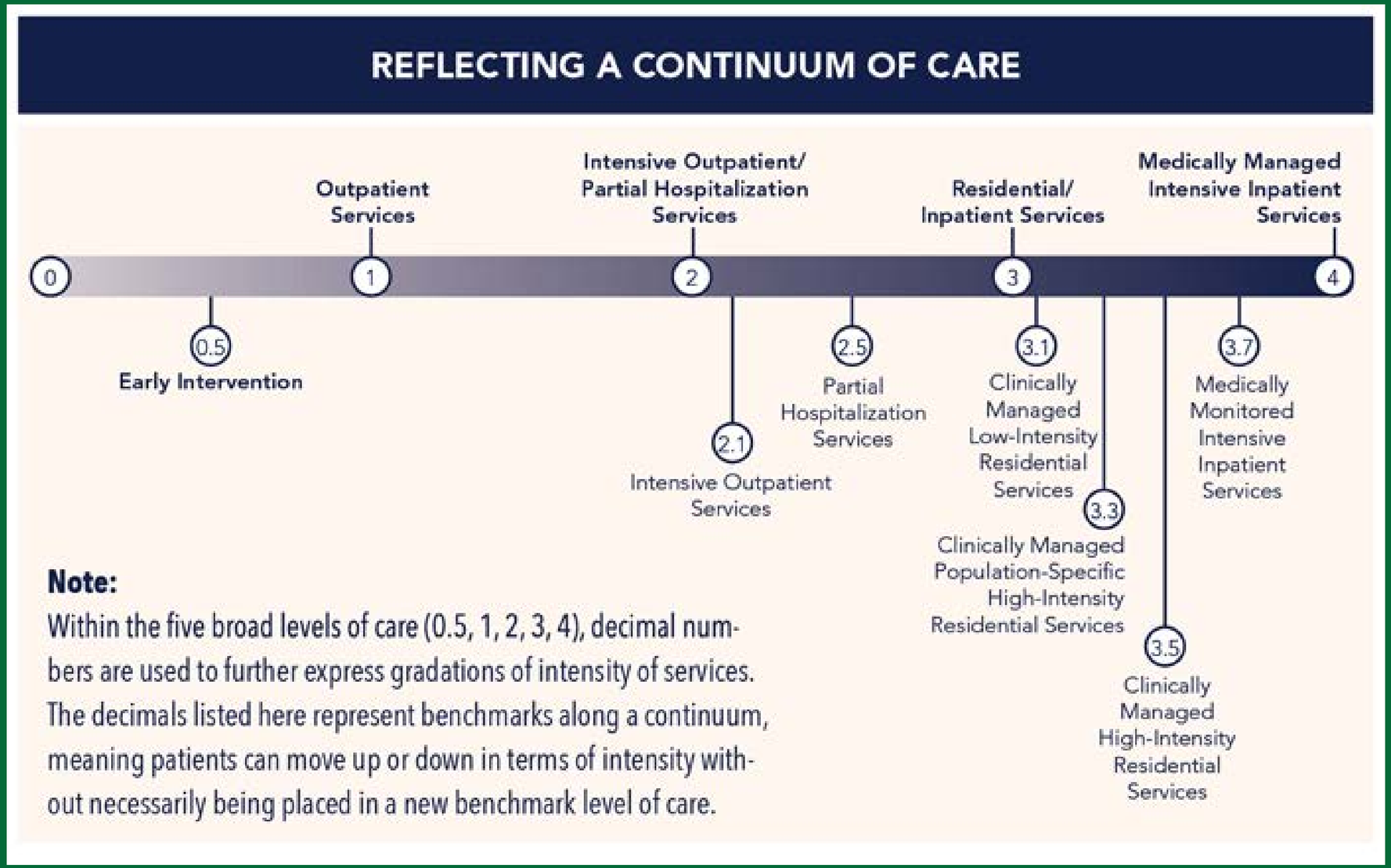
- + H/O complicated WD with seizures, drank fifth of vodka this am
- + HFrEF/ alcohol induced cardiomyopathy, last EF 10-15 % 12/2022
- Dx BPAD – stable when takes lithium, but has been off x 2 weeks
- Homeless, avoids shelters tends to live “rough” or in “bandos”

52 yo hispanic cisgender male diagnosed with Severe AUD

- No history of complicated withdrawal, last drink 10 days ago
- PMHx Hypertension stable on cozaar
- Mental Health : BPAD stable on abilify daily, asymptomatic
- Lives with supportive partner, no sud or aud in the home

ASAM Levels of Care

What level of care would you recommend for the previous two patients?



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Induction

Buprenorphine Initiation Rationale: Any location

Overall goal:

- Assist patients in switching from full opioid agonists, whether legally prescribed or obtained from other sources, to prescribed buprenorphine.

Specific goals of buprenorphine initiation:

- Identify dose of buprenorphine at which the patient:
  - Significantly decreased or absent withdrawal symptoms
  - Has minimal/no side effects
  - Experiences decreased cravings
  - Discontinues or markedly reduces use of other opioids

Buprenorphine Initiation
Patient Education

- Sublingual tablets and films held under the tongue until dissolved and then 2 more minutes before swallowing or spitting out the sputum

- Buccal delivery films take fewer minutes to dissolve and are stuck to the buccal mucosa
- **Instruct to:**
  - Start with a moist mouth, avoid acidic drinks (coffee or fruit juice)
  - Avoid using nicotine products as this interferes with absorption
  - Avoid speaking with the sublingual medication
  - Keep dissolving medicine under tongue
  - Don’t swallow until entire tablet or film is dissolved

Buprenorphine Initiation
Supportive Medications

- Provide Symptomatic Medications based on patients usual withdrawal symptoms

- Hydroxyzine - anxiety
- Trazadone - insomnia
- Clonidine – agitation, sweating
- Imodium - diarrhea
- Zofran- nausea/ vomiting
- Ibuprofen - aches
- Muscle Relaxer- muscle aches. Tizanidine also has alpha blockade so may be more beneficial than others

Opioid Withdrawal Management

Supportive Medications

- Opioid withdrawal can be treated symptomatically with:
  - clonidine: for restlessness and anxiety
  - loperamide: for diarrhea
  - ondansetron: for nausea and vomiting
  - ibuprofen: for muscle and bone aches
- Alternatively, an opioid such as methadone or buprenorphine can be administered to relieve symptoms, then tapered gradually over days or weeks so that withdrawal symptoms are less intense
- This approach of medically-supervised withdrawal, historically called ‘detox’, can make withdrawal less uncomfortable, *however* it has been shown in numerous studies to be ineffective at preventing return to opioid use

Opioid Withdrawal Management

Supportive Medications

- Clonidine
  - Medication reduces physical withdrawal symptoms not craving.
  - Side-effects are sleepiness, dizziness, fainting, headache
  - Check postural signs (>20/10 mmHg drop on standing)
    - do not administer if SBP<100, DBP<60, HR<60

Opioid Withdrawal Management
Supportive Medications

- Lofexidine
  - FDA approved treatment of opioid withdrawal
  - Act on the central nervous system
  - Results in:
    - sedation,
    - mild pain relief,
    - relaxation
  - Has been used to treat high blood pressure or anxiety.
  - Less effect on blood pressure than clonidine.

- Tizanidine – A centrally acting muscle relaxant.
  - Use shown to have some utility similar to other α2 agonists in controlling withdrawal symptoms.

Rudolf, et.al, AJDA&A 2018

Buprenorphine Initiation Methods

- Home Induction - same method as in office, but different location
- In Office Induction - same method as in office, but different location
- Macro dosing Induction – different process/ steps of induction
- Micro dosing Induction – different process/ steps of induction

Buprenorphine Initiation Instructions

Home/Office
(not micro or high dose)

Instruct the patient to abstain from any opioid use for a minimum of:

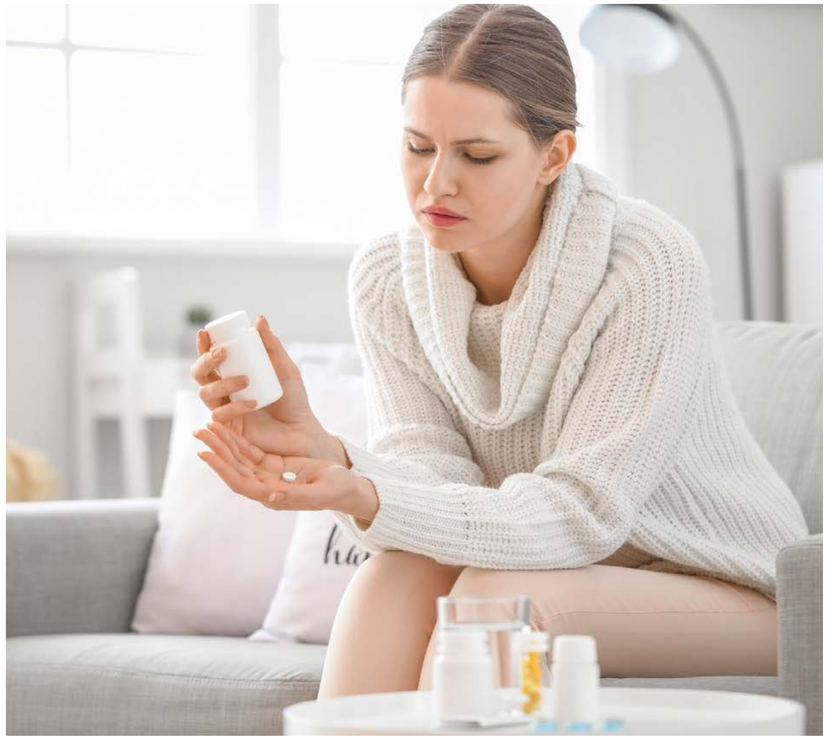
- 12-16 hours for short-acting opioids
- 24 hours for sustained-release opioid medications
- 36 hours for methadone
- 36 hours for fentanyl

Observe and document Mild vs. Moderate withdrawal:

- **NOTE**: Be aware of the prevalence/presence of **fentanyl** in provider's area of practice or by the patient; do not induce unless moderate withdrawal (COWS 13 to 15/ SOWS 17) is observed

Buprenorphine Initiation Instructions

Home
Multiple Approaches but subtle Clinical Variance



Similar outcomes have been noted for observed and home initiation in terms of safety and efficacy.

Process:

- Teach patient about how bup/nx works and how it is absorbed
- Discuss process for home start
- Review typical withdrawal symptoms with patient

Buprenorphine Initiation
The Self Start Guide

Buprenorphine Instructions

Once you are ready, follow these instructions to start the medication.

DAY 1:
8-16 mg of Buprenorphine

DAY 2:
16 mg of Buprenorphine
(unless otherwise specified)

Step 1

Take the first dose.

Wait 45 minutes

- Put the tablet or strip under your tongue.
- Keep it there until fully dissolved (about 15 min.).
- Do NOT eat or drink while taking.
- Do NOT swallow the medicine.

Step 2

Still feel sick? Take next dose.

Wait 6 hours

Most people feel better after two doses.
8 + 8 = 16 mg

Step 3

If your withdrawal symptoms are not getting better,

Call OneFifteen **(937) 535-5115** for Telehealth visit with a provider. Open 24 hrs, 7 days a week.
OR
Return to the Emergency Room.

- Stop after 2nd dose.
- Do not take more than two doses (total of 16 mg) on Day 1.

Check one based on prescription

- ☐ **Take 8 mg twice daily**
- ☐ **Other**
  _____
  _____
- ☐ **Appointment**
  _____
  _____

Continue this daily dose until your next follow-up appointment.

IF YOU HAVE QUESTIONS, PLEASE CALL (937) 535-5115 AND ASK FOR HELP WITH THE ER SELF-START BUPRENORPHINE PROGRAM.
DOWNLOAD THE APP USING THE QR CODES BELOW.
*****IT IS IMPORTANT TO KEEP YOUR FOLLOW-UP APPOINTMENTS.*****

OneFifteen Apple Appstore

OneFifteen Playstore

Premier Health

Patient Guide: Beginning Self-Start Buprenorphine Treatment

Before you begin, you want to feel VERY SICK from your withdrawal symptoms. Your Subjective Opiate Withdrawal Scale (SOWS) score should be 17 or higher.

It should be at least...
- **24-36 hours or more** since you last used Fentanyl
- **12-24 hours** since you last used Heroin
- **12-24 hours** since you last snorted pain pills (Oxycontin)
- **12-24 hours** since you last swallowed pain pills (Hydrocodone, Oxycodone)
- **36 hours** since you last swallowed Oxycontin
- **72 hours** or more since you last used Methadone

You should feel at least three of these symptoms. Refer to SOWS, if needed.
- Restlessness
- Anxiety
- Body aches
- Goosebumps
- Heavy yawning
- Increased tears
- Cravings
- Tremors/twitching
- Stomach cramps, nausea, vomiting or diarrhea
- Enlarged pupils
- Sweating
- Chills
- Hot flashes
- Runny nose
- Irritable
- Feel like using now

Subjective Opiate Withdrawal Scale (SOWS)

- Before you begin Buprenorphine, you want to feel **VERY SICK** from your withdrawal symptoms.
- If you are not sure if you are sick enough, try adding up your SOWS score.
- When your score is 17 or higher, you may begin Buprenorphine.

