SUBSTANCE USE DISORDER – ALCOHOL USE DISORDERS

A Health plan and Behavioral Health Physician Collaborative Presentation

Session II

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UnitedHealthcare Community Plan of Texas

United Healthcare

Disclosure

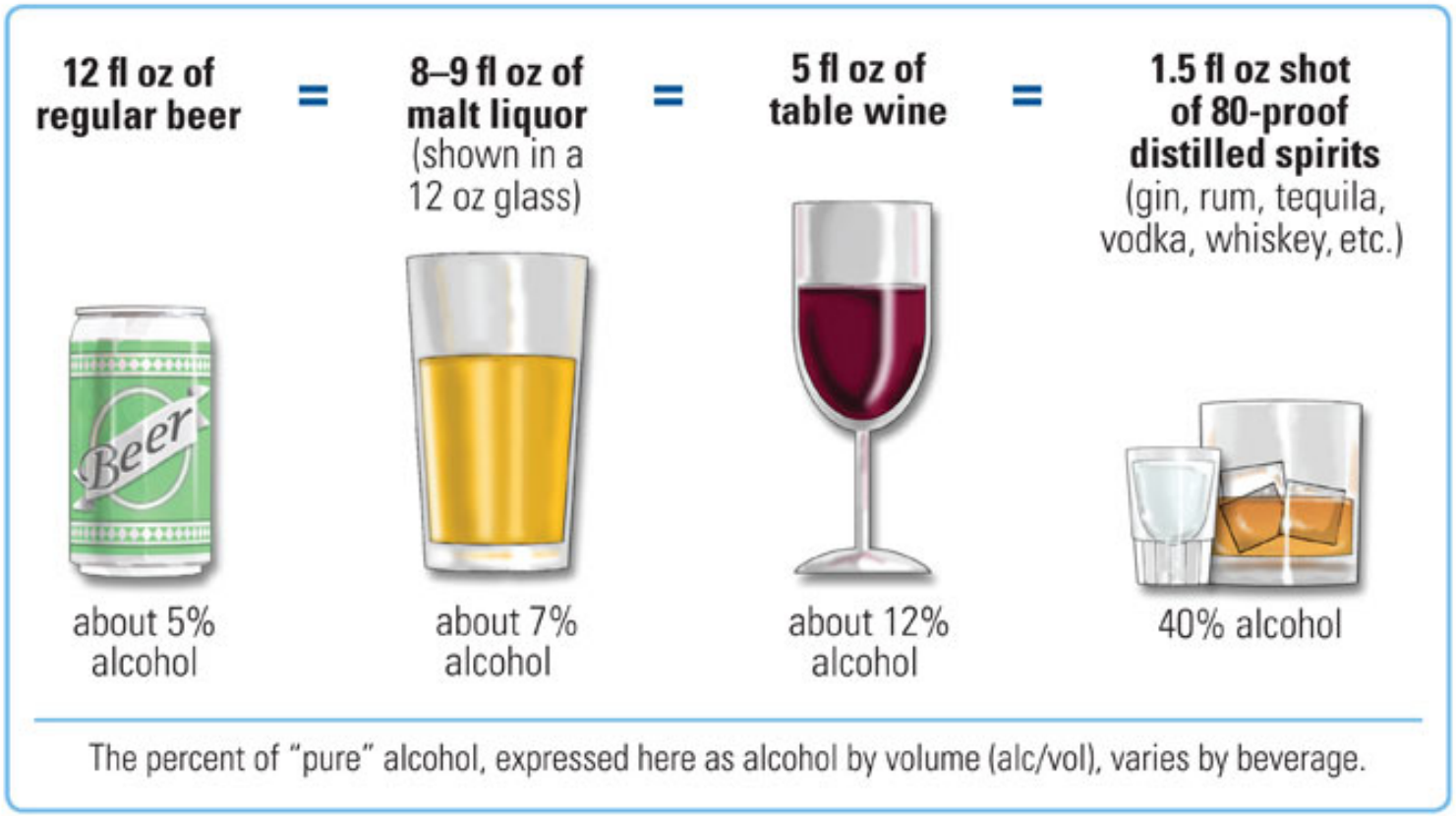
We have no actual or potential conflict of interest in relation to any product or service mentioned in this program or presentation.

Objectives

- Recognize and discuss the scope of problems with Substance Use Disorder (SUD) and identify risk factors.
- Determine the relationship between alcoholism and mental illness.
- Describe the effects of alcohol use on physical and mental health.
- Discuss pharmacological and non-pharmacological treatment strategies for SUD.

Vital Stats*

https://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/alcohol-facts-and-statistics



Vital Stats

Alcohol misuse (using substances in a manner that causes harm to the individual or those around them) and Alcohol Use Disorders contributes to:

- 88,000 deaths/year: approx. 63,000 males; 26,000 females
- 1/10 deaths in working adults
- MVA, intimate partner/sexual violence, child abuse and neglect, SA and fatalities, OD, CA, heart and liver diseases, HIV/AIDS, FASD/NAS
- >10% of U.S. children live with a parent with alcohol problems, per 2012 study

College Drinking

Consequences of College Drinking: Unintentional injuries/MVA, physical/sexual assault, DUI, missing classes, failing grades, 20% meet criteria for AUD

- Prevalence: 20.3% - past month
- Binge Drinking: 13.4% - past month
- Heavy Drinking: 3.3% - past month

