

# MANAGING ACUTE OPIOID WITHDRAWAL

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# 1. THE OPIOID CRISIS

# OPIOID CRISIS

- Since 2016 there have been 21, 174 opioid related deaths
- 2020: 6,214 opioid related deaths → increase of 89% over 2019
  - 96% accidental
- 2020: 5, 215 opioid related hospitalizations → 23% increase over 2019
  - 68% accidental

# HOW DID IT START?

1990's:

- **Overprescribing**
- **Marketing** – pharmaceutical companies promoted opioids as safe and effective pain management medications while downplaying the addictive nature
- **Lack of education** – pain management was not adequately covered in physician training programs

1990 - 2010

- Opioid prescribing quadrupled with subsequent increases in opioid use disorder and accidental overdoses

2010

- Large government pushback to reduce prescribing without creating infrastructure to support those with OUD
- 2012: introduction of Oxyneo

# HOW DID IT START?

High rates of withdrawal stimulated the street market

In pursuit of profit and to meet demand, novel synthetic opioids were created

Fentanyl → carfentanil → etc..

- less expensive and more easily accessible

# BACK TO TODAY

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Street opioids are  
unpredictable in strength  
and content

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Cut with other less expensive drugs

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Speedballing: mixing sedatives with  
stimulants

E.g. Heroin and cocaine

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Benzodiazepines

**Danger! Double  
withdrawal.**

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## 2. OPIOID INTOXICATION

# PHARMACOLOGY

## Three different opioid receptors in the body

### Mu

- Analgesia
- Respiratory depression
- Miosis
- Euphoria
- Reduced GI motility
- Physical Dependence

### Kappa

- Modulates dopamine release in the striatum
- Regulates brain reward system

### Delta

- Analgesia
- Reduced GI motility

# How do drugs act on receptors?

## Full Agonist

- When bound to a receptor, will allow for full effect of the drug
- E.g. heroin, oxycodone, hydrocodone, methadone, opium, fentanyl

## Partial Agonist

- When bound to a receptor, will not produce the full effect of the drug
- Competes with full agonist for receptors and may cause withdrawal
- E.g., Buprenorphine

## Antagonist

- When bound to a receptor will block the effects of opioids by attaching without activating the receptor
- Cause withdrawal
- Naltrexone, naloxone

# OPIOID INTOXICATION

## SIGNS

- - Drowsy but arousable
- - Sleeping intermittently
- - Constricted pupils
- - Slurred speech
- - Impaired memory/concentration
- - Euphoric mood – “warmth”

## SIDE EFFECTS

- Constipation
- Headaches
- Miosis
- Nausea +/- Vomiting
- Dizziness
- Decreased respiration

## Overuse Risks

- Physical dependence
- Substance use disorder
- Hyperalgesia
- Poisoning → Death

# OPIOID POISONING/OVERDOSE

Breathing is slow or not at all

Making gurgling sounds or foaming at the mouth

Choking or vomiting

Nails or lips blue

Limp body

Constricted pupils

Skin is cold and clammy

Unconsciousness/non-responsive

# RISK FACTORS FOR POISONING

Known or suspected opioid use disorder

History of poisoning

Polysubstance use → Alcohol or benzodiazepines

Recent period of involuntary abstinence → released from prison

Recent discharge from a treatment program

Recent induction or tapering off opioid agonist treatment → especially methadone

Change in the route of opioid administration

Having an acute or chronic illness → especially those that affect breathing and/or liver or kidney damage

EMERGENCY  
MANAGEMENT  
"SAVE ME"

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**CALL 911 IMMEDIATELY**

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**S** – Stimulate

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**A** – Airway

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**V** – Ventilate

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**E** – Evaluate

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**M** – Muscular injection - Naloxone

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**E** – Evaluate again

# 3. OPIOID WITHDRAWAL AND MANAGEMENT

## Case Study: Adam

52 year old male, high school teacher, on medical leave

Snorting 5-10 points (0.5-1 gm) of fentanyl per day for the last 8 years

Has tried methadone three times – ineffective

Withdrawal Sx: GI upset (nausea/vomiting), Anxiety and irritability, Paroxysmal sweats, Tremor, Yawning, Runny nose, tearing

