

ALCOHOL

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PIERCE COLLEGE FALL 2021
ADDICTION STUDIES 2



Statistic

- * Most countries with the exception of Islamic countries consume alcohol
- * Alcohol consumption disorder is world wide
- * 3rd leading cause of death
 - * Estimated 95,000 die from alcohol-related causes annually

Alcohol Use in the United States



Source: 2019 NSDUH

85.6 percent
of people ages 18 and
older reported that they
drank alcohol at some
point in their lifetime.

Alcohol Use Disorder (AUD) in the United States

14.5 million

people ages 12 and older had AUD in 2019.



Source: 2019 NSDUH

Binge Drinking in the United States



Source: 2019 NSDUH

In 2019,
25.8 percent
of people ages 18 and
older reported that they
engaged in binge drinking
in the past month.

Alcohol Use Disorder (AUD) in U.S. Adolescents

414,000 adolescents ages
12 to 17 had AUD in 2019.



Source: 2019 NSDUH

Alcohol-Related Deaths in the United States

95,000

people die from alcohol-related
causes annually.

Source: CDC

U.S. Children Living With Parent / Caregiver With Alcohol Use Disorder (AUD)

More than 10 percent of U.S. children ages 17
and younger live with a parent with AUD.



NATIONAL SURVEY ON DRUG USE AND HEALTH

2019

History

- * The oldest and most widely used psychoactive drugs in the world
- * Curiosity lead to experimentation with fermentation
- * Pleasurable effects and health benefits
- * Alcohol is shared history with the world

Recent History Timeline

- * 1620 - The Mayflower shipped more beer than water when it departed for the new world
- * 1649 - Britain imposes an excise tax on distilled spirits. Along with tax of alcohol came the development of the moonshine trade.
- * 1791 - The Act of 1791 (whiskey tax) enacted a tax publicly and privately distilled whiskey
- * 1802 - Thomas Jefferson repealed the whiskey tax, calling it “hostile to the genus of free people”
- * 1840 - America. Groups came about to push for abstinence e.g. Washington Temperance group, Women’s Christian Temperance Group
- * 1860 - 1,138 legal alcohol distilleries were operating in the United States producing 88 million gallons of liquor per year.
- * 1862 - Abraham Lincoln imposed a new tax on liquor (the Act of July 1) to help pay the bills from the Civil War.

Recent History Timeline

- * 1907 - Pure Food and Drug Act is passed regulating the labeling of products containing Alcohol, Opiates, Cocaine, and Cannabis, among others.
- * 1920 - February 1: The Volstead Act (aka Prohibition) - production and sales of alcoholic beverages is illegal except for medical or religious purposes.
- * 1920-1933 - Criminalization of the manufacturing and distribution of alcohol throughout the U.S.
- * 1933 - The Eighteenth Amendment was repealed, the excise tax on alcohol began to climb again.
- * 1978 - U.S. President Jimmy Carter signs bill legalizing home brewing of beer for the first time since prohibition.
- * 1984 - National Minimum Drinking Age Act, all states 21+

Chemistry of Alcohol

- * Ethyl Alcohol (ethanol, grain alcohol)- alcohol beverages
- * Methyl Alcohol (methanol, wood alcohol) toxic solvent
- * Isopropyl (propanol, rubbing alcohol)
- * Butyl Alcohol (butanol) industrial use, gasoline

Types of Alcohol Beverages

- * Beer
 - * Cereal/Grains
- * Wine
 - * Grapes
 - * Berries
 - * Starchy rice
- * Distilled Spirits
 - * Separating liquid

**12 oz. of
beer or
cooler**



~5% alcohol

12 oz.

**8–9 oz. of
malt liquor**
8.5 oz. shown in
a 12-oz. glass that,
if full, would hold
about 1.5 standard
drinks of malt liquor



~7% alcohol

8.5 oz.

**5 oz. of
table wine**



~12% alcohol

5 oz.

**3–4 oz. of
fortified wine**
(such as
sherry or port)
3.5 oz. shown



~17% alcohol

3.5 oz.

**2–3 oz. of
cordial,
liqueur, or
aperitif**
2.5 oz. shown



~24% alcohol

2.5 oz.

**1.5 oz. of
brandy**
(a single jigger)



~40% alcohol

1.5 oz.