Instructions: *For each symptom, write a number from 0-4 about how you feel **right now**. Use this scale to determine when to take the first dose of Buprenorphine. After your first day of Buprenorphine treatment, you no longer need to use the SOWS tool.* **SCALE** **0** = not at all **1** = a little **2** = moderately **3** = quite a bit **4** = extremely

Date					
Time					
SYMPTOM	**SCORE**	**SCORE**	**SCORE**	**SCORE**	**SCORE**
1. I feel anxious.					
2. I feel like yawning.					
3. I am perspiring (sweating).					
4. My eyes are tearing.					
5. My nose is running.					
6. I have goosebumps.					
7. I am shaking.					
8. I have hot flashes.					
9. I have cold flashes.					
10. My bones and muscles ache.					
11. I feel restless.					
12. I feel nauseated.					
13. I feel like vomiting.					
14. My muscles twitch.					
15. I have stomach cramps.					
16. I feel like using now.					
TOTAL					

Premier Health

Buprenorphine Instructions

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8-16 mg of Buprenorphine

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- Keep it there until fully dissolved (about 15 min.).
- Do NOT eat or drink while taking.
- Do NOT swallow the medicine.

Wait 45 minutes

Step 2

Still feel sick? Take next dose.

Most people feel better after two doses.
8 + 8 = 16 mg

Wait 6 hours

Step 3

If your withdrawal symptoms are not getting better,

- Stop after 2nd dose.
- Do not take more than two doses (total of 16 mg) on Day 1.

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OR

Return to the Emergency Room.

DAY 2:

16 mg of Buprenorphine
(unless otherwise specified)

Check one based on prescription

- ☐ **Take 8 mg twice daily**
- ☐ **Other**
  _____
  _____
- ☐ **Appointment**
  _____
  _____

Continue this daily dose until your next follow-up appointment.

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Premier Health

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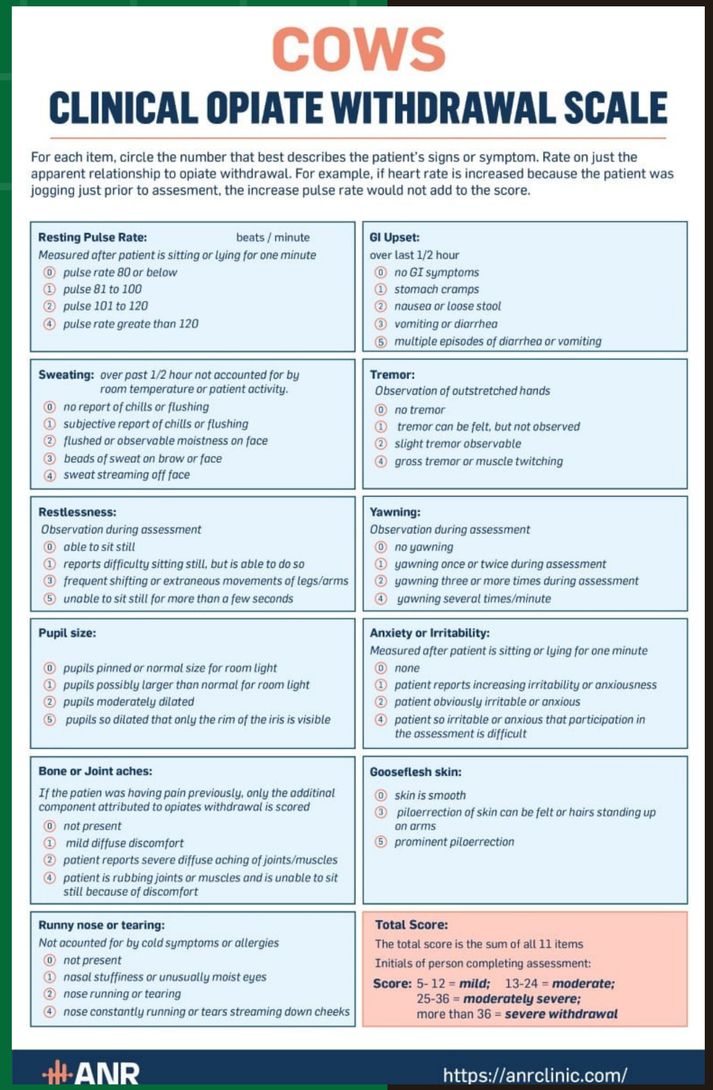
7. I am shaking.					
8. I have hot flashes.					
9. I have cold flashes.					
10. My bones and muscles ache.					
11. I feel restless.					
12. I feel nauseated.					
13. I feel like vomiting.					
14. My muscles twitch.					
15. I have stomach cramps.					
16. I feel like using now.					
TOTAL					

Premier Health

Clinical Opiate Withdrawal Scale (COWS)

Score	Withdrawal
<5	None
5-12	Mild (Aim for ≥ 8 for Induction)
13-24	Moderate
25-36	Moderately Severe
>36	Severe



COWS

CLINICAL OPIATE WITHDRAWAL SCALE

For each item, circle the number that best describes the patient's signs or symptom. Rate on just the apparent relationship to opiate withdrawal. For example, if heart rate is increased because the patient was jogging just prior to assesment, the increase pulse rate would not add to the score.

Resting Pulse Rate: beats / minute
Measured after patient is sitting or lying for one minute
(0) pulse rate 80 or below
(1) pulse 81 to 100
(2) pulse 101 to 120
(4) pulse rate greate than 120

GI Upset:
over last 1/2 hour
(0) no GI symptoms
(1) stomach cramps
(2) nausea or loose stool
(3) vomiting or diarrhea
(5) multiple episodes of diarrhea or vomiting

Sweating: *over past 1/2 hour not accounted for by room temperature or patient activity.*
(0) no report of chills or flushing
(1) subjective report of chills or flushing
(2) flushed or observable moistness on face
(3) beads of sweat on brow or face
(4) sweat streaming off face

Tremor:
Observation of outstretched hands
(0) no tremor
(1) tremor can be felt, but not observed
(2) slight tremor observable
(4) gross tremor or muscle twitching

Restlessness:
Observation during assessment
(0) able to sit still
(1) reports difficulty sitting still, but is able to do so
(3) frequent shifting or extraneous movements of legs/arms
(5) unable to sit still for more than a few seconds

Yawning:
Observation during assessment
(0) no yawning
(1) yawning once or twice during assessment
(2) yawning three or more times during assessment
(4) yawning several times/minute

Pupil size:
(0) pupils pinned or normal size for room light
(1) pupils possibly larger than normal for room light
(2) pupils moderately dilated
(5) pupils so dilated that only the rim of the iris is visible

Anxiety or Irritability:
Measured after patient is sitting or lying for one minute
(0) none
(1) patient reports increasing irritability or anxiousness
(2) patient obviously irritable or anxious
(4) patient so irritable or anxious that participation in the assessment is difficult

Bone or Joint aches:
If the patien was having pain previously, only the additinal component attributed to opiates withdrawal is scored
(0) not present
(1) mild diffuse discomfort
(2) patient reports severe diffuse aching of joints/muscles
(4) patient is rubbing joints or muscles and is unable to sit still because of discomfort

Gooseflesh skin:
(0) skin is smooth
(3) piloerrection of skin can be felt or hairs standing up on arms
(5) prominent piloerrection

Runny nose or tearing:
Not acounted for by cold symptoms or allergies
(0) not present
(1) nasal stuffiness or unusually moist eyes
(2) nose running or tearing
(4) nose constantly running or tears streaming down cheeks

Total Score:
The total score is the sum of all 11 items
Initials of person completing assessment:
Score: 5- 12 = ***mild;*** 13-24 = ***moderate;*** 25-36 = ***moderately severe;*** more than 36 = ***severe withdrawal***

ANR https://anrclinic.com/

Clinical Opiate Withdrawal Scale (COWS)

Resting Pulse Rate: beats / minute

Measured after patient is sitting or lying for one minute

- (0) *pulse rate 80 or below*
- (1) *pulse 81 to 100*
- (2) *pulse 101 to 120*
- (4) *pulse rate greate than 120*

GI Upset:

over last 1/2 hour

- (0) *no GI symptoms*
- (1) *stomach cramps*
- (2) *nausea or loose stool*
- (3) *vomiting or diarrhea*
- (5) *multiple episodes of diarrhea or vomiting*

Sweating: *over past 1/2 hour not accounted for by room temperature or patient activity.*

- (0) *no report of chills or flushing*
- (1) *subjective report of chills or flushing*
- (2) *flushed or observable moistness on face*
- (3) *beads of sweat on brow or face*
- (4) *sweat streaming off face*

Tremor:

Observation of outstretched hands

- (0) *no tremor*
- (1) *tremor can be felt, but not observed*
- (2) *slight tremor observable*
- (4) *gross tremor or muscle twitching*

Restlessness:

Observation during assessment

- (0) *able to sit still*
- (1) *reports difficulty sitting still, but is able to do so*
- (3) *frequent shifting or extraneous movements of legs/arms*
- (5) *unable to sit still for more than a few seconds*

Yawning:

Observation during assessment

- (0) *no yawning*
- (1) *yawning once or twice during assessment*
- (2) *yawning three or more times during assessment*
- (4) *yawning several times/minute*

Pupil size:

Anxiety or Irritability

Clinical Opiate Withdrawal Scale (COWS)

Pupil size:

- (0) *pupils pinned or normal size for room light*
- (1) *pupils possibly larger than normal for room light*
- (2) *pupils moderately dilated*
- (5) *pupils so dilated that only the rim of the iris is visible*

Anxiety or Irritability:

Measured after patient is sitting or lying for one minute

- (0) *none*
- (1) *patient reports increasing irritability or anxiousness*
- (2) *patient obviously irritable or anxious*
- (4) *patient so irritable or anxious that participation in the assessment is difficult*

Bone or Joint aches:

If the patien was having pain previously, only the additinal component attributed to opiates withdrawal is scored

- (0) *not present*
- (1) *mild diffuse discomfort*
- (2) *patient reports severe diffuse aching of joints/muscles*
- (4) *patient is rubbing joints or muscles and is unable to sit still because of discomfort*

Gooseflesh skin:

- (0) *skin is smooth*
- (3) *piloerrection of skin can be felt or hairs standing up on arms*
- (5) *prominent piloerrection*

Runny nose or tearing:

Not acounted for by cold symptoms or allergies

- (0) *not present*
- (1) *nasal stuffiness or unusually moist eyes*
- (2) *nose running or tearing*
- (4) *nose constantly running or tears streaming down cheeks*

Total Score:

The total score is the sum of all 11 items

Initials of person completing assessment:

Score: 5- 12 = ***mild;*** 13-24 = ***moderate;***
25-36 = ***moderately severe;***
more than 36 = ***severe withdrawal***

Buprenorphine Initiation
Fentanyl

Fentanyl – often sold as heroin in the street drug supply is:

- a synthetic opioid
- with strong affinity to the opioid mu receptor
- highly lipophilic

- The problem with initiation to buprenorphine is both the competitive binding to the opioid receptor and the persistent slow release of fentanyl from patient adipose cells if having been used repetitively.
- Some patients having tried buprenorphine on the street and experiencing withdrawal symptoms will present choosing to initiate methadone.
- If in the hospital setting one can use full opioid agonists or buprenorphine products not approved for use in the outpatient setting to assist in transitioning patients to maintenance buprenorphine.

Buprenorphine Initiation
Day #2

- Evaluate patient on Day #2:
  - In-person
  - Phone/ Video Visit
- Assess opioid use, symptoms since first dose:
  - If tolerated continue with Day#1 dose
  - Increase dose for significant cravings or withdrawal symptoms
  - Lower dose if patient appeared to be lethargic or sedated

- Note: It takes ~ 5-days to reach steady state. Patients may experience mild withdrawal symptoms during that time period

Precipitated Withdrawal Management

- If a patient has precipitated withdrawal, consider:
  - This will be short lived. The patient will stabilize on the buprenorphine. You may give an alpha 2 agonist, e.g. clonidine, or other symptomatic meds.
  - Explaining to the patient what has happened and how this experience will be short lived.
  - Consider giving 24 mg Bup/ nal

Buprenorphine Initiation
Day #2 and Beyond

- Stabilization will occur for most patients between 8 to 16mg per day:
  - Most individuals do not need more than 16mg per day but occasionally higher doses may be needed for persistent symptoms/ongoing opioid use
    - Most insurance companies limit daily doses to 24 mg
    - Though there is approval for a maximum dose of 32mg, doses at or above 24mg may increase risk of diversion
- Note – If there are concerns for diversion:
    - Consider more intensive monitoring [e.g. more frequent urine testing, shorter prescription durations, supervised dosing]

Case: Home Induction

52 yo hispanic cisgender male diagnosed with Severe OUD

+ history of opioid withdrawal with sweating, NV, agitation in the past when tried to stop on his own. Typically starts at 12 hours after last use

Uses fentanyl, intravenously, daily

Multiple male and female sexual partners when intoxicated

PMHx Hypertension stable on cozaar
Mental Health : BPAD stable on abilify daily, asymptomatic
Lives with supportive partner, no sud or aud in the home

Develop:

1. **Plan of Care**
2. **Education/ Discussion points with patient**
3. **Write orders for this patient to send to the pharmacy**

Buprenorphine Initiation
General Management

1. Labs/ Screening for medical comorbidities
2. Sexual Health: Contraception, PreP, PEP
3. Mental Health: assess and develop plan of care
4. Harm Reduction: assess and develop plan of care
5. ASAM Level of Care (Site of Care)
6. Acute Withdrawal Management
7. Medications for treatment of SUD

Case: Hospital (office) induction

49 year old male veteran of Iraq is admitted for a COPD exacerbation yesterday afternoon. He was admitted to step down overnight, requiring bipap. This morning he was weaned to 4 L NC.

