Other medications for MOUD: Methadone/ naltrexone

Urine testing: Goals of testing, what to order and interpretation
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

Currently used for both:
  OUD (federal facilities liquid form)
  Chronic Pain (any facility – tablet form)

• 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
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., buprenorphine) and antagonists (e.g., naloxone, naltrexone), which can both precipitate withdrawal
- **Monitoring**
  - Significant respiratory suppression and potential respiratory arrest in overdose
  - QT prolongation
CASE
A 51 year old male is admitted to the hospital with lumbar discitis and osteomyelitis due to intravenous fentanyl use. He says this hospitalization has been lifechanging for him and would like to talk about starting treatment for his OUD.

He would like to know about the benefits and challenges of methadone.

He would also like to know how it compares to buprenorphine.

Please work in your group to determine some responses for this patient (5 minutes)
Methadone

Benefits & Considerations

- **OUD** 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
• **Challenges with Methadone**
  ○ Must be able to go to site daily during specified hours
    • Transportation
    • Childcare
    • Work
    • Rural vs Urban areas
  ○ **Access Challenges**
    • New patient can be up to 6 weeks
  ○ **Privacy:**
    ○ Patients want more privacy in their OUD treatment
  ○ **Triggering environment – persons there**
    • Individuals also coming at same time
    • Known for having selling in parking lot
Benefits of Methadone: Treatment Retention

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

Hser et al., 2014
Naltrexone
Naltrexone is classified as a(n): 

A: full opioid agonist 
B: partial opioid agonist 
C: GABA-ergic agent 
D: opioid antagonist 
E: glutamate modulator
Naltrexone is classified as a(n):

<table>
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<tr>
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<th>Percentage</th>
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<td>0%</td>
</tr>
<tr>
<td>E: glutamate modulator</td>
<td>0%</td>
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</table>
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
Using naltrexone there may also be a higher proportion of opioid, cocaine, benzodiazepine, cannabinoids, amphetamine - free patients.

Comer et.al., 2011
• 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.

You are working with a medical student who is about to see a patient for OUD. The nurse tells you both that the patient wants to know about naltrexone ER (Vivitrol) as an option for opioid use disorder treatment.

What information might you and the student discuss prior to seeing this patient.

Specifically:

Who generally benefits from naltrexone, what are some challenges or contraindications of naltrexone?

How does it compare to buprenorphine for OUD treatment?

How can naltrexone be started on someone currently using fentanyl?

Please work in your group to determine some responses for this patient (5 minutes)
Who is most likely to benefit from Naltrexone-ER?

- 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 or methamphetamine use disorder
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.
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.
General Goals of Drug Testing in Office Based Treatment
Urine Testing General Tenets:

Important and routine component of treatment.

Testing is not meant to "catch" the patient.

Inappropriate test results should NOT simply lead to discharge from treatment, but an opportunity for discussion.

Urine Testing is not perfect – has many inaccuracies.
Test Metrics

- Urine is the most common matrix in current clinical practice.
  - availability,
  - sensitivity and specificity,
  - ability to detect substance use over periods of time

<table>
<thead>
<tr>
<th>Matrix</th>
<th>Time*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breath</td>
<td></td>
</tr>
<tr>
<td>Blood</td>
<td></td>
</tr>
<tr>
<td>Oral Fluid</td>
<td></td>
</tr>
<tr>
<td>Urine</td>
<td></td>
</tr>
<tr>
<td>Sweat‡</td>
<td></td>
</tr>
<tr>
<td>Hair‡</td>
<td></td>
</tr>
<tr>
<td>Meconium</td>
<td></td>
</tr>
</tbody>
</table>

*Time in Minutes, Hours, Days, Weeks, Months, Years
Initial UDS for MOUD Patients

• Point of care testing
  ◦ Screening for:
    ▪ Opiates
    ▪ Marijuana
    ▪ Cocaine
    ▪ Amphetamines
    ▪ Benzodiazepine
    ▪ Alcohol bio-markers *
    ▪ Synthetic!