Denies any other drug or alcohol use

Medical history: Hypertension induced kidney failure (on dialysis), Generalized anxiety disorder, Major Depressive Disorder

Medications: Furosemide, Labetalol, Desvenlafaxine, Mirtazapine, Trazodone

Social History: never married, no children, one brother, parents deceased, no other social supports

# Opioid Use Disorder – DSM V

A problematic pattern of opioid use leading to problems or distress, with at least two of the following occurring within a 12-month period:

1. Taking larger amounts or taking drugs over a longer period than intended.
2. Persistent desire or unsuccessful efforts to cut down or control opioid use.
3. Spending a great deal of time obtaining or using the opioid or recovering from its effects.
4. Craving, or a strong desire or urge to use opioids
5. Problems fulfilling obligations at work, school or home.
6. Continued opioid use despite having recurring social or interpersonal problems.
7. Giving up or reducing activities because of opioid use.
8. Using opioids in physically hazardous situations.
9. Continued opioid use despite ongoing physical or psychological problem likely to have been caused or worsened by opioids.
10. Tolerance (i.e., need for increased amounts or diminished effect with continued use of the same amount)
11. Experiencing withdrawal (opioid withdrawal syndrome) or taking opioids (or a closely related substance) to relieve or avoid withdrawal symptoms.

# OPIOID WITHDRAWAL SIGNS AND SYMPTOMS

## Physical symptoms:

- Myalgia
- Abdominal cramps
- Nausea
- Hot flashes
- Electric or uncomfortable feeling

## Psychological Symptoms:

- Restlessness
- Dysphoria
- Insomnia
- Anxiety
- Irritability
- Fatigue
- Drug Craving

## Physical signs:

- Lacrimation
- Rhinorrhea
- Dilated Pupils
- Abdominal tenderness
- Vomiting
- Diarrhea
- Sweating
- Chills
- Piloerection
- Tachycardia
- Hypertension

# COWS Wesson & Ling, J Psychoactive Drugs. 2003 Apr-Jun;35(2):253-9.

## Clinical Opiate Withdrawal Scale

<p>Resting Pulse Rate: _____ beats/minute  <i>Measured after patient is sitting or lying for one minute</i></p> <p>0 Pulse rate 80 or below            1 Pulse rate 81-100            2 Pulse rate 101-120            4 Pulse rate greater than 120</p>	<p>GI Upset: <i>over last 1/2 hour</i></p> <p>0 No GI symptoms            1 Stomach cramps            2 Nausea or loose stool            3 Vomiting or diarrhea            5 Multiple episodes of diarrhea or vomiting</p>
<p>Sweating: <i>over past 1/2 hour not accounted for by room temperature or patient activity.</i></p> <p>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</p>	<p>Tremor <i>observation of outstretched hands</i></p> <p>0 No tremor            1 Tremor can be felt, but not observed            2 Slight tremor observable            4 Gross tremor or muscle twitching</p>
<p>Restlessness <i>Observation during assessment</i></p> <p>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</p>	<p>Yawning <i>Observation during assessment</i></p> <p>0 No yawning            1 Yawning once or twice during assessment            2 Yawning three or more times during assessment            4 Yawning several times/minute</p>
<p>Pupil size</p> <p>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</p>	<p>Anxiety or irritability</p> <p>0 None            1 Patient reports increasing irritability or anxiousness            2 Patient obviously irritable anxious            4 Patient so irritable or anxious that participation in the assessment is difficult</p>
<p>Bone or Joint aches <i>If patient was having pain previously, only the additional component attributed to opiates withdrawal is scored</i></p> <p>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</p>	<p>Gooseflesh skin</p> <p>0 Skin is smooth            3 Piloerection of skin can be felt or hairs standing up on arms            5 Prominent piloerection</p>
<p>Runny nose or tearing <i>Not accounted for by cold symptoms or allergies</i></p> <p>0 Not present            1 Nasal stuffiness or unusually moist eyes            2 Nose running or tearing            4 Nose constantly running or tears streaming down cheeks</p>	<p>Total Score _____            The total score is the sum of all 11 items            Initials of person completing Assessment: _____</p>

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

# Types of Withdrawal

## Spontaneous

Sudden discontinuation of opioids or a large reduction in dose in a physically dependent individual.