On morning rounds, he is sweating, uncomfortable and has had 2 episodes of diarrhea. He shares a history of opioid use disorder and asks for help. This was not discussed during the admission history and physical.

States has been using intranasal fentanyl once per day for the last 1 year.

Develop:

1. **Plan of Care**
2. **Education/ Discussion points with patient**
3. **Write orders for this patient to enter in EPIC**

Buprenorphine Initiation
General Management

1. Labs/ Screening for medical comorbidities
2. Sexual Health: Contraception, PreP, PEP
3. Mental Health: assess and develop plan of care
4. Harm Reduction: assess and develop plan of care
5. ASAM Level of Care (Site of Care)
6. Acute Withdrawal Management
7. Medications for treatment of SUD

Using Alternative Methods in Transitioning Patients from Fentanyl to Buprenorphine

"High Dose Initiation"

- There is literature primarily out of emergency medicine using “high dose” buprenorphine in the transition.

- Patients presenting in withdrawal, COWS > 13, known to have been using fentanyl, can be given 8 to 16mg on first dose. If withdrawal continues you may increase this 8mg at a time up to 24 mg as needed.
  - If given 24 mg, this may have the additional benefit of holding off withdrawal for greater than 24 hours to get to follow-up care.

Herring AA, JAMA Network Open. 2021;4(7):

Using Alternative Methods in Transitioning Patients from Fentanyl to Buprenorphine

"Micro or Low Dose Initiation"

- This protocol has been established in a variety of ways.
  - Beneficial for those on high dose chronic opioids, fear of precipitated withdrawal or patient preference
  - May continue to wean full agonist opioid during 7 days (licit or illicit)

- Start with a very low dose and titrates up to a standard maintenance dose.
  - The most available method conducive to use in the outpatient setting involves instructing the patient to split a 2mg BPN/NTX film or tablet in quarters initially.
  - Example:
    - Day 1: 0.5 mg once a day
    - Day 2: 0.5 mg twice a day
    - Day 3: 1 mg twice a day
    - Day 4: 2 mg twice a day
    - Day 5: 3 mg twice a day
    - Day 6: 4 mg twice a day
    - Day 7: 12 mg (stop other opioids in patients with co-occurring pain)

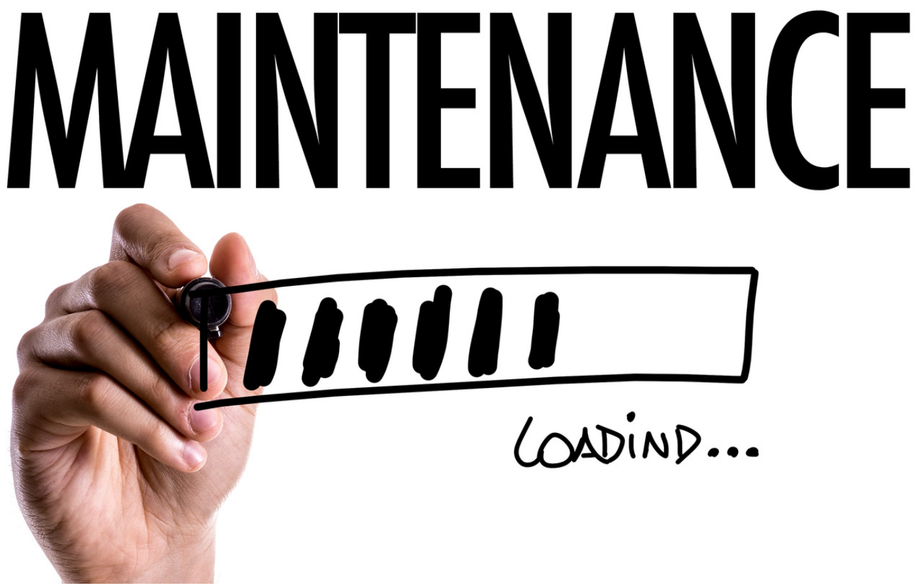
- Note: It is prudent to use alpha 2 agonist medications, Clonidine or Lofexidine, and other comfort medications to assist in reducing any discomfort patient may experience during the transition.

Buprenorphine Initiation
Stabilization and Maintenance

- Continue to reassess patient technique of medication administration:
  - Usual administration of buprenorphine/naloxone dosing is daily however preferably no more than twice-daily dosing
  - For proper absorption, no more than two film strips or two tablets should be taken at once

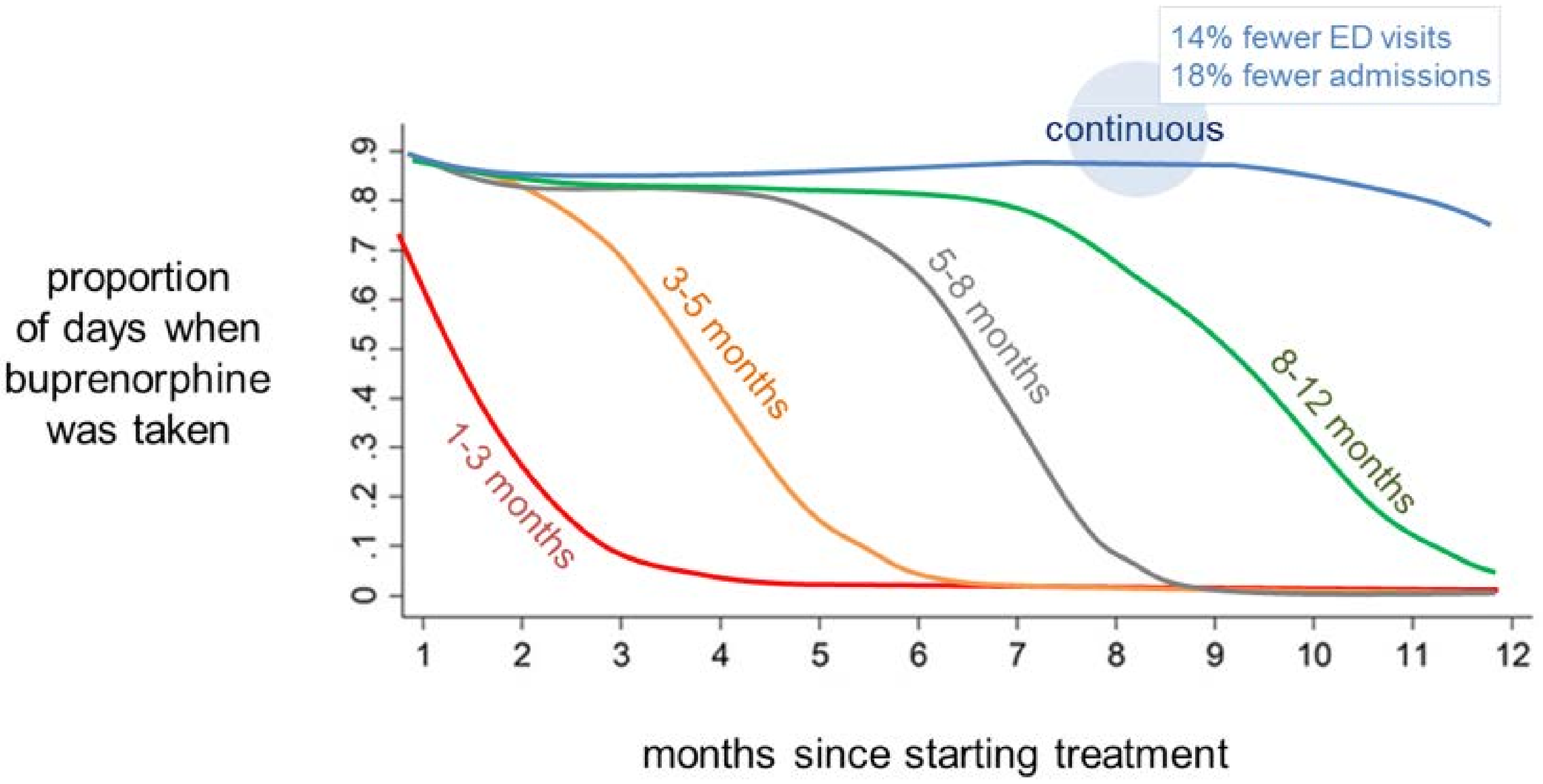
- Adjust daily dose by increments of 2-4 mg as needed:
  - Increase primarily for persistent cravings

How Long Should Buprenorphine Maintenance Be?



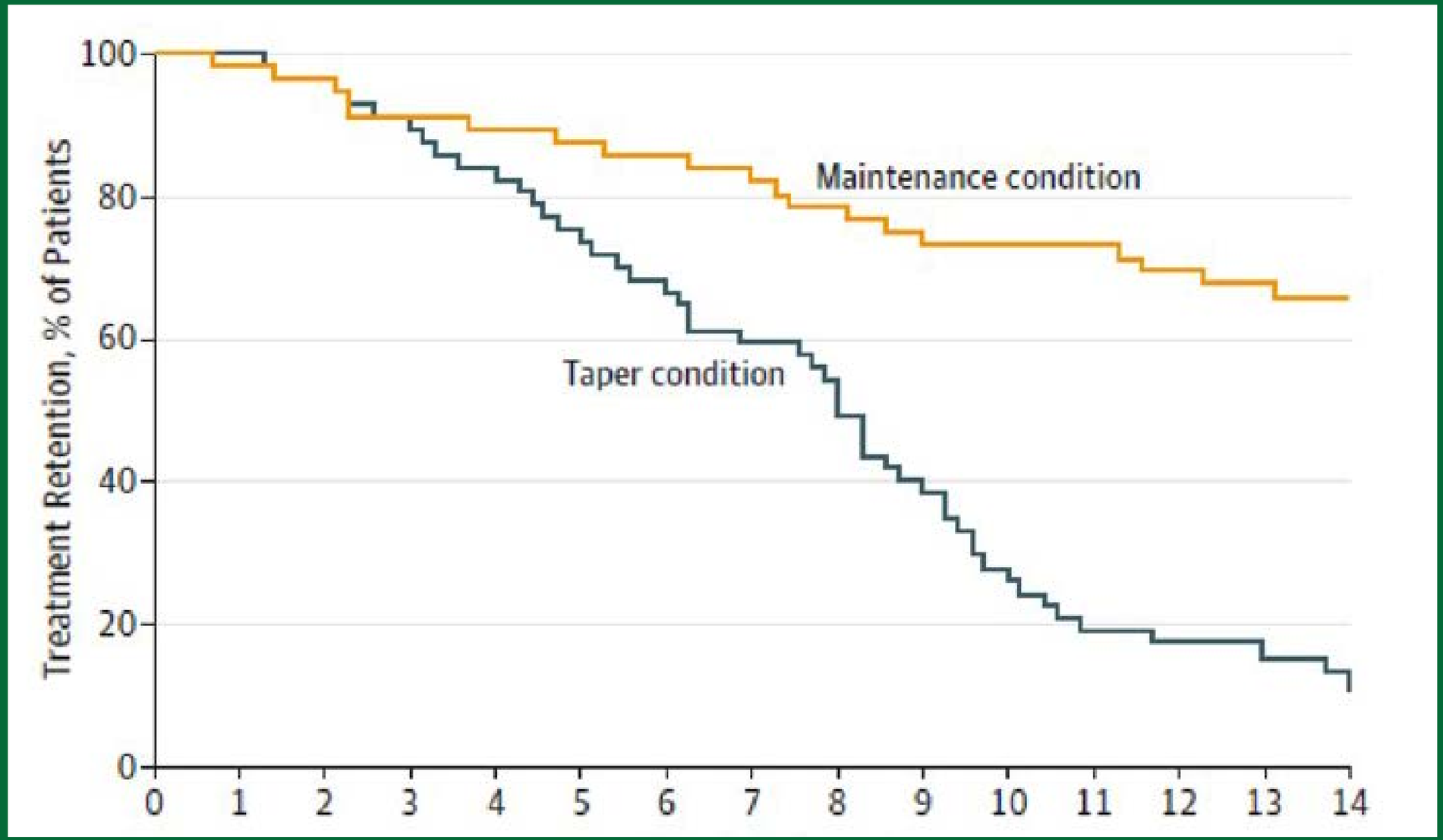
- Continue maintenance if patient is benefitting from treatment (decreased substance use, meeting employment, educational, relationships goals, etc.):
  - Note: Provider can have discussions regarding reduction in dose with improving stability or patient preference however:
    - Caution patients about discontinuing medication too early in treatment
- Improved retention rates in treatment with continued buprenorphine dosing

Optimal Duration of MOUD



Lo-Ciganic et al., 2016

Treatment Retentionand Buprenorphine Dosage



Fiellin et al., 2014

BREAK 10 Minutes!

