Inpatient Alcohol and Drug Detoxification

Presenters:

Robert Moore, MD, MPH
Chief Medical Officer
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Medical Director, Addiction Consult and Opioid Safety Teams,
San Francisco VA Medical Center
Assistant Clinical Professor,
University of California, San Francisco

January 11, 2017
12:30-12:35 p.m.
**Welcome/Housekeeping Rules**  
*Lennie-Jane Utanes, Health Services Coordinator*

12:35-12:40 p.m.
**Introduction**  
*Robert Moore, MD, MPH, Chief Medical Officer*

12:40-1:25 p.m.
**Inpatient Alcohol and Drug Detoxification**  
*Tauheed Zaman, MD*  
*Medical Director, Addiction Consult and Opioid Safety Teams, San Francisco VA Medical Center*  
*Assistant Clinical Professor, University of California, San Francisco*

1:25 to 1:30 p.m.
**Q&A**  
*Dr. Zaman & Dr. Moore*
Webinar Instructions

• To avoid echoes and feedback, we request that you use the telephone *instead* of your computer microphone for listening/talking during the webinar.
Webinar Instructions

• All participants have been muted to eliminate any possible noise interference/distraction.

• If you have a question or would like to share your comments during the webinar, please type your question in the “question” box or click on the “raised hand” icon.
Conflicts of Interest

- All presenters have signed a conflict of interest form and have declared that there is no conflict of interest and nothing to disclose for this presentation.
Drug/Alcohol Withdrawal: Medi-Cal Coverage in Different Settings

- **Inpatient**
  - State Medi-Cal coverage if only for drug/alcohol withdrawal
  - PHC if primarily medical diagnosis with co-existent withdrawal

- **Outpatient**: coming soon (counties will be responsible; PHC regional model possible)
  - Residential
  - Office/Home-based
Guest Speaker

Tauheed Zaman, MD
Q&A

Contact Information

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Dr. Moore: rmoore@partnershiphp.org
INPATIENT ALCOHOL AND DRUG DETOXIFICATION

Tauheed Zaman, MD
Medical Director, Addiction Consult and Opioid Safety Teams,
San Francisco VA Medical Center.
Assistant Clinical Professor,
University of California, San Francisco.
tauheed.zaman@ucsf.edu
WHY COVER THIS TOPIC?

- Effective detoxification important for **immediate** patient outcomes.
- Inpatient detox $\rightarrow$ opportunity for **lasting impact** on trajectory of illness.
OUTLINE

I. ALCOHOL:
  - History and screening
  - Acute management
  - Alcohol pharmacotherapy

II. OPIOIDS:
  - History
  - Acute management: supportive
  - Acute management: Medication-assisted treatment (MAT)
  - Chronic pain, overdose prevention

III. Other substances of concern
If admitted explicitly for alcohol detox:

1. Time of last drink
2. Pattern/volume of drinking
3. History of withdrawal (seizures/delirium tremens)
4. Concurrent substances
5. Concurrent medical issues (particularly cardiac, GI)
WHAT IF THE PATIENT IS ADMITTED FOR SOMETHING ELSE?

Answer: Know safe drinking limits, use screening tools
SAFE DRINKING LIMITS

**Low-risk drinking limits**

On any single **DAY**

**MEN**

No more than 4 drinks on any **day**

**WOMEN**

No more than 3 drinks on any **day**

**AND** **AND**

Per WEEK

**MEN**

No more than 14 drinks per **week**

**WOMEN**

No more than 7 drinks per **week**

To stay low risk, keep within BOTH the single-day AND weekly limits.

NIAAA
WHAT IS A STANDARD DRINK?

12 fl oz of regular beer
about 5% alcohol

8–9 fl oz of malt liquor
(shown in a 12 oz glass)
about 7% alcohol

5 fl oz of table wine
about 12% alcohol

1.5 fl oz shot of 80-proof distilled spirits
(gin, rum, tequila, vodka, whiskey, etc.)
40% alcohol

The percent of “pure” alcohol, expressed here as alcohol by volume (alc/vol), varies by beverage.
SCREENING: CAGE-AID

- **C-** Have you ever felt you needed to **cut down** on your drinking or drug use?
- **A-** Have people **annoyed** you by criticizing your drinking or drug use?
- **G-** Have you ever felt **guilty** about your drinking or drug use?
- **E-** Have you ever had a drink or used drugs first thing in the morning to steady your nerves or to get rid of a hangover? (*eye opener*)

