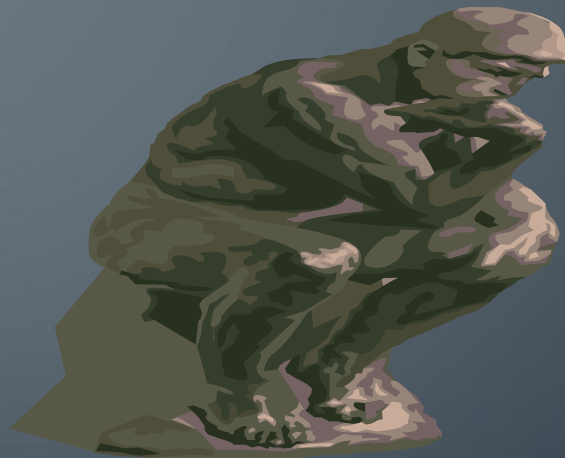


# Care of the Patient Undergoing Alcohol Withdrawal

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*“If you know someone who tries to drown their sorrows, you might tell them sorrows know how to swim.”*

(Quoted in *P.S. I Love You*, compiled by H. Jackson Brown, Jr.)

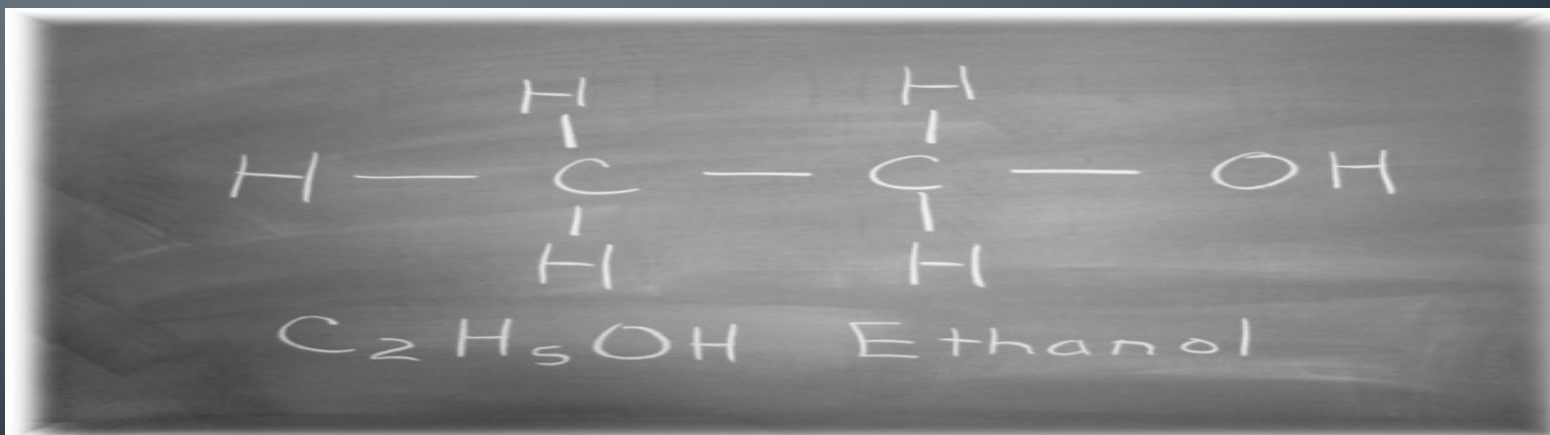


# Objectives

- Discuss statistics
- Define alcohol abuse, dependence and withdrawal
- Describe effects of alcohol on the body
- Discuss signs and symptoms alcohol withdrawal
- Discuss the Clinical Institute Withdrawal of Alcohol Scale, Revised
- Discuss therapeutic interventions

# Back to Basics: What is Alcohol?

- Alcohol, or ethanol, is produced by the fermentation of yeast, sugars and starches. Yeast breaks sugar down into ethanol and carbon dioxide. Ethanol is water soluble and fat soluble, which means it enters into the blood stream and passes through cell membranes quickly.