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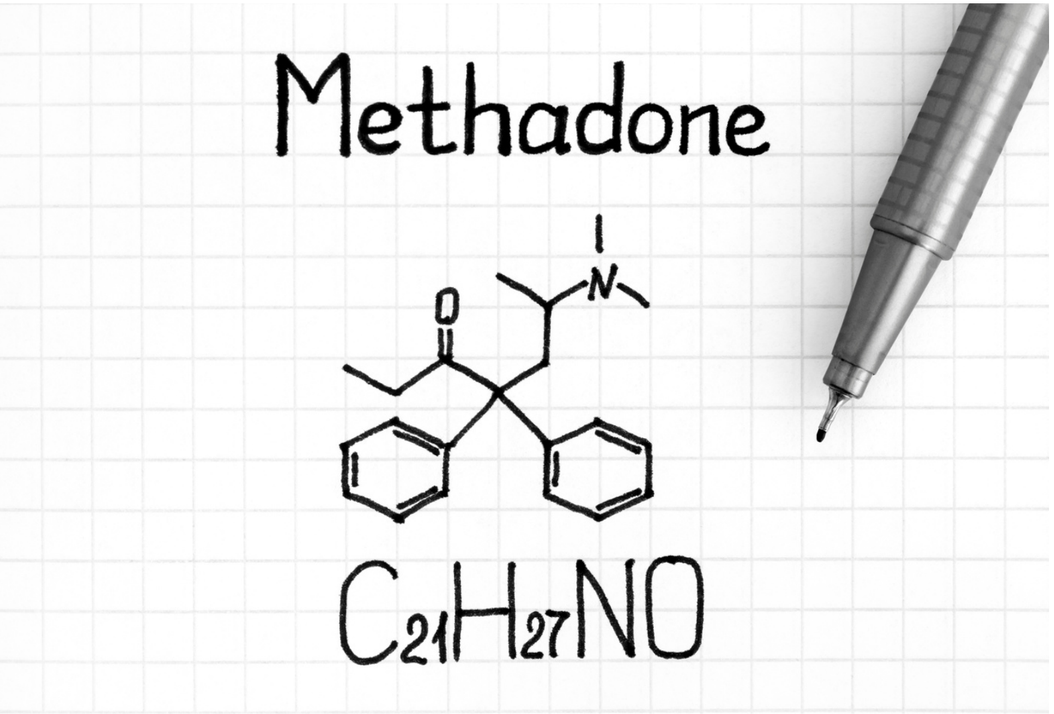
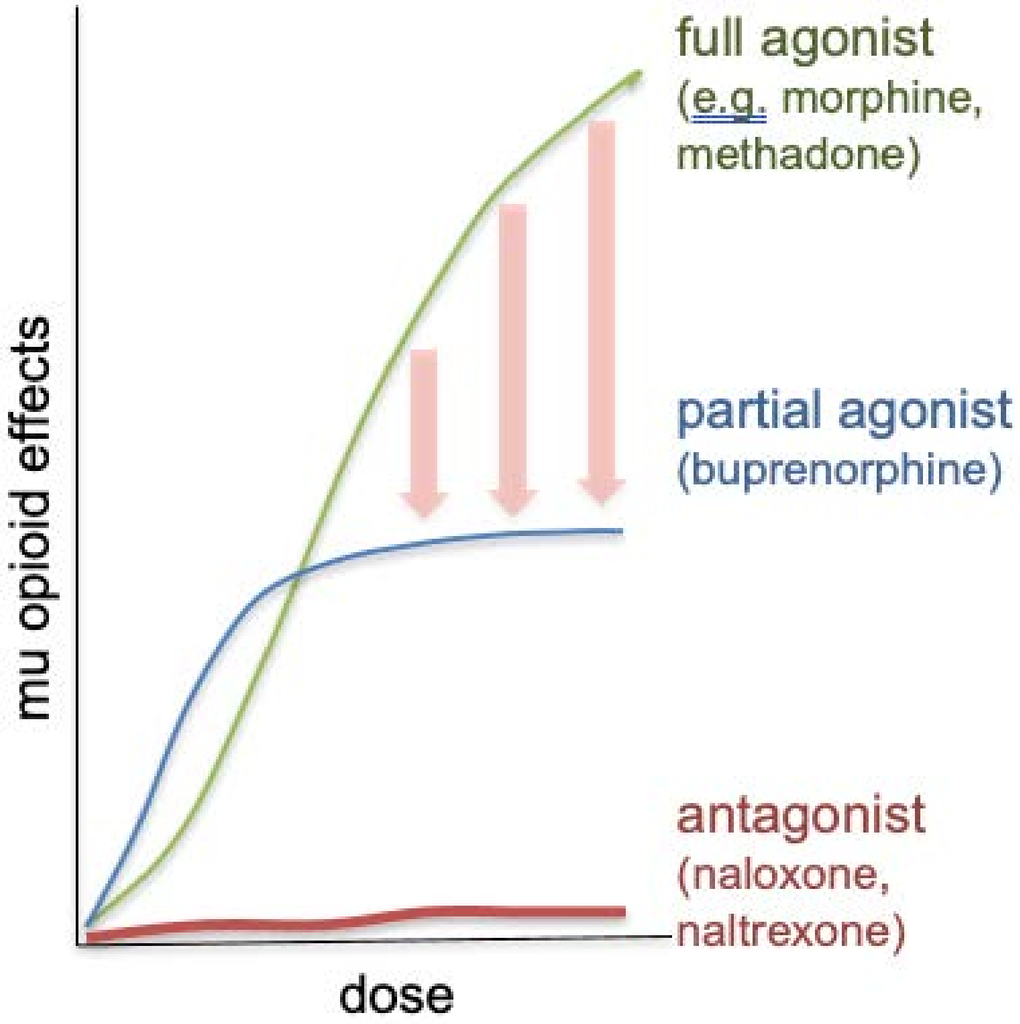
Methadone



- Synthetic opioid that occurs in R- and S- enantiomeric forms with all its activity due to R-methadone
- Discovered in 1937 and received FDA approval in:
  - 1947 for treating pain and coughing
  - 1970 for medically supervised withdrawal (“Detoxification”)
  - 1973 for maintenance therapy
- Metabolized in the liver and by intestinal cytochrome: CYP3A4
- Most methadone is ultimately excreted into the biliary tract, but small fractions enter the urine and are detectable in urine drug tests
  - The EDDP a metabolite of Methadone and the metabolite that is detected in the urine.
- Oral bioavailability when swallowed: 36% -100%

Methadone
Major Features



- **Full Agonist at mu receptor**
- **Long acting**
  - Half-life ~ 15-60 Hours
- **Weak affinity** for mu receptor
  - Can be displaced by partial agonists (e,g. burprenorphine) and antagonists (e.g.naloxone, naltrexone), which can both precipitate withdrawal
- **Monitoring**
  - Significant respiratory suppression and potential respiratory arrest in overdose
  - QT prolongation

Methadone

Who is most likely to benefit from methadone?

- Patients who:
  - Prefer full agonist therapy
  - Need the structure of observed dosing
  - Prefer to have services in one location
  - Are in unstable psychosocial situations and are unable to ensure the security of Partial Agonist medication
  - Are unable to be abstinent of opioids on partial agonist therapy
  - Have chronic pain

Benefits of Methadone: Treatment Retention

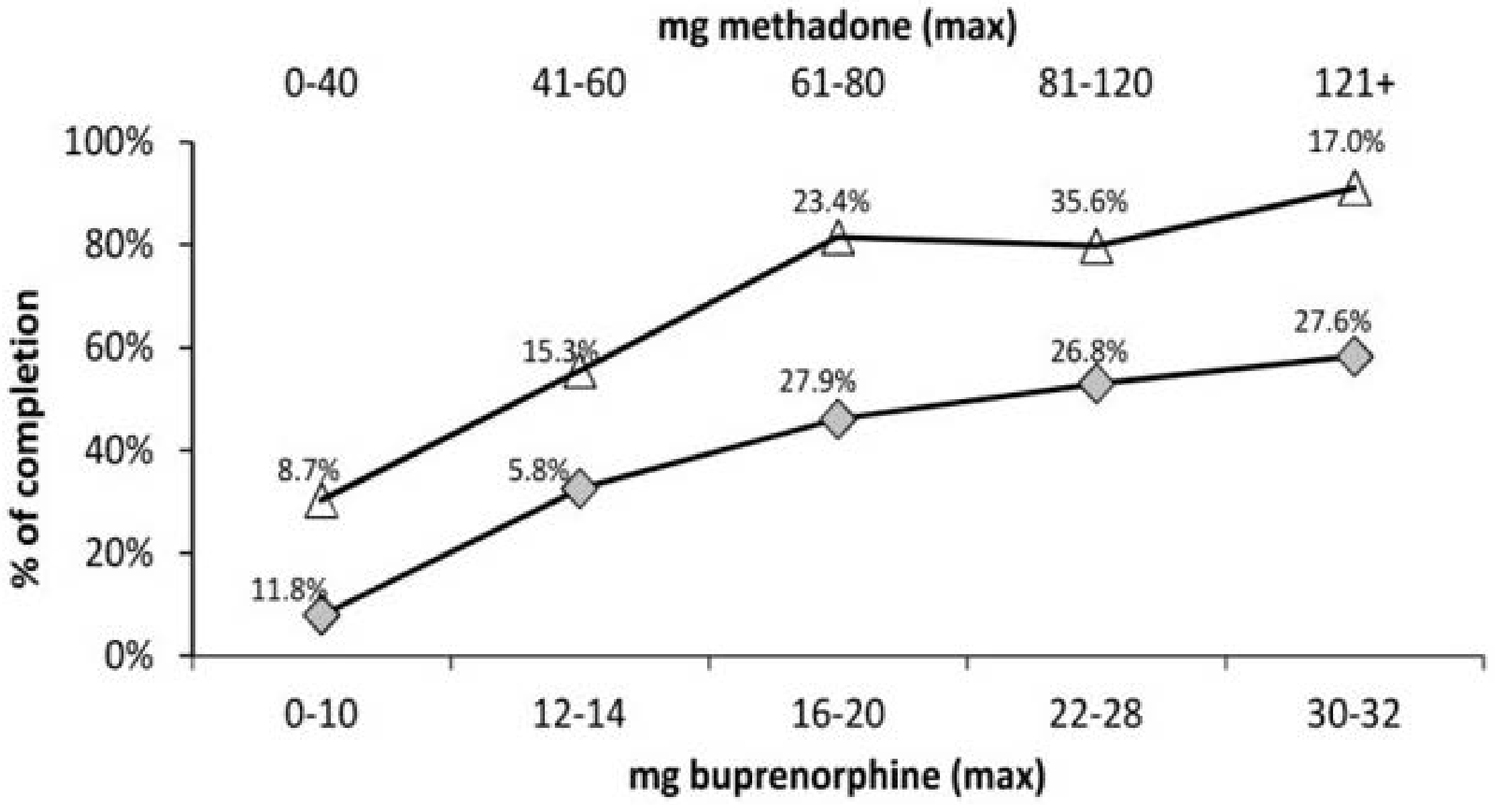


Figure 2.
Comparing Retention at 24 Weeks by Maximum Dose of Medication Prescribed