- One or more YES = Sensitivity 79%, Specificity: 77%

*SAMHSA*
1. **How often** do you have a drink containing alcohol?
   - a. Never
   - b. Monthly or less
   - c. 2-4 times a month
   - d. 2-3 times a week
   - e. 4 or more times a week

2. **How many** standard drinks containing alcohol do you have on a typical day?
   - a. 1 or 2
   - b. 3 or 4
   - c. 5 or 6
   - d. 7 to 9
   - e. 10 or more

3. **How often do you** have **six or more** drinks on one occasion?
   - a. Never
   - b. Less than monthly
   - c. Monthly
   - d. Weekly
   - e. Daily or almost daily

*SAMHSA*
SCREENING: AUDIT-C

- For identifying its with heavy/hazardous drinking and/or active Diagnostic and Statistical Manual (DSM)-based alcohol abuse or dependence:

  - MEN (4+)
    - Sensitivity 86%, Specificity 72%

  - WOMEN (3+)
    - Sensitivity 66%, Specificity 94%

DSM 5- ALCOHOL USE DISORDER (AUD)

1 Alcohol is often taken in larger amounts or over a longer period than was intended.
2 Persistent desire or unsuccessful efforts to cut down or control alcohol use.
3 Great deal of time is spent to obtain, use, recover.
4 Craving, or a strong desire or urge to use alcohol.
5 Failure to fulfill major role obligations at work, school, or home.
6 Persistent or recurrent social or interpersonal problems.
7 Social, occupational, recreational activities given up / reduced.
8 Use in situations in which it is physically hazardous.
9 Persistent or recurrent physical or psychological problems.
10 Tolerance.
11 Withdrawal.
## ALCOHOL DETOX: STAGES OF WITHDRAWAL

<table>
<thead>
<tr>
<th>STAGE</th>
<th>SYMPTOMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (mild)</td>
<td>Anxiety, tremor, insomnia, headache, palpitations, gastrointestinal disturbances</td>
</tr>
<tr>
<td>2 (mod)</td>
<td>Mild symptoms and diaphoresis, increased systolic blood pressure, tachypnea, tachycardia, confusion, mild hyperthermia</td>
</tr>
<tr>
<td>3 (severe)</td>
<td>Moderate symptoms and disorientation, impaired attention (delirium tremens), visual and/or auditory hallucinations, seizures</td>
</tr>
</tbody>
</table>

*Adapted from Herbert, Am Fam Physician 2013*
Alcohol Withdrawal Timeline

1: Anxiety, insomnia, nausea, & abdominal pain
2: High blood pressure, increased body temp...
3: Hallucinations, fever, seizures, & agitation

Stage Starts: Stage 1 Stage 2 Stage 3 If not treated

Herbert, Am Fam Physician 2013
DETOX: NEUROBIOLOGY

Binge/intoxication
- ventral striatum (VS), including nucleus accumbens
euphoria, reward
- dorsal striatum (DS)
habits, perseveration
- global pallidus (GP)
habits, perseveration
- thalamus (Thal)
habits, perseveration

Withdrawal/negative affect
- amygdala (AMG), bed nucleus of the stria terminalis (BNST), together also known as the “extended amygdala” 
malaise, dysphoria, negative emotional states
- ventral striatum (VS) 
decreased reward

Preoccupation/anticipation
- anterior cingulate (AC)
- prefrontal cortex (mPFC), orbitofrontal cortex (OFC) 
subjective effects of craving, executive function
- basolateral nucleus of the amygdala conditioned cues
- hippocampus (Hippo) conditioned contextual cues
ALCOHOL DETOX: NEUROBIOLOGY
ALCOHOL DETOX: NEUROBIOLOGY

- Ethanol may increase activity of mGluR on presynaptic cell and thereby decrease glutamate release.
- Ethanol inhibits NMDARs and AMPARs.
- Channels do not open fully; cation entry into the cell is reduced.
- Reduced activity of the neuron, no or fewer nerve signals generated.