- Short-acting: Symptoms will start within 12 hours, peak in 24-48 h, diminish over 3-5 days (heroin, fentanyl)
- Intermediate-acting: Sx within 17-24 hours, last up to 10 days (SR-Oxycodone, CR-Hydromorphone)
- Long-acting: Sx within 30-48 hours, last up to 14 days (methadone)

## Precipitated

Individual is given an opioid receptor antagonist or partial agonist when physically dependent. Much more severe.

- IV administered antagonist: Sx within 1 minute, lasts 30-60 minutes
- IM administered Antagonist: Sx within several minutes, lasts 30-60 minutes
- S/L administered partial agonist: Sx within 90 minutes, lasts several days

# Medically Assisted Withdrawal Management (Detox)

Intended to mitigate withdrawal symptoms and withdrawal-related adverse effects when the individual wishes to stop using opioids in pursuit of abstinence, and/or those wishing to avoid opioid agonist treatment for other reasons

Alone, this is not an effective or safe treatment option for OUD → research strongly recommends not offering withdrawal management as a standalone option

Options include tapered methadone, buprenorphine or alpha-adrenergic agonists together with medications intended to treat the symptoms of withdrawal

+/- psychosocial treatment

+/- residential treatment

# Pharmacotherapy of Medically Assisted Withdrawal Management

## Buprenorphine

- Long acting synthetic opioid – partial mu opioid receptor agonist
- Ceiling effect on the receptor that is lower than full agonist → decreased risk of respiratory depression, side effects and abuse
- High affinity for receptor → displaces other opioids if present → can cause precipitated withdrawal

## Suboxone

- Buprenorphine and naloxone at 4:1 ratio
- Naloxone acts as an antagonist if taken by IV, SC or IM → reduces abuse potential

## Methadone

- Long-acting synthetic opioid, full mu agonist
- High potential for abuse and overdose

## Types of Tapers

- Slow Taper
  - Gradual dose reduction of opioid agonist medication, usually outpatient over a month or more
- Rapid taper
  - Rapid dose reduction of opioid agonist medication, usually inpatient, over a week or less
- Should always be offered in conjunction with psychosocial treatment

# Positive prognostic factors

Employed or involved in other meaningful activities

Sustained abstinence from opioids and other drugs during opioid taper

Positive personal and social support systems

Persistent engagement in treatment for ongoing monitoring following the opioid taper

Willingness to receive other forms of psychosocial treatment

# Common Medications for Treatment of Symptoms

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Clonidine	Sweating, diarrhea, vomiting, abdominal cramps, chills, anxiety, insomnia, tremor
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Loperamide	Diarrhea
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Quetiapine	Anxiety, insomnia
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Acetaminophen and/or NSAIDs	Pain
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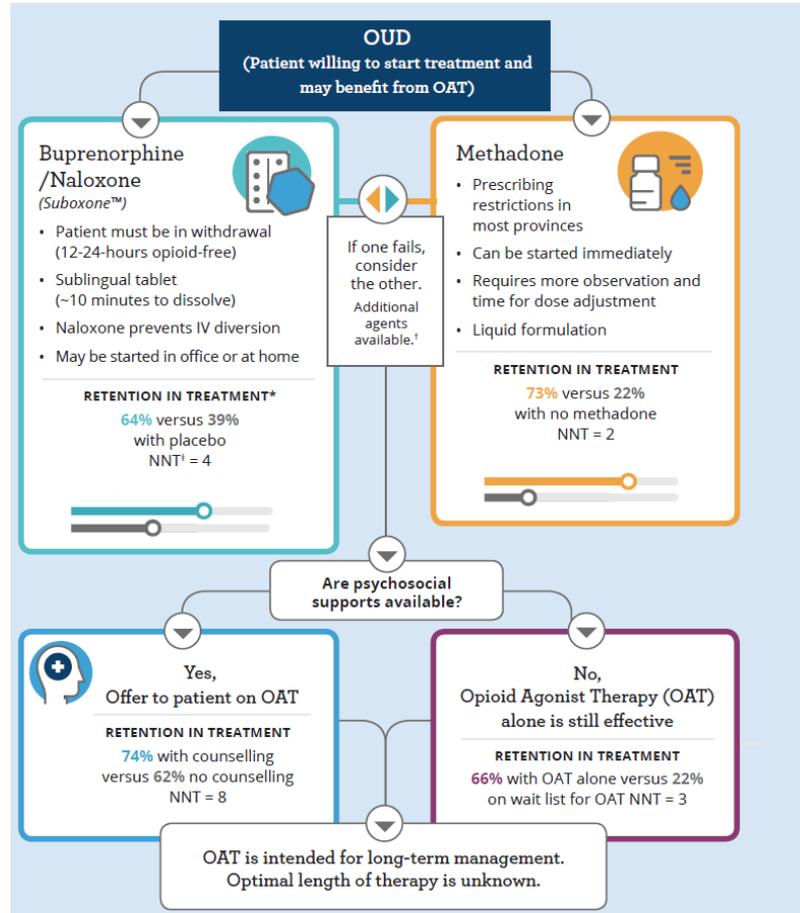
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Ondansetron	Nausea, vomiting
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## OPIOID AGONIST TREATMENT (OAT)