Hser et al., 2014

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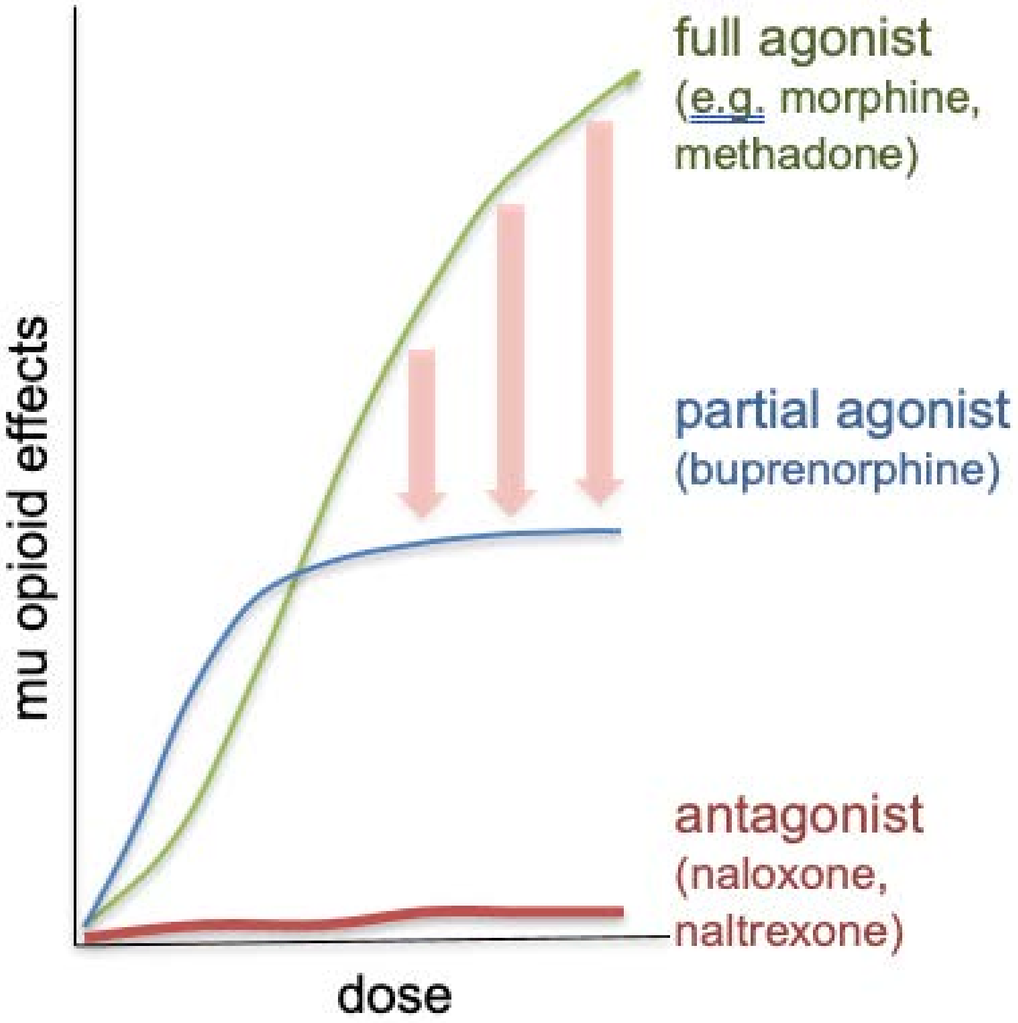
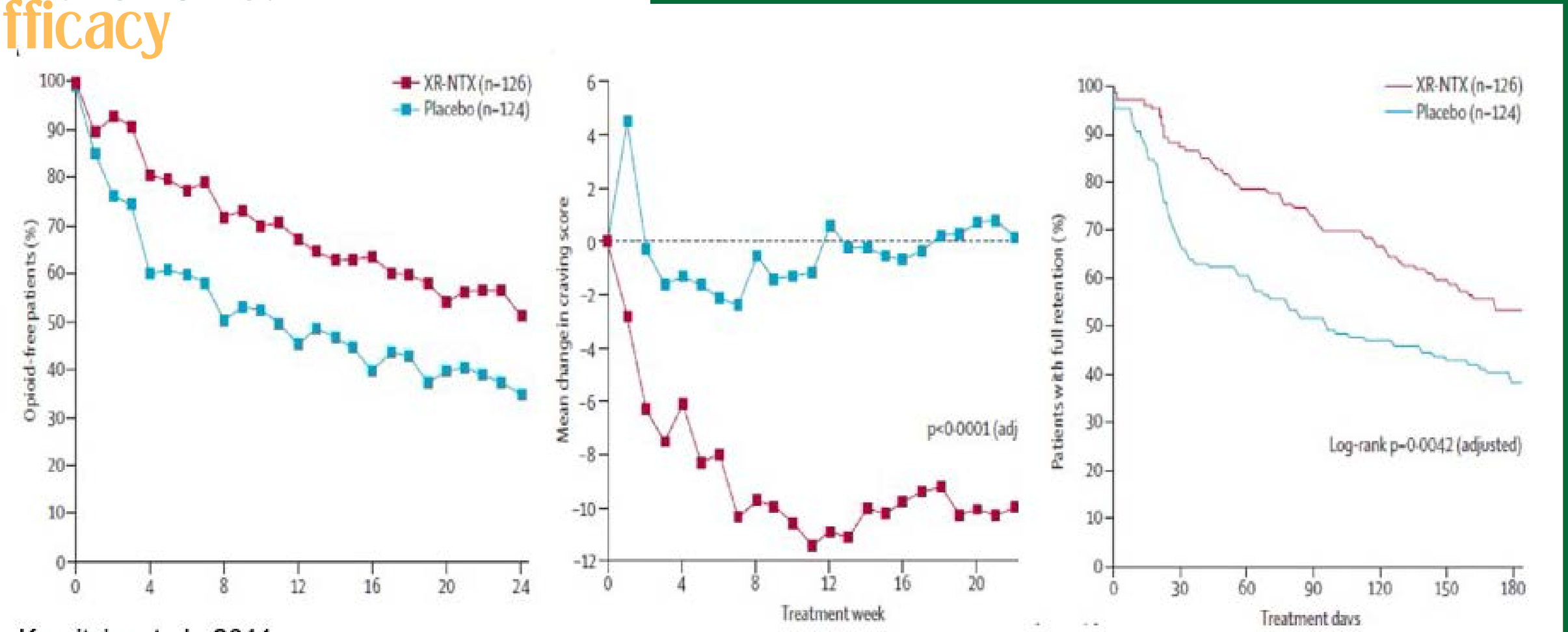
Naltrexone

Naltrexone
Major Features



- **Full Antagonist at mu receptor**
  - Competitive binding at mu receptor
- **Long acting**
  - half-life:
    - Oral ~ 4 Hours
    - IM ~ 5-10 days
- **High affinity** for mu receptor
  - blocks other opioids
  - displaces other opioids
    - can precipitate withdrawal
- Formulations
  - Tablets: Revia®: FDA approved in 1984
  - Extended-Release intramuscular injection: Vivitrol®: FDA approved in 2010

Naltrexone: Efficacy

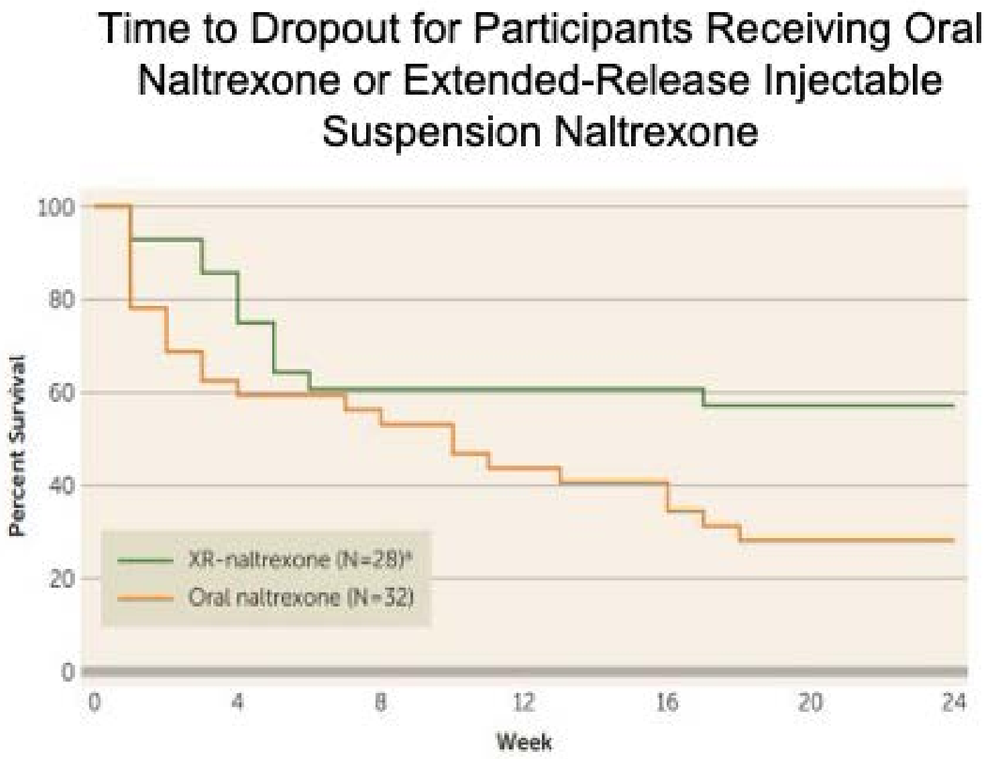


Krupitsky et al., 2011

Using naltrexone there may also be a higher proportion of opioid, cocaine, benzodiazepine, cannabinoids, amphetamine - free patients.

Comer et.al.,2011

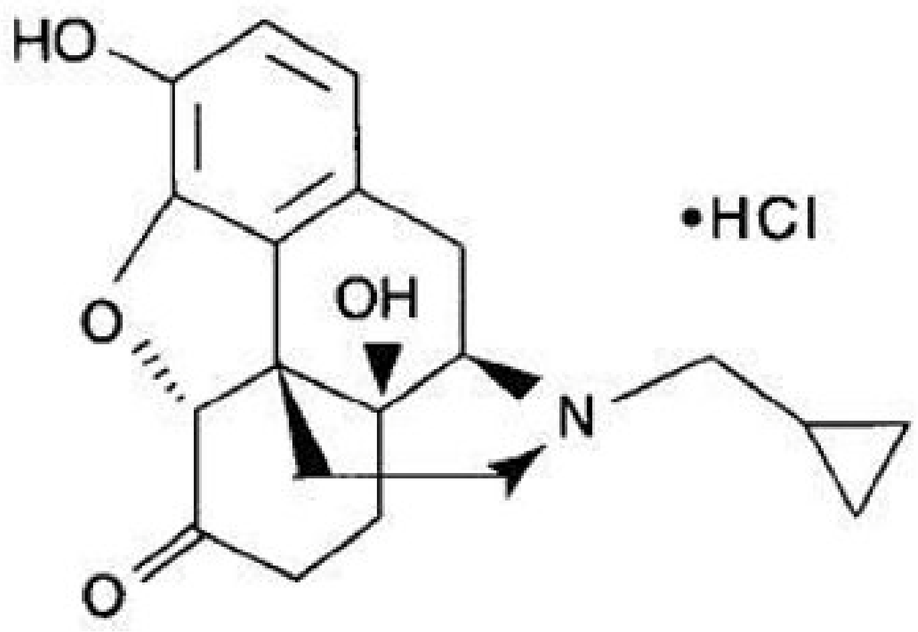
Naltrexone Considerations
Adherence



Sullivan M, et al., Am J Psychiatry, Feb., 2019

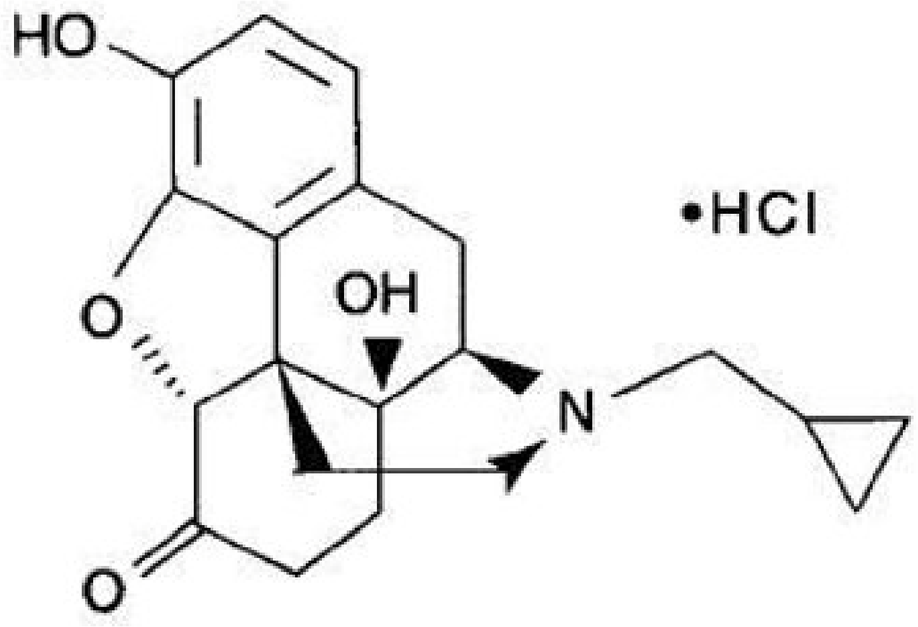
- Treatment adherence is better with injectable formulation.
- Few side effects other than soreness at injection site.
- Main safety concern is risk of relapse when injections are discontinued
- Consider any upcoming procedures or anticipated pain that may need treated with opioids

Naltrexone:
Who is most likely to benefit from Naltrexone-ER?



- Patients who have a:
  - Preference (Do not want opioid agonist/partial-agonist therapy)
  - Job that forbid use of opioid agonist therapy (high risk occupations)
  - Inability to access opioid agonist therapy
  - Currently abstinent from opioids but still at risk of relapse
  - Failure to prior treatment with opioid agonist therapy
  - Co morbid alcohol use disorder

Naltrexone: Initiation



Williams et al., 2017
Sullivan et al., 2017

- Prescribing information recommends patients be opioid-free for 7-10 days before initiation to avoid precipitated withdrawal
  - Abstinence for 7 to 10 days is most challenging.
    - Non opioid medications for withdrawal (e.g. clonidine) can be helpful
    - Inpatient/residential treatment programs, where detoxification can be accomplished are ideal setting for initiating.
      - There is poor access to such programs due to limited third party reimbursement
- More rapid methods for naltrexone initiation utilizing low dose naltrexone have been reported and may shorten and protect the patient in the period prior to injection.