• Confirmation
  ▪ On all new patients**
  ▪ On positive POC- if would change management or legal impacts
Frequency of Urine Drug Testing (UDT)

- Depends on several factors:
  - Stage of Treatment [Initial vs. Maintenance]
    - Monthly testing has been suggested as a minimum
    - More frequent testing, e.g. weekly,
      - Early in treatment
    - Concerns of diversion or recurrence of substance use
    - Stability of patient [Treatment adherent vs. Recent Relapse]
  - Half-life of drugs being tested
  - Treatment setting
    - Office-based Opioid Treatment [OBOT]
    - Opioid Treatment Programs [OTP]: Federal law mandates a minimum of eight drug tests per year
  - Random testing, may be recommended to obtain a representative sample
## Screening and Confirmatory Tests

<table>
<thead>
<tr>
<th>Screening Tests</th>
<th>Confirmatory Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Relatively rapid, inexpensive methods, usually based on immunoassay.</td>
<td>• Use more expensive, time-consuming methods that combine chromatography and spectrometry.</td>
</tr>
<tr>
<td>• Can be performed in a lab, or using kits for onsite point-of-care testing (POCT).</td>
<td>• Likely performed in a certified lab - so may take longer to return to provider.</td>
</tr>
<tr>
<td>• Results are considered presumptive until confirmed by a more definitive test.</td>
<td>• More precise and more specific than screening tests, and thus their results are considered definitive.</td>
</tr>
<tr>
<td>Substance</td>
<td>Duration</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Alcohol</td>
<td>7-12 Hours</td>
</tr>
<tr>
<td>Ethyl glucuronide</td>
<td>2-5 Days</td>
</tr>
<tr>
<td>Amphetamine</td>
<td>2 days</td>
</tr>
<tr>
<td>Benzodiazepines (short-acting, e.g. lorazepam)</td>
<td>3 days</td>
</tr>
<tr>
<td>Benzodiazepines (long-acting, e.g. diazepam)</td>
<td>30 days</td>
</tr>
<tr>
<td>Buprenorphine</td>
<td>4-10 days</td>
</tr>
<tr>
<td>Cocaine</td>
<td>2-4 days</td>
</tr>
<tr>
<td>Ethyl glucuronide</td>
<td>2-6 days</td>
</tr>
<tr>
<td>Heroin or morphine</td>
<td>1-3 days</td>
</tr>
<tr>
<td>Marijuana (single use)</td>
<td>3 days</td>
</tr>
<tr>
<td>Marijuana (chronic use)</td>
<td>30+ days</td>
</tr>
<tr>
<td>Opioids</td>
<td>2-4 days</td>
</tr>
</tbody>
</table>
Urine Testing Cases - Questions to consider

1. What is the goal of urine testing?

2. What is the appropriate test for the prescribed medications and community substance use?

3. Are the results expected or unexpected based on the above information?

4. How to respond therapeutically with the patient based on results?
You do not have POC urine cups in your office. The patient, Ms Smith, had a urine drug screen come back to your inbasket.

Ms Smith is a 67 year old female. She has been on oxycodone 5 mg BID for 10 years for severe unrelenting lumbar spinal stenosis that was not improved with surgery. She is also on duloxetine 60 mg daily, meloxicam 15 mg daily and buys Lidoderm patches over the counter.

You were estute in your last visit documentation and notated that she states she takes it twice daily as scheduled and took it the morning of the appointment, approximately 2 hours prior to arrival.

What would your next step be?

A. Discharge Ms. Smith for not taking prescribed medication (you are worried about diversion).

B. Call Ms. Smith and require a pill count in 48 hours at the office

C. Nothing, she has no evidence of a substance use disorder.

D. Something else.

Urine results
Amphetamines: neg
Benzodiazepines: neg
Opiates: neg
Cocaine: neg
THC: neg

1. 1. What is the goal of urine testing?
2. What is the appropriate test for the prescribed medications and community substance use?
3. Are the results expected or unexpected based on the above information?
4. How to respond therapeutically with the patient based on results?
A 25 year old male is being seen in follow up for OUD. He has been on buprenorphine – naltrexone 8/2 mg film daily for 18 months.

You have point of care urine testing in your office. His urine test below is available prior to you seeing him in office.

With these results, going in to see this patient you would have an intent to:

A. Discuss dismissal from the practice and harm reduction in the meantime

B. Discuss causes of return to use and consider adjusting care plan to include mental health, current OUD treatment LOC and increased OUD medication if needed.