# Define Abuse and Dependence...

- Alcohol Abuse: Recurrent harmful use of alcohol
- Alcohol Dependence (Alcoholism): Characterized by 4 symptoms
  - Craving
  - Loss of control
  - Physical dependence
  - Tolerance



# Who Uses Alcohol?

According to the National survey on Drug use and health 51.9% of Americans or 130.6 million people, stated they were current drinkers

Alcohol Use: Demographics	Past Month: 2009 (Percentage)	Past Month: 2010 (Percentage)
<b>TOTAL</b>	51.9	51.8
<b>AGE</b>		
12 to 17	14.7	13.6
18 to 25	61.8	61.5
26 or Older	54.9	54.9
<b>GENDER</b>		
Male	57.6	57.4
Female	46.5	46.5
<b>RACE</b>		
White/Caucasian	56.7	56.7
Black or African American	42.8	42.8
American Indian or Alaska Native	37.1	36.6
Asian	37.6	38.4
Hispanic or Latino	41.7	41.8

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health 2009 and 2010

# When it becomes too much...

- In the US, about 1 in 16 adults have severe problems with drinking.
- 27% of persons in the US between 18 - 64 years of age meet the diagnostic criteria for alcohol dependency.
- Alcohol is one of the most abused drug in the US.



# Risky Business

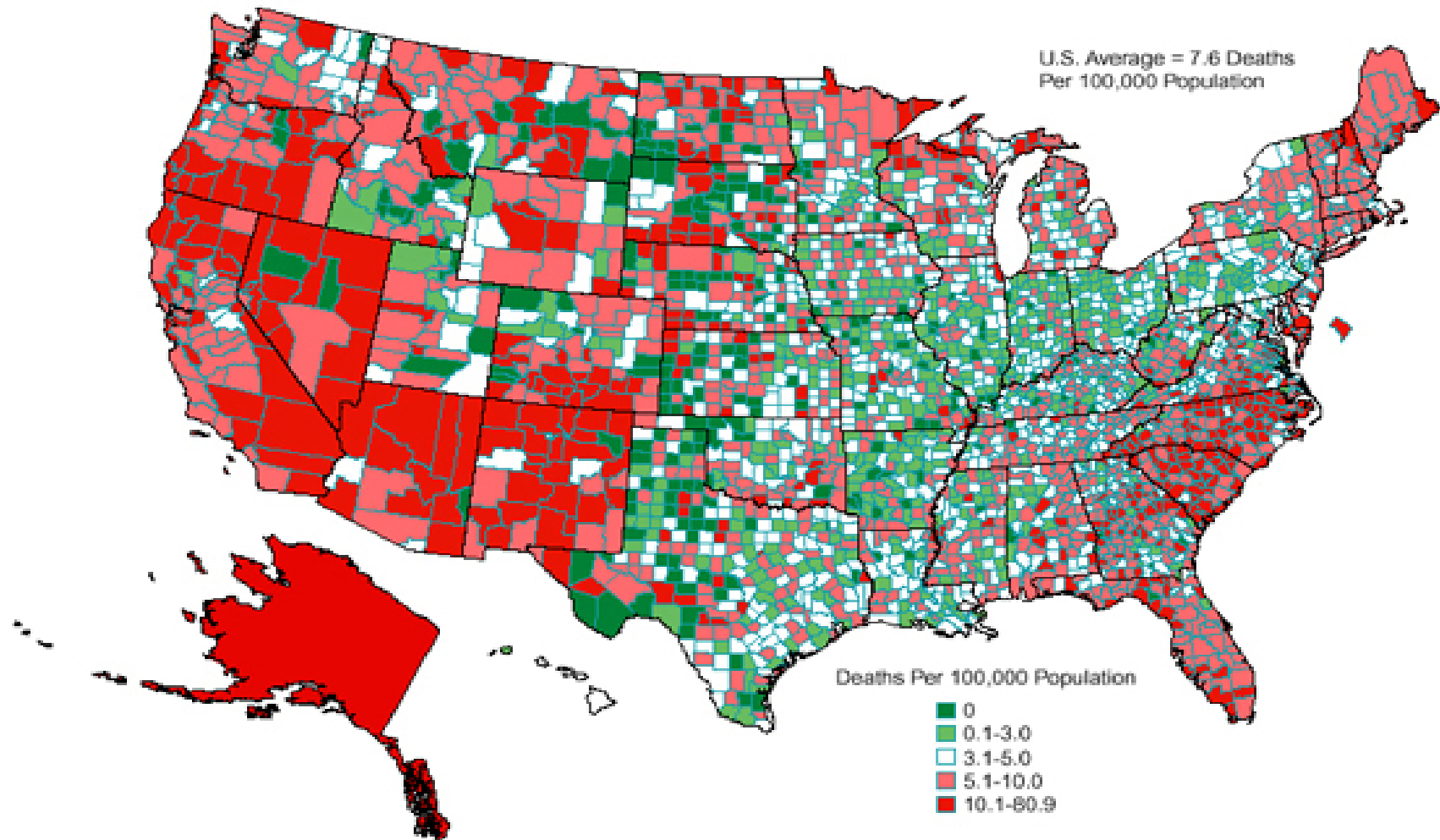
## Alcohol use increases your chances of

