Detoxing and Dopesick

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Disclosure

- *I have no relevant relationships with ineligible companies to disclose within the past 24 months. (Note: Ineligible companies are defined as those whose primary business is producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients.)*

Objectives

01

The learner will be able to identify the signs and symptoms of acute alcohol and opioid withdrawal.

02

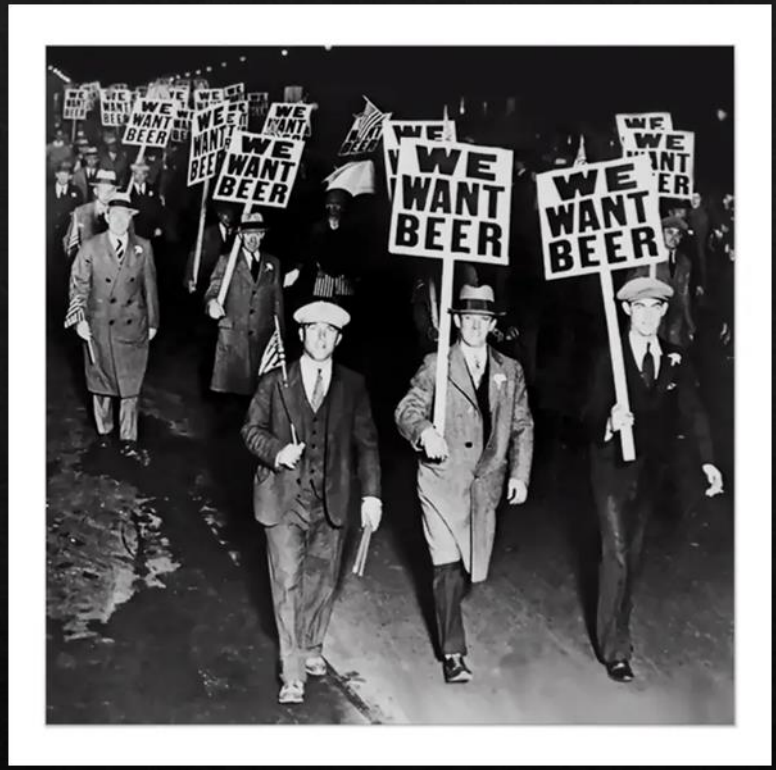
The learner will be able to identify the risks and complications of alcohol and opioid withdrawal.

03

The learner will be able to identify best practice pharmacologic therapies for acute alcohol and opioid withdrawal.

Alcohol Abuse and Dependence

- Prevalence in U.S.
  - 14% in community-based samples
  - 11-32% inpatients
    - Approximately 50% of those with alcohol use disorder experience alcohol withdrawal
  - 8 million alcohol dependent in US
  - 500,000 episodes of withdrawal severe enough to require pharmacologic treatment each year



