

DEMYSTIFYING MAT ... *Starting with Alcohol Use Disorder*

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Nevada Academy of Family Physicians
 July 31, 2021

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No financial disclosures

Special thanks to:

- Dr. George Koob (Director of NIAAA)
- Dr. Nora Volkow (Director of NIDA)
- National Council on Behavioral Health
- PCSSnow.org (Provider Clinical Support System)
- Nevada Primary Care Association
- Project ECHO/UNR

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OBJECTIVES

- Describe trends of substance use, complications, and deaths
- Address obstacles to integrating treatment for patients with substance use disorders, focusing on alcohol use disorders as an initial step
- Utilize SBIRT as an evidence-based intervention to identify individuals with SUDs and engage in recovery services
- Outline approach to the pharmacotherapy for alcohol use disorder
 - Disulfiram, acamprosate and naltrexone
- Implement naltrexone therapy for patients "Ready for Action"

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Overview

- Trends
 - Drug OD and deaths, alcohol consumption, COVID
 - Racial and gender disparity
- Obstacles
- Evidence based interventions
 - Start with SBIRT and on to MAT
- *Call to Action!*
 - First ADM Fellowship for Nevada now underway ... *and recruiting for 2022*
 - NSMA efforts to create Bridge partnerships throughout Nevada

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How many deaths does it take?

Leading Causes of Death, US 2019

1. Heart disease - 659K
 2. Cancer – 599K
 3. Accidents – 173K
 4. Chronic lower respiratory disease – 157K
 5. Stroke – 150K
 6. Alzheimer's disease – 121K
 7. Diabetes – 88K
 8. Chronic renal diseases – 51K
 9. Influenza/Pneumonia – 50K
 10. Suicide – 47K
- Tobacco – 480,000 deaths/yr
 - Alcohol - 88,000 deaths/yr
 - 1 in 10 deaths among adults aged 20–64 years
 - Opiates - 70,237 deaths in 2017
 - 60% of opioid deaths due to prescription opioids, most often with other drugs (benzos)



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Drug Overdose Deaths Increased in 2019 (and 2020*)

	ALL DRUGS	HEROIN	NAT & SEMI SYNTHETIC	METHADONE	SYNTHETIC OPIOIDS	COCAINE	OTHER PSYCHOSTIMULANTS (mainly meth)
August 2019*	69,640	14,671	12,152	2,869	34,203	15,205	15,217
March 2020*	75,687	14,145	12,349	2,837	40,756	17,465	18,033
August 2020*	88,295	14,316	12,986	3,423	51,998	19,719	21,405
August 2019- August 2020	+26.8%	-2.4%	+6.9%	+19.3%	+52.0%	+29.7%	+40.7%



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*NCHS Provisional Drug Overdose Death Counts: <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>

Overdose Deaths Increased Again in 2019 (and 2020*)

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August 2019- August 2020	+26.8%	-2.4%	+6.9%	+19.3%	+52.0%	+29.7%

Of the 81,000 OD deaths, in the year ending May 2020, over 80% were due to Opioids



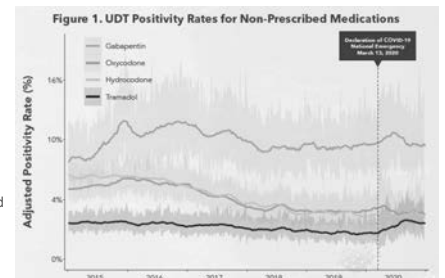
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Non-prescribed Use of Pain Meds

- Tramadol
 - Increased Rx since 2014
 - Diversion and law enforcement seizure up 145% since 2014
 - 2019: 12th most frequently identified drug
- Gabapentin
 - Initially: reduced drinking, decreased craving, alcohol-related disturbances in sleep and affect
 - Increasing concerns re: tolerance, withdrawal and diversion