C. Something else

1. What is the goal of urine testing?

2. What is the appropriate test for the prescribed medications and community substance use?

3. Are the results expected or unexpected based on the above information?

4. How to respond therapeutically with the patient based on results?

Urine POC 12 panel Cup Results

Amphetamines: pos
Barbituates: neg
Benzodiazepines: neg
Opiates: neg
Ecstasy: neg
Cocaine: neg
THC: neg
Buprenorphine: pos
Oxycodone: neg
Methadone: neg
Methamphetamine: pos
PCP: neg

Adulterants: cr, pH wnl
41 year old female and parent of 3 children (10, 8, 5 year old) follow with you for ongoing buprenorphine medication for OUD. She has been in remission x 5 years. She has an active open children’s services case due to intimate partner violence in the home.

Her urine test results from today's POC 12 panel cup are below.

She adamantly denies any return to use. She expresses she is afraid this will get back to CPS and the children will get taken from her.

**Urine POC 12 panel Cup Results**

- **Amphetamines**: pos
- **Barbituates**: neg
- **Benzodiazepines**: neg
- **Opiates**: neg
- **Ecstasy**: neg
- **Cocaine**: neg
- **THC**: neg
- **Buprenorphine**: pos
- **Oxycodone**: neg
- **Methadone**: neg
- **Methamphetamine**: neg
- **PCP**: neg
- **Adulterants**: cr, pH wnl

**With these results, you would:**

**A. Call children’s services and make a report.**

**B. Discuss causes of return to use and consider adjusting care plan to include mental health, current OUD treatment LOC and increased OUD medication if needed.**

**C. Something else**

1. What is the goal of urine testing?
2. What is the appropriate test for the prescribed medications and community substance use?
3. Are the results expected or unexpected based on the above information?
4. How to respond therapeutically with the patient based on results?
## Common False Positives/ Cross Reactivity --- NOT AN EXHAUSTIVE LIST

<table>
<thead>
<tr>
<th>Amphetamines</th>
<th>Benzodiazepines</th>
<th>THC</th>
<th>Opiates</th>
<th>Cocaine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bupropion</td>
<td>Sertraline</td>
<td>Efavirenz</td>
<td>Codeine</td>
<td>RARE!</td>
</tr>
<tr>
<td>Chlorpromazine</td>
<td>Oxaprozin</td>
<td>Nsaiids-ibuprofen, naproxen, niflumic acid</td>
<td>Quinelones</td>
<td></td>
</tr>
<tr>
<td>Promethazine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labetolol</td>
<td>***false neg</td>
<td>CBD</td>
<td>Quietapine</td>
<td></td>
</tr>
<tr>
<td>Metformin</td>
<td></td>
<td>THC food products</td>
<td>tramadol</td>
<td></td>
</tr>
<tr>
<td>Zantac</td>
<td>PPI</td>
<td></td>
<td>verapamil</td>
<td></td>
</tr>
<tr>
<td>Trazadone</td>
<td>Dronabinol</td>
<td></td>
<td>dextromethorphan</td>
<td></td>
</tr>
<tr>
<td>Pseudoephedrine</td>
<td></td>
<td></td>
<td>rifampin</td>
<td></td>
</tr>
</tbody>
</table>

**Resources:**
SAHMSA, AAFP Kale "Urine Drug Tests: Ordering and Interpretation" 2019:99(1) 33-39
MATE ACT TRAINING
HR 6

Medical Co morbidities & Lab testing

Co- occurring pain
Co-Occurring Disorders - Medical Conditions
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
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?
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
Co-Occurring Disorders - Medical Conditions
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!!!
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.

- 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.
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.
As many as 85% of pregnancies in women with opioid use disorder are unintended.

“...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.”
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

- 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).
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.
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.
In a patient receiving long-term opioid therapy for management of chronic pain, which of the following is most indicative of opioid addiction?

- Reporting increased pain over time
- Reporting signs of physical dependence
  - Needing increasing doses for pain relief
- Developing withdrawal symptoms upon cessation of use
- Administering opioids by alternative routes than prescribed
In a patient receiving long-term opioid therapy for management of chronic pain, which of the following is most indicative of opioid addiction?

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<th>Percentage</th>
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<td>0%</td>
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<tr>
<td>Reporting signs of physical dependence</td>
<td>0%</td>
</tr>
<tr>
<td>Needing increasing doses for pain relief</td>
<td>0%</td>
</tr>
<tr>
<td>Developing withdrawal symptoms upon cessation of use</td>
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<tr>
<td>Administering opioids by alternative routes than prescribed</td>
<td>0%</td>
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In a patient receiving long-term opioid therapy for management of chronic pain, which of the following is most indicative of opioid addiction?