**1.5 oz. of
spirits**
(a single jigger
of 80-proof
gin, vodka,
whiskey, etc.)
Shown straight and
in a highball glass
with ice to show
the level before
adding a mixer*



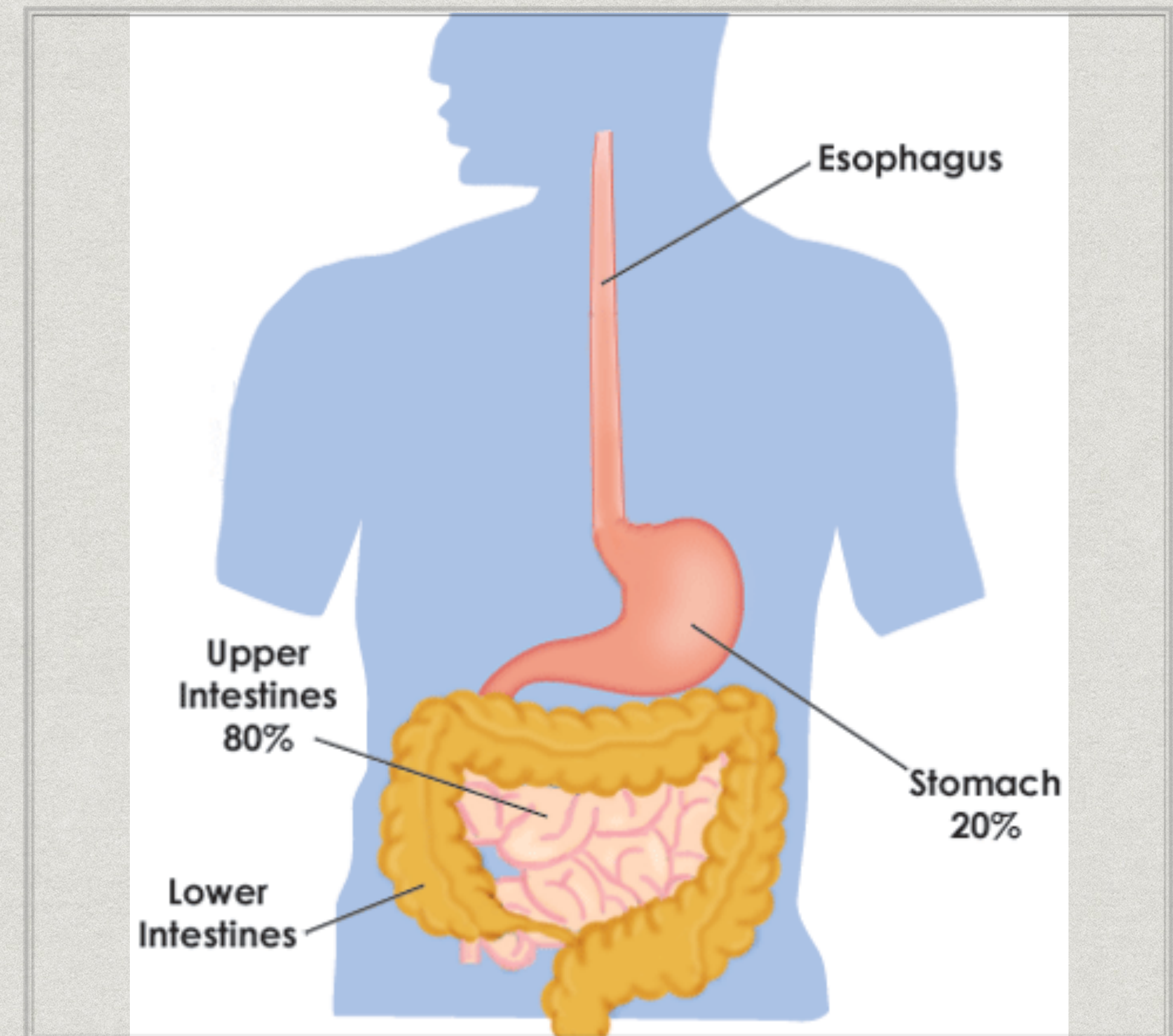
~40% alcohol

1.5 oz.