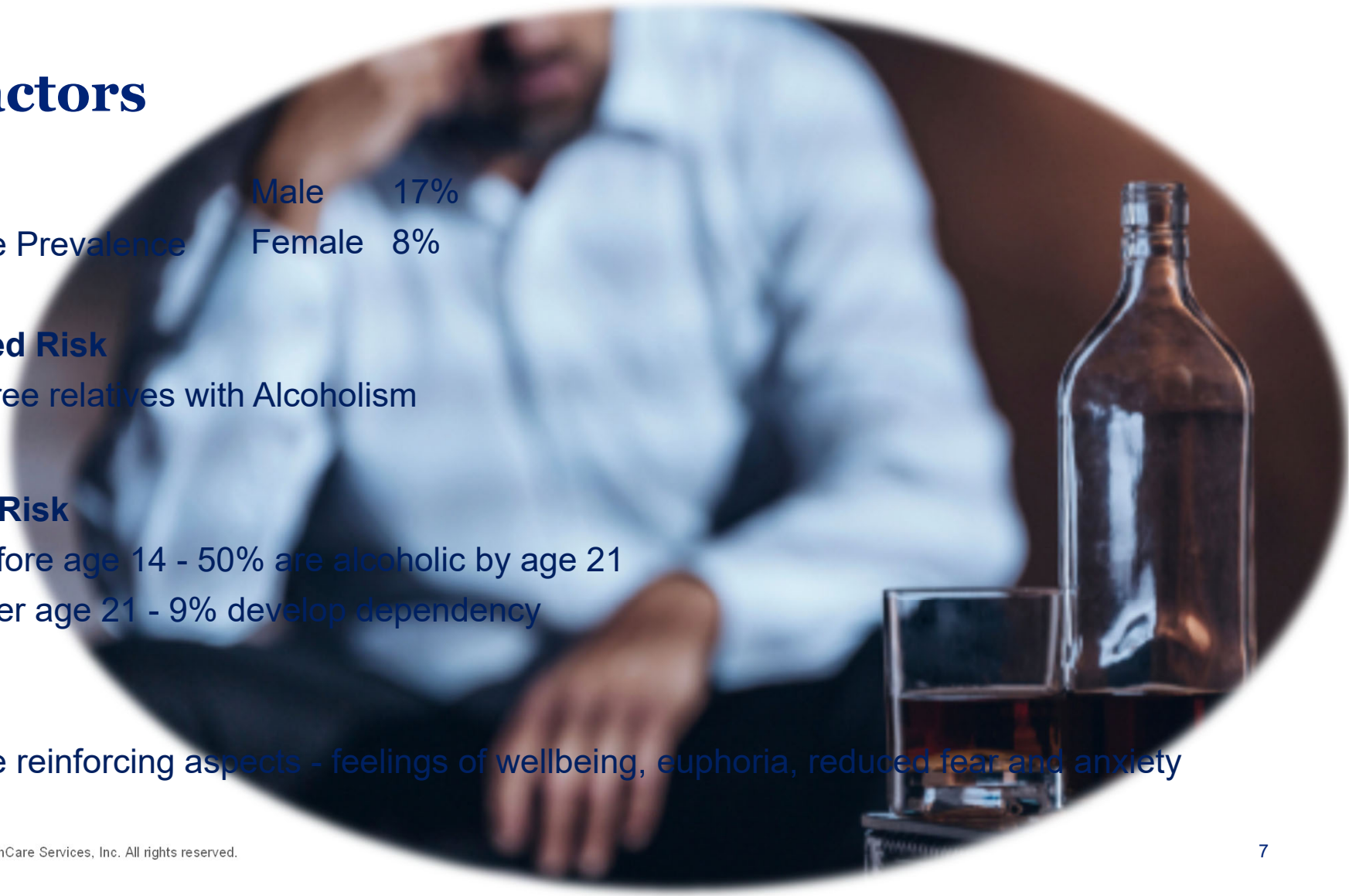
Higher Incidence

- Binge drinking
- Driving under the influence
- Suicide attempts
- Unsafe Sex

Contributing Factors

- Having some experience with alcohol
- Unstructured time
- Easy availability
- Inconsistent enforcement of underage drinking laws
- Limited interactions with parents /other adults
- Lack of parental supervision/discipline

Risk Factors



Gender

- Lifetime Prevalence — Male 17%, Female 8%

Increased Risk

- 1st degree relatives with Alcoholism

Greater Risk

- Use before age 14 - 50% are alcoholic by age 21
- Use after age 21 - 9% develop dependency

Others

- Positive reinforcing aspects - feelings of wellbeing, euphoria, reduced fear and anxiety