- Engaging in risky behaviors
- Experiencing social and personal issues
- Experiencing adverse health problems
- Becoming a victim of injury





**Average Annual Deaths Per 100,000 Population From Causes  
With Explicit Mention of Alcohol by County, United States, 1986-90**



People who abuse alcohol have Mortality and Morbidity rates 2 - 4 times greater than those of the general population.

# Quantifying Alcohol Abuse

- Different alcoholic beverages contain varying quantities of alcohol. A daily intake of more than 60g of alcohol in men and 20g in women significantly increases the risk of cirrhosis.
- More than 4 drinks/day is considered heavy alcohol use for women, more than 5 drinks/day for men.
- There is no ABSOLUTE number of drinks per day or quantity of alcohol that defines alcoholism.

# Real Life Comparison of Ounces



- Each of these pictured beverages = one alcoholic drink
- One alcoholic drink = 12g alcohol

# Effects on the Body



- Chronic drinking affects multiple organs
- Alcohol has damaging effects on the brain

# How does Alcohol effect the Brain?

- Alcohol has a slowing or sedating effect on the CNS.
  - NMDA
  - GABA
  - Chronic Drinkers



- Once the depressant effect of alcohol is removed, every mechanism will overact within hours of the last drink, resulting in Alcohol Withdrawal Syndrome.

# Alcohol Withdrawal Syndrome (AWS)

- A set of signs and symptoms, including hyperactivity such as nausea, vomiting, sweating, shakiness, agitation and anxiety, that develop when alcohol use is stopped after a period of heavy drinking.
- Can occur when a person who has been drinking too much alcohol every day suddenly stops drinking.

# Timing of Withdrawal Symptoms

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 Withdrawal Delirium (Delirium Tremens)

- Delirium Tremens (DTs) is a severe Alcohol Withdrawal Syndrome (AWS). (It is the worst form of AWS).
- A complicated symptom, characterized by disturbance of consciousness, perceptual disturbance and marked autonomic hyperactivity.
- A state of severe confusion and visual hallucinating.
- 30% of patients with DTs develop Aspiration Pneumonia.
- A medical emergency! Very dangerous! Killing as many as 1 out of every 20 people who develop its symptoms.



# Just the Facts

**FACT:** Even though alcohol withdrawal is a common in-patient disorder, studies suggest that many hospitalized patients are not receiving appropriate diagnosis or treatment.

**FACT:** Alcohol dependence often remains hidden until withdrawal signs appear. (Example: Hospitalized patient)



# Statistics in Hospitals

- In 2009, 32% of all ED visits involving drug abuse, were related to the use of alcohol.
- 1 in every 4 - 5 patients admitted to the hospital has a problem with alcohol.
- In another study, 226,000 patients were discharged from short-stay Hospitals (excluding VA and Federal Institutions) with 1 of the following diagnoses: Alcohol withdrawal, Alcohol withdrawal delirium or Alcohol withdrawal hallucinosis.