Absorption of Alcohol

Absorption through the Gastrointestinal Tract

- * Stomach
- * Small intestines
- * Colon
- * Capillaries
 - * Fat and Water Soluble
- * Effects depend on rate of absorption
 - * Weight
 - * Body fat
 - * Body chemistry
 - * Emotional state
- * Women have greater effects
 - * Lower % of body water
 - * Less enzymes in stomach



Absorption Factors

- * **Speeds up absorption**

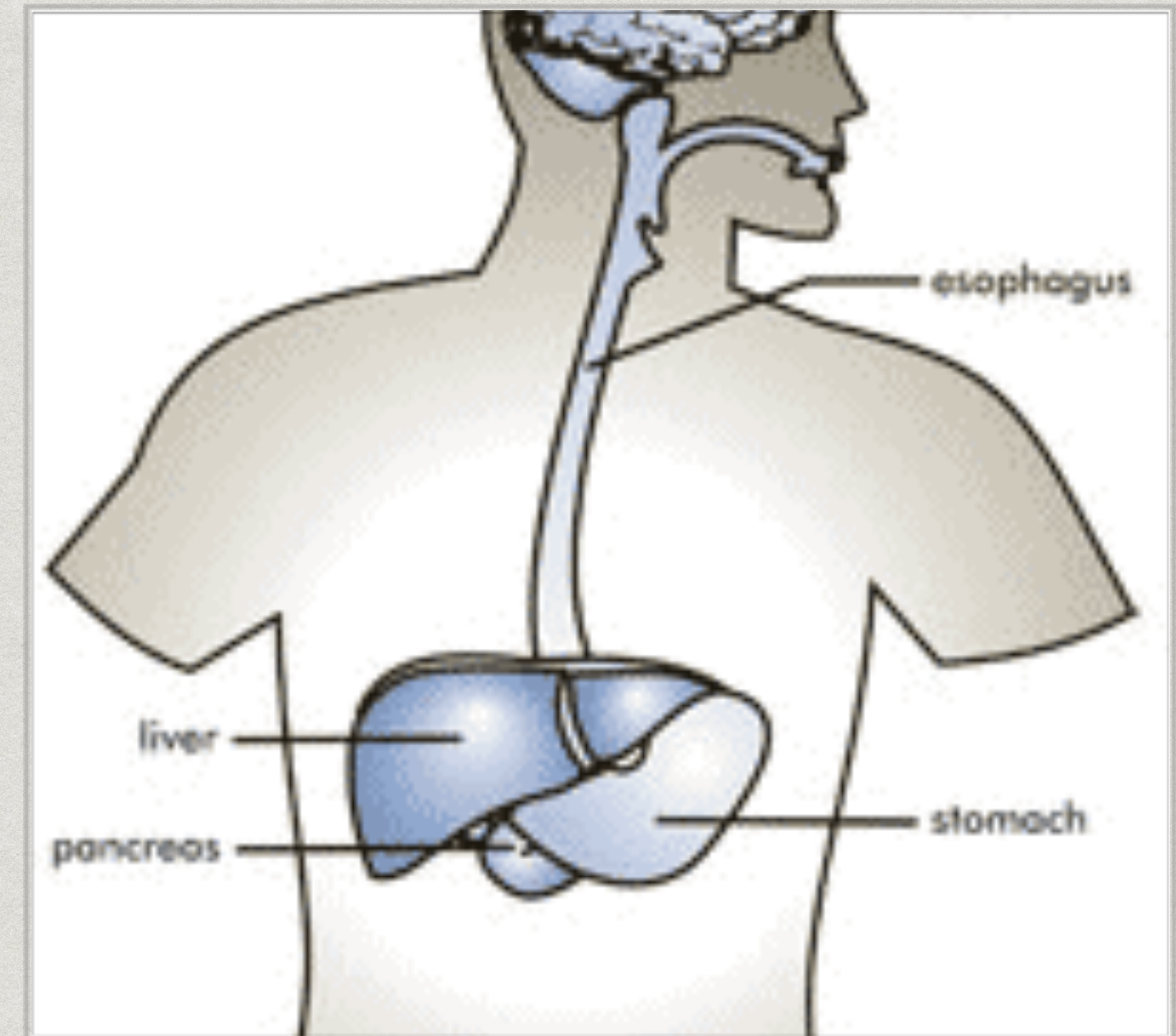
- * Increasing the quantity consumed
- * Empty Stomach
- * High alcohol concentration
- * Carbonated drinks - sparkling wine, champagne, tonic mixers
- * Warming the alcohol