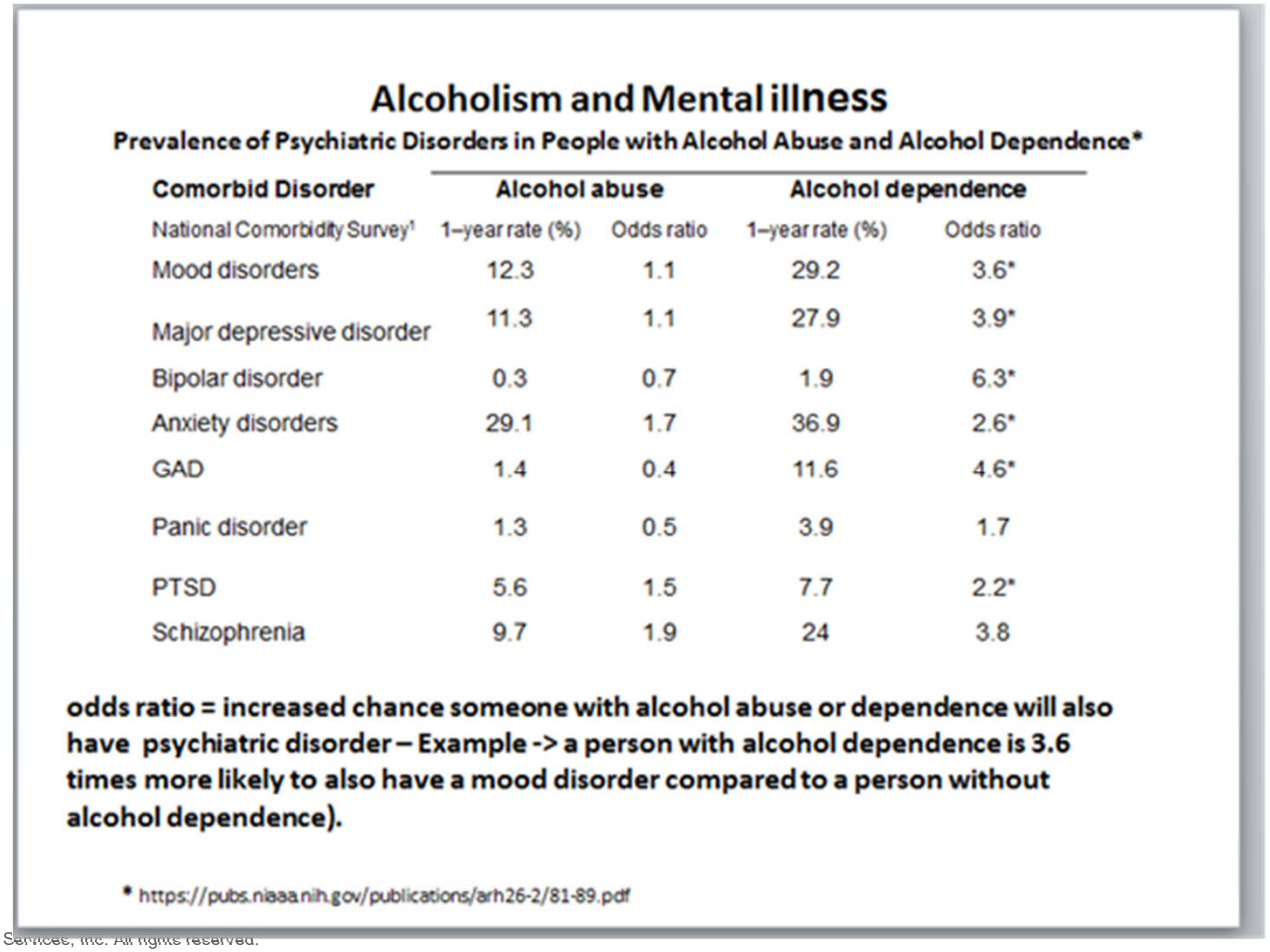
Risk Factors

Adverse Childhood Experiences (ACE) - before 18 years of age

- Emotional Neglect
- Physical Neglect
- Emotional Abuse
- Physical Abuse
- Sexual Abuse
- Mother Treated Violently
- Household Substance Use
- Household Mental Illness/Suicide Attempt
- Parental Separation or Divorce
- Incarcerated Household Member

Four or more of the above factors increase up to 12 times the increased risk for Alcoholism and/or substance use disorder.

Alcoholism and Mental Illness



Alcoholism and Mental illness

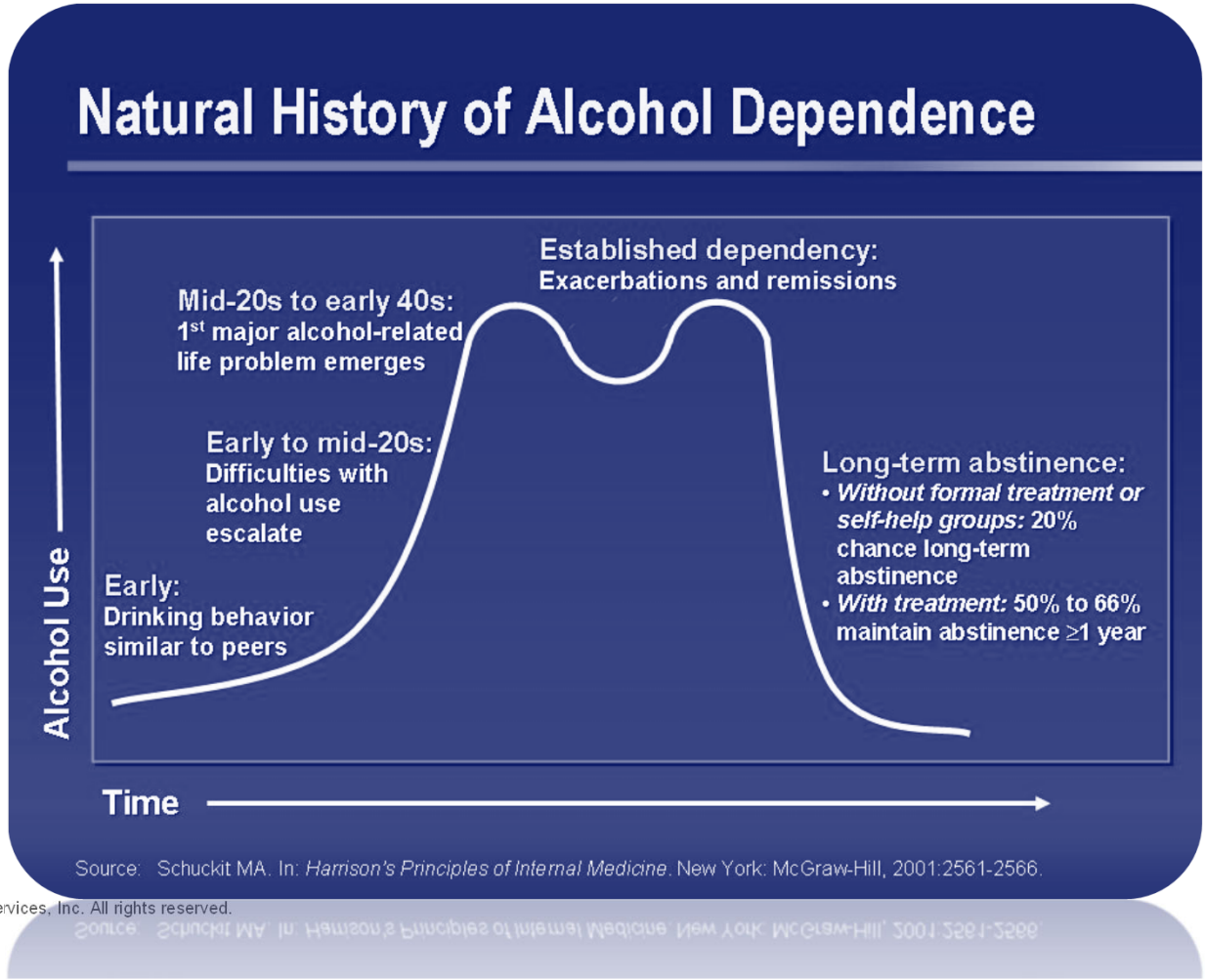
Prevalence of Psychiatric Disorders in People with Alcohol Abuse and Alcohol Dependence*

Comorbid Disorder	Alcohol abuse		Alcohol dependence	
National Comorbidity Survey[1]	1–year rate (%)	Odds ratio	1–year rate (%)	Odds ratio
Mood disorders	12.3	1.1	29.2	3.6*
Major depressive disorder	11.3	1.1	27.9	3.9*
Bipolar disorder	0.3	0.7	1.9	6.3*
Anxiety disorders	29.1	1.7	36.9	2.6*
GAD	1.4	0.4	11.6	4.6*
Panic disorder	1.3	0.5	3.9	1.7
PTSD	5.6	1.5	7.7	2.2*
Schizophrenia	9.7	1.9	24	3.8