<table>
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<tr>
<td>Reporting signs of physical dependence</td>
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<tr>
<td>Administering opioids by alternative routes than prescribed</td>
<td></td>
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</table>
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
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
- How would you discuss the plan with her?
- 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?
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)

Buress H, et al, J Gen Intern Med. 2020
<table>
<thead>
<tr>
<th>Pharmacologic Pain Management Options: Non-Opioid</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NSAIDS</strong></td>
</tr>
<tr>
<td>• mild-moderate, inflammatory pain</td>
</tr>
<tr>
<td>• best for non neuropathic pain</td>
</tr>
<tr>
<td>• consider history of gastritis, renal disease, age and cardiac risk</td>
</tr>
<tr>
<td><strong>Topical</strong></td>
</tr>
<tr>
<td>• nsaids</td>
</tr>
<tr>
<td>• capsaicin</td>
</tr>
<tr>
<td>• lidoderm patch</td>
</tr>
<tr>
<td><strong>TCA</strong></td>
</tr>
<tr>
<td>• neuropathic pain</td>
</tr>
<tr>
<td>• work particularly well if comorbid anxiety, depression or insomnia</td>
</tr>
<tr>
<td><strong>Muscle Relaxants</strong></td>
</tr>
<tr>
<td>• watch for sedation and review med list for other sedating medications</td>
</tr>
<tr>
<td><strong>SNRI</strong></td>
</tr>
<tr>
<td>• Cymbalta</td>
</tr>
<tr>
<td>• good for neuropathic pain, particularly when comorbid anxiety or depression</td>
</tr>
<tr>
<td><strong>Anticonvulsants</strong></td>
</tr>
<tr>
<td>• Neurontin, lyrica</td>
</tr>
<tr>
<td>• generally have to fail neurontin for lyrica</td>
</tr>
<tr>
<td>• watch for sedation and swelling</td>
</tr>
<tr>
<td>• can sometimes help with co morbid modd disorders</td>
</tr>
</tbody>
</table>
Pharmacologic Pain Management Options: Non-Opioid

<table>
<thead>
<tr>
<th>Non-Pharmacologic Treatment</th>
<th>Non-Opioid Pharmacologic Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>- ice, heat, positioning, bracing, wrapping, splints, stretching</td>
<td>Role in Therapy: Somatic (Sharp or Stabbing)</td>
</tr>
<tr>
<td>- Massage therapy, tactile stimulation, acupuncture/acupressure, chiropractic adjustment, osteopathic neuromusculoskeletal medicine</td>
<td>Visceral (Ache or Pressure)</td>
</tr>
<tr>
<td>- Biofeedback</td>
<td>Neuropathic (Burning or Tingling)</td>
</tr>
<tr>
<td>- Directed exercise such as physical therapy</td>
<td>First Line: Acetaminophen, NSAIDs, Corticosteroids</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Alternatives</th>
<th>Gabapentin/pregabalin, skeletal muscle relaxants, SSRIs/SNRIs/TCAs</th>
<th>SNRIs/TCAs, dicyclomine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Anti-epileptics, baclofen, bupropion, low-concentration capsaicin, SSRIs, topical lidocaine</td>
<td></td>
</tr>
</tbody>
</table>
# Pharmacologic Pain Management Options: Non-Opioid

<table>
<thead>
<tr>
<th>Short-Acting</th>
<th>Long-Acting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Codeine</td>
<td>Transdermal Fentanyl**</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>Extended RElease Morphine</td>
</tr>
<tr>
<td>Oxycodone**</td>
<td>Extended release oxymorphine</td>
</tr>
<tr>
<td>Morphine**</td>
<td>Extendedrelease oxycodone</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>Methadone</td>
</tr>
<tr>
<td>Buprenorphine**</td>
<td></td>
</tr>
<tr>
<td>Tramadol</td>
<td></td>
</tr>
</tbody>
</table>

**Available formulation for patients intolerant of PO or difficulty with absorption (eg. Short Gut Syndrome)**
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 patient’s 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