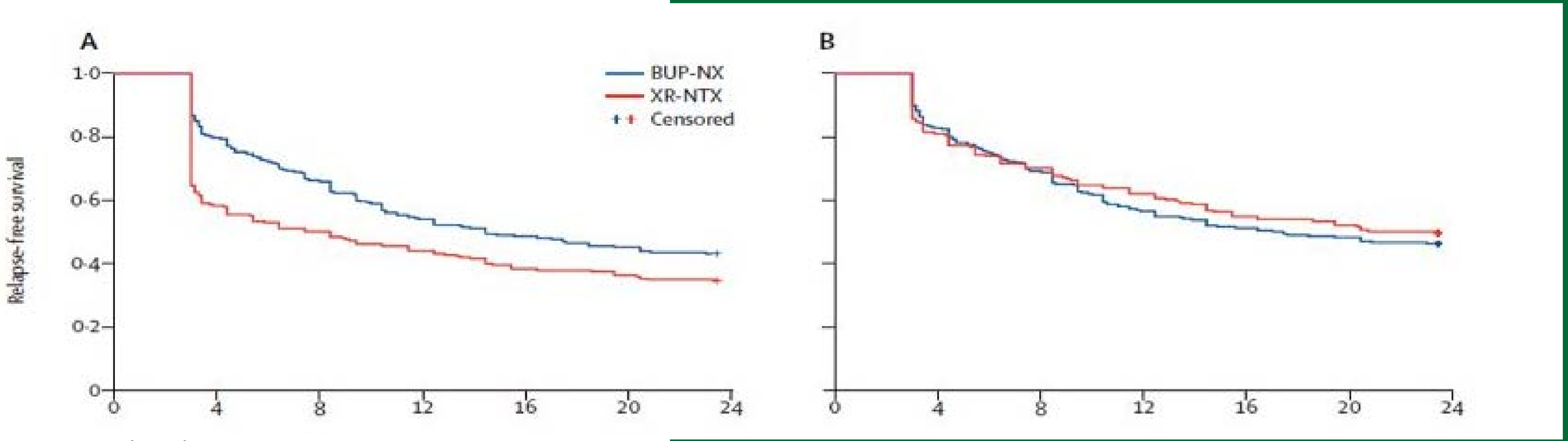
Protracted Withdrawal: Naltrexone Flu

- On initiation naltrexone injection can result in “flu-like” symptoms that are consistent with subacute opioid withdrawal.
  - Somatic complaints: insomnia, GI distress, hyperalgesia, anergia
  - Anxiety, irritability, dysphoria, anhedonia
  - Severity may be lower if naltrexone initiation is postponed (but relapse risk)
- Partially alleviated with aggressive symptomatic treatment for above symptoms

- Most of these symptoms remit by 2-4 weeks
  - Not seen after 2nd and subsequent injections
  - More prolonged symptoms are rare and may reflect poor tolerability of naltrexone.

Effectiveness of Buprenorphine vs. Injection Naltrexone

- Two randomized comparative effectiveness trials in Norway and US



- Overall Findings:
  - Once initiated, both medications appear comparably effective, although buprenorphine doses may not have been maximized in the trials

- Naltrexone is more difficult to initiate due to the need to get a patient through medically supervised withdrawal

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OHIO Specific Laws & General Clinical Management

Follow Up Visit Logistics: Medication Management

General	Details
Length/Frequency	• 15-20 minutes • More frequent visits at the beginning (if coverage, resources and scheduling allows) then can be changed to less frequent visits if patient is stable.
Topics of Discussion	• Open-ended beginning • Any symptoms, cravings, triggers • Self-reported use of illicit or non-prescribed substances • Monitoring adherence, response to treatment, and adverse effects • Challenges/changes in psychosocial/financial/living circumstances • Lab-results, treatment plan (medications, lab testing) • Safety (Suicidal ideation, Overdose prevention, Access to naloxone)
Lifestyle	• Encouragement to: ◦ Adhere to lifestyle choices that support recovery (e.g. sober relationships) ◦ Abstain from non-prescribed opioids and other addictive substances ◦ Utilize community support resources for recovery (e.g., mutual help groups)
Review	• Questions, concerns and understanding of plan

Clinical Documentation

Rule 4731-33-03 | Office-based treatment for opioid addiction.

Ohio Administrative Code 4731

Chapter 4731-33 | Opioid Treatment

Effective:
April 30, 2019

The federal guideline about WHO could prescribe buprenorphine changed.

The Ohio regulations for HOW we prescribe buprenorphine for outpatient use has not changed

Ohio Law

Assessment

- History & Testing
- The assessment shall include, at a minimum,:
  - an appropriate history and physical
  - mental status exam
  - substance use history
  - appropriate lab tests, pregnancy test for women of childbearing years, toxicology tests for drugs and alcohol, and "hepatitis B" and "hepatitis C" screens. Consider testing for TB and STI

Ohio Law

DSM V

Assessment: must diagnose an opioid disorder utilizing the criteria contained in the diagnostic and statistical manual of mental disorders, 4th or 5th edition

Requirement removed but good practice

Laminated sheet in work area

Section 3719.064

- Before prescribing, the prescriber must give patient representative information about all drugs approved by FDA for MAT.
- Handouts available for induction

Ohio Law: Treatment 1st Year

Behavioral Treatment	• **Must include behavioral treatment program: need to regularly obtain records for coordination**
AA/NA	• **Must include AA or NA meeting and document IF not in behavioral health program.**
Visit Frequently	• **First 90 days must be seen every 2 weeks. After must be seen at minimym every 30 days for 1 year**
OARRS	• **Must have OARRS/Narx minimum every 90 days**
UDS	• **Random UDS typically at each visit or "twice per quarter"**
Dose	• **Max 16 mg - must document why if increase to 24 mg**
Other Controlled	• **If on benzodiazepines, sedatives, soma or tramadol physician should not co prescribe unless medical necessary. Should coordinate with other provider or if you are provider provide taper plan and progress with taper.**

Ohio Law: Treatment After 1st Year

Behavioral Treatment	• **Must include behavioral treatment program: may exclude if patient cannot reasonably or has completed**
AA/NA	• **Physician may determine frequency of AA or NA meeting as appropriate**
Visit Frequently	• **Must be seen minimum every 90 days or more frequent as clinically indicated**
OARRS	• **Must have OARRS/Narx minimum every 90 days**
UDS	• **Must check UDS minimally q3 months**
Dose	• **Max 16 mg - must document why if increase to 24 mg**
Other Controlled	• **If on benzodiazepines, sedatives, soma or tramadol physician should not co prescribe unless medical necessary. Should coordinate with other provider or if you are provider provide taper plan and progress with taper.**

Narcan

- **Must Rx and provide instructions on use**

Ohio Law
Physician Requirements

Physician Requirements
CME after waier, 8 hours of CME Cat 1 related to addiction every 2 years

Clinical Documentation

Screening:

- Patients with Opioid Use Disorders are at an increased risk of suicidal behavior or suicide:
  - Self-harm thoughts/Actions
  - Suicidal ideation/Planning

Management:

- Self-Harm Thoughts/Suicidal Ideation: Crisis Services; 911; ER; In-patient hospitalization
- Risk of Harm to Others: Duty to Warn; DCF, Elder protective Services, 911
- Overdose Risk: Naloxone (Narcan®, Evzio®)

Document clinical decision process of risk assessment and safety planning

SAMHSA, 2018
Yuodelis-Flores and Ries, 2015

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Pregnancy

Opioid Use Disorder and Pregnancy

Drug overdose deaths during pregnancy and postpartum rose sharply in recent years, study shows

This Issue | Views 3,792 | Citations 0 | Altmetric 585

Research Letter

December 6, 2022

US Trends in Drug Overdose Mortality Among Pregnant and Postpartum Persons, 2017-2020

Emilie Bruzelius, MPH[1]; Silvia S. Martins, MD, PHD[1]

Author Affiliations

JAMA. 2022;328(21):2159-2161. doi:10.1001/jama.2022.17045

Full Text

Drug overdose deaths, particularly deaths involving synthetic opioids like fentanyl, reached record highs in 2020 and 2021,[1] likely exacerbated by social, economic, and health care disruptions associated with the COVID-19 pandemic. Pregnant and postpartum persons are at high risk for fatal overdose. However, recent national trends in pregnancy-associated overdose mortality are undercharacterized.[2,3] This study evaluated changes in overall and drug-specific overdose mortality among pregnant or postpartum persons before and during the COVID-19 pandemic.

Epidemiology:

15% of pregnant persons had used illicit substances in the past year

Vital Signs: Prescription Opioid Pain Reliever Use During Pregnancy — 34 U.S. Jurisdictions, 2019

ACOG/ASAM 2017 / Ondersma SJ et al., Addiction. 2019 Sep;114(9):1683-1693

Bruzelius E, Martins SS. US Trends in Drug Overdose Mortality Among Pregnant and Postpartum Persons, 2017-2020. JAMA. 2022;328(21):2159–2161. doi:10.1001/jama.2022.17045

Prenatal Screenings

Cystic Fibrosis	Pare-Eclampsi	Chlamydia	Anemia in Pregnancy	Substance Use
• < 1% prevalence	• 5% prevalence	• 10% prevalence	• 15% prevalence	• 15% prevalence

In 2016, 15% of pregnant women had used illicit substances in the past year

Center for Behavioral Health Statistics and Quality. Results form the 2016 survey on Drug Use in Health: Detailed Tables. SAMHSA 2017.

Screening for SUD In Pregnancy

ACOG : American College of Obstetrics and Gynecology recommends substance use screening for all Pregnant individuals

!!! Urine drug testing is NOT screening

Approaches to screening:

- **5P's (Parents, Peers, Partner, Past, Present) – High Sensitivity**
- **NIDA Quick Screen – High specificity**
- **CRAFFT (for women 26 years or younger) – High Sensitivity**

- **Add more about these**

OUD in Pregnancy

- **Why is it preferred to treat OUD in pregnancy with agonist medications?**

Opioid Use Disorder and Pregnancy

Perinatal Opioid Agonist Treatment

- MOUD has minimal long-term developmental impacts on children

- There is a risk of Neonatal Opioid Withdrawal Syndrome (NOWS)
  - However, there is a greater risks for NOWS with untreated OUD
  - There are ways to decrease NOWS for newborns exposed to licit and illicit opioids

- Pregnant women with OUD should be encouraged to start MOUD
- Women on MOUD who become pregnant should be encouraged to continue MOUD treatment throughout pregnancy
- MOUD decreases risk of infections, risk of harm due to environment, risk of return to use, and increases prenatal care appointments

Use of Buprenorphine With or Without Naloxone in the Pregnant Patient

Buprenorphine mono-product has been the most well studied.

- Initial concerns:
  - naloxone fetal effect.
  - if injected it will not cause precipitated withdrawal.
- Buprenorphine/Naloxone – growing literature and recommendations
- Generally used in pregnancy with minimal risk

- There is limited data or recommendations for use of naltrexone (oral or injection) in pregnancy

Methadone Treatment in Pregnancy

- Commonly used for pregnant women with OUD
  - Though methadone and buprenorphine are both considered first line treatments

- Methadone adjustment during pregnancy:
  - Second and third trimester:
    - With advancing gestational age: Plasma levels of methadone progressively decrease, and clearance increases
      - The half-life of methadone falls from an average of 22–24 hours in non-pregnant women to 8.1 hours in pregnant women
    - Assess for increased craving or discomfort
      - Possible increased dose is often required for stabilization.
- **Split dosing is often required for adequate avoidance of opioid withdrawal symptoms and/or craving**

Buprenorphine vs. Methadone in Pregnant Patient with OUD

- Consider Availability, Patient Preference
- Advantages

Buprenorphine (Mono or Combination Products)	Methadone
Office based treatment Similar efficacy as methadone Lower overdose potential Less medication interactions Less severe NOWS than methadone	More structure setting for care. OTP Less potential for diversion More long-term outcome data available

Fischer et al., 1998, 1999
Jones et al., 2010;
Kakko et al., 2008;
Kraft et al., 2017
ASAM Updated Guidelines 2020

Boonshoft School of Medicine
Wright State University

Care of the Newborn

Neonatal Opioid Withdrawal symptoms (NOWS)