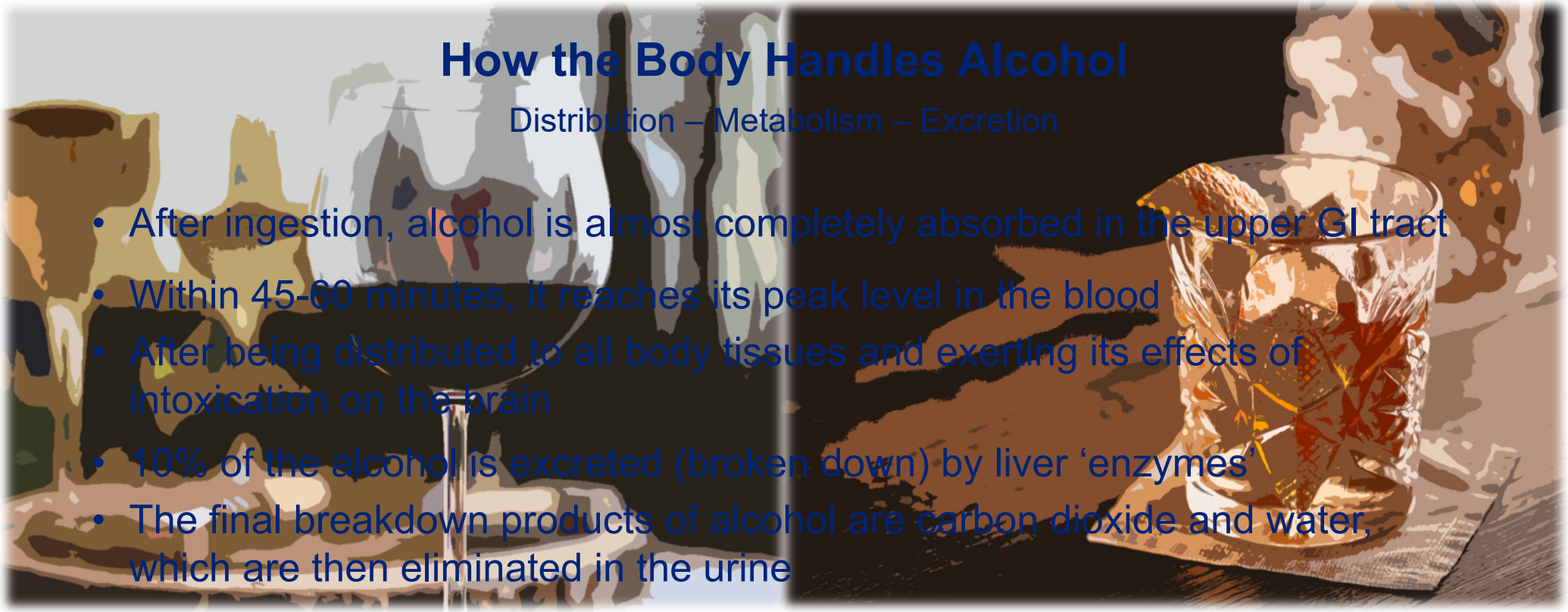
odds ratio = increased chance someone with alcohol abuse or dependence will also have psychiatric disorder – Example -> a person with alcohol dependence is 3.6 times more likely to also have a mood disorder compared to a person without alcohol dependence).

* https://pubs.niaaa.nih.gov/publications/arh26-2/81-89.pdf

Alcohol Use Disorders



Pharmacokinetics



How the Body Handles Alcohol

Distribution – Metabolism – Excretion

- After ingestion, alcohol is almost completely absorbed in the upper GI tract
- Within 45-60 minutes, it reaches its peak level in the blood
- After being distributed to all body tissues and exerting its effects of intoxication on the brain
- 10% of the alcohol is excreted (broken down) by liver ‘enzymes’
- The final breakdown products of alcohol are carbon dioxide and water, which are then eliminated in the urine

Impact of Alcoholism

Central Nervous System

- Decreased Sleep Latency, Peripheral Neuropathy, increased risk of Cerebro-Vascular diseases

Gastrointestinal System

- Esophagitis, Gastritis, Enteritis, Pancreatitis, inhibit absorption of nutrients
- Fatty Liver, Alcoholic Cirrhosis, Hepatitis, Colon Cancer, elevated LFT: AST, ALT, SGPT
- Hematopoietic System – Pancytopenia, Toxic Granulocytosis, increased MCV
- Elevated MCV

Cardiovascular System

- Increases HDL, HTN, Myocardial infractions
- Decreases Myocardial Contractility, Increases Peripheral Vasodilatation
- Cardiomyopathy, Arrhythmias, “Holiday Heart”

Impact of Alcoholism (continued)

Genitourinary System

- Men: Testicular Atrophy with Seminiferous Tubule Atrophy
- Modest Doses: Increase Sex Drive but decrease erectile capacity
- Women: Amenorrhea, Decreased Ovarian Size, Infertility, Spontaneous Abortions

Other

- Osteonecrosis with increased fractures, Avascular Necrosis of the Femoral Heads, muscle weakness
- Modest Reversible Decreases in T3 and T4, including incidence of CA – head, neck, esophagus, stomach, liver, colon, lung
- Wernicke – Korsakoff's Syndrome
- Fetal Alcohol Syndrome

Alcohol Use Disorders

DSM-5 Criteria for Alcohol Use Disorder (AUD)

Mild = 2 to 3 symptoms; Moderate = 4 to 5 symptoms; Severe = 6 to 11 symptoms (within a 12-month period)

Includes DSM-IV Criteria for Alcohol Abuse

- Recurrent alcohol use resulting in a failure to fulfill major role obligations
- Recurrent alcohol use in situations in which it is physically hazardous
- Continued alcohol use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of alcohol