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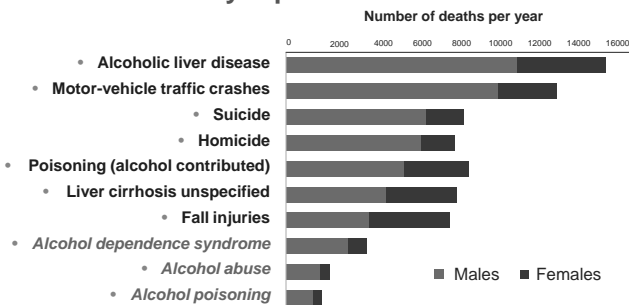


The Elephant (is still) in the Room ... Alcohol

- Excessive alcohol use results in estimated 88,000 deaths annually
- 3rd – 4th leading preventable cause of death
- 60-70% adults drink on some basis, with 9-16% who currently meet diagnostic criteria for AUD
- Up to 30% meet criteria for AUD over lifetime; 13% over past 12 months



Alcohol mortality top 10 list



Alcohol use is common worldwide

Alcohol use disorder common in the US -- but getting treatment is not

DSM-5 AUD	2012-2013 NESARC III
During lifetime	29.1%
Mild	8.6%
Moderate	6.6%
Severe	13.9%
During past year	13.9%
Mild	7.3%
Moderate	3.2%
Severe	3.4%

Few people get help

- Fewer than 8 out of 100 (7.7%) who met AUD criteria in the previous year got help during that period
- Fewer than 20 out of 100 (19.8%) get help at some point in their lives
- AUD is significantly associated with MDD, Bipolar Disorder, GAD and panic disorder

Patterns of Alcohol Consumption during Crises

- 2003 SARS Epidemic in China:**
 - quarantined individuals used more alcohol as a coping mechanism, leading to significantly increased alcohol abuse/dependence symptoms over next 3 yrs
- 2001 WTC attacks in New York City:**
 - Adults with PTSD reported increased alcohol use and binge drinking up to 2 yrs later
- Early in COVID shutdown, adults could, for the first time, order beer, wine, spirits—and sometimes even cocktails—for curbside or home delivery
- By end March 2020, total US sales had increased by 54% and online alcohol sales had increased by 262% ... and up to 477% by end of April 2020

Inpatient GI Consults and COVID-19

- Patients with liver disease + COVID-19 die at rate of 3x compared to those without liver disease
- Admissions for ALD increased by 30-50% in various academic centers
 - GI Consults for alcohol-related and liver diseases increased by 78.7%
 - Consults for alcoholic hepatitis increased by 127.2% (P < .01)
- Admissions and deaths among women with ALD have also escalated
 - 17% increase in consumption
 - 41% increase in heavy drinking days



Who gets treatment?

- Estimated 11% of persons with substance use disorders (SUDs) receive treatment of any type
- Of those, about 50% receive adequate treatment
 - Duration
 - Expertise of providers
 - Appropriate match to proper treatment
- Pandemic shutdowns since late 2019 has led to decreased access to treatment and mutual help groups with transition to virtual meetings

Most patients prefer treatment through primary care

- Online survey of >42K
- 344 with SUD+/- AUD
- 634 with AUD only
- 3 scenarios re treatment options:
 - Usual care
 - Primary care
 - Collaborative care/PC



17 | C. L. Barry, A. J. Epstein, D. A. Fiellin, D. A. "Estimating Demand for Primary Care-Based Treatment for Substance and Alcohol Use Disorders," *Addiction*, May 2016 111(8):1376-84.

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What gets in our way?

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Clinician barriers to discussing alcohol with patients



57.7%	Belief that patients lie
35.1%	Time constraints
29.5%	Fear that it will question patient's integrity
25%	Fear of frightening/angering patient
15.7%	Uncertainty about treatments
12.6%	Personally uncomfortable with subject
11%	May encourage patient to see other MD
10.6%	Insurance doesn't reimburse PCP time

CASA: Missed Opportunity: National Survey of Primary Care Physicians and Patients on Substance Abuse, April 2000

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Why do People Use Alcohol and Drugs?