NIAAA
ALCOHOL DETOX: NEUROBIOLOGY

NIAAA
DETOX: CIWA-AR

Ten-item scale used to measure alcohol withdrawal:

- 1. N/V
- 2. Tremors
- 3. Sweats
- 4. Anxiety
- 5. Agitation
- 6. Tactile disturbance
- 7. Auditory disturbance
- 8. Visual disturbance
- 9. Headache/Fulleness
- 10. Orientation and Clouding of Sensorium
DETOX: MANAGEMENT

Mainstay is Benzodiazepine (GABA):
- Most common: Lorazepam, Chlordiazepoxide, Diazepam
- Safe for liver: Lorazepam, Oxazepam, Temazepam (LOT)

Potentially helpful:
- Gabapentin
- Valproic acid
- Carbamazepine

Also give: Thiamine (Wernicke-Korsakoff)
Refractory: Phenobarbital, Propofol
Background: Blood alcohol level, toxicology, liver function, ECG if necessary
CAUTION WITH SEDATING MEDS

- **Phenobarbital**: monitor for oversedation and respiratory depression, particularly with benzodiazepines.

- **Propofol**: high risk of cardio/respiratory depression, typically requires ICU level of care.
BENZODIAZEPINES FOR ALCOHOL WITHDRAWAL

- Know patient’s withdrawal hx
- Generally: Benzodiazepine Q1-2 hours until CIWA-Ar <10
- Severe withdrawal (loading):
  Diazepam 20mg PO or Chlordiazepoxide 100mg PO every 2-3 hours till improvement or sedation.
  Caution for oversedation, cardiac/resp monitoring
- Seizure hx: Taper longer-acting (Diazepam, Chlordiazepoxide) + symptom-triggered
- Generally taper over 5 days.
- Caution in elderly, medically ill, disinhibition.
DELIRIUM TREMENS AND SEIZURES

Prevention, prevention, prevention

Delirium tremens:
- IV lorazepam or diazepam, IV thiamine before IV glucose, multivitamin
- For agitation: IM or IV haloperidol
- Corrections of fluids/electrolytes, hyperthermia, hypertension
- Nursing with frequent patient orientation, comfort measures, soft restraints if needed
- May require ICU level of care

Seizures:
- Peak at 24 hours, most within 48 hours
- IV lorazepam or IV diazepam + ACLS
- Increased progression to DTs
WHAT IMPACT CAN WE HAVE ON LONG-TERM COURSE?

Answers:
Education/motivational interviewing
Substance use disorder (SUD) referrals
Alcohol pharmacotherapy
FDA-approved Pharmacological Treatments for Alcohol Dependence

Disulfiram¹
1951

Naltrexone²
1994

Acamprosate³
2004
2006

Naltrexone for extended-release injectable suspension⁴

- **Disulfiram**
  - Acetaldehyde $\rightarrow$ reaction
  - 250-500mg PO daily
  - Can’t drink while on med
  - Monitor LFTs

- **Naltrexone**
  - Blocks mu-opioid receptors
  - 50mg PO daily/380mg IM monthly
  - Monitor LFTs, can’t take opioids

- **Acamprosate**
  - Modulates glutamatergic hyperactivity
  - 666mg PO TID
  - GI, fatigue
- **Gabapentin**
  - 600mg PO TID for equivalent
  - Antiseizure, anxiolytic, analgesic properties

- **Topiramate**
  - Slow titration to 300mg PO daily, divided doses
  - Caution re: RF, renal stones, narrow-angle glaucoma
  - Cog issues, mood, parasthesias, taste changes

- **Baclofen**
  - 10-20mg PO TID
  - Fatigue, sedation, dizziness, GI upset

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**NOT FDA APPROVED FOR AUD**

Consider specialist consultation for Topiramate, Baclofen
WERNICKE-KORSAKOFF SYNDROME

NIH
Wernicke's encephalopathy is a degenerative brain disorder caused by the lack of thiamine (vitamin B1). Symptoms include:

- Mental confusion
- Vision problems
- Coma, hypothermia
- Low blood pressure
- Lack of muscle coordination (ataxia)

Korsakoff syndrome is a memory disorder that results from vitamin B1 deficiency and is associated with alcoholism. Symptoms include:

- Amnesia
- Tremor
- Coma
- Disorientation
- Vision problems

NIH
NARCANIA VS DEATH

The heroine who fights heroin addiction. Can you win the fight against the grim reaper?

Death, with its镰刀, comes to claim lives. Narcania comes to save the day with her powerful actions.

Find out how you can be a real-life superhero. Contact The Dope: 1-510-447-6775.