DSM-IV Criteria for Alcohol Dependence

- Tolerance
- Withdrawal
- Alcohol is often taken in larger amounts and/or over longer periods of time
- Persistent desire or unsuccessful efforts to stop or cut down alcohol use
- Increased amount of time is spent consuming, obtaining or recovering
- Important occupational, social or recreational activities are given up/reduced
- Alcohol consumption continues despite the knowledge of having persistent or recurrent physiological and psychological problems

Screening Instruments

- To identify as many potential cases as possible
- Standardized Screening Instruments
- Minimize false positive results
- Emphasis on use by PCP offices

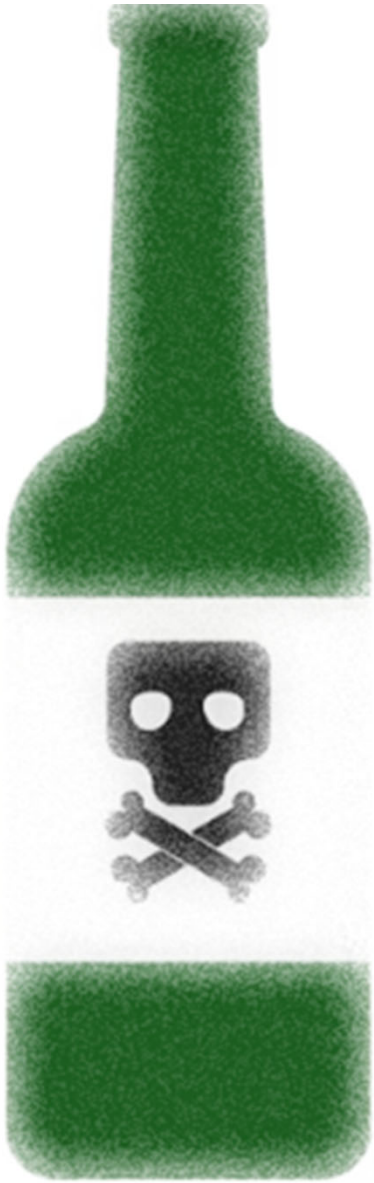
Alcohol Intoxication

Acute Intoxication

- Symptoms correlate with blood alcohol level (BAL} and alcohol concentration in the brain
- Complications include falls, subdural hematomas (blood clot in the brain), fractures
- Blackouts - periods of anterograde amnesia - unable to recall events within the last 5-10 mins

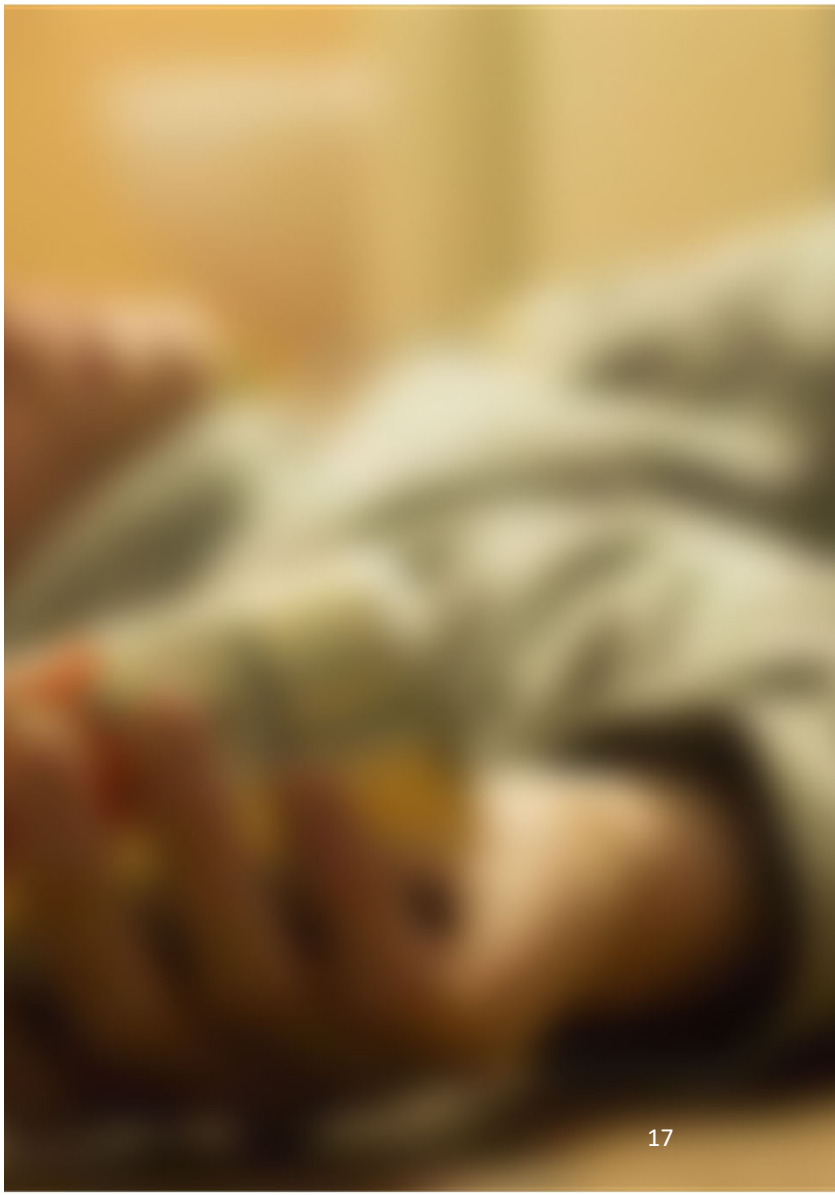
Idiosyncratic

- Rare
- Severe behavioral syndrome develops rapidly after ingestion of small amounts of alcohol



Blackouts

- Occur in Alcohol Intoxication
- Discrete episodes of specific short-term memory loss
- Cannot recall events that happened in the previous 5-10 minutes



Alcohol Hallucinosis

- Rare
- Lasts anywhere from 1 week-1 month
- Can happen while using alcohol or after stopping
- In a clear sensorium
- Considered a severe form of alcohol withdrawal
- Is often associated with DT
- Treatment – low doses of antipsychotics

