Terminology

Natural Opiates	Semi-Synthetic	Synthetic Opioids
Codeine	Burprenorphine	Fentanyl
Morphine	Heroin	Meperidine
	Hydrocodone	Methadone
	Hydromorphone	Sufentanil
	Oxycodone	Sufentanil
	Oxymorphone	
	Tramadol	

PATHOPHYSIOLOGY

Risk Factors: males, history of depression or anxiety, family history of alcohol or drug abuse, age ≤ 30, long-term opioid use

Involves the mesolimbic reward system

Standardized Assessment Tools

Score	Severity
5 to 12	Mild
13 to 24	Moderate
25 to 36	Moderate to Severe
> 36	Severe

COWS: Clinical Opiate Withdrawal Scale

- used clinically to monitor withdrawal
- often utilized to determine when PRNs are needed

NALOXONE

MOA	Opioid Antagonist
Warnings/ADRs	Cardiac or respiratory effects associated with rapid reversal of opioids
	Aggression (*from immediate withdrawal*)
Administration	**Call 911 FIRST**
	Administer
	If no response after 3 minutes, administer 2nd dose

- It only works on opioid receptors!

- It will **NOT** affect someone (*positively or negatively*) if they do not have opioids in their system

Opioid Use Disorder | TREATMENT

FIRST LINE	SECOND LINE
APA:	
Buprenorphine	Naltrexone PO
Methadone	
BAP:	
Buprenorphine	Naltrexone PO
Methadone	
VA/DOD:	
Suboxone	Naltrexone
Buprenorphine	
Methadone	

Psychosocial treatment is also the first line in addition to pharmacotherapy

Buprenorphine Formulations

	Buprenorphine	Buprenorphine-Naloxone
Brand	Subutex	Suboxone, Zubsolv
MOA	Mu opiate receptor - partial agonist	Mu-partial agonist and opioid antagonists
Formulation	SL tablet	SL tablet, SL film; (4:1 ratio of bupren. and naloxone)
Dosing range	8 to 32 mg bupren./day	8 to 32 mg bupren/day
Warnings	initiation should not begin until pt is experiencing withdrawal	same
	respiratory depression	same
	risk of abuse or dependence	same
DDIs	CYP3A4 inhibitors/inducers	same
	CNS depresants	same

Buprenorphine Formulations (cont)

Monitoring	Tolerability, resp. depression, (LFTs), urine drug screening, PMP, urine buprenorphine	same
Clinical Pearls	Preferred in pregnancy; higher abuse potential	naloxone added as an abuse deterrent; preferred formul-ation in non-pr-egnant patients
	partial agonist activity results in ceiling effect, higher binding affinity than other opioids, newer formulation include sub-dermal implant, and subcutaneous injection	same

Prescribing Restrictions:
Schedule III
DATA waiver
Initial no. of pts is 30
May apply 1 year to increase no. of patients to 100, then 275
DEA number will begin with X

Signs and Sx of opioid WITHDRAWAL

Dysphoric mood	Fever
Lacrimation or Rhinorrhea	Muscle aches
Yawning	**Diarrhea**
N/V	Insomnia
Pupillary Dilartion	Piloerection (goosebumps)
Sweating	

WITHDRAWAL TIMELINE

Onset of withdrawal will depend upon the half-life of the opioid used (normally within 36 to 72 hours)

Completed within **7 days** for short acting opioids (heroin) and 14 days for long-acting opioids (buprenorphine, methadone)

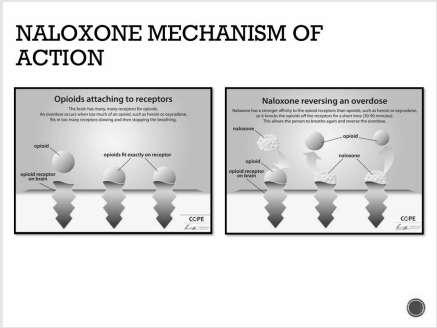
Preferred treatment

Methadone	**buprenorphine**
Chronic Pain	Prolonged QT interval
history or diversion or pilysubstance use	not able to attend daily clinic
requires closer monitoring	requires less monitoring and no untreated psychiatric comorbidities
pregnant women	dependent on lower doses of opioids (ceiling effect)
requires wide dosing range	