To feel good

To have novel:
Feelings
Sensations
Experiences
AND
to share them



To feel better

To lessen:
Anxiety
Worries
Fears
Depression
Hopelessness
Withdrawal

Thomas E. Freese, Ph.D., Co-Director of the UCLA Integrated Substance Abuse Programs, Director of the Pacific Southwest ATTC

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Addiction as a Reward Deficiency Syndrome

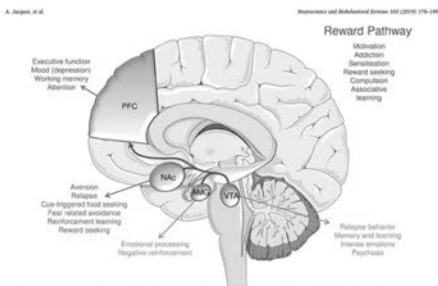


Fig. 1. Reward pathway accompanying the mesocorticolimbic distribution of dopaminergic neurons. The neural regions of the reward pathway include the prefrontal cortex (PFC), nucleus accumbens (NAC), ventral tegmental area (VTA) and nucleus accumbens (NAC). Each neuronal region mediates individual behaviors and may influence to general behaviors through cross-connectivity. Regions above and behaviors listed are correlated between humans and rodent brains (Bischof and DiCiccio, 2012).

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Addiction as a Reward Deficiency Syndrome

“The first time people drink alcohol, they'll notice a spike in dopamine that makes them feel good. If you're prone to addiction, such as genetically, you'll feel like this dopamine burst is what you've been missing for a long time, because it suddenly helps you feel 'normal.'”
— Kenneth Blum, PhD

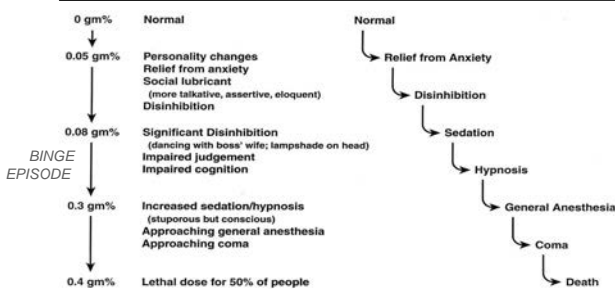
DA surge is greater with alcohol and other drugs than with natural rewards

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As the amount of alcohol in the body increases, so do its effects



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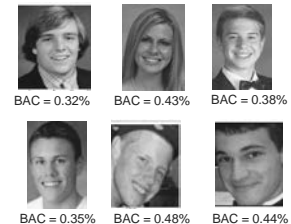


Alcohol - Small margin of safety

- Alcohol has a narrow therapeutic index
- A toxic dose is not much higher than a moderately intoxicating dose
- Average and median BAC among 693 people who died from alcohol poisoning was 0.36%. (Jones and Holmgren, 2003)

Potentially fatal alcohol overdoses:
How much alcohol?

10 drinks in 2 hrs for a 140 lb female
13 drinks in 2 hrs for a 160 lb male

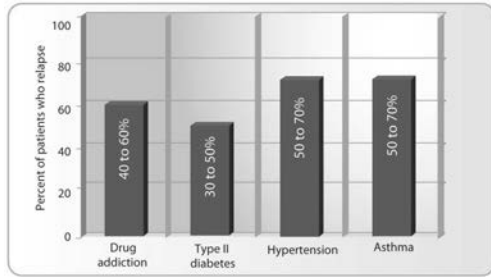


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Substance Use Disorder: A Chronic Relapsing Disorder



McLellan, Lewis, O'Brien & Kleber (2000) JAMA, 284: 1689-1695.

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DSM V – Substance Use Disorder

Mild: 2-3; Moderate: 4-5; Severe: 6 or more

1. Use in larger amounts or for longer than intended
2. Unsuccessful efforts to cut down or quit attempts
3. Excessive time spent getting, using, or recovering from use
4. Cravings and urges to use
5. Neglecting duties at work, home or school
6. Problems in relationships
7. Avoiding social, work, or recreational activities
8. Recurrent use in physically hazardous situations
9. Continued use despite known physical or psychological problem
10. **Needing more to get the effect (tolerance)**
11. **Withdrawal symptoms can be relieved by taking more of the substance (dependence)**

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Simplest definition: 4Cs



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Addiction as a chronic disease: where do we begin?