Alcohol Abuse and Dependence

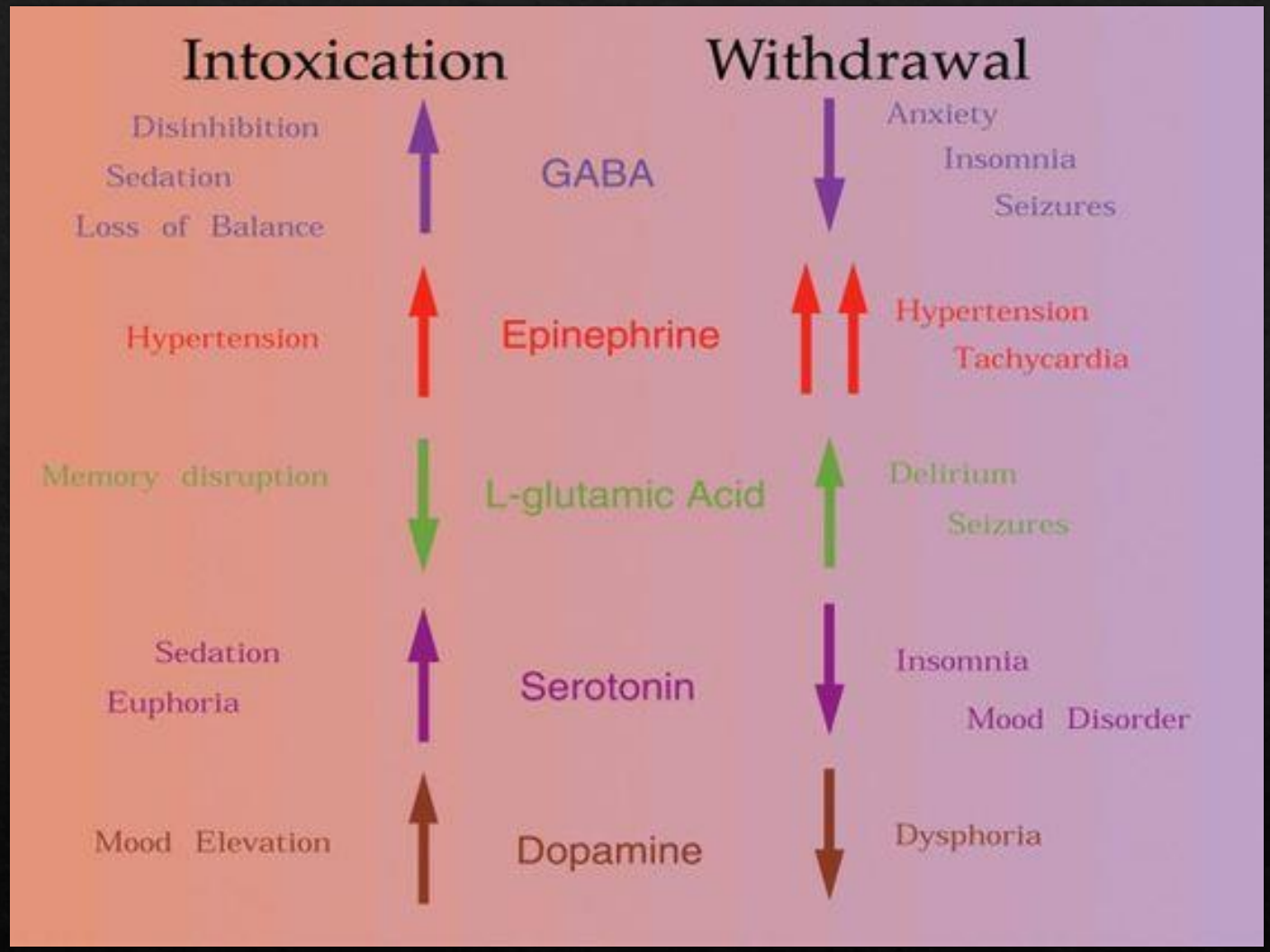
- Risk Factors
  - Substance abuse history
  - History of mental illness
  - History as victim of abuse
- Complications
  - High risk behaviors
    - Drunk driving
    - Unsafe sex
    - Falls/trauma
  - Liver damage, cirrhosis
  - GERD/PUD
  - Esophageal varices
  - Acute Hemorrhage – increased risk of bleeding
  - Heart Failure
  - Insulin resistance
  - Wernicke's encephalopathy

Alcohol Withdrawal

- World's 7th leading cause of death and disability
- Predictors of withdrawal:
  - Consumption of more drinks per occasion
  - Prolonged, sustained intake
  - Presence of more alcohol-related problems
  - No withdrawal symptoms >24 hrs after last drink less likely to develop symptoms

Alcohol Withdrawal

- Alcohol Intoxication: CNS depressant
- Alcohol Withdrawal: CNS hyperactivity



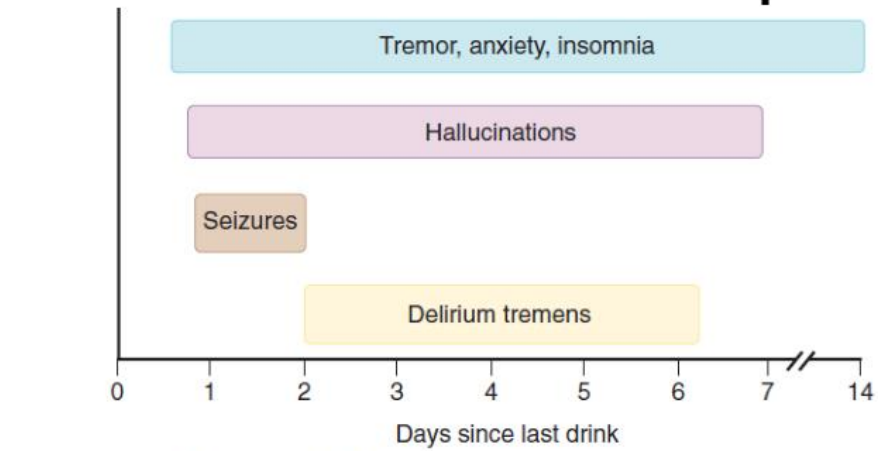
Minor Alcohol Withdrawal

- Insomnia
- Tremulousness
- Mild anxiety
- GI upset, anorexia
- Headache
- Diaphoresis
- Palpitations