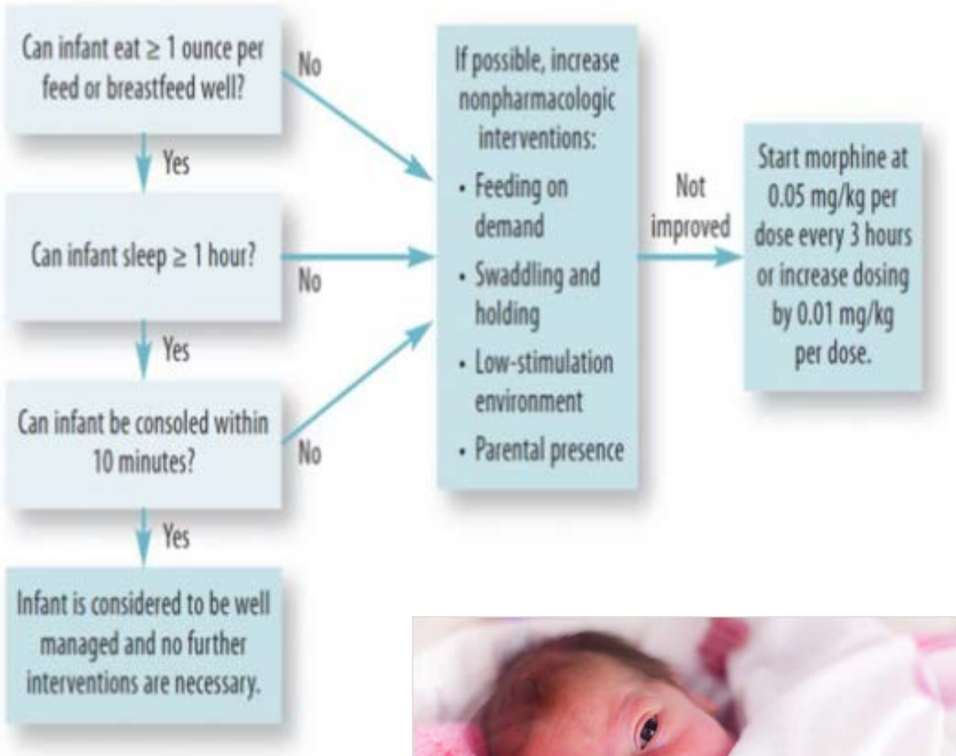
- Epidemiology:
  - Increasing incidence of NOWS
  - Incidence of NOWS in newborns born to women with OUD is between 70 and 95% and ~50% of infants will need treatment

- Symptoms:
  - Irritability, fever, diarrhea, hyperreflexia, seizure
  - Begins 24-72 hours of birth, with peak symptoms at 3-4 days, and continues for up to one week

- Complications:
  - Associated with untreated maternal OUD
    - Increased risk of placental abruption, preterm labor, maternal obstetric complications, and fetal death

Kakko et al., 2008
Patrick at al., 2015
Smith et al., 2017

Treatment of NOWS



Caring for infants and families affected by neonatal abstinence syndrome

Opioid use disorder is a concern not only for adults, but for newborns who exhibit withdrawal signs are diagnosed with neonatal abstinence syndrome (NAS).

- Non-Pharmacologic Novel Approaches:
  - "Eat, Sleep, Console"
  - Rooming in results in a reduction in NOWS length of stay and cost
- Medications:
  - Opioid therapy is preferred first-line intervention
    - PRN Morphine/Methadone
  - Clonidine

Holmes et al., 2016
Hudak et al., 2012
Slowiczek L, 2018

Breast Feeding and MOUD

- Breast feeding is ENCOURAGED with MOUD
  - Improved maternal and infant bonding
  - Favorable effects on NOWS

ACOG Committee Opinion 711, Aug 2017
Breastfeeding should be encouraged in women (postpartum persons) who are stable on their opioid agonists, who are not using illicit drugs, and who have no other contraindications, such as human immunodeficiency virus (HIV) infection. Women should be counseled about the need to suspend breastfeeding in the event of a relapse.

Sachs et al., 2013

Case: Pregnancy

21 year old G1 presents at 9 weeks pregnant with her partner. She was recommended by a friend to come here; they work in a restaurant together. She was fearful to start prenatal care due to daily fentanyl use, IV, but heard this was a place she could safely get care.

Although the pregnancy was unplanned, she plans to parent with or without the support of her current partner.

She has been using fentanyl for 1 year, since starting at the restaurant and with her current partner. She has never been in treatment but would like to start treatment now to have a healthy pregnancy.

She has no previous medical conditions, surgeries and is taking over the counter prenatal vitamins.

She is worried her child could withdrawal after delivery. She wants to know what she can do to prevent it.

Develop a plan of care for this patient, include referrals and how you would communicate risk of NOWS with her.

BREAK 10 minutes!

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Pain Management

Perioperative Management

- Problems to overcome:
  - Patients fear mistreatment
  - Providers fear deception
  - Disjointed care & lack of regular coordination of care between surgical team, anesthesia team and patient's buprenorphine provider
  - Variation of knowledge of pain in setting of SUD in physicians/ providers

Merrill et al., 2002
Wenzel et al., 2016

Acute Pain Management in Patients Receiving MOUD

General Approaches to address pain:

1. Continue current buprenorphine dose + non-opioid analgesics focused on pain type

2. Continue same buprenorphine dose but in a split regimen + non-opioid analgesics focused on pain type

3. Increase buprenorphine dose while continuing split dose up to 24 mg daily in Ohio + non-opioid analgesics focused on pain type

4. Add full opioid (opioid tolerant dosing) to buprenorphine regimen + non-opioid analgesics focused on pain type
   - Typically, only done in a controlled setting
   - Use full opioid for duration typically would for patient without an OUD

5. Stop buprenorphine and initiate full agonist therapy dosed to effect. Then return to buprenorphine following stabilization.
(Generally only used if unable to control pain)

Lembke A, et al, Pain Med. 2019
Buresh M, et al, J Gen Intern Med. 2020

Perioperative Management

- Problems to overcome:
  - Patients fear mistreatment
  - Providers fear deception
  - Disjointed care & lack of regular coordination of care between surgical team, anesthesia team and patient's buprenorphine provider
  - Variation of knowledge of pain in setting of SUD in physicians/ providers

Merrill et al., 2002
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Pharmacologic Pain Management Options: Non-Opioid

NSAIDS	• mild-moderate, inflammatory pain • best for non neuropathic pain • consider history of gastritis, renal disease, age and cardiac risk
Topical	• nsaids • capsaicin • lidoderm patch
TCA	• neuropathic pain • work particularly well if comorbid anxiety, depression or insomnia
Muscle Relaxants	• watch for sedation and review med list for other sedating medications
SNRI	• Cymbalta • good for neuropathic pain, particularly when comorbid anxiety or depression
Anticonvulsants	• Neurontin, lyrica • generally have to fail neurontin for lyrica • watch for sedation and swelling • can sometimes help with co morbid modd disorders

Pharmacologic Pain Management Options: Non-Opioid

Non-Pharmacologic Treatment
• Ice, heat, positioning, bracing, wrapping, splints, stretching • Massage therapy, tactile stimulation, acupuncture/acupressure, chiropractic adjustment, osteopathic neuromusculoskeletal medicine • Biofeedback • Directed exercise such as physical therapy

Non-Opioid Pharmacologic Treatment			
Role in Therapy	Somatic (Sharp or Stabbing)	Visceral (Ache or Pressure)	Neuropathic (Burning or Tingling)
First Line	Acetaminophen, NSAIDs, Corticosetroids		Gabapentin/pregabalin/TCAs/ SNRIs
Alternatives	Gabapentin/pregabalin, skeletal muscle relaxants, SSRIs/SNRIs/TCAs	SNRIs/TCAs, dicyclomine	Anti-epileptics, baclofen, bupropion, low-concentration capsaicin, SSRIs, topical lidocaine

Assessment and management of chronic pain. Agency for healthcare research and quality. Aug 2016
"Acute Pain Prescribing Guidelines" OAFP. Last assessed Apr 3 2017.

Pharmacologic Pain Management Options: Non-Opioid

Short-Acting	Long-Acting
Codeine Hydrocodone Oxycodone** Morphine** Hydromorphone Buprenorphine** Tramadol	Transdermal Fentanyl** Extended RElease Morphine Extended release oxymorphone Extendedrelease oxycodone Methadone

**Available informulation for patients intolerant of PO or difficulty with absorption (eg. Short Gut Syndrome)

Case

You are admitting a 45 year old female with history of opioid use disorder on 12 mg Buprenorphine film once daily for sepsis due to mitral valve endocarditis and bacteremia with MRSA.

She states she has been on buprenorphine for 2 years but had a recent return to use for 2 weeks with IV fentanyl due to unintentional overdose of her fiance 3 weeks ago. She is back on buprenorphine per her outpatient physician and has been for 1 week.

She is complaining of severe pain in her back and right shoulder. On imaging, she has been found to have lumbar discitis and osteomyelitis and right humeral osteomyelitis.

Infectious Disease Consultation:
Non operative management has been recommended.

No other past medical history
No known drug allergies

Work with your peers to determine a plan of care

1. **How would you discuss the plan with her?**
2. **Please write the orders as you would in the EMR**

Case Review

What did you do with her buprenorphine/naloxone?

What opioids did you use, or not use, and why?

What non opioid medications did you use, or not use, and why?

How did you discuss the plan with her?

Case

52 yo male with history of homelessness, uncontrolled diabetes type 2 (a1c on admit 12.5), peripheral arterial disease and opioid use disorder on suboxone 16 mg daily x 5 years is admitted for severe foot and ankle wounds on his R foot.

Vascular surgery determined due to the severity of his PAD, he is only a candidate for an above knee amputation and is now post op day 1. He describes severe incisional and phantom pain and is using all PRN medications available.

You are the resident on call. RN for him this evening just called. Patient was observed by security attempting to sell his cheeked oxycodone tablets while smoking in front of the hospital. Security has brought him back to his room.

Current pain medication regime includes:

1. Suboxone 8 mg SL film, 1 film TID
2. Oxycodone 10 mg q4 hours prn pain
3. Ibuprofen 800 mg TID
4. Tylenol 1000 mg TID
5. Amitryptaline 50 mg qhs (to assist with phantom limb pain)

Please work with your team to determine a plan of care.
Include how you would discuss this with the patient

Case Review

Please describe your plan of care for medications

Please describe your plan of care for smoking out of the hospital (if it included that)

Please describe your planned discussion with the patient.

Case Review

This was a patient case (with specific details adjusted) on the resident service which we discussed at length.

Some residents preferred plans with no opioids, including his suboxone due to concern of diversion.

Some residents were concerned about how to manage his severe pain from recent major surgery.

Ultimately, we:

1. Started a nicotine patch and nicotrol and did not restrict his ability to go smoke should he choose to (consistent with hospital policy at the time).

2. Continued his suboxone as previous

3. Continued his non opioid pain regime as previous

4. Changed his oxycodone to liquid from pills to prevent diversion

Case

37 year old female on naltrexone intramuscular monthly for opioid use disorder. She has been on this medication for 1 year and has done very well. She is nervous about stopping it or changing with surgery. She has a history of unintentional overdose x 5 prior to starting this medication.

She has no other PMH and no other medications.
No known drug allergies

The patients last naltrexone injection was 2 weeks ago.

She is having biliary cholic related to chronic cholecystitis and her General Surgeon is scheduling elective surgery in 4 weeks.

Work with your team to develop a plan of care for this patient.

How does your plan change if she is admitted for acute cholecystitis and must go to the OR tomorrow morning?

Acute Pain Management for Patients currently on Naltrexone

Clinical Scenario	Management Options
Mild Pain	Non-opioid options, e.g., Full dose of NSAIDS (e.g., ketorolac injection)
Elective Surgery	Schedule surgery in accordance with patient's treatment • Oral naltrexone: Schedule surgery at least 72 hour after d/c naltrexone • Extended-release naltrexone: Schedule surgery at least 4 weeks after injection. May need to use oral product for a few days.o
Major Pain or Emergency	• Reginal anesthesia • Conscious sedation • General anesthesia (Note: high potency fentanyl analogues maybe needed to override blockade)

Acute Pain Management for Patients currently on Methadone

- Split the dose to 3 or 4 times a day for greater analgesia.
- May require higher dosing of methadone and higher doses of additional full agonists, due to increased opioid tolerance.
- Consult a pain specialist or addiction medicine specialist

General Approaches to address pain:

1. Continue current buprenorphine dose + non-opioid analgesics focused on pain type

2. Continue same buprenorphine dose but in a split regimen + non-opioid analgesics focused on pain type

3. Increase buprenorphine dose while continuing split dose up to 24 mg daily in Ohio + non-opioid analgesics focused on pain type

4. Add full opioid (opioid tolerant dosing) to buprenorphine regimen + non-opioid analgesics focused on pain type
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5. Stop buprenorphine and initiate full agonist therapy dosed to effect. Then return to buprenorphine following stabilization.
(Generally only used if unable to control pain)