- SBIRT
 - Single question screen
 - AUDIT-C, drug screen, PHQ2 for depression
- Warm handoff to behavioral health
 - AUDIT-10, US-AUDIT, DAST, ACEs
- Medication Assisted Treatment (MAT)
 - Alcohol: naltrexone, acamprosate, disulfiram
 - Opiates: naltrexone, buprenorphine (methadone only in OTP settings)
 - Stimulants: no FDA-approved treatments at present



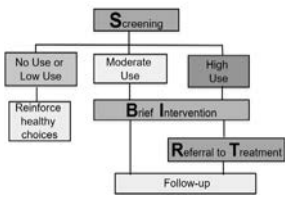
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SBIRT – simply stated

SBIRT is a comprehensive, integrated public health model



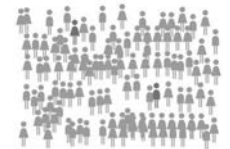
- Evidence based process with extensive literature
- Validated screening tools
- Most effective for alcohol and tobacco use
- Increased study and evidence for other drugs

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SBIRT – A Paradigm Shift



- Not looking for addiction
- Looking for unhealthy substance use patterns
- Validated screening tools are available
- Looking for opportunities for early intervention
- Meeting people where they are

National Council for Behavioral Health

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What's so different?

SBIRT
Routine and universal screening, regardless of medical complaint
Validated screening tools
Substance use defined as a continuum
Evidence-based, patient-centered change discussion
Recognizes patient is more than their substance use

VS.

Business as usual
Inconsistent and selective assessment
Non-systematized narrative questions
Substance use seen as dichotomous
Ineffective, directive style of communication, no discussion
Patient is defined by their use

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Spectrum of Use: Lower Risk → Unhealthy Use

- 60% adults drink on some basis
 - 22% drink at hazardous, harmful or diagnostic levels
 - 40% abstain ... ever wonder why?

Low-risk limits		
	Drinks per week	Drinks per day
Men 18-64 y	14	4
Women	7	3
All >65 y	7	3

DSMV: Substance Use Disorder – 5%

Harmful Use – 8%

Risky/Hazardous – 9%

Lower Risk – 38%

Abstinence – 40%



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NIAAA BRIEF SCREEN – Single Question Screen

Alcohol: One drink =  12 oz. beer  5 oz. wine  1.5 oz. liquor (one shot) Standard drink = 14 g pure ethanol

MEN: How many times in the past year have you had 5 or more drinks in a day?	None	1 or more
WOMEN: How many times in the past year have you had 4 or more drinks in a day?	<input type="radio"/>	<input type="radio"/>

Sensitivity/Specificity: 82%/79%

Drugs: Recreational drugs include methamphetamine (speed, crystal), cannabis (marijuana, pot), inhalants (paint thinner, aerosol, glue), tranquilizers (Valium), barbiturates, cocaine, ecstasy, hallucinogens (LSD, mushrooms), or narcotics (heroin).

How many times in the past year have you used a recreational drug or used a prescription medication for non-medical reasons?	None	1 or more
	<input type="radio"/>	<input type="radio"/>

Smith PC, Schmidt SM, Allensworth-Davies D, Saitz R. Primary care validation of a single-question alcohol screening test. J Gen Intern Med 2009;24(7):783-8

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AUDIT (U.S.): Alcohol Use Disorders Identification Test

Instructions: Alcohol can affect your health, medications, and treatments, so we ask patients the following questions. Your answers will remain confidential. Place an X in one box to answer each question. Think about your drinking in the past year. A drink = one beer, one small glass of wine (5 oz.), or one mixed drink that contains one shot (1.5 oz.) of spirits.

