

Alcohol Use Disorder The Forgotten Epidemic

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Alcohol kills 130,000 deaths
Americans per yr.

Third leading cause of modifiable death.



Alcohol: Social and Health Effects

Total U. S. Drinking Deaths, 130,000

Alcohol is involved in...

- 40% of fatal car crashes
- 50% of all murders
- 20-36% of suicides
- 50% of rapes
- 25-30% of admissions to hospitals

Homeless Population...

- 45% have substance abuse problems

Economic Costs in U.S.

\$185 billion per year



At-risk drinking and alcohol problems are common ...

About 3 in 10 adults drink at levels that elevate health risks, i.e. heavy drinking.

– Greater risk of:

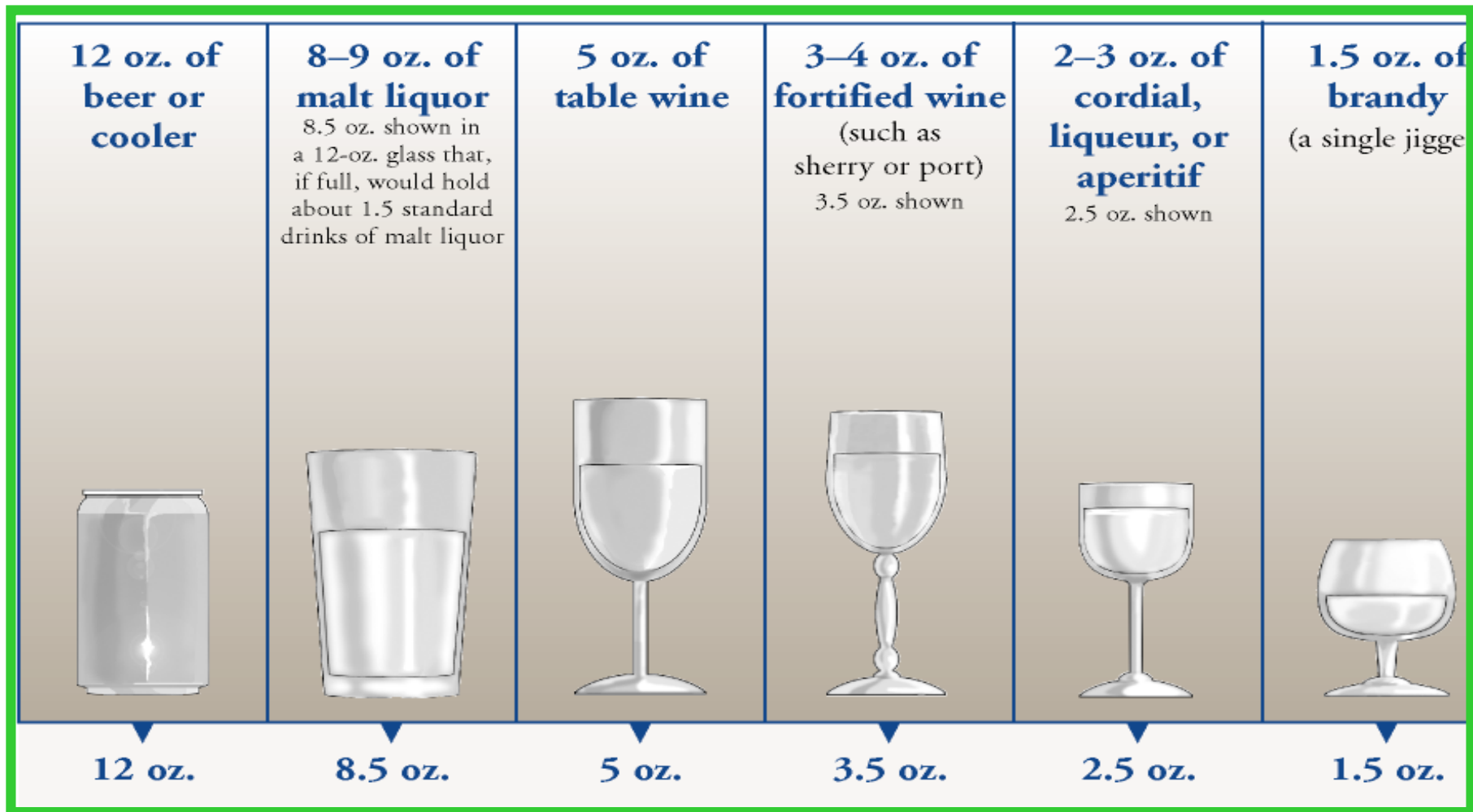
hypertension	sleep disorders
major depression	hemorrhagic stroke
liver cirrhosis	several cancers
gastrointestinal bleeding	

– Among heavy drinkers, 1 in 4 has alcohol abuse or dependence.