<table>
<thead>
<tr>
<th>Clinical Scenario</th>
<th>Management Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild Pain</td>
<td>Non-opioid options, e.g., Full dose of NSAIDS (e.g., ketorolac injection)</td>
</tr>
<tr>
<td>Elective Surgery</td>
<td>Schedule surgery in accordance with patient's treatment</td>
</tr>
<tr>
<td></td>
<td>• Oral naltrexone: Schedule surgery at least 72 hour after d/c naltrexone</td>
</tr>
<tr>
<td></td>
<td>• Extended-release naltrexone: Schedule surgery at least 4 weeks after injection. May need to use oral product for a few days.</td>
</tr>
<tr>
<td>Major Pain or Emergency</td>
<td>• Reginal anesthesia</td>
</tr>
<tr>
<td></td>
<td>• Conscious sedation</td>
</tr>
<tr>
<td></td>
<td>• General anesthesia (Note: high potency fentanyl analogues maybe needed to override blockade)</td>
</tr>
</tbody>
</table>
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
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)
MATE ACT TRAINING
HR 7

Obstetrics and Neonatal Topics
Opioid Use Disorder and Pregnancy

Epidemiology:
15% of pregnant persons had used illicit substances in the past year.
**Treatment Rates**

10% persons with SUD receive care

In Pregnancy, ½ receive care and ~50% of those are started on evidence-based medications (25% receive EBM)

Compare to Diabetes: 60-70% receive evidence-based care

**Racial Inequities**

0.4 - LR of black pregnant person being treated with medications compared to caucasian pregnant person

Average Methadone dose: African American 99 mg, Caucasian 140 mg

The American Society of Addiction Medicine (ASAM) is deeply committed to the health and well-being of pregnant and postpartum people, their families, and communities. This includes advocating for the prevention and treatment of substance use-related harms throughout the reproductive years, with a focus on the perinatal period. Substance use disorder (SUD) is a stigmatized medical condition, and poorly understood for pregnant and postpartum people, who face discrimination accessing care and treatment. In areas most affected by the opioid crisis, opioid-involved pregnancies may include as many as 6 percent of childbirths.

ASAM strongly supports reforms to reverse the punitive approach taken to substance use and SUD during and after pregnancy and respond to the shared interests of the parent-newborn dyad by providing ethical, equitable, and accessible, evidence-based care.

Federal and state systems, healthcare institutions, and clinicians too often conflate substance use with SUD and stigmatize and equate a person with SUD as “unfit to parent” or “criminal.” As a result of the punitive approach that has permeated American public policy and practices, people who use substances while pregnant are deterred or delayed from seeking care because of fear of detection, prosecution, and punishment, and the rate of child protection system involvement attributed to perinatal or parental substance use has doubled in recent years.
POSITIVE PREGNANCY TEST

80% of pregnancies in a person using SUD are unintended

Approach pregnancy cautiously and ASK!

Don’t assume it’s a time to celebrate or an intent to parent or continue the pregnancy

The patient guides the discussion

“Your pregnancy test today was positive” (space for reaction) THEN

“What are your thoughts on being pregnant right now?”

- May ask permission to share information on pregnancy care- PNV, prenatal care options
- May ask permission to share information on elective termination
- May ask permission to share information on adoption
- May ask permission to provide all 3
- May say nothing and provide support only (and offer a close follow up)
Prenatal Screenings

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

Then MUST document DSM-5.
MOMS PLUS PNC MODEL

Re-vamping Templates and Process

1st Visit
Amenorrhea + Initial Buprenorphine Visit

2nd Visit
Initial OB + Ultrasound + MOUD f/u

Ongoing Visits
Routine PNC + MOUD f/u
Why is it preferred to treat OUD in pregnancy with agonist medications?
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 IN PREGNANCY

Adequate Kotelchuck Index: Improved rates of prenatal care and prenatal visits completed