# Nursing Care for the Patient Withdrawing from Alcohol

## *Management Goals for Alcohol Withdrawal*

- Prevent the progression of symptoms
- Provide for the patient's safety and comfort
- Motivate the patient to engage in long term treatment

# In-patient Screening



- Who should be screened?
- All patients should be screened for alcohol abuse upon admission
  - Statistics show that up to 40% of patients admitted to the hospital may have some alcohol dependency

# Screening: The Interview

- As part of the admission assessment and history
  - Do you consume 3 or more drinks a week?
  - Date of the last alcoholic drink consumed?



I have a few when I take clients out for lunch, and then I have a drink to wind down after my workday...

# Screening: Physical Exam

System Affected	Effects
CNS	Impaired memory, Coordination, Sleep disturbances, Neuropathy, Hallucinations
Cardiovascular	Cardiomyopathy, Dysrhythmias, Hypertension
Hemo	Thrombocytopenia, Anemia
Gastrointestinal	Esophageal inflammation, Varices, Pancreatitis, Cirrhosis, Nausea and Vomiting
Muskoskeletal	Malnutrition, Weakness, Tremors (Alcohol tremulousness)

# Screening: Lab Tests

## LFTs: Liver Function Tests

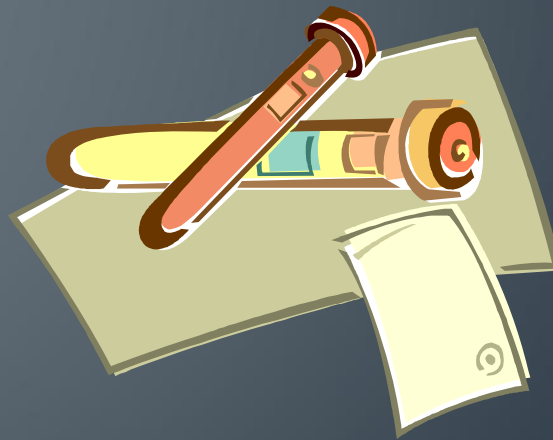
- **AST:** aspartate aminotransferase
- **ALT:** alanine aminotransferase
  - AST/ALT ratio
- **ALP:** alkaline phosphatase



There are various reasons why liver enzymes could be elevated

# Lab Tests Cont..

- Serum Albumin Concentration
- Gamma Glutamyltranspeptidase (GGT)
- Total Bilirubin
- PT/INR
- CBC
- CMP
  
- Ethyl Glucuronide





# Identifying AWS

- Screening can help us identify people who are at risk for developing AWS
- Physical exam: Can display physical symptoms that support the interview
- The key to identifying AWS is ruling out other medical conditions that could be causing any signs and symptoms



# Treatment Strategies

- The Clinical Institute Withdrawal Assessment of Alcohol Scale, revised (CIWA-Ar)
  - Created to assess and guide treatment of acute alcohol withdrawal.
- Can be used objectively to assess for the development of AWS
  - Validated objective scale
  - Has a list of 10 signs and symptoms
  - Quick, Easy to use, Useful
  - Has well documented reliability, reproducibility and validity

## Clinical Institute Withdrawal Assessment of Alcohol Scale, Revised (CIWA-Ar)

Patient: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ (24 hour clock, midnight = 00:00)

Pulse or heart rate, taken for one minute: \_\_\_\_\_ Blood pressure: \_\_\_\_\_

**NAUSEA AND VOMITING** -- Ask "Do you feel sick to your stomach? Have you vomited?" Observation.

- 0 no nausea and no vomiting
- 1 mild nausea with no vomiting
- 2
- 3
- 4 intermittent nausea with dry heaves
- 5
- 6
- 7 constant nausea, frequent dry heaves and vomiting

**TREMOR** -- Arms extended and fingers spread apart. Observation.

- 0 no tremor
- 1 not visible, but can be felt fingertip to fingertip
- 2
- 3
- 4 moderate, with patient's arms extended
- 5
- 6
- 7 severe, even with arms not extended