What's a Standard Drink?

In the U.S., a standard drink is any drink that contains about 14 grams of pure alcohol (about 0.6 fluid ounces or 1.2 tablespoons).



Clinical Indications for Screening

- As part of a routine examination
- Before prescribing a medication that interacts with alcohol
- In the emergency department or urgent care center
- When seeing patients who...
 - are pregnant or trying to conceive
 - are likely to drink heavily (e.g. smokers, adolescents, young adults)
 - have health problems that might be alcohol induced
 - have a chronic illness not responding to treatment



Screening and Brief Intervention for Alcohol Use Disorders

“Helping Patients Who Drink Too Much”
A Clinician’s Guide from NIAAA,
National Institutes of Health

Step by step guide to addressing Alcohol Use Disorders
in a Primary Care Setting.

To order free copies of the Guide, Pocket Guide, or the CD, contact NIAAA...
www.niaaa.nih.gov/guide



Alcohol - *“The cause of and solution to all of life’s problems” – Homer Simpson*

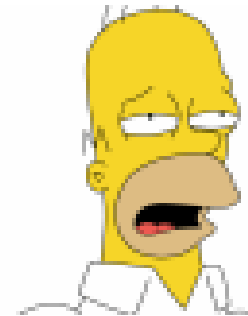


- Most common and longest used intoxicant.
- Indirect GABA agonist
- We like to drink
- And do stupid things



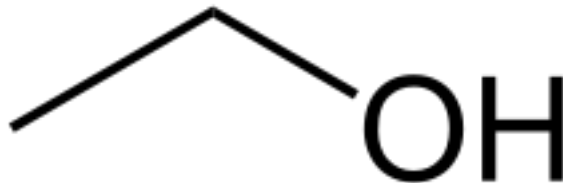
Alcohol Intoxication

- Inhibitions
- Speech
- Judgment
- Coordination
- Intensified emotions
- “Smells of ketones”



Alcohol Withdrawal

- GABA/Glutamate
- Begins quickly and can last a while
- Delirium tremens is deadly
- Alcohol withdrawal seizures
- Complicates all other withdrawal
- Diagnosed via CIWA and clinical history



Clinical Institute Withdrawal Assessment (CIWA)

- Graded on a 1-7 scale: >10 is withdrawal
- Nausea and vomiting
- Tremor
- Paroxysmal sweats
- Anxiety
- Headache, fullness in head
- Visual, auditory, tactile disturbances
- Once a patient is in withdrawal the diagnosis is made



COWS vs. CIWA

- Many similarities make it difficult to determine alcohol vs. opioid withdrawal
- CIWA
 - Visual, auditory, tactile disturbances is specific
 - Much more headache and headfullness
- COWS
 - Bone or joint aches
 - Runny nose or tearing
 - Yawning
 - Gooseflesh skin
 - Pupil size



Medications For Alcohol Dependence

FDA-approved

- Disulfiram (Antabuse) – unpleasant reaction if exposed to alcohol
- Acamprosate (Campral) - helps support abstinence and ease withdrawal symptoms
- Naltrexone – reduces heavy drinking.