IF ALCOHOL CAN DAMAGE
YOUR SHORT TERM MEMORY
IMAGINE THE DAMAGE
ALCOHOL CAN DO

Alcohol Withdrawal

- 20% of patients experience moderate to severe symptoms:
  - Hallucinosis
  - Seizures
  - Delirium tremens



Timing of alcohol withdrawal syndromes

Syndrome	Clinical findings	Onset after last drink
Minor withdrawal	Tremulousness, mild anxiety, headache, diaphoresis, palpitations, anorexia, GI upset; Normal mental status	6 to 36 hours
Seizures	Single or brief flurry of generalized, tonic-clonic seizures, short post-ictal period; Status epilepticus rare	6 to 48 hours
Alcoholic hallucinosis	Visual, auditory, and/or tactile hallucinations with intact orientation and normal vital signs	12 to 48 hours
Delirium tremens	Delirium, agitation, tachycardia, hypertension, fever, diaphoresis	48 to 96 hours

Alcohol Abuse And Dependence: Patrick G. O'Connor. UpToDate

Alcoholic Hallucinosis

- Typically begins 12-24 hrs after last drink
- Resolves in another 24-48 hrs
- Usually visual
- NO disorientation
- Vital signs are normal
- Contributing factors:
  - Possibly genetic
  - Possibly due to reduced thiamine absorption

Alcohol Withdrawal Seizures

- Occur within 6-48 hrs after cessation or after significant reduction
- Occurs in up to 10-30% of withdrawal patients
- Typically tonic-clonic, brief and single or in short cluster of 2-3
- Potential for status epilepticus is low

- Risk factors:
  - Concurrent withdrawal from benzos or sedative-hypnotics
  - Hypokalemia
  - Thrombocytopenia
  - Repeat withdrawals – “kindling effect”
  - Ages 50-60 yrs may emerge

Delirium Tremens

- Withdrawal Delirium
- Begins between 72-96 hours after last drink
- Up to 5 % of hospitalized withdrawal patients
- Risk factors:
  - Increasing age
  - Concurrent illness
  - w/drawal w/+ BAC
- Rapid-onset
- Disorientation
- Hallucinations
- Agitation
- Autonomic hyperactivity
  - Fevers
  - Tachycardia
  - HTN
  - Diaphoresis

Assessment Tools

- CIWA-Ar score
- RASS score
- Moderate and Severe Alcohol Withdrawal Rapid Overview (uptodate)

CIWA-Ar Scale
Clinical Institute Withdrawal Assessment Scale for Alcohol, Revised

Clinical Institute Withdrawal Assessment for Alcohol – revised (CIWA-Ar) scale

Clinical Institute Withdrawal Assessment for Alcohol revised	
Symptoms	**Range of scores**
Nausea or vomiting	0 (no nausea, no vomiting) –7 (constant nausea and/or vomiting)
Tremor	0 (no tremor) – 7 (severe tremors, even with arms not extended)
Paroxysmal sweats	0 (no sweat visible) – 7 (drenching sweats)
Anxiety	0 (no anxiety, at ease) – 7 (acute panic states)
Agitation	0 (normal activity) – 7 (constantly trashes about)
Tactile disturbances	0 (none) – 7 (continuous hallucinations)
Auditory disturbances	0 (not present) – 7 (continuous hallucinations)
Visual disturbances	0 (not present) – 7 (continuous hallucinations)
Headache	0 (not present) – 7 (extremely severe)
Orientation/clouding of sensorium	0 (orientated, can do serial additions) – 4 (Disorientated for place and/or person)

- Score:
- <10: Very mild withdrawal
- 10 to 15: Mild withdrawal
- 16 to 20: Modest withdrawal
- >20: Severe withdrawal


DAD JOKES ABOUT
ALCOHOL WITHDRAWAL ARE SHAKY
CIWA I DID THERE?

Richmond Agitation Sedation Scale (RASS)

Richmond Agitation-Sedation Scale

	Target RASS Value	RASS Description
+4	Combative	Combative, violent, immediate danger to staff
+3	Very Agitated	Pulls or removes tube(s) or catheter(s); aggressive
+2	Agitated	Frequent non-purposeful movement, fights ventilator
+1	Restless	Anxious, apprehensive but movements are not aggressive or vigorous
0	Alert and Calm	
-1	Drowsy	Not fully alert, but has sustained awakening to voice (eye opening & contact **greater** than 10 seconds)
-2	Light Sedation	Briefly awakens to voice (eye opening & contact **less** than 10 seconds)
-3	Moderate Sedation	Movements or eye opening to voice (but **NO** eye contact)
-4	Deep Sedation	No response to voice, but has movement or eye opening to physical stimulation
-5	Unarousable	No response to voice or physical stimulation