Questions	0	1	2	3	4	5	6	Score
1. How often do you have a drink containing alcohol?	Never	Less than monthly	Monthly	Weekly	2-3 times a week	4-6 times a week	Daily	
2. How many drinks containing alcohol do you have on a typical day when you are drinking?	1	2	3	4	5-6	7-9	10 or more	
3. How often do you have 8 or more drinks on one occasion? (5 for men under age 65; 4 for men aged 65 or older and all women)	Never	Less than monthly	Monthly	Weekly	2-3 times a week	4-6 times a week	Daily	
TOTAL AUDIT 1-3								
4. How often during the last year have you found that you were not able to stop drinking once you started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily			
5. How often during the last year have you failed to do what was normally expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily			
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily			
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily			
8. How often during the last year have you been unable to remember what happened the night before because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily			
9. Has you or someone else been injured because of your drinking?	No	Yes, but not in the last year	Yes, during the last year					
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	No	Yes, but not in the last year	Yes, during the last year					
TOTAL*								

*Include the AUDIT 1-3 score in the overall AUDIT score.



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Positive screen? USAUDIT-10

- Q 1-3: AUDIT-C, includes the 1-question screen
- Q 4-6: ask about impaired control, increased salience and morning drinking
- Q 7-10: ask about experience of guilt, blackouts, physical harm, concerns of others

Instrument USAUDIT
Instructions: Alcohol can affect your health, medications, and treatments, so we ask patients the following questions. Your answers will remain confidential. Place an X in one box to answer. Think about your drinking in the past year. A drink means one beer, one small glass of wine (5 oz.), or one mixed drink containing one shot (1.5 oz.) of spirits.

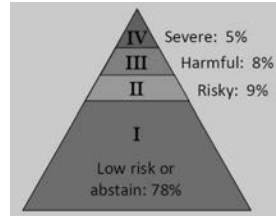
QUESTIONS	0	1	2	3	4	5	6	Score
1. How often do you have a drink containing alcohol?	Never	Less than monthly	Monthly	Weekly	2-3 times a week	4-6 times a week	Daily	
2. How many drinks containing alcohol do you have on a typical day you are drinking?	1 drink	2 drinks	3 drinks	4 drinks	5-6 drinks	7-9 drinks	10 or more drinks	
3. How often do you have 8 or more drinks on one occasion? (5 for men under age 65; 4 for men aged 65 or older and all women)	Never	Less than monthly	Monthly	Weekly	2-3 times a week	4-6 times a week	Daily	
4. How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily			
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10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking and suggested you cut down?	No	Yes, but not in the last year	Yes, during the last year					
Total								

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Making sense of USAUDIT score



Interpreting the AUDIT and DAST screening tools

Score	Zone	Action
AUDIT: 0-3/4 Women/Men USAUDIT: 0-6/7 Women/Men DAST: 1-2 (infrequent use of cannabis only)	I Low Risk	Brief education
AUDIT: 4-12, 5-14 Women/Men USAUDIT: 7/8-15 Women/Men DAST: 1-2	II Risky	Brief intervention
AUDIT: 13/15-19 Women/Men USAUDIT: 16-19 DAST: 3-5	III Harmful	Brief intervention (offer options that include treatment)
AUDIT: 20+ USAUDIT: 20+ DAST: 6+	IV Severe	



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Connecting the Dots

- PC office practice: SBIRT (Screening, Brief Intervention) and MAT
 - Screening: single question screen; AUDIT-C; AUDIT-10; Single question drug screen
 - Brief Intervention including further assessment for diagnostic level and severity
 - Motivational Interviewing and assessment of Readiness for Change
- MAT (Medication Assisted Treatment):
 - Nicotine: varenicline, bupropion, nicotine replacement
 - Alcohol: naltrexone, acamprosate, disulfiram
 - Opioids: naltrexone, buprenorphine, methadone
- Emergency Department/Hospitalist service
- Addiction treatment programs and OBOT/OTPs

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Connecting the Dots

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Medications for Substance Use Disorders