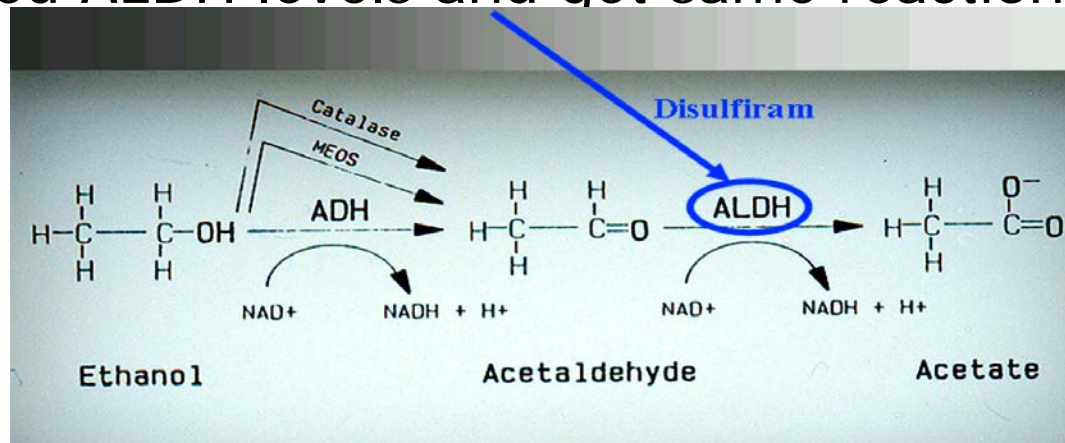
Early Studies show promise

- Topiramate, Baclofen, Gabapentin
- Varenicline



Disulfiram Mechanism of Action

- Blocks ethanol metabolism by inhibition of ALDH
- Leads to increase in acetaldehyde
- flushing, tachycardia, vomiting
- Some people (particularly SE Asians) have genetically reduced ALDH levels and get same reaction when they drink.



Acamprosate (Campral)

- 666 mg (2 tablets) tid
- - Agonist activity at GABA_A receptor and antagonistic activity at NMDA receptors
- GABA and Glutamate activity
- Meta Analysis 17 RCTs, 4000 Subjects
 - Continuous abstinence rates at 6 mos:
 - Acamprosate = 36.1% Placebo = 23.4% (p<0.001)
 - Adverse Effects: bloating, diarrhea, fluid retention, itching. Very rarely Stevens-Johnson type rash.



Naltrexone for Alcohol Dependence

Meta-analysis by Streeton and Whelan, 2001

- Naltrexone 50 mg po vs placebo

Results

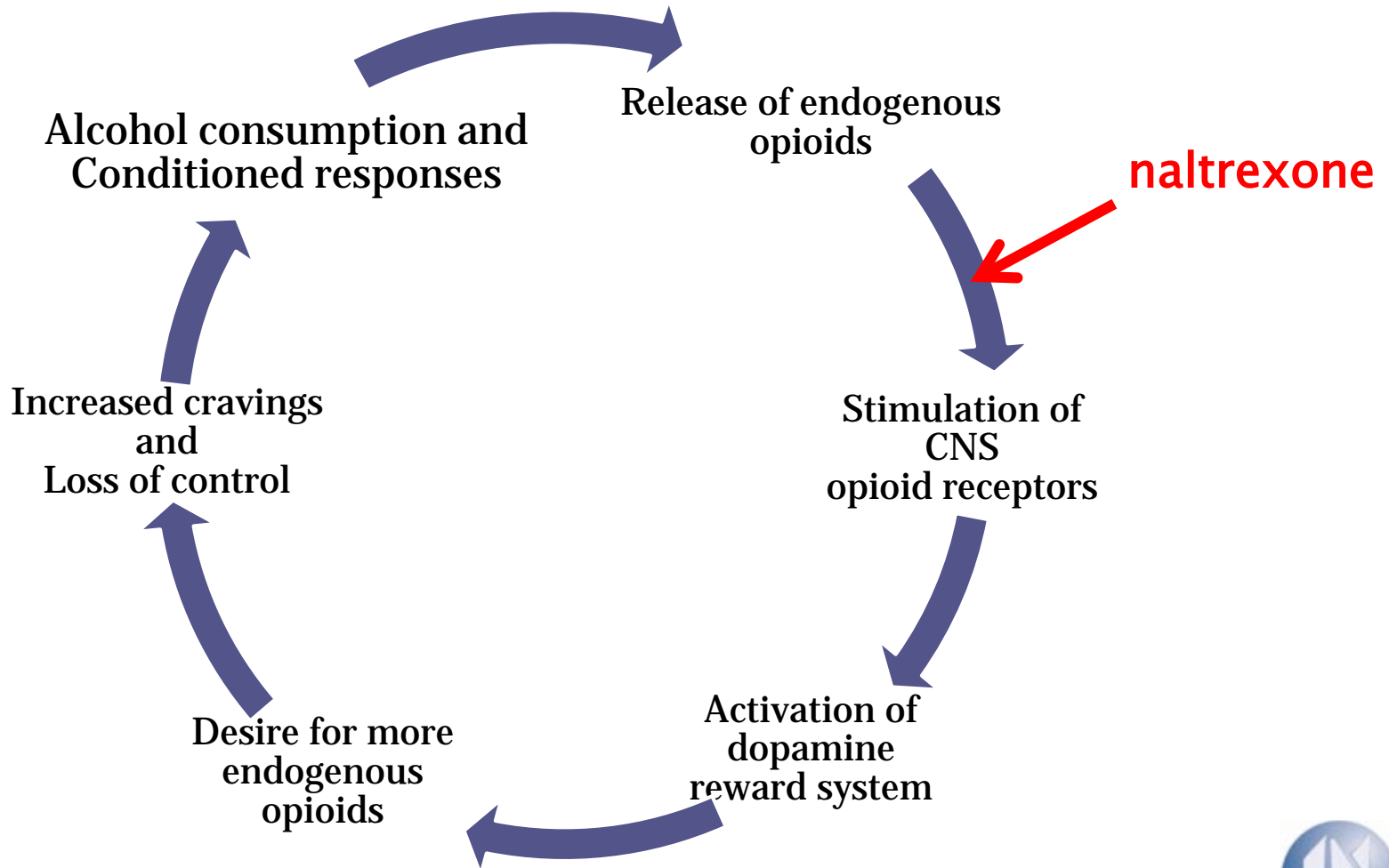
- Relapse rate for naltrexone 14% less than placebo
- 10% more naltrexone pts. remained abstinent for entire study
- Alcohol consumption among relapses was less for naltrexone group