Alcohol withdrawal treatment

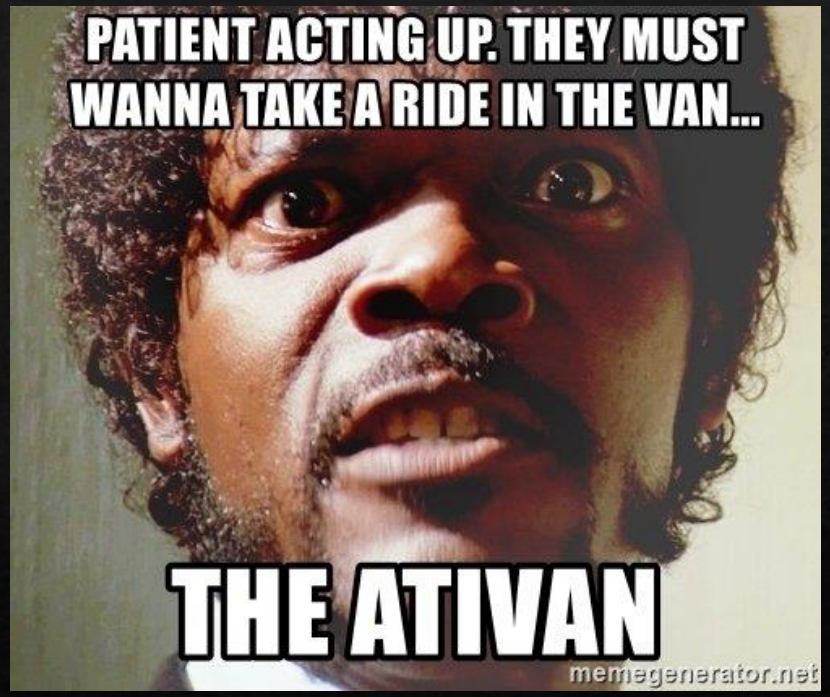
Alleviate symptoms, prevent complications

Identify and correct underlying metabolic derangements

- Benzodiazepines
- IV fluids
- MVI/Thiamine/Folate
- Monitor with CIWA-AR and Vital signs

Alcohol Withdrawal Pharmacologic Therapy

- Benzodiazepines are first-line treatment
  - Treat agitation
  - Prevent progression of withdrawal
  - Diazepam (Valium), Lorazepam (Ativan), Chlordiazepoxide (Librium)
    - Diazepam and Chlordiazepoxide generally preferred
    - Lorazepam preferred for advanced cirrhosis or acute alcoholic hepatitis



Front-loading vs. Symptom-based treatment

- Front-loading
  - Is patient likely to be harmed by prolonged periods of hypertension and tachycardia or by complications from prolonged physical restraint?
  - Rapidly performed
  - Heavier sedation
  - Needs ICU admission
  - Diazepam 5-10mg Q10-15min
    - Up to 500mg
  - Lorazepam 2-4mg IV Q15-20min
  - Can also use Chlordiazepoxide 25-100mg Q1H

Symptom-based treatment

- Symptom-Triggered
  - Use CIWA-Ar every 10-15 min-6 hrs
  - RASS for intubated patients or for manipulative patients
  - Requires less medication and shorter treatment period than fixed schedule
  - Usually benzos

Refractory DT treatment

Resistant alcohol withdrawal

ICU admission

Phenobarbital with benzodiazepine – work synergistically

- Generally limit to 15mg/kg in first 24 hrs
- Maintenance dose 130-260mg/day divided for 3-5 days, 10% reduction/day thereafter
- Not enough research to recommend as a single agent – but could be recommended in future

Precedex and Propofol – need further research

Dopesick

Opioid Use Disorder (OUD)