**PAROXYSMAL SWEATS** -- Observation.

- 0 no sweat visible
- 1 barely perceptible sweating, palms moist
- 2
- 3
- 4 beads of sweat obvious on forehead
- 5
- 6
- 7 drenching sweats

**ANXIETY** -- Ask "Do you feel nervous?" Observation.

- 0 no anxiety, at ease
- 1 mild anxious
- 2
- 3
- 4 moderately anxious, or guarded, so anxiety is inferred
- 5
- 6
- 7 equivalent to acute panic states as seen in severe delirium or acute schizophrenic reactions

**TACTILE DISTURBANCES** -- Ask "Have you any itching, pins and needles sensations, any burning, any numbness, or do you feel bugs crawling on or under your skin?" Observation.

- 0 none
- 1 very mild itching, pins and needles, burning or numbness
- 2 mild itching, pins and needles, burning or numbness
- 3 moderate itching, pins and needles, burning or numbness
- 4 moderately severe hallucinations
- 5 severe hallucinations
- 6 extremely severe hallucinations
- 7 continuous hallucinations

**AUDITORY DISTURBANCES** -- Ask "Are you more aware of sounds around you? Are they harsh? Do they frighten you? Are you hearing anything that is disturbing to you? Are you hearing things you know are not there?" Observation.

- 0 not present
- 1 very mild harshness or ability to frighten
- 2 mild harshness or ability to frighten
- 3 moderate harshness or ability to frighten
- 4 moderately severe hallucinations
- 5 severe hallucinations
- 6 extremely severe hallucinations
- 7 continuous hallucinations

**VISUAL DISTURBANCES** -- Ask "Does the light appear to be too bright? Is its color different? Does it hurt your eyes? Are you seeing anything that is disturbing to you? Are you seeing things you know are not there?" Observation.

- 0 not present
- 1 very mild sensitivity
- 2 mild sensitivity
- 3 moderate sensitivity
- 4 moderately severe hallucinations
- 5 severe hallucinations
- 6 extremely severe hallucinations
- 7 continuous hallucinations

**HEADACHE, FULLNESS IN HEAD** -- Ask "Does your head feel different? Does it feel like there is a band around your head?" Do not rate for dizziness or lightheadedness. Otherwise, rate severity.

- 0 not present
- 1 very mild
- 2 mild
- 3 moderate
- 4 moderately severe
- 5 severe
- 6 very severe
- 7 extremely severe

- 5 severe hallucinations.
- 6 extremely severe hallucinations.
- 7 continuous hallucinations.

**AUDITORY DISTURBANCES:** Ask "Are you more aware of sounds around you? Are they harsh? Do they frighten you? Are you hearing anything that is disturbing to you? Are you hearing things you know are not there?" Observation.

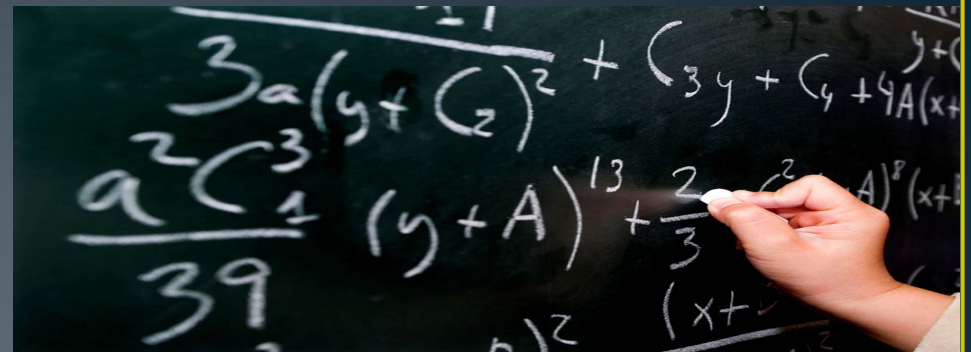
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- 1 very mild harshness or ability to frighten.
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- 4 moderately severe hallucinations.
- 5 severe hallucinations.
- 6 extremely severe hallucinations.
- 7 continuous hallucinations.