Adverse Events

- Nausea, abdominal pain, fatigue, elevated LFTs



Endogenous Opioids in Alcohol Dependence



Sustained-Release Naltrexone (Vivitrol®)

- 380 mg intramuscular shot.
- Given every 4 wks.
- Should be abstinent before starting therapy.
- Side effects are similar to oral, lessen with subsequent shot
- Pain and inflammation at injection site
- More difficult to manage if acute pain



Vivitrol for Alcohol Dependence

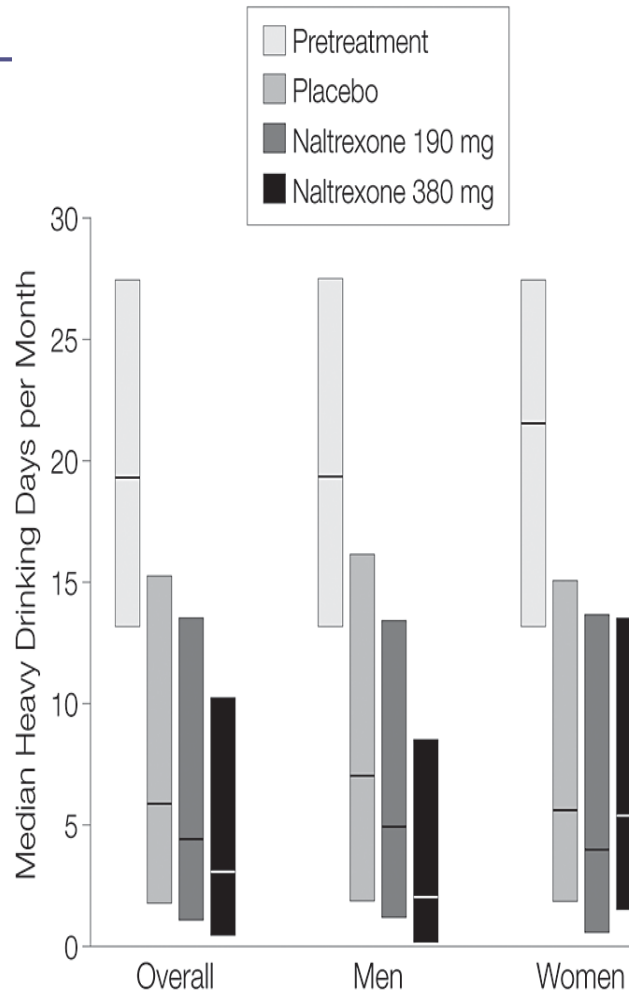
Randomized,
placebo-controlled
study.

627 alcohol
dependent adults.

6 mos. of treatment.

Results

Those abstinent
before starting, and
men, responded
better.