- Long term treatment (> 6 months) with an opioid agonist medication
- Supported as the most effective pharmacological treatment of OUD
- First line: Buprenorphine-Naloxone (Suboxone)
- Second line: Methadone – generally used when Bup-Nlx is contraindicated or has limitations or has been ineffective
- Should always be offered with additional therapy: residential treatment, outpatient treatment → bio/psycho/social/spiritual



## Case Study: Adam

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## Case Study: Adam

- Adam does not have a good prognosis for long term recovery using medically assisted withdrawal management alone
- Methadone trials were ineffective
- Mental illness present
- Poor social supports
- Adam's best chance at long term recovery is OAT with suboxone in combination with a residential treatment program

## Case Study: Adam

1. Rule out any contraindication to suboxone
  - Allergy to suboxone
  - Severe liver dysfunction
  - Severe respiratory distress
2. Complete a comprehensive assessment
  - History
    - Medical history
    - Psychiatric history
    - Substance use history
    - Family history
    - Medications
    - Allergies

## Case Study: Adam

3. Physical Exam
  - Weight, height, vitals
4. Urine Drug Screen
5. Blood work
  - CBC, kidney and liver function panels
  - HIV, hepatitis serology
  - Syphilis, gonorrhea, chlamydia
  - Tuberculosis
6. Explore fears and expectations
7. Obtain informed consent for OAT

## Case Study: Adam

- Pertinent findings
  - Has a strong fear of withdrawal symptoms and suffering
  - Liver function tests were mildly elevated but acceptable for suboxone use
  - Urine drug screen showed the presence of opioids and benzodiazepines

## Case Study: Adam

- Decision made to stabilize on slow-release oral morphine x 4 days prior to induction with suboxone
  - Wash out period for fentanyl
  - Decreased discomfort of withdrawal
  - Time to “sell” suboxone
- Started on 1mg lorazepam QID to prevent benzodiazepine withdrawal
- On Day 5: SROM held and induction started
  - Reached 16mg of Suboxone by the end of day 5
- On Day 6: titrated up to 24mg Suboxone and felt well
- By Day 8 was feeling sedated on 24mg and dose was reduced to 20mg
- By Day 10 felt well with no withdrawal symptoms

## Case Study: Adam

- Day 14: remained stable on 20mg suboxone so slow lorazepam taper started
- Day 30: final dose of lorazepam
  - Tolerated taper well

## 4. FINAL THOUGHTS



Addiction is a whole person disease with biological, psychological, social and spiritual components



Healing is only possible by addressing all the components of the disease



If treatment were as simple as providing medications, relapse would be rare



Attachment to a primary care physician is crucial for long term recovery

# Whole Person Care

- At EHN, we adhere to a whole person model of care incorporating a diversity of treatment modalities in a safe, nurturing environment
  - Fellowship: 12 step programming, Smart recovery, Recovery Dharma
  - Psychotherapy: CBP, CPT, DBT – groups and individual
  - Recreational therapy: yoga and other forms of physical activity
  - Art Therapy
  - Psychiatric care as needed
  - Ongoing medical follow up with addiction specialists
  - Nutritionists and registered dieticians
  - Discharge planning with attention to the social determinants of health
  - Follow up care – in person and online platforms

true compassion means  
not only feeling  
another's pain but also  
feeling moved to help  
relieve it.

DANIEL GOLEMAN