	FDA Approved Medications	Psychosocial
Alcohol	Naltrexone (PO) Naltrexone ER (IM) Acamprosate Disulfiram Topiramate (off-label) Gabapentin (off-label)	Cognitive Behavioral Therapy Motivational Interviewing
Opioids	Methadone Buprenorphine (sublingual film/tablet, subcutaneous injection, subdermal implant) Naltrexone ER (IM)	Motivational Enhancement Therapy Relapse Prevention Therapy
Tobacco	Varenicline Bupropion Nicotine replacement therapy (patch, gum, nasal spray, inhaler, lozenges)	Contingency management
Stimulants		12-Step Facilitation • Alcoholics Anonymous (AA) • Narcotics Anonymous (NA) • Marijuana Anonymous (MA) • Cocaine Anonymous (CA) • Crystal Meth Anonymous (CMA)
Cannabis		



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Pharmacotherapy for Alcohol Use Disorder (AUD)

Meds for AUD have different mechanisms of action:

- Discourage drinking by creating unpleasant association with alcohol
 - Aversive effect (i.e. "punishment") = Disulfiram
- Block or reduce euphoria from alcohol
 - Reduce positive reinforcement = Naltrexone
- Reduce post-acute withdrawal
 - Negative reinforcement = Gabapentin (off-label)

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Alcohol Pharmacotherapy

- **Detox**
 - Benzos (sx-triggered vs. scheduled)
 - Gabapentin
- **MAT for AUD**
 - **Naltrexone (NTX)**
 - Oral (Revia)
 - Monthly injectable (Vivitrol)
 - **Acamprosate (Campral)**
 - Disulfiram (Antabuse)
- **Contraindications for NTX**
 - Opioid dependent/opioid analgesia
 - Acute hepatitis
 - Hypersensitivity
 - ↑↑ BMI (Vivitrol IM)
- **Cautions**
 - Active liver disease
 - AST, ALT > 3-5x normal
 - Pregnancy/breastfeeding (C)

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Disulfiram: aversion therapy

- **Contraindications**
 - Severe myocardial disease
 - Hypersensitivity (disulfiram, nickel, sulfur)
 - Pregnancy
- **Cautions**
 - LFTs > 3 x upper normal
 - Recent alcohol exposure
 - Age > 60
 - Compliance = major barrier
- **Research:**
 - Best efficacy in motivated patients with supervised dosing:
 - Fewer drinking days, lower weekly consumption
 - Longer period of abstinence
 - AHRQ: insufficient evidence to support effectiveness

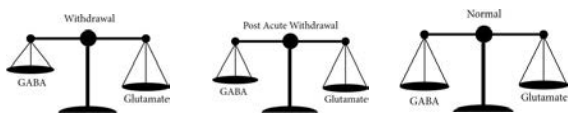
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Acamprosate: glutamate receptor modulator



- Even after acute withdrawal, the glutamate system continues to be overactive as it readjusts by down regulating the glutamate receptors
- During this time, individuals may continue to feel anxiety, irritability and insomnia that can lead to relapse

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Acamprosate

- **Contraindications**
 - Hypersensitivity
 - Severe renal dysfunction:
 - ($Cl_{Cr} < 30$ mL/min)
- **Cautions**
 - Pregnancy/breastfeeding (C)
 - Moderate renal dysfunction:
 - (Cl_{Cr} 30-60 mL/min)
 - Age > 65
- **Initiation**
 - ≥ 5 days abstinence, preferably more
 - Better for maintaining abstinence
 - Monitor initial renal function
- **Dosing**
 - Initial: 333mg TID for 3-5 days
 - Maintenance: 666mg TID
- **Discontinuation**
 - No need for taper, no withdrawal

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Research on Acamprosate for AUD

- Participants treated with acamprosate, compared to placebo:
 - able to **maintain complete abstinence** more frequently
 - had **prolonged time to first drink**
 - greater **reduction in the number of drinking days**
- In all three studies, participants treated with acamprosate were able to **regain complete abstinence** after one relapse more frequently than those treated with placebo

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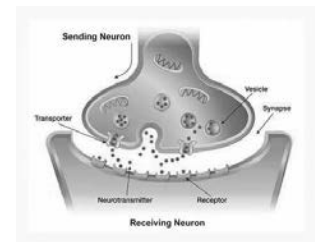
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Naltrexone Mechanism of Action