Significant Adverse Events

Placebo vs. 380
mg Naltrexone

- nausea
- headache
- decreased appetite
- dizziness
- injection site pain

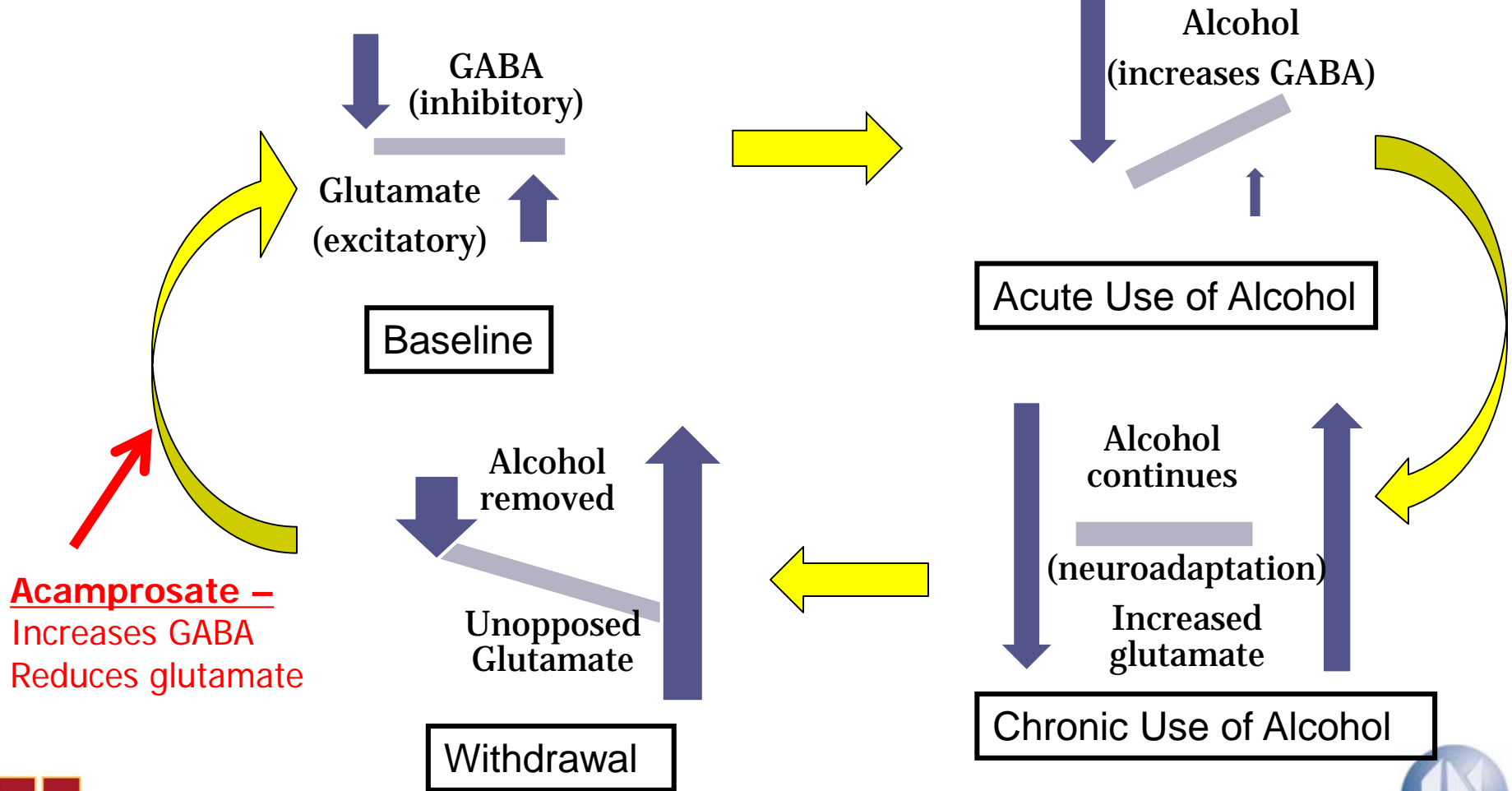


Timeline of Alcohol Withdrawal

- Alcohol withdrawal seizures
 - Usually within the first 72 hours
 - Can go into withdrawal with notable blood alcohol level
- Delirium tremens
 - Usual onset 72 hours or later after decrease in alcohol level
 - Can occur up to five days after last drink



GABA-Glutamate System in AUD



Treatment of Alcohol Withdrawal

- GABA!
- half-life consideration
 - IV
 - PO
- Severe liver dysfunction
- Role of Gabapentin and Clonidine
- Inpatient vs. outpatient
- History of DTs/Seizure



Treat Addiction

Save Lives



Questions?