**ORIENTATION AND CLOUDING OF SENSORIUM:**

Ask "What day is today? What is this place?"

- 0 oriented and can do serial additions.

# Score Assigned



- Score assigned to each symptom
- A cumulative score determines therapy for the patient

< 10: very mild withdrawal

10 - 15: mild withdrawal

16 - 20: Modest withdrawal

>20: severe, poses strong risk for delirium tremens

Maximum score is 67

# Cascade of Interventions

- The CIWA score can be used to :
  - 1. Determine severity of withdrawal
  - 2. Determine frequency of assessment
  - 3. Determine dose and frequency of medication administration
  - 4. Nursing interventions



# Frequency of Assessment

- Repeat CIWA-Ar assessment questions
  - Every 1, 2 to 8 hours depending on score



Notify physician if CIWA –Ar score  $>20$ , if patient experiencing DTs, or if there is a need for restraints.

# Pharmacological Treatment

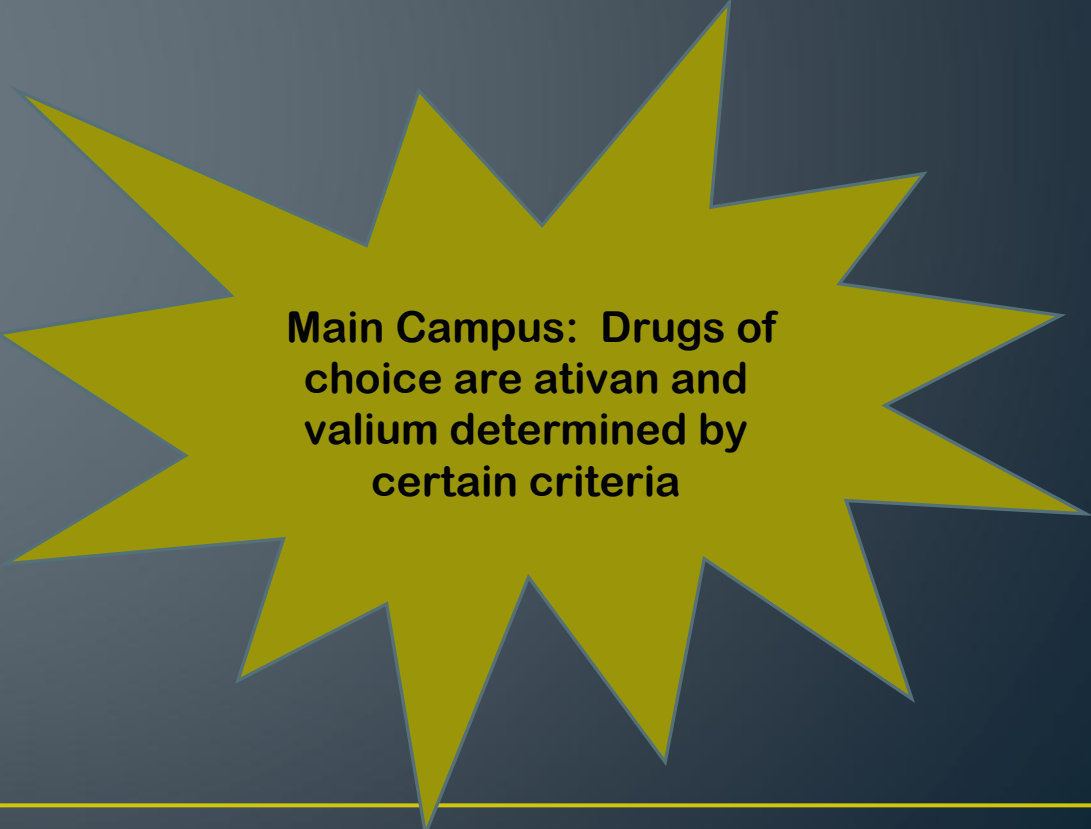
- Benzodiazepines: considered by research studies and consensus reports to be the drug of choice to treat alcohol withdrawal
  - Symptom-triggered dosing vs. scheduled dosing
  - Often, only 1 – 2 days of medication administration is needed and no tapering