OPIOIDS
If co-morbid opioid use:

1. Type, amount, frequency, route of use
2. Withdrawal symptom history, treatment history
3. If IDU, infectious disease ROS, skin exam
4. If risky behavior, safety issues, STI testing
5. Concurrent substances and med issues
## OPIOID WITHDRAWAL

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Signs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nausea</td>
<td>Restlessness</td>
</tr>
<tr>
<td>Abdominal cramps/pain</td>
<td>Yawning</td>
</tr>
<tr>
<td>Hot and cold flushes</td>
<td>Perspiration</td>
</tr>
<tr>
<td>Diffuse bone, joint, muscle pain</td>
<td>Rhinorrhea</td>
</tr>
<tr>
<td>Insomnia</td>
<td>Dilated pupils</td>
</tr>
<tr>
<td>Intense cravings</td>
<td>Piloerection</td>
</tr>
<tr>
<td></td>
<td>Muscle twitch/ restlessness</td>
</tr>
<tr>
<td></td>
<td>Vomiting</td>
</tr>
<tr>
<td></td>
<td>Diarrhea</td>
</tr>
</tbody>
</table>
# Clinical Opiate Withdrawal Scale (COWS)

Flow sheet for measuring symptoms over a period of time during buprenorphine induction.

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

Patient’s Name:___________________________                         Date: ____________

<table>
<thead>
<tr>
<th>Buprenorphine induction:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter scores at time zero, 30min after first dose, 2 h after first dose, etc.</td>
</tr>
<tr>
<td>Times: ___________________________</td>
</tr>
</tbody>
</table>

## Resting Pulse Rate
- Measured after patient is sitting or lying for one minute
- 0 pulse rate 80 or below
- 1 pulse rate 81-100
- 2 pulse rate 101-120
- 4 pulse rate greater than 120

## Sweating
- over past ½ hour not accounted for by room temperature or patient activity.
- 0 no report of chills or flushing
- 1 subjective report of chills or flushing
- 2 flushed or observable moistness on face
- 3 beads of sweat on brow or face
- 4 sweat streaming off face

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

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

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

## Runny nose or tearing
- Not accounted for by cold symptoms or allergies
- 0 not present
- 1 nasal stuffiness or unusually moist eyes
- 2 nose running or tearing
- 4 nose constantly running or tears streaming down cheeks

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**SCORE AND SEVERITY:**
- **5-12 = MILD**
- **13-24 = MODERATE**
- **25-36 = MOD SEVERE**
- **>36 = SEVERE**
# SUPPORTIVE WITHDRAWAL MANAGEMENT

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweats/palpitations</td>
<td>Clonidine 0.1-0.2mg PO Q6hrs PRN (hold for BP&lt;90/60)</td>
</tr>
<tr>
<td>Anxiety, dysphoria, lacrimation, rhinorrhea</td>
<td>Hydroxyzine 25-50mg PO Q8hrs PRN</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>Loperamide 4mg POx1, then 2mg PRN (max 16mg/day)</td>
</tr>
<tr>
<td>Muscle aches</td>
<td>Menthol/m-salicyclate cream QID PRN</td>
</tr>
<tr>
<td>Muscle spasms</td>
<td>Methocarbamol 1000mg PO Q6hrs PRN</td>
</tr>
<tr>
<td>Nausea/vomiting</td>
<td>Ondansetron 4-8mg PO Q6hrs PRN</td>
</tr>
<tr>
<td>Pain</td>
<td>Acetaminophen 650mg PO TID PRN</td>
</tr>
<tr>
<td>Sleep disturbance</td>
<td>Trazodone 50mg PO QHS PRN</td>
</tr>
</tbody>
</table>

VA Opioid and Benzodiazepine Taper Guide, 2015; SAHMSA Tip 45
OPTIONS FOR MEDICATION-ASSISTED TREATMENT (MAT)?

Answers:
- Buprenorphine
- Methadone
- Naltrexone IM
NO METHADONE IN DOWNTOWN MONUMENT

SHARE & SIGN OUR PETITION!

