

ALCOHOL GENERAL AWARENESS TRAINING

TRAINING MODULE AGAT-14-2

ALCOHOL TRAINING

This training module will provide you with a basic understanding of alcohol abuse, warning signs, effects on the body and consequences of alcohol abuse. The training module will include the following topic areas:

- What is Alcohol
- Alcoholism in the Workplace
- Alcohol Use and Health
- The Standard Measure of Alcohol
- Definitions of Patterns of Drinking Alcohol
- Underage & College Drinking
- Alcohol Abuse
- Immediate Health Risks
- Long-Term Health Risks/Alcohol's Effects on the Body
- Common signs and symptoms of alcohol abuse
- Warning signs
- Consequences of drinking too much
- Alcohol and Prescription Medications

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The National Council on Alcohol and Drug Dependence defines alcoholism this way:

"Alcoholism is a primary, chronic disease with genetic, psychological, and environmental factors influencing its development and manifestations. The disease is often progressive and fatal. It is characterized by impaired control over drinking, preoccupation with the drug alcohol, use of alcohol despite adverse consequences, and distortion in thinking, most notably denial."

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What is Alcohol?

Alcohol is an intoxicating substance made from fermented starches. It is the most widely used psychoactive, or mood-changing, recreational drug in the United States and around the world. Alcohol is often mistakenly believed to be a stimulant. This is because drinking a small amount of alcohol may initially reduce tension or inhibitions, making a person feel more relaxed or excited. For this reason, people often drink alcohol at social occasions.

However, alcohol is actually a central nervous system **depressant** that affects almost all of a person's cells and systems. Increasing alcohol concentrations in the body inhibits many of the brain's functions, dampening the motor and sensory centers, and rapidly making judgment, coordination and balance more difficult, and slowing one's reflexes.

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What is Alcohol? (cont'd)

Alcohol is chemically made up of hydrogen, carbon, and oxygen atoms. There are three types of alcohol:

- Methyl or Methanol – colorless, volatile, water-soluble, poisonous liquid, CH_4O , obtained by the destructive distillation of wood or the incomplete oxidation of natural gas, or produced synthetically from carbon monoxide and hydrogen, used chiefly as a solvent, a fuel, and an automobile antifreeze and in the synthesis of formaldehyde. Not for human consumption.
- Isopropyl Alcohol is generally used as a disinfectant, also not for human consumption.
- Ethyl or Ethanol is derived from the fermentation of fruits, vegetables and grains. This is the most commonly consumed by humans.

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ALCOHOLISM IN THE WORKPLACE

As far as an employer is concerned, an employee's decision to drink is that individual's personal business. However, when the use or abuse of alcohol interferes with the employee's ability to perform his or her duties, the employer does have legitimate concerns, including the proper performance of duties, health and safety issues, and employee conduct at the workplace.

Out of millions who hold full time employment in the United States, close to fifteen million are heavy drinkers of alcohol, exacting a high cost on work organizations, as employees who drink a lot are often absent from work, suffer from a lot of health problems, and are at a greater risk of harming themselves and others.

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ALCOHOLISM IN THE WORKPLACE (cont'd)

In the workplace, the impact of alcoholism focuses on four major issues:

- *Premature death/fatal accidents*
- *Injuries/accident rates*
- *Absenteeism/extra sick leave*
- *Loss of production*

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ALCOHOLISM IN THE WORKPLACE (cont'd)

Additional problem areas can include:

- Tardiness/sleeping on the job
- Theft
- Poor decision making
- Loss of efficiency
- Lower morale of co-workers
- Increased likelihood of having trouble with co-workers/supervisors or tasks
- Higher turnover
- Training of new employees
- Disciplinary procedures

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ALCOHOLISM IN THE WORKPLACE (cont'd)

While alcoholism can affect any industry and any organization, big or small, workplace alcoholism is especially prevalent in these particular industries:

- Food service
- Construction
- Mining and Drilling
- Excavation
- Installation, maintenance and repair

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Two specific kinds of drinking behavior significantly contribute to the level of work-performance problems:

- drinking right before or during working hours (including drinking at lunch and at company functions), and
- heavy drinking the night before that causes hangovers during work the next day.



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ALCOHOLISM IN THE WORKPLACE (cont'd)

And it isn't just alcoholics who can generate problems in the workplace. Research has shown that the majority of alcohol-related work-performance problems are associated with nondependent drinkers who may occasionally drink too much - not exclusively by alcohol-dependent employees.