- Naltrexone is a full opioid receptor antagonist and blocks opioid receptors
- This prevents the effects of self-administered opioids
- Subsequent dopamine release is also diminished after alcohol consumption, reducing the pleasurable effects



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Oral Naltrexone Initiation

- Initial LFTs, urine drug screen?
- Dose: 50 – 100 mg daily
 - At-risk (< 3 days abstinence, young age)
 - 12.5-25 mg daily x 1 week
- Common side effects
 - Nausea, headache, drowsiness, elevated liver enzymes (rare at standard dosing)
- Third-Party Payer Acceptance:
 - covered by most major insurance carriers, Medicare, Medicaid, and the VA
- Abstinence requirements:
 - must be taken at least 7-10 days after last consumption of opioids; abstinence from alcohol is not required

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Extended-Release Injectable Naltrexone

- **Vivitrol Dose:**
 - 380mg deep IM gluteal injection q 4 wks
 - Alternate sides each month
- Blocks opioid receptors for **1 entire month**
- Approx 28 doses of oral naltrexone
- **Adverse effects:**
 - Injection site reactions, N/V, precipitated opioid withdrawal, depression, elevated LFTs



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It's not all about MAT or MOUD

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Medications are ADJUNCTIVE therapy

- Pharmacologic treatment with psychosocial treatments is more effective than either alone:
 - Longer time to relapse
 - Increased time between relapse episodes
- Brief intervention and Motivational Interviewing are key strategies
- Psychosocial treatments may:
 - Reduce cravings
 - Maintain abstinence
 - Promote long term recovery
- Individual therapy – especially Trauma-Informed therapy
- Group therapy and/or mutual self help

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Call to Action

- Implement SBIRT - evidence based strategies for screening and brief interventions
- Develop skills in MAT for substance use disorders – *start with AUD*
 - Naltrexone, acamprosate,
 - Consider varenicline, bupropion and nicotine replacement therapies as part of MAT!
- MOUD: X-waiver TRAINING no longer needed (up to 30 patients) ...
 - Buprenorphine (methadone – OBOT/OTP), naltrexone (no waiver needed)
- Heads up! Coming soon to a hospital near you - Dr. John Anderson and NSMA Resolution for Best Practice Resources for patients with OUD

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First Addiction Medicine Fellowship for Nevada!

HCA Sunrise Health GME Consortium at Southern Hills Hospital

- Broad-based, community focused, 1 Year Fellowship
- Rotations at
 - SHH – Behavioral Health Pavilion
 - Landmark Recovery
 - Center for Behavioral Health
 - VA Southern NV Healthcare System
 - Electives: Correctional Medicine, Complicated Withdrawal in ICU setting, HIV/HCV, Pain Management, and Perinatal Addiction and Neonatal Abstinence

Southern Hills Hospital

Landmark Recovery Center



VA Southern Nevada Health System



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HCA Sunrise Health GME Addiction Medicine Fellowship

CLEARLY, IT IS TIME FOR CHANGE

Whether you are a graduating resident or practicing physician looking for a Challenge and a Change – join us to become Part of the Solution and share the HCA Mission:

"Above all else, we are committed to the care and improvement of human life."



For more information, contact:
Maureen.Strohm@hcahealthcare.com
702-449-1716

<https://southernhillshospital.com/physicians/graduate-medical-education/addiction-medicine/>



Maureen Strohm, MD, MADM, FFAFP, FASAM
Program Director, Addiction Medicine Fellowship

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- 3 year commitment - *not taxable*

- Full time – up to \$75,000
- Part time – up to \$37,500

- Eligibility

- Physicians
- Nurse Practitioners, CNMs
- Physician Assistants
- Behavioral Health Counselors
- SUD Counselors
- RNs
- Pharmacists

<https://nhsc.hrsa.gov/sites/default/files/nhsc/loan-repayment/nhsc-sud-workforce-lrp-fact-sheet.pdf>

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Resources and Manuals

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- Substance Abuse and Mental Health Services Administration and National Institute on Alcohol Abuse and Alcoholism, *Medication for the Treatment of Alcohol Use Disorder: A Brief Guide*. HHS Publication No. (SMA) 15-4907. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2015

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