- * **Slows down absorption**

- * Eating before or while drinking (especially fatty foods)
- * Diluting alcohol by adding ice, juice or water

Metabolism of Alcohol

- * 2-10% eliminated directly
- * 90-98% by liver
 - * Excreted through kidneys and lungs
 - * 1 oz /3hrs
- * BAC- Blood Alcohol Concentration
 - * 15-20 min to travel to the brain
 - * 30-90 min to reach max BAC



Neurotransmitters Affect by Alcohol

- * GABA- (an inhibitory neurotransmitter) is the most important chemical affected by alcohol. Alcohol enhances GABA neurotransmission at the GABA receptor, which turn off emotional inhibitions and eventually slows down all brain processes.
- * Serotonin initially elevates mood, and then alcohol depletes those neurotransmitters as drinking escalates. Serotonin depletion causes depression.
- * Dopamine gives a surge of well-being in the survival pathway, so does norepinephrine.
- * Met-enkephalin reduces pain and stress.
- * Glutamate intensifies the effects of dopamine and enhances a certain pleasurable stimulation, thus reinforcing the drinking.
- * Endorphins and Anandamides enhance the reinforcing effects of alcohol.

Alcohol Use Consequences

- * Alcohol Poisoning
- * Black outs
- * HangoversDigestive System and Liver Disease
- * Other Digestive organs
- * Cardiovascular Disease
- * Nervous System
- * Loss of emotional control
- * Sexual Desire. Reproductive System
- * Cancer
- * Mental Confusion
- * Mood swings
- * Loss of judgement
- * Loss of emotional control
- * Interfere with REM sleep

Alcohol Poisoning

- * Depression of the nervous system
- * Unconsciousness
- * Respiratory failure
- * Cardiac Failure
- * Coma
- * Death
- * BAC .40 threshold, may vary from person to person

Black Outs/Hangover

- * **Black Outs**

- * Appears normal
- * Awake
- * Cannot recall anything
- * Disruption of the brain
- * Amount consumed varies

- * **Hangover**

- * Low blood levels
- * Dehydration
- * Intestinal irritation
- * Can occur after hours of consumption
- * Different from withdrawal

0.01 Blood Alcohol Concentration

Lowered inhibitions, feelings of relaxation

Some loss of muscular coordination

Decreased alertness

Reduced social inhibitions

Impaired ability to drive

Further loss of coordination

Slowed reaction time

Exaggerated emotions

Unsteadiness standing or walking

Hostile, argumentative and other hostile behaviors

Clumsiness

Slurred speech

Inability to walk without help

Confused speech

Incapacitation, loss of feeling

Difficult in rousing

Life-threatening unconsciousness

Coma

Death from lung and heart failure

.50 Blood Alcohol Concentration



Heredity, Environment and Psychoactive Drugs

- * Genetic
 - * 89 genes linked to alcoholism
- * Environment
 - * Home
 - * Family
 - * Community
- * Psychoactive Drugs
 - * Other drugs reinforce the use of alcohol

Epidemiology

- * Culture
 - * Social norms
 - * Religious beliefs
 - * Economic structure
- * Gender
 - * Male