Alcohol Withdrawal

Standard Drink: 14 gm Ethanol	Lethal Dose: 350-700 gm Ethanol	
# of Drinks	**BAL(GM/DL) (Blood Alcohol Level)**	**Effects**
1-2	0.01-0.05	Euphoria/reduction in anxiety
3-5	0.06-0.10	Impaired Judgment/Coordination
10-13	0.20-0.25	Sedation/Increased aggression
>13	0.30-0.40	Impaired memory/LOC
Lost count	0.40-0.60	Dep. Respiration, Coma, Death

Alcohol Withdrawal

6-8 hours

- Tremulousness, irritability, nausea/vomiting, anxiety, arousal, sweating, facial flushing, tachycardia, mild HTN

8-12 hours

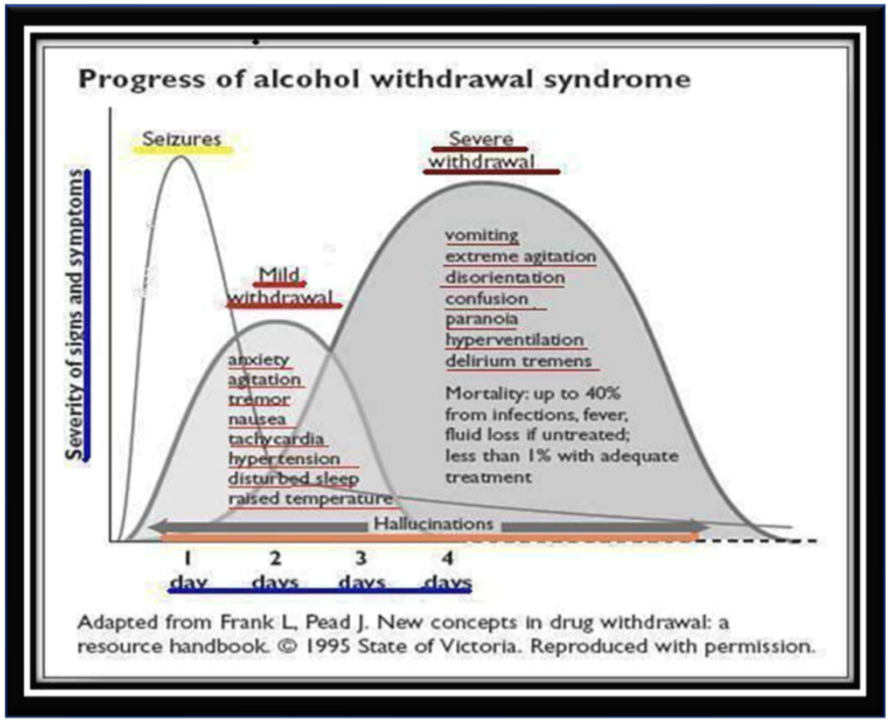
- Psychotic and perceptual symptoms

12-24 hours

- Seizures - generalized grand mal

72 hours

- Delirium Tremens
- Untreated - mortality of 20%
- 5% of all hospitalized patients with alcoholism
- More common with binge drinking, 5-15 years of heavy drinking



Alcohol Withdrawal Syndromes

Alcohol Delirium Tremens (DTs)	
Facts	Medical Emergency-mortality rate: 20%
	2-5% of patients with Alcohol Withdrawal Syndrome
	Within few hours to 3-5 days from last drink
	Can last up to 2-3 days
	Patients in 30s-40s, after 5-15 years of heavy drinking-especially binge, physical
Clinical Presentation	Autonomic hyperactivity: tachycardia, diaphoresis, fever, anxiety, insomnia, HTN
	Perceptual distortions: visual/tactile hallucinations
	Fluctuating levels of psychomotor activity: hyperexcitability - lethargy
Treatment	Long-acting Benzodiazepines – Chlordiazepoxide
	Neuroleptics - limited use
	High calorie, high carbohydrate diet supplemented with multivitamins