WWW.IPETITIONS.COM/PETITION/NO-METHADONE-IN-OUR-BACKYARD
# Medication Assisted Treatment

<table>
<thead>
<tr>
<th>Methadone</th>
<th>Buprenorphine</th>
<th>IM Naltrexone (Vivitrol)</th>
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<td>Overdose, w/d, blockade</td>
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<td>Overdose, QTc</td>
<td>Overdose, w/d, blockade</td>
<td>HTox, w/d, blockade</td>
</tr>
<tr>
<td>Methadone Clinic</td>
<td>Office-based</td>
<td>Office-based</td>
</tr>
</tbody>
</table>
TRANSDERMAL TO SUBLINGUAL BUPRENOORPHINE
NALOXONE (NARCAN)
- Caution around *sedation, resp depression* with w/d meds
- Opioid+benzo can greatly increase overdose risk
- Know what pain is being treated. CDC 2016 recs not using opioids for chronic pain
- SUD history, overuse, early refills, multiple prescribers/ER
- Check PDMP
- Use lowest effective opioid doses/frequencies
- At discharge, prescribe:
  1. Taper with PCP follow up
  2. Short script with PCP follow up
  3. *Naloxone*, with teaching
OTHER SUBSTANCES OF CONCERN
- Benzodiazepines
  - Carisoprodol
  - Stimulants
  - Cannabis
- Similar to alcohol in many respects
- Gradual taper of existing benzo may be appropriate
- Long, slower is safer
- Start alternative/supportive medications
- Refer for mental health (MH) care

WHO recommends:
- Conversion to Diazepam (up to 40mg/day)
- Stabilize for 4-7 days
- Low dose vs high dose taper schedule
## WHO RECS: LOW DOSE TAPER

Patients using less than 40mg/day diazepam equivalent

<table>
<thead>
<tr>
<th></th>
<th>Time of dose</th>
<th>Total daily dose</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>08:00</td>
<td>12:00</td>
</tr>
<tr>
<td>Starting dose</td>
<td>5mg</td>
<td>5mg</td>
</tr>
<tr>
<td>1(^{st}) reduction</td>
<td>5mg</td>
<td>2.5mg</td>
</tr>
<tr>
<td>2(^{nd}) reduction</td>
<td>5mg</td>
<td>-</td>
</tr>
<tr>
<td>3(^{rd}) reduction</td>
<td>2.5mg</td>
<td>-</td>
</tr>
<tr>
<td>4(^{th}) reduction</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5(^{th}) reduction</td>
<td>-</td>
<td>-</td>
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</tbody>
</table>

**Note:** All doses are equivalent and should be adjusted according to individual response.
## WHO RECS: HIGH DOSE TAPER

Patients using more than 50mg/day diazepam equivalent

<table>
<thead>
<tr>
<th>Time of dose</th>
<th>08:00</th>
<th>12:00</th>
<th>17:00</th>
<th>21:00</th>
<th>Total daily dose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Starting dose</strong></td>
<td>10mg</td>
<td>10mg</td>
<td>10mg</td>
<td>10mg</td>
<td>40mg</td>
</tr>
<tr>
<td>1\textsuperscript{st} reduction</td>
<td>10mg</td>
<td>5mg</td>
<td>5mg</td>
<td>10mg</td>
<td>30mg</td>
</tr>
<tr>
<td>2\textsuperscript{nd} reduction</td>
<td>5mg</td>
<td>-</td>
<td>5mg</td>
<td>10mg</td>
<td>20mg</td>
</tr>
<tr>
<td>3\textsuperscript{rd} reduction</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>10mg</td>
<td>10mg</td>
</tr>
<tr>
<td>4\textsuperscript{th} reduction</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5mg</td>
<td>5mg</td>
</tr>
</tbody>
</table>
- **Carisoprodol**
  → **Meprobamate** (GABA-ergic)
  - Treat like benzo or alcohol withdrawal.

- **Stimulants**
  **Intoxication:**
  - PRN benzodiazepines, antipsychotics, supportive care
  - Worry about vasoconstriction (ECG)

  **Withdrawal:**
  - “Crash” - watch for dysphoria/depression, supportive care

- **Cannabis**
  **Intoxication:** supportive, PRN benzo/antipsychotic
  **Withdrawal:** Gabapentin, NAC may help
Highest risk:
History of seizures, delirium, medical complications

Higher risk:
1. Alcohol, benzodiazepine, barbiturate withdrawal.
2. Carisoprodol, Z-drug withdrawal.

Lower risk:
1. Opioid/opiate withdrawal
2. Stimulant withdrawal
3. Cannabis withdrawal
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Thank you!
tauheed.zaman@ucsf.edu