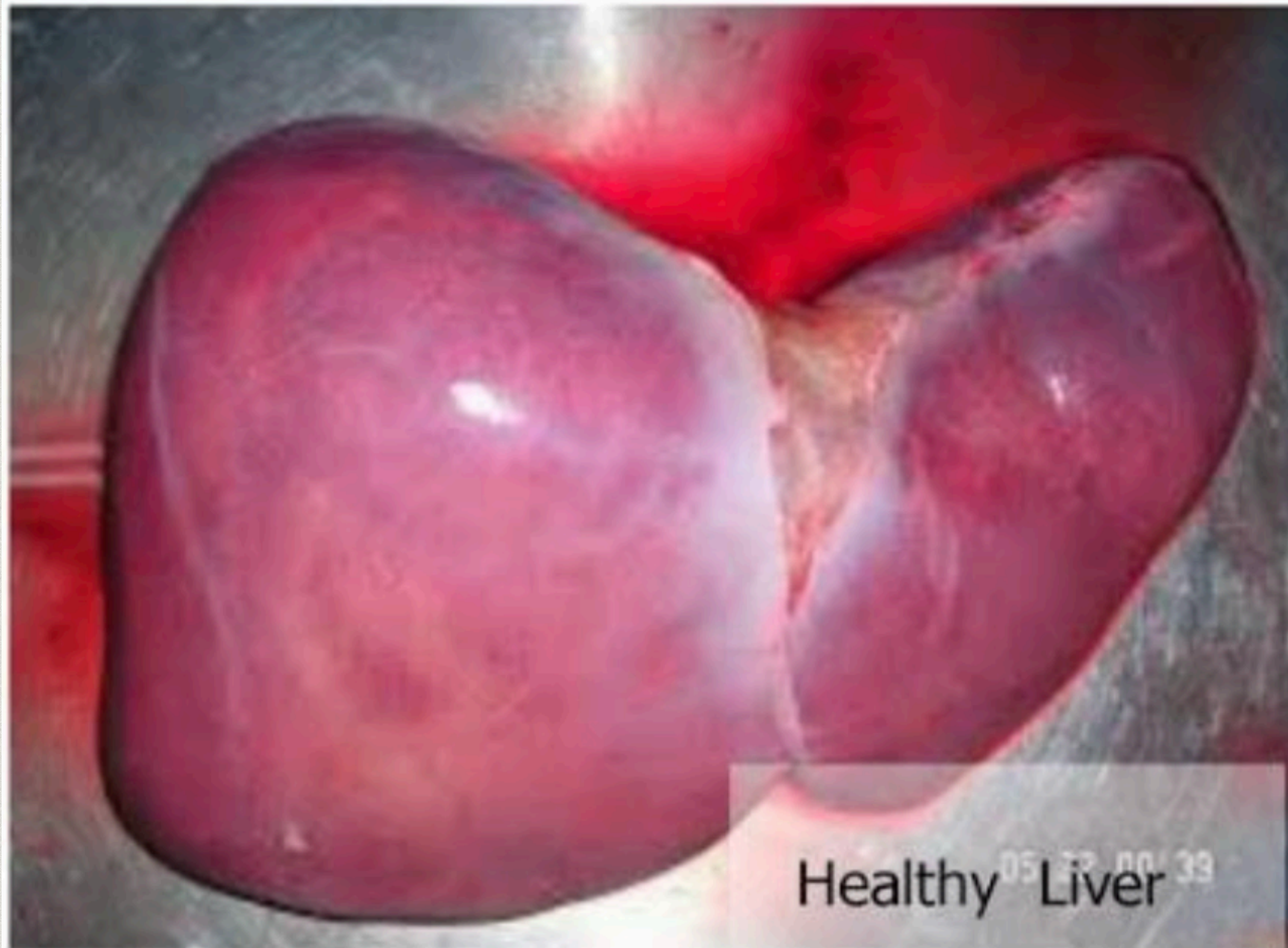
Alcohol and Pregnancy

- * Fetal Alcohol Spectrum Disorder
 - * Slow growth
 - * Facial deformities
 - * CNS-delayed intellectual development
 - * Prenatal alcohol exposure
- * Lead cause of mental retardation
 - * Alcohol kills brain cells/changes wiring of a fetus brain
 - * Smaller brain or malformed
- * Miscarriages

Alcohol Use:

A problematic pattern of alcohol use leading to clinically significant impairment or distress as manifested by at least two of the following, occurring within a 12 month period

- * Alcohol is often taken in larger amounts of over a longer period than was intended
- * There is a persistent desire to unsuccessful efforts to cut down or control alcohol use.
- * A great deal of time is spent in activities necessary to obtain alcohol, use alcohol or recover from its effects.
- * Craving or a strong desire or urge to use alcohol.
- * Recurrent alcohol use resulting in a failure to fulfill major role obligations at work, school, or home.
- * Continued alcohol use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of alcohol.
- * Important social, occupation, or recreational activities are given up or reduced because of alcohol use.
- * Recurrent alcohol use in situation in which it is physically hazardous.
- * Alcohol use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by alcohol.



My Name was Bette

- * Watch on Amazon Prime
- * YouTube subscription



Next Week: April 18

- * All Arounders
 - * LSD
 - * MDMA/Ecstasy
 - * Belladonna
 - * Katamine/PCP
 - * Cannabinoids