Alcohol Withdrawal Syndromes

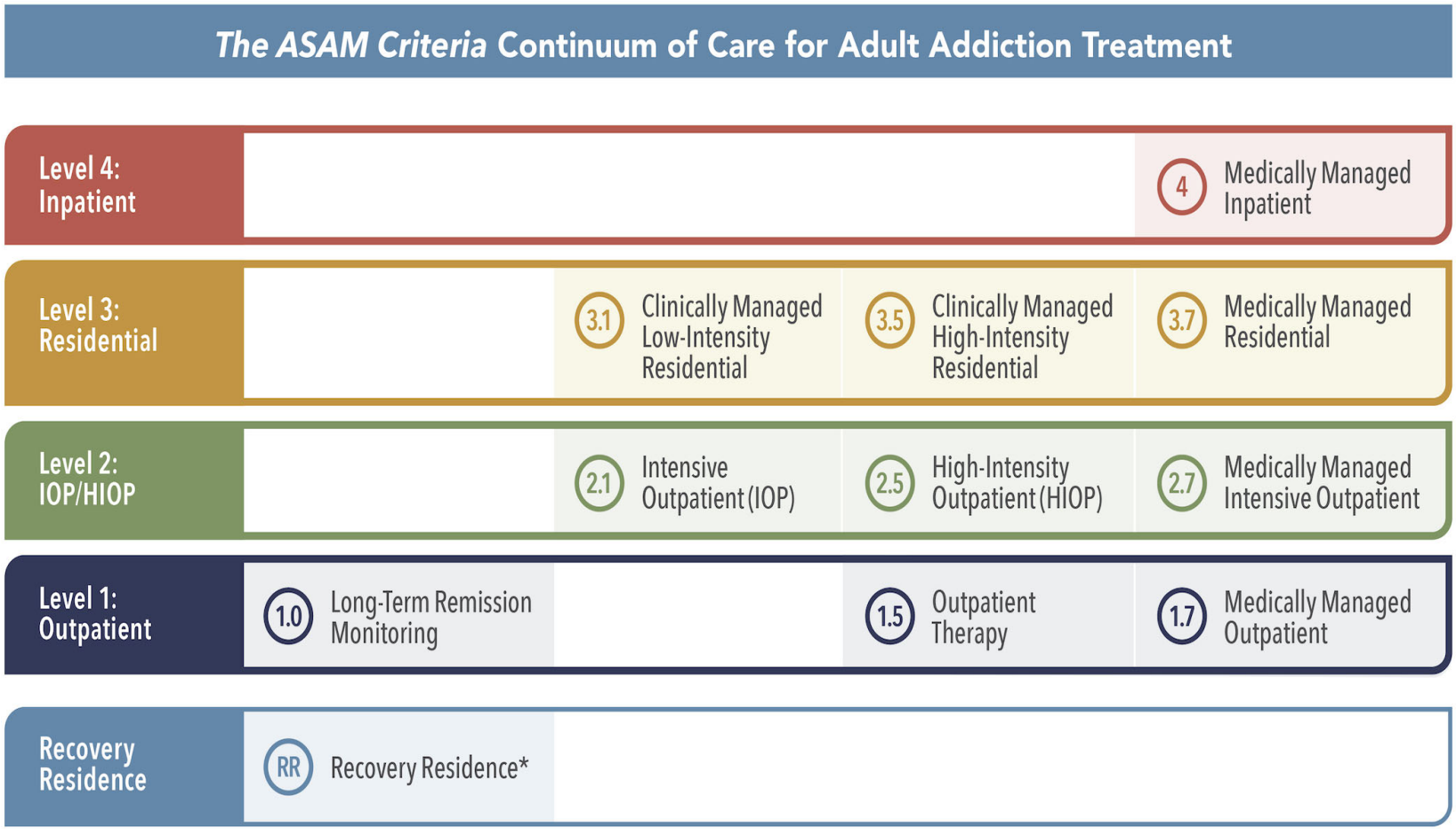
Wernicke's Syndrome

(Alcoholic Encephalopathy)

- Acute neurological disorder, completely reversible
- Thiamine Deficiency
- Ataxia, vestibular dysfunction, eye movement abnormalities-nystagmus
- Treatment: large doses of IV Thiamine, followed by oral Thiamine for 1-2 weeks

Korsakoff's Syndrome

- Follows Wernicke's
- Chronic amnestic syndrome
- Anterograde amnesia, confabulations
- Treatment: Thiamine supplement for 3-12 months
- Few fully recover, some show some improvement in their cognition with Thiamine + nutritional support



Treatment of Alcohol Withdrawal

Supportive Care

- Treat nutritional deficiencies
- Hydration
- Treat co-morbid conditions
  - Hypertension
  - Diabetes, etc.

Withdrawal Management

1. **Benzodiazepines**
   - Fixed dose regimen (7–10-day taper)
   - Loading dose regimen (CIWA-Ar)
   - Symptom triggered treatment (CIWA-Ar)

   - **Long Acting -** long half life - up to 100 hours , Diazepam (Valium™), Chlordiazepoxide (Librium™) smoother withdrawal, fewer rebound symptoms, beneficial in preventing seizures, reducing DTs
   - **Short Acting -** shorter half life – up to 15 hours, Lorazepam (Ativan™), Oxazepam (Serax™), useful in elderly, co-morbid medical conditions - liver disease, less effective in preventing seizures

2. **Anticonvulsants** – Depakote, Keppra, Tegretol, Barbiturates (Phenobarbitol)

3. **Adrenergic Medications** – Clonidine, Atenolol, Propranolol

Treatment of Alcohol Withdrawal
(Pharmacological)

Comparison of the four most commonly used benzodiazepines in treatment of alcohol withdrawal				
	Diazepam	**Chlordiazepoxide**	**Lorazepam**	**Oxazepam**
Equivalent doses (to 10g alcohol)	5 mg	25 mg	1 mg	15 mg
Onset of action	Rapid	Intermediate	Intermediate	Slow
Half-life	Long	Long	Short	Short
Active metabolites	Yes	Yes	No	No
Hepatic metabolism	Yes	Yes	No	No
Routes of administration	Oral/intravenous	Oral	Oral/sublingual/intravenous/ intramuscular	Oral

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4085800/table/T5/

Clinical Institute Withdrawal Assessment for Alcohol (CIWA-Ar)

10-Item Scale used in the Assessment and Management of Alcohol Withdrawal

Symptom	Score
Agitation	0 - 7
Anxiety	0 - 7
Headache	0 - 7
Nausea/Vomiting	0 - 7
Paroxysmal Sweats	0 - 7
Tremors	0 - 7
Auditory Disturbances	0 - 7
Tactile Disturbances	0 - 7
Visual Disturbances	0 - 7
Clouding of Sensorium	0 - 4

0 = No Symptoms	1 = Mild	4 = Moderate	7 = Severe
Maximum Score of 67			

8-10:	10-15:	>15:
Min-mild	Moderate-marked autonomic arousal	**S**evere - ?impending DTs

Alcohol Use Disorders - MAT

Naltrexone (Revia™, Depade™)

- FDA-approved for alcohol and Opioid use disorders
- Dosage: 50 mg orally once a day
- Blocks the euphoric effects and feelings of intoxication
- Most effective: Long term therapy of more than 3 months
- Can be used indefinitely

Naltrexone (Vivitrol™)

- FDA approved for alcohol and Opioid use disorders
- Injectable form in the dose of 380mg given intramuscularly once a month

Common side effects: GI upset, headaches, nervousness, tiredness, joint /muscle pains

Alcohol Use Disorders - MAT

Disulfiram (Antabuse™)

- FDA-approved for AUD
- Dose of 250mg orally daily
- Acts by blocking the liver enzyme - Aldehyde Dehydrogenase which leads to accumulation of acetaldehyde which causes s/o feelings of heat in the face, upper limbs, chest, chest pains, palpitations, hypotension, nausea, malaise, vertigo, dizziness, confusion
- Intensity of symptoms depends on individual patient characteristics
- Reaction is proportional to the amounts of disulfiram and alcohol ingested together
- Reaction starts 10-30 mins after alcohol ingestion
- Disulfiram-alcohol reactions can be life threatening; therefore, reduced dosages and careful patient medical screening is important

Alcohol Use Disorders - MAT

Accamprosate™ (calcium acetyl homotaurinate)

- FDA-approved for AUD
- It acts on glutamate and GABA neurotransmitter systems; exact mechanism not known
- Treatment can be started ASAP after alcohol withdrawal
- Dosage: 333mg, 2 tabs 3 times/day; 3-12 months – makes compliance difficult
- Common SE: diarrhea, insomnia, anxiety, muscle weakness, nausea, itchiness, and dizziness
- Uncommon, but serious; side effects include depression and suicidal thoughts
- Most side effects are usually mild and transient, usually felt for the first few weeks of treatment