In addition, family members living with someone's alcoholism also suffer significant job performance related problems- including poor job performance, lack of focus, absenteeism, increased health-related problems and use of health insurance.

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ALCOHOL USE AND HEALTH

There are approximately 88,000 deaths attributable to excessive alcohol use each year in the United States. This makes excessive alcohol use the 3rd leading lifestyle-related cause of death for the nation.

As you drink, you increase your blood alcohol concentration (BAC) level, which is the amount of alcohol present in your bloodstream. The higher the BAC level, the more impaired an individual becomes by the alcohol's effects. The following charts illustrate:

- Correlation between the BAC and the predictable effects on the body.
- BAC charts (Men/Women) – What happens when you drink
- BAC Impairment

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Note:

The National
Legal limit
for DWI is
0.08 BAC

DUI legal
Limits vary
by state

For DOT -
0.04 or >
is a Violation
(Positive)

BAC	Predictable Effects
.02% to .04%	Lightheaded – Relaxation, sensation of warmth, "high," minor impairment of judgment
.05% to .07%	Buzzed– Relaxation, euphoria, lower inhibitions, minor impairment of reasoning and memory, exaggerated emotions (good and bad)
.08% to .10%	Legally Impaired – Euphoria, fatigue, impairment in balance, speech, vision, reaction time and hearing, judgment and self-control are impaired
.11% to .15%	Drunk – "High" reduced and depressive effects (anxiety, depression or unease) more pronounced, gross motor impairment, judgment and perception severely impaired
.16% to .19%	Very Drunk – Strong state of depression, nausea, disorientation, dizzy, increased motor impairment, blurred vision, judgment further impaired
.20% to .24%	Dazed and Confused – Gross disorientation to time and place, increased nausea and vomiting, may need assistance to stand/walk, impervious to pain, blackout likely
.25% to .30%	Stupor – All mental, physical and sensory functions are severely impaired, accidents very likely, little comprehension, may pass out suddenly
.31% and up	Coma – Level of surgical amnesia, onset of coma, possibility of acute alcohol poisoning, death due to respiratory arrest is likely in 50 % of drinkers

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Blood Alcohol Level

The total ratio of alcohol to blood volume is known as the **Blood Alcohol Level (BAL)**. Using these charts, you can estimate what the BAL would be for you based on the number of drinks consumed in an hour.

Men		Weight					
		120	140	160	180	200	220
Drinks during 1 hour	1	.015	.010	.007	.004	.002	.001
	2	.046	.037	.030	.025	.021	.018
	3	.077	.064	.054	.046	.040	.035
	4	.109	.091	.077	.067	.059	.052
	5			.101	.088	.077	.069
	6					.096	.086

Women		Weight					
		100	120	140	160	180	200
Drinks during 1 hour	1	.029	.021	.016	.012	.009	.006
	2	.074	.059	.048	.040	.034	.029
	3	.119	.096	.080	.068	.059	.051
	4			.112	.096	.084	.074
	5						.096

This information is not meant to convey that any drinking is safe.

What Happens When You Drink?