Decreased fetal growth restriction

Decreased risk of abruption

Decreased risk of fetal death

Decreased risk of infections related to sex work and intravenous substance use

Decreased risk of physical harm from violence to the pregnant person

Loss of custody/incarceration in untreated OUD ***

***may occur despite treatment. more to come

ACOG Committee Opinion, Opioid Use and Opioid Use Disorder in Pregnancy" Number 117. Published Aug 2017.
Buprenorphine is available as a monoprodut or in a combined formulation with naloxone, an opioid antagonist, used to reduce diversion because buprenorphine combined with naloxone causes severe withdrawal symptoms when injected. However, naloxone is not orally active, so withdrawal symptoms do not occur when used sublingually as directed. The buprenorphine monoprodut has been recommended during pregnancy to avoid any potential prenatal exposure to naloxone, especially if injected. However, recent studies that evaluated the use of the combination product buprenorphine with naloxone found no adverse effects, and outcomes were similar when compared with buprenorphine alone. The use of the combination product during pregnancy will likely expand as more safety data are accumulated.
Jasmine

A 21 year old G1 has an unplanned pregnancy, currently at 14 weeks. She has active fentanyl use and would like to start treatment.

She asks how to choose between buprenorphine and methadone for this pregnancy.

She lives in downtown Dayton and has transportation. From a transportation stand point, she thinks she could choose either medication.

Work in your groups to work through the differences of methadone and buprenorphine in pregnancy care
Jasmine is now in her third trimester, 31 weeks, taking 100 mg of Methadone daily.

She says she feels fine until about mid afternoon but then has sweating, agitation and feels the baby is more active then too. She is worried that the dose isn’t high enough but doesn’t want to increase due to NOWS.

What would you do?

A. Coordinate with the methadone clinic to increase her dose to 120 mg daily
B. Add clonidine in the afternoon 0.1 mg daily
C. Tell her this is typical in pregnancy, she may just be anxious about the delivery. Recommend increased counseling frequency
D. Coordinate with the methadone clinic to change to split dosing with a take home dose.
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**

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

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

- Not known unsafe but limited studies- need larger to become standard to offer as MOUD in Pregnancy
- Question of effectiveness in OUD in pregnancy [per some experts, other data mixed]
- Expert Opinion: Reasonable to continue if stable, but don't recommend offer to start in pregnancy


LONG ACTING BUPRENORPHINE IN PREGNANCY

- Few case studies that show safety in humans
- Excipient produced teratogenic effects in animal studies at HIGH DOSE (8x normal)
- Difficult to titrate based on changing
- There may be a role for IM buprenorphine products being developed (IM version different excipient and may fit well with PNC schedule)


Expert Opinion:
- Probably safe beyond mid 2nd tri
- Ok to continue if stable, with R/B/A Discussion
- Would not recommend starting as non inferior to SL Buprenorphine products or Methadone

Care of the Opioid Exposed 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 et al., 2015
Smith et al., 2017
OTHER FACTORS

- Tobacco
- Genetics
- Birth Weight
- Other medications
- Other substances

Methadone nor Buprenorphine DOSE DOES NOT RELATE TO SEVERITY OF NOWS
• 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/buprenorphine
  ○ 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
ROOMING IN CARE

BENEFITS:

- Decreases number of infants that need medication by half (or more based on multiple studies)
- Shorter length of stay
- Improved bonding
- Improved breastfeeding

CHALLENGES:

- Fears of complications of newborn without monitoring
- Change in standard practices

INNOVATION:

- Ambulatory NOWS treatment centers
- Brigid's Path

MacMillan K. Association of rooming-in with outcomes for neonatal abstinence syndrome: a systematic review and meta-analysis. JAMA Pediatr 2018;172(4)
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.
Drug Policies and Pregnancy/Birthing

- Birthing people who use drugs are uniquely vulnerable to the criminal/legal system and child welfare involvement – admit drug use or test positive at birth
- Criminalization of drug use puts birthing parent and fetus at great risk to create barriers to treatment and prenatal care
- Prisons and jails may require restraints during labor and delivery
- Deny breastfeeding

National Drug Control Strategy, Office of National Drug Control Policy website
Child Abuse Prevention and Treatment Act (CAPTA)

CARA amended the Child Abuse Prevention and Treatment Act (CAPTA)

- Requires a plan of safe care to be in place at the time of discharge from the hospital for the following:
  - Infants 12 months and younger if:
    - Prenatally exposed to substances
    - Demonstrating symptoms of withdrawal
    - Diagnosed with Fetal Alcohol Spectrum (FAS)

In addition, CAPTA requires child welfare agencies to document the existence of the plan of safe care.