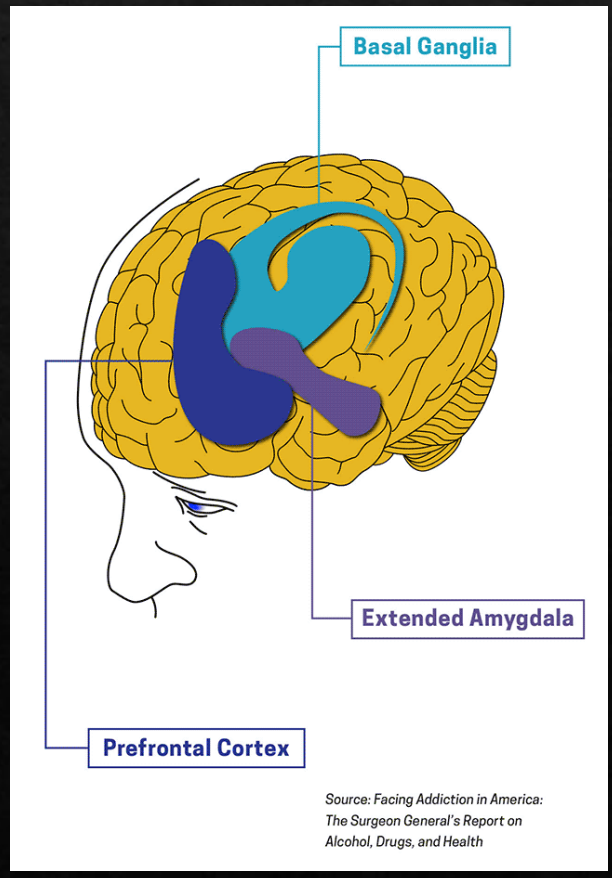
- *****Chronic, relapsing illness*****
- Epidemic proportions
- In 2019, 10.1 million people age 12 or older misused opioids in the U.S.
  - 5.7 million people estimated to have used heroin at some point
- Between 2002 and 2018, heroin use and disorder nearly doubled in the U.S.
- 91,799 drug overdose deaths in the U.S. in 2020
  - 75% involved an opioid– 70,029 deaths
  - >130 people die from opioid-related drug overdoses per day
  - Increasing due to cutting w/Fentanyl

Opioid Use Disorder

- Risk factors
  - Hx substance use disorder
  - Younger age
  - More severe pain
  - Mental disorders
  - Hx childhood maltreatment
- Complications
  - Infection – cellulitis, IE, OM
  - HIV, Hepatitis, TB, syphilis
  - Narcotic bowel syndrome
  - Hyperalgesia
  - Overdose

Opioids and the Human Brain

- Opioids interfere with the way that the neurons either send, receive or process their neurotransmitters.
  - Heroin activates the neurons
  - Heroin acts as a “fake” neurotransmitter
- Natural vs. Drug rewards
  - Drug use = fewer neurotransmitters in reward circuit
    - Fewer receptors to receive signals
    - Contributes to tolerance



Opioid Receptors 101

mu

- Analgesia
- Respiratory depression
- Sedation
- Euphoria
- Miosis
- Reduced GI motility
- Physical dependence

kappa

- Analgesia
- Respiratory depression
- Sedation
- Dysphoria, hallucinations
- Miosis
- Physical dependence

delta

- Analgesia
- Respiratory depression
- Affective behavior
- Reinforcing actions
- Reduced GI motility

“Skin-Popping”

Opioid Withdrawal

- Craving
- Dysphoria, restlessness
- Watering eyes, runny nose
- Body aches, joint pain
- Nausea, vomiting, abdominal cramping, diarrhea

COWS Scale	
Pulse	GI upset
Sweating	Tremor
Restlessness	Yawning
Pupil size	Anxiety Irritability
Bone/joint aches	Goosebumps
Runny nose/tearing	

Acute Opioid Withdrawal Treatment

Buprenorphine and Methadone for natural-occurring withdrawal only - do not use in iatrogenic withdrawal

Fluid resuscitation

Adjunctive medications

- Anti-emetics – Zofran, Compazine, Phenergan
- Anti-diarrheal – Loperamide, Octreotide
- Anti-anxiety, muscle relaxant – Diazepam
- Alpha-2 adrenergic agonists - Clonidine

Buprenorphine and Methadone

- Acute pain Indications
  - Continue maintenance med
  - Maximize non-pharmacologic therapies
  - Supplement with additional opioid
  - Always d/c Naltrexone
- Use for naturally-occurring withdrawal
  - Methadone 10mg IM or 20mg PO
    - Better for patients addicted to high doses opioids
  - Buprenorphine 4-8mg SL
    - Risk of dental decay noted in 2022

Buprenorphine vs. Methadone

Buprenorphine

- Generally preferred for treatment over Methadone
- Initiate in a state of mild to moderate withdrawal
- Combine with Naloxone to help prevent IV abuse – causes withdrawal when used IV
  - Naloxone has poor SL bioavailability
  - Suboxone branded name

Methadone

- Full mu-opioid agonist
- Not safe in overdose
  - Additive effect with other opioids

Clinical Pearls

- Alcohol withdrawal is best managed by symptom-triggered benzodiazepine therapy.
- Escalating alcohol withdrawal should include combination Phenobarbital and benzodiazepine therapy.
- Opioid abuse is a chronic relapsing illness.
- Chronic treatment of opioid use disorder best practice is Buprenorphine and Methadone.

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Questions?

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