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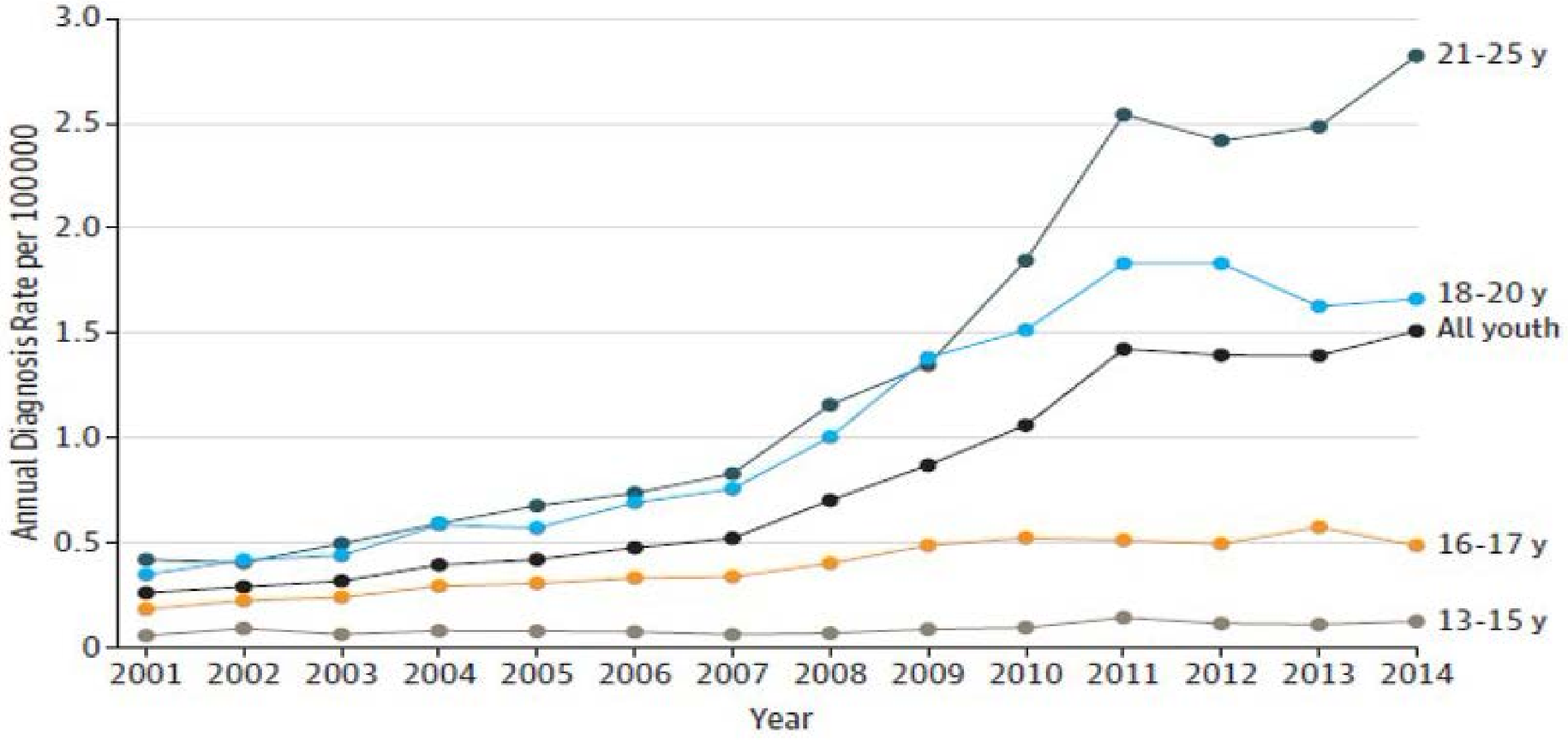
Special Populations

New Diagnoses of Opioid Use Disorder in Youth



Hadland et al., 2017

Adolescents

- ***American Academy of Pediatrics:***
  - Recommends that pediatricians consider offering MOUD to their adolescent.
- ***FDA Approved Medication Options:***
  - Buprenorphine (approved for patients>16yo)
    - Often considered to be the first choice
    - Much better treatment retention in comparison to no MOUD
    - Decreased injection drug use
  - Methadone
    - A person under 18 years of age is required to have had two documented unsuccessful attempts at short-term detoxification or non-medication treatment.
    - Parental of guardian consent.
  - Naltrexone ER (approved for patients>18yo)
- ***Psychosocial Treatment Options:***
  - Motivational Interviewing
  - Family intervention approaches
  - Educational and/or Vocational support
  - Behavioral interventions; CBT and Contingency Management

Unintentional Overdose in Teens

Trends in Drug Overdose Deaths Among US Adolescents, January 2010 to June 2021

Joseph Friedman, MPH1; Morgan Godvin, BA2; Chelsea L. Shover, PhD3; et alJoseph P. Gone, PhD4; Helena Hansen, MD, PhD1; David L. Schriger, MD, MPH5,6

JAMA. 2022;327(14):1398-1400. doi:10.1001/jama.2022.2847

- 2010: 518 deaths among adolescents (2.40 per 100 000 population) in 2010
- 2019: 492 deaths (2.36 per 100 000)
- 2020: 954 (4.57 per 100 000)
- 2021: 1146 (5.49 per 100 000)

- Since 2015, fentanyls have been increasingly added to counterfeit pills resembling prescription opioids, benzodiazepines, and other drugs, which adolescents may not identify as dangerous and which may be playing a key role in these shifts.1,4

Older Adults and Substance Use

- General population of older adults:
  - United States: 1 in 5 U.S. Residents will be age 65+ (by 2030)
- SUDs in older adults (2014):
  - 1 million individuals
    - 978,000 with alcohol use disorder and,
    - 161,000 with illicit drug use disorder
- Limited high-quality research on prescription drug misuse in older adults.
  - Past year prevalence of non-medical use of opioids is ~1.4%

Maree et al., 2016;
Mattson et al., 2017;
West et al., 2015;
Wu et al., 2014

Older Adults and Opioid Use

- Unique features:
  - Physiologic changes:
    - Decreased metabolism of medications
    - Increased elimination time
- Polypharmacy
- Multiple co-morbidities (including cognitive decline)
- High prevalence of pain in older adults:
  - 25-50% of those living in community dwellings
  - 70% of those living in nursing homes
  - 80% of those living in long-term care
- Risks:
  - Self-poisoning has been reported as frequent mechanism of suicide

Chau et al., 2008;
West et al., 2015;
Wu et al., 2014

Older Adults and Opioid Use

- Evaluation:
  - Conduct thorough screening
  - Assist patients with cognitive impairments
  - Assess for suicidality
    - Self-poisoning a frequent mechanism of suicide in older adults.

Older Adults- Treatment Considerations

- Medication Recommendations:
  - Buprenorphine:
    - Good choice; less susceptibility to respiratory compromise.
    - Start low and go slow with dosing
    - Hepatic metabolism is slowed in older adults,
      - buprenorphine doses may be lower than in younger patients.
- Methadone:
  - Potential for medication interactions
  - QT Prolongation
  - Higher risk of overdose

Chau et al., 2008; West et al., 2015; Wu et al., 2014

Patients with Renal Failure

- Suitable to use MOUD medications in patients with renal failure
- No significant difference in kinetics of buprenorphine in patients with renal failure versus healthy controls
- No significant side effects in patients with renal failure
- Buprenorphine and methadone can be prescribed to patients undergoing hemodialysis
- Naltrexone is safe in dialysis, but blood should be continually monitored.

Patients with Compromised Hepatic Function

- Buprenorphine and Methadone undergo hepatic metabolism, primarily by the CYP450 3A4 system
- Patients with compromised hepatic function,
  - LFTs 3-5 times normal, could have reduced metabolism of buprenorphine, with resultant higher blood levels of the medication.
  - Patients LFTs and total bilirubin should be monitored periodically in patients with underlying liver disease.
- No specific hepatotoxicity has been demonstrated for either methadone or buprenorphine

Hepatitis and MOUD

- Buprenorphine or Methadone are:
  - Not contraindicated in patients with normal or mildly elevatedliver enzymes and chronic hepatitis
  - Moderately elevated levels (>3times the upper limit of normal) should be monitored.
  - Acute fulminant hepatitis should be appropriately evaluated and treated.
    - Consider the risks of delaying treatment.
  - Etiology of moderate or markedly elevated liver function tests should be determined and treated.

CASE PRACTICE!

Case

You are working in an emergency room. A 25 year old is brought in after unintentional overdose in the bathroom at Waffle House. He states this was his first unintentional overdose and scared him. He is interested in discussing treatment.

He started using fentanyl at parties in early 20s but has progressed to daily use intranasal. States his usual dealer was arrested and he has had to find a new source. This was the first from his new source and he is scared any more will have the same effect.

He asks if he can start suboxone from the Emergency Room.

He has no past medical history, allergies, surgeries.
He lives on friends couches; his family lives 4 hours away in Cleveland and he hasn't seen them in 2-3 years.

Develop a plan of care for this patient, including orders, patient education, and follow up plans.

General Management

1. Labs/ Screening for medical comorbidities
2. Sexual Health: Contraception, PreP, PEP
3. Mental Health: assess and develop plan of care
4. Harm Reduction: assess and develop plan of care
5. ASAM Level of Care (Site of Care)
6. Acute Withdrawal Management
7. Medications for treatment of SUD

Case

You are seeing patients in your primary care practice.

A 42 yo who has been stable on 8 mg Buprenorphine/ Naloxone films for 2 years states her long term partner had a return to use and unintentional overdose 1 month ago. Since, she has also had a return to use. She is taking her buprenorphine/ naloxone daily, but when she feels overwhelmed, she will go obtain and use IV fentanyl. States it started as 1-2x a week and is now nearly daily.

After further discussion, she tearfully shares she sometimes trades her buprenorphine for fentanyl.

She is continuing to work 40 hours per week as an admin assistant on base, but is worried it is starting to impact her ability to function. She lives alone now in an apartment.

She is afraid if she enters residential treatment that she will lose her job.

Develop a plan of care, including orders, patient education and follow up for this patient.

General Management

1. Labs/ Screening for medical comorbidities
2. Sexual Health: Contraception, PreP, PEP
3. Mental Health: assess and develop plan of care
4. Harm Reduction: assess and develop plan of care
5. ASAM Level of Care (Site of Care)
6. Acute Withdrawal Management
7. Medications for treatment of SUD

Return to use is NOT a reason to dismiss patients or stop medications.
Evidence based care is addressing the reasons for return to use and increasing structure/ support / level of care

Case

You are working in a community detoxification (3.7 ASAM LOC) center and are admitting a 53 year old patient. She has been taking Methadone for the last 4 years for OUD. She had been continuing to use fentanyl daily despite dose escalation to maximum 80 mg daily. She shared with her methadone care site that she wanted to change to buprenorphine/naloxone and for the last 3-4 months they have weaned her dose to now 30 mg daily.

She states she would like to enter detox and residential. She was told that she can now enter detox since she is on 30 mg daily and would like to transition to suboxone.

She has
PMH – Diabetes Mellitus Type 2, on metformin and TBI related to forklift injury at a factory currently on SSI

PPH- MDD stable on prozac 40 mg daily and wellbutrin xl 150 mg daily

Social – she lives with her husband, who is unaware of her return to use. She has been on SSI since 2003 due to a work injury that did not allow her to return to factory work. She has medicare for health insurance.

Develop a plan of care, including orders, patient education and follow up for this patient.

General Management

1. Labs/ Screening for medical comorbidities
2. Sexual Health: Contraception, PreP, PEP
3. Mental Health: assess and develop plan of care
4. Harm Reduction: assess and develop plan of care
5. ASAM Level of Care (Site of Care)
6. Acute Withdrawal Management
7. Medications for treatment of SUD

Case

You are on IM service and asked to admit a patient in the ER.

Patient is a 62 yo male with history of hepatitis C and OUD being admitted for failed outpatient treatment of injection drug use related cellulitis of his left hand.

Patient was seen in the ER by ortho hand and infectious disease, they are recommending IV antimicrobial therapy but no surgical intervention at this time.

Patient states he was stable on Suboxone 16 mg total daily dose until 3 months ago. He had a total knee replacement and due to his SUD was not given pain medication post op. He returned to fentanyl use due to uncontrolled pain.

He is asking to re start suboxone. He last used fentanyl IV this am at 0800 (its 1600).

Labs on admit: AST 130, ALT 140, AP nl, Tbili nl, INR nl, CBC nl

Develop a plan of care, including orders, patient education and follow up for this patient.

Case

You are working in your primary care outpatient office.
A patient is on 4 mg daily of suboxone for OUD. He has been on this dose for 3 years. He is tired of picking up prescriptions and would like to wean off.

He is worried about being off all medications and thinks he would like to be on naltrexone for 6 months as a safety net.

Develop a plan of care, including orders, patient education and follow up for this patient.

General Management

1. Labs/ Screening for medical comorbidities
2. Sexual Health: Contraception, PreP, PEP
3. Mental Health: assess and develop plan of care
4. Harm Reduction: assess and develop plan of care
5. ASAM Level of Care (Site of Care)
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7. Medications for treatment of SUD

References

PCSS 101 Curriculum
https://pcssnow.org/clinical-tools/

Ohio Buprenorphine Law
Rule 4731-33-03

SAMHSA Tip 63

Post Training Survey

https://redcap.wright.edu/surveys/

Code: HTF93RLXK

GPRA

https://redcap.wright.edu/surveys/

Code: 7NH488974

Please complete both surveys before finding your certificate with your name on it at the back of the classroom.

Thank You!