Expectations of Mandated Reporters

The requirements for mandated reporters have not changed – Per Ohio Administrative Code & Ohio Revised Code all mandated reporters shall make a referral to a PCSA when an infant is impacted by the abuse of legal or illegal substances when:

- Infant is exhibiting signs of withdrawal
- Mother abused legal or illegal substances during pregnancy
- Infant has a positive toxicology result; and/or
- Infant is diagnosed with Fetal Alcohol Syndrome

- CPS is the decision maker – if the above is known, reported or observed – it is a required referral to the local CPS agency.

The majority of the referrals will come from hospitals at the time delivery.

https://jfs.ohio.gov/ocf/CARA-PowerPoint-MedicalCommunityProviders.stm
HARMS OF CPS

Children in foster care > abuse and neglect than in family placement

Family members with legal history cannot have children placed with them

Black families more often have racially biased low-level crimes (THC) making them ineligible for family placement of newborns

Zhao L. “Substantial Harm: Thinking Critically about Child Welfare Referrals for Parents with SUD” Addiction Medicine National Conference. April 15, 2023
RISKS TO PARENTING PERSON

If children are removed, temporarily and/or permanently, risk to parenting persons:

- Increased risk of suicide
- Return to use
- Unintentional overdose
HARMS TO URINE DRUG TESTING IN PREGNANCY

- Limited test: Multiple False positive and false negative for substances. Results DO NOT equal SUD
- Is NOT a parenting test
- Screening tests often used to determine CPS referrals with high levels of inaccuracy
- Screening tests often used to determine infant disposition (while confirmatory still pending or not done at all)

ACOG Position Statement:

Routine urine drug screening is controversial. ACOG recommends testing be performed only with the patient’s consent and a positive test not be a deterrent to care, a disqualifier for coverage under publicly-funded programs, or the sole factor in determining family separation.

ACOG calls on federal and state legislators to look to science-based guidelines and decades of medical evidence to craft appropriate public health interventions that will optimize health outcomes for moms and babies.
CRIMINALIZATION OF PREGNANT SUD- STATE POLICIES


WHAT SHOULD PHYSICIANS WHO CARE FOR PREGNANT PERSONS WITH SUD DO?

- **Advocacy** at local, state and national level

- Be aware of and **collaborate with Legal Aid** available for patients in your area

- Be aware of Local, State, Federal pertaining to **patients and parenting rights**

- **Encourage transparency of hospital policies** related to SU/SUD screening, documentation, and referral to patients, staff, and physicians

- **Education** of Peers

- Recognize that **over-reporting carries risk**

- **Recognize limitations and harms** of current legal system and processes

- Recognize that legally and medically we **overestimate** risks of SU/SUD in parenting persons to families and **minimize the harms** of legal involvement
BREAK 10 minutes!
MATE ACT HR 8

Putting it into Practice
Ohio laws
OHIO Specific Laws & General Clinical Management
### Follow Up Visit Logistics: Medication Management

<table>
<thead>
<tr>
<th>General</th>
<th>Details</th>
</tr>
</thead>
</table>
| 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 |
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
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
DSM V
Assessment: must diagnose an opioid disorder utilizing the criteria contained in the diagnostic and statistical manual of mental disorders

Requirement removed
Can be beneficial in legal cases

Ohio Law

Good clinical practice – how did you diagnose it?
• Before prescribing, the prescriber must give patient representative information about all drugs approved by FDA for MAT.
<table>
<thead>
<tr>
<th>Behavioral Treatment</th>
<th>• Must include behavioral treatment program: need to regularly obtain records for coordination</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA/NA</td>
<td>• Must include AA or NA meeting and document IF not in behavioral health program.</td>
</tr>
<tr>
<td>Visit Frequently</td>
<td>• First 90 days must be seen every 2 weeks. After must be seen at minimum every 30 days for 1 year</td>
</tr>
<tr>
<td>OARRS</td>
<td>• Must have OARRS/Narx minimum every 90 days</td>
</tr>
<tr>
<td>UDS</td>
<td>• Random UDS typically at each visit or &quot;twice per quarter&quot;</td>
</tr>
<tr>
<td>Dose</td>
<td>• Max 16 mg - must document why if increase to 24 mg</td>
</tr>
<tr>
<td>Other Controlled</td>
<td>• 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.</td>
</tr>
</tbody>
</table>
## Ohio Law: Treatment After 1st Year