Treatment of Alcohol Use Disorder
(Non-Pharmacological)

Individual
- Cognitive Behavioral Therapy (CBT)
- Dialectical Behavior Therapy (DBT)
- Motivational Interviewing and Enhancement
- Referral to Al-Anon and Alateen

Family
- Family Counseling
- Marital/Couples' Therapy

Groups
- Insight-oriented Process Groups

Treatment of Alcohol Use Disorder
(Non-Pharmacological)

Secular Supports

- SMART Recovery
- LifeRing

Faith-based

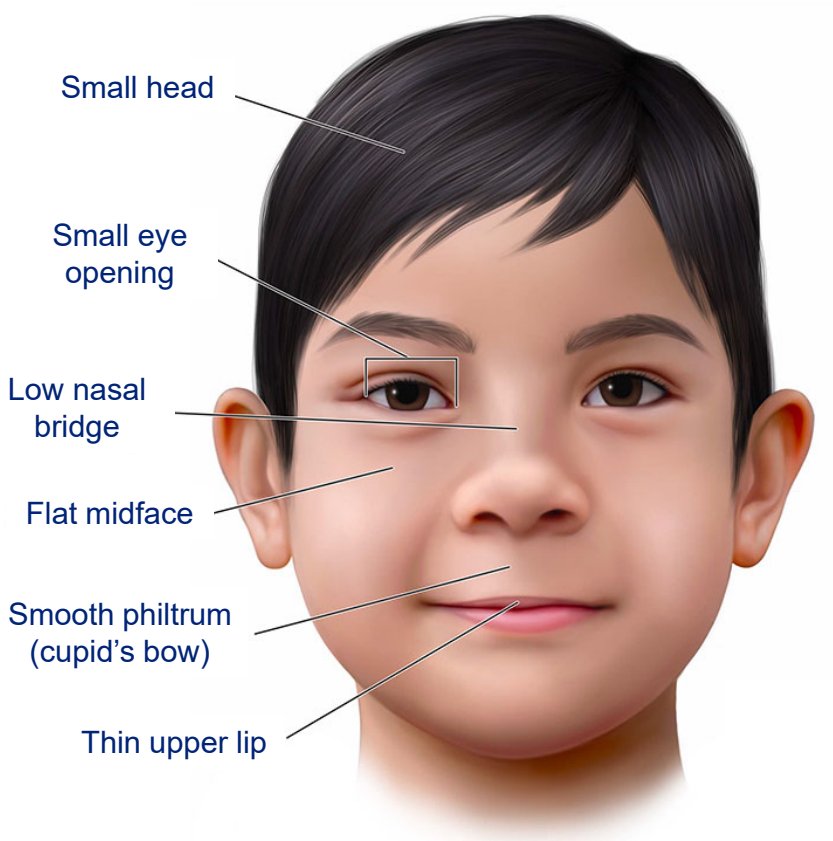
- Celebrate Recovery

12-Step Programming

- Alcoholic Anonymous (AA)

Fetal Alcohol Spectrum Disorders (FASDs)

- Group of conditions that can occur in a person whose mother drank alcohol during pregnancy
- No known safe amount of alcohol during pregnancy or when trying to get pregnant
- Affects each person in different ways
- Ranges from mild to severe
- 20-50 cases/1000



Types of FAS

1. **Fetal Alcohol Syndrome (FAS)**

   Most involved, can cause fetal death, characteristic facial features, growth problems and central nervous system (CNS) problems, 2-7 cases/1000

2. **Alcohol-Related Neurodevelopmental Disorder (ARND)**

   Intellectual disabilities and problems with behavior and learning

3. **Alcohol-Related Birth Defects (ARBD)**

   Problems with the heart, kidneys, or bones or with hearing

Case Vignette

- Mr. Garza is a divorced 62-year-old man who was intoxicated when he was hospitalized for aspiration pneumonia last year.
- You have been gently encouraging him to address his drinking problem since then.
- He is finally ready to discuss it because his friend just died of alcohol-related cirrhosis.

What else do you want to ask him?

WRITE ANSWERS IN CHAT

Case Vignette: More Info

- He drinks a fifth of liquor and 3-4 beers per day
- He has tried to quit several times recently, but becomes so shaky that he returns to drinking
- No history of seizures or head trauma
- No history of DTs
- Labs show mildly elevated AST>ALT and mildly decreased platelet count
- No signs of cirrhosis

Case Vignette: Discussion

How can you help Mr. Garza withdraw safely from alcohol?

How can you help him stay sober once he withdraws?

WRITE ANSWERS IN CHAT

Resources

Screening Tools

Used to Help Identify an Alcohol Dependency

AUDIT – Alcohol Use Disorders Identification Test (10 Items)

Each answer is associated with a number between 0 and 4 added together at the end.

A total score of > or = 8 may indicate hazardous or harmful alcohol use and possible dependence.

Results and cutoffs may vary based on population type such as age.

CAGE - 4 items

Each “no” answer is given a 0 and each “yes” answer is given a 1. If the total sum of the scores for the questions is greater, it may indicate an alcohol use issue.

A total score of 2 or higher is considered clinically significant.

- Have you ever felt you should Cut down on your drinking?
- Have people Annoyed you by criticizing your drinking?
- Have you ever felt bad or Guilty about your drinking?
- Have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover (Eye opener)?

MAST – Michigan Alcoholism Screening Test (25 Items)

Total sum of points scored. 0 (for “no”) 1, 2 or 5 (for “Yes”) associated with each answer type.

5 points or more indicates the probability of a substance abuser, 4 points is suggestive, and <3 is normal; > or = 8 points is stronger evidence for chronic substance abuse or dependence.

Reaching Out – Get Help!

To get help for alcohol dependence, you can call the following helplines:

- Substance Abuse and Mental Health Services Administration (SAMHSA)'s National Helpline: 1-800-662-HELP (4357)
- National Drug Helpline: 844-289-0879
- National Association for Children of Alcoholics (NACOA): 800-358-3456
- National Council on Alcoholism and Drug Dependence, Inc. (NCADD): 1 (800) NCA-CALL (622-2255)
- American Addiction Centers (AAC): (866) 386-0748

Thank You

Questions?