# Why Benzodiazepines?

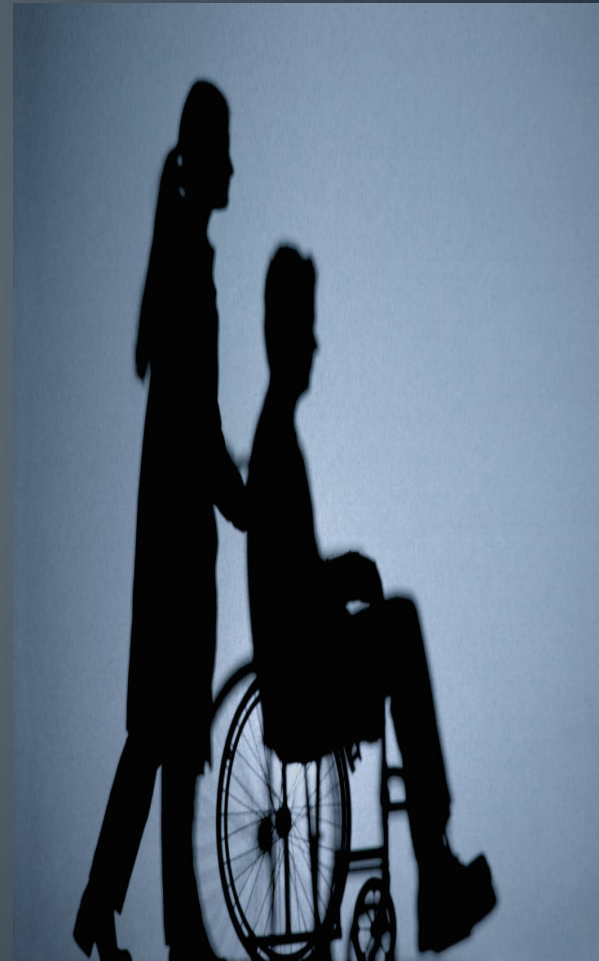
- Act upon the Central Nervous System the same way alcohol does, therefore suppressing the nervous system and preventing the over excitability that sudden alcohol cessation causes.
  - Diazepam (Valium)
  - Lorazepam (Ativan)



**Main Campus: Drugs of choice are ativan and valium determined by certain criteria**

# Nursing Interventions

- **Safety**
  - Fall risk
  - Restraints
  - Hourly rounding
- **Aspiration precautions**
  - Nausea/Vomiting
  - Suction
  - Nasogastric tube
- **Cardiac Monitoring**
  - Dysrhythmias
  - Vital Signs



# Nutrition

- Vitamin B1 (Thiamine)
  - Wernicke's Encephalopathy
  - Korsakoff's Psychosis
- Electrolytes
- Frequent meals and snacks
- Fluids
  - Intake and Output