Terms

Opioid Tolera-nce	Person using opioids begins to experience a reduced response to medication requiring more opioids to experience the same effect
Opioid Depen dence	Occurs when the body adjusts its normal functioning around regular opioid use (unpleasant physical symptoms occurs when med is stopped)
Opioid Addict-ion	Occurs when attempts to cut down use are unsuccessful or when results insocial problems and a failure to fulfill obligations; often comes after person has developed opioid tolerance and dependence

Narcan MOA



DSM-5 DIAGNOSTIC CRITERIA

A problematic pattern of substance use leading to clinically significant impairment or distress, manifested by ≥ 2 of the following over a 12-month period

- Substance is taken in larger amounts or over a longer period than intended
- Persistent desire or unsuccessful efforts to reduce or control use
- A great deal of time is spent in activities necessary to obtain, use, or recover from effects
- Cravings or a strong desire to use
- Recurrent use resulting in a failure to fulfill major obligations
- Continued use despite having persistent social or interpersonal problems caused by the substance
- Important social, occupational, or recreational activities are given up or reduced
- Recurrent use in situations that are physically hazardous
- Recurrent use despite knowledge of having a persistent or recurrent physical or psychological problem due to use
- Tolerance
- Withdrawal

FIRST - LINE TREATMENT

APA	British Association of Psychopharmacology
Buprenorphine	Alpha-2 agonist
Methadone	Buprenorphine
	Methadone

Targeted at individual symptoms of withdrawal
Common practice if an opioid treatment program (OTP) or bridging medication-assisted treatment (MAT)

Methadone

Brand	METHADOSE
MOA	opioid agonist
Formulation	Liquid (opioid maintenance); tablets (pain only) | this is for pharmacies (methadone clinics do tabs)

Methadone (cont)

Maintenance dose	80 to 120 mg daily
Warnings	QTc prolongation, respiratory depression, risk of abuse or dependence
DDI	QTc prolongating meds, CYP3A4 inhibitors or inducers, Medications that induce hypokalemia, hypocalcemia, or hypomagnesemia; CNS depressants
Monitoring	Tolerability, respiratory depression, HR/BP, EKG, electrolytes, UDS, urine methadone, PMP
Clinical Pearls	prolonged or delayed withdrawal due to long half-life; overdose risk is highest during initial 2 weeks of treatment

Prescribing restrictions:
- schedule II; restricted to certified opioid treatment program (OTP)
- it is not appropriate to dispense methadone from a community pharmacy for the purposes of opioid detox, withdrawal, or maintenance
- pts must be currently addicted and have opioid use disorder ≥ 1 year
- exceptions: pregnancy, recently released from correction, and previous treatment in OTP

know difference between prescribing of methadone and buprenorphine

Signs and Sx of INTOXICATION

- Pulillary Constriction
- Slurred Speech
- Drowsiness
- Impaired attention or memory

Signs and Sx of Opioid OVERDOSE

- Pupillary constriction
- Shallow or slow respirations
- Stupor
- Coma
- Hypothermia
- Bradycardia

Narcan Formulations	
Naloxone	IM/IV/SQ
Naloxone	Intranasal
Evzio	IM auto-injector
Narcan	Intranasal

SYMPTOMATIC TREATMENT (PRN)		
Medication	**Class/MOA**	**Indication**
Clonidine	Alpha-2 agonist reduced the noradrenergic hyperactivity associated with opioid withdrawal	Generalized Sx of opioid withdrawal
Loperamide	Anti-diarrheal	Diarrhea
Ondansetron	Antiemetic	N/V
Trazodone	Sedatine antidepressant	Insomnia
Hydroxyzine	Antihistamine/anxiolytic	Anxiety
Ibuprofen	NSAID	muscle pain
Cyclobenzaprine	skeletal muscle relaxant	muscle cramps