<table>
<thead>
<tr>
<th>Behavioral Treatment</th>
<th>• Must include behavioral treatment program: may exclude if patient cannot reasonably or has completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA/NA</td>
<td>• Physician may determine frequency of AA or NA meeting as appropriate</td>
</tr>
<tr>
<td>Visit Frequently</td>
<td>• Must be seen minimum every 90 days or more frequent as clinically indicated</td>
</tr>
<tr>
<td>OARRS</td>
<td>• Must have OARRS/Narx minimum every 90 days</td>
</tr>
<tr>
<td>UDS</td>
<td>• Must check UDS minimally q3 months</td>
</tr>
<tr>
<td>Dose</td>
<td>• Max 16 mg - must document why if increase to 24 mg</td>
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</tbody>
</table>
• Must Rx and provide instructions on use
Physician Requirements

CME after waiver, 8 hours of CME Cat 1 related to addiction every 2 years
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
Talk in your groups (10 minutes)

1. What tools would your practice (hospital or ambulatory) need to do this successfully?
2. What barriers do you anticipate in your practice?
3. How would staff be involved in this care? How can staff make or break this care?
4. What else do you need to start this tomorrow for patients?
HR 9

Special populations: Geriatric & Adolescent Care
Complex Cases
New Diagnoses of Opioid Use Disorder in Youth

Hadland et al., 2017
• 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, fentanyl has 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
ADOLESCENT AND YOUNG ADULT(AYA) SCREENING TOOLS

CRAFFT

C = Have you ever ridden in a CAR driven by someone (including yourself) who was “high” or had been using alcohol or drugs?

R = Do you ever use drugs or alcohol to RELAX, feel better about yourself, or fit in a bit?

A = Do you ever use drugs or alcohol while you are by yourself, or ALONE?

F = Do you ever FORGET things you did while using alcohol or drugs?

F = Do your family or FRIENDS ever tell you that you should cut down on your drinking or drug use?

T = Have you ever gotten into TROUBLE while you were using alcohol or drugs?
American Academy of Pediatrics:

- Recommends that pediatricians consider offering MOUD to their adolescent.
Work in your groups

When thinking about MOUD for adolescents, what additional challenges would you anticipate? What ideas does your group have to overcome those?
TREATMENT FOR AYA

**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
SUD treatment practices for adolescents with co-occurring mental health management should include consideration for:

1. **Treatment practice/ Location selection**
   a. Assessing and responding to specific needs
   b. Cultural adaptation and responsiveness
   c. Treatment setting and level of care

2. **Funding**
   Insurance coverage, Minor without parent consent

3. **Coordination of Care**
   School, Counselors, Primary Care, +/- Parent/ Guardian

4. **Treatment engagement, retention, and adherence**

5. **Relapse prevention and recovery support**
• 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%
• Unique features:
  ○ Physiologic changes:
    ▪ Decreased metabolism of medications
    ▪ Increased elimination time

• Polypharmacy

• Multiple co-morbidities
  • Cognitive decline
  • Higher frequency of Pain based comorbidities (chronic, malignancy, or acute)

• 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
• Evaluation:
  ◦ Conduct thorough screening
  ◦ Assist patients with cognitive impairments
  ◦ Assess for suicidality
    ▪ Self-poisoning a frequent mechanism of suicide in older adults.
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 elevated liver enzymes and chronic hepatitis
  - Moderately elevated levels (>3 times 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!
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.
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
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.**
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.**
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:
- Suboxone 8 mg SL film, 1 film TID
- Oxycodone 10 mg q4 hours prn pain
- Ibuprofen 800 mg TID
- Tylenol 1000 mg TID
- 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.
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

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.
References

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

Ohio Buprenorphine Law
Rule 4731-33-03

SAMHSA Tip 63
When admitting someone to the hospital who has a diagnosis of OUD and is prescribed a maintenance dose of buprenorphine, how likely are you to continue that medication in the hospital?
When you are admitting someone to the hospital with a diagnosis of OUD and this person is presenting in withdrawal and they are requesting to be started on buprenorphine, how likely are you to start this medication?
Grant funding for this important training was sponsored by SAMHSA. SAMHSA is interested in the quality of training you received today and as such has asked participants to complete this survey, and a survey in 30 days that will be emailed to you at the email address you list on this survey. Continued funding for these important training opportunities is dependent upon completion rates of such surveys.
Thank You!