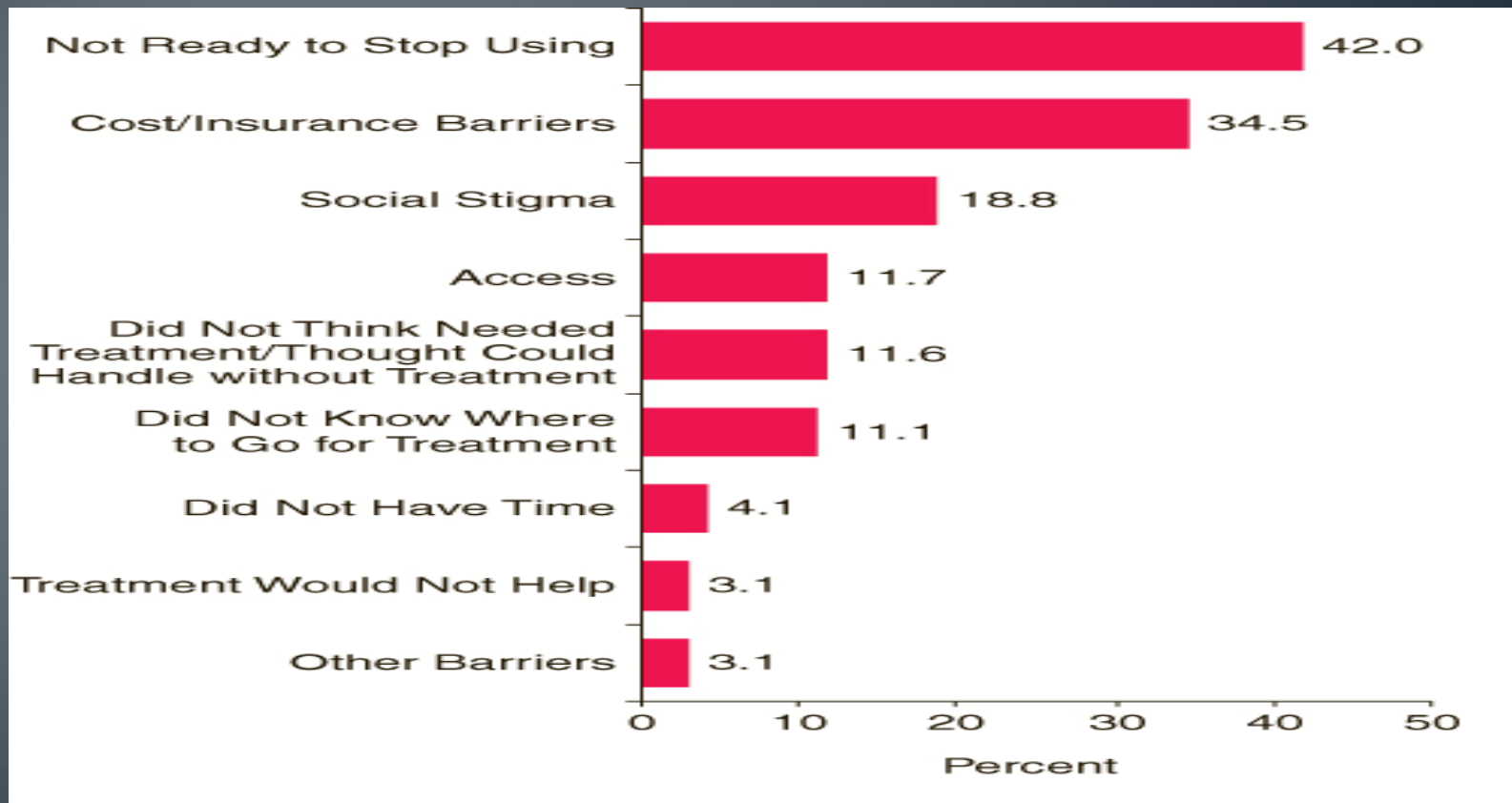


# Consults

- Nutrition therapy
- Psychiatry
- Case Management
- Social Work
  - Assess for barriers
  - Outpatient Resources
    - AA
    - Substance Abuse Treatment Centers



# Barriers to Cessation



Source: 2007 SAMHSA National Survey on Drug Use and Health (NSDUH).

# Patient Education

- Cessation of alcohol use
- Nutrition
- Resources





**Cleveland Clinic**

**Every life deserves world class care.**

# Case Study

- Stacey is a 34 year old small business owner who is admitted to your unit after being involved in a MVA. Her PMH includes asthma and poly drug use. Her last use was 12 months ago with the exception of the glass of wine she has daily with dinner.
  - On day 2, the next day after admission, Stacey is exhibiting signs of mild nausea without emesis, moderate anxiety and seems somewhat agitated. She is c/o of a HA that “just won’t quit.”
  - On day 3, Stacey calls and asks that blinds be closed because the August sun is too bright and hurting her HA. You tell Stacey it’s September and when asking her questions you notice she is restless and fidgeting with her blankets which are drenched with sweat.



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