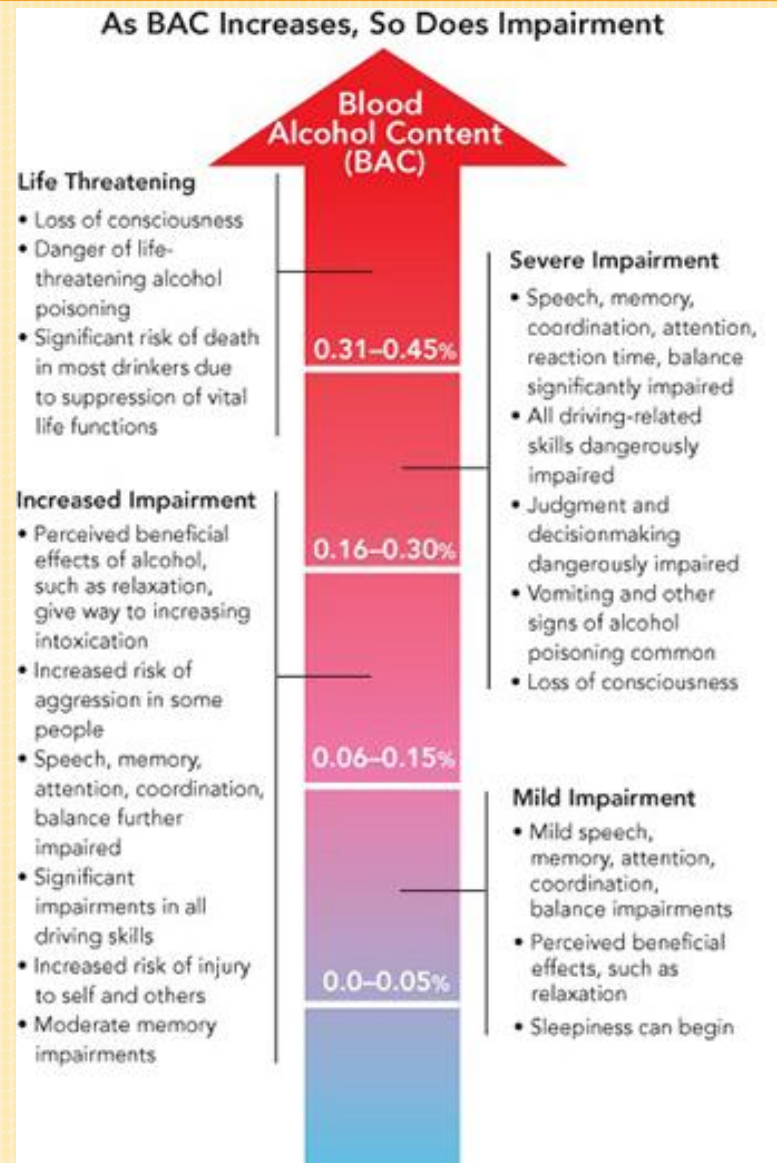
BAL	Effect
.02%	Relaxed, reaction time goes down
.04%	Relaxation continues, buzz develops and reaction time continues to slow
.06%	Cognitive judgment impaired, less able to process information
.08%	Motor coordination goes downhill
.10%	Clear breakdown in judgment and coordination, visibly sloppy
.15–.25%	High risk of blackouts and injuries
.25–.35%	Can lose consciousness, risk of death
.40–.45%	Lethal dose for most people

.016% per hour | People only burn about .016% off their blood alcohol level each hour. There is no way to sober up more quickly. Drinking coffee, exercising, vomiting or taking cold showers won't help you sober up.

Women absorb alcohol more quickly and faster than men do.

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Impairment scale Based on BAC Level



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ALCOHOL USE AND HEALTH (cont'd)

The harmful use of alcohol is a global problem which compromises both individual and social development. It results in 2.5 million deaths each year. It also causes harm far beyond the physical and psychological health of the drinker. It harms the well-being and health of people around the drinker. An intoxicated person can harm others or put them at risk of traffic accidents or violent behavior, or negatively affect co-workers, relatives, friends or strangers. Thus, the impact of the harmful use of alcohol reaches deep into society.



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Some Facts About Alcohol in the Workplace

- Workers with alcohol problems were 2.7 time more likely than workers without drinking problems to have injury-related absences.
- A hospital emergency department study showed that 35 percent of patients with an occupational injury were at-risk drinkers.
- Breathalyzer tests detected alcohol in 16% of emergency room patients injured at work.
- Analyses of workplace fatalities showed that at least 11% of the victims had been drinking.
- Large federal surveys show that 24% of workers report drinking during the workday at least once in the past year.
- One-fifth of workers and managers across a wide range of industries and company sizes report that a co-worker's on or off-the-job drinking jeopardized their own productivity and safety.

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THE STANDARD MEASURE OF ALCOHOL

In the United States, a standard drink is any drink that contains 0.6 ounces (14.0 grams or 1.2 tablespoons) of pure alcohol. Generally this amount of pure alcohol is found in:



- 12-ounces of regular beer or wine cooler,
- 8-ounces of malt liquor,
- 5-ounces of wine, or
- 1.5 ounces of 80 proof distilled spirits or liquor (e.g. gin, rum, vodka, whisky, scotch).

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Most people who “*binge drink*” are not alcoholics or alcohol dependant. The National Advisory Council on Alcohol Abuse and Alcoholism has recommended the following definition of *Binge Drinking*:

A “*binge*” is a pattern of drinking alcohol that brings blood alcohol concentration (BAC) to 0.08 gm% or above. For the typical adult, this pattern corresponds to consuming 5 or more drinks (male) or 4 or more drinks (female) in about 2 hours.

Binge drinking is clearly dangerous for the drinker and for society.

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DEFINITIONS OF PATTERNS OF DRINKING ALCOHOL

Excessive drinking includes heavy drinking, binge drinking, and any drinking by pregnant women or underage youth.

- *Binge* drinking, the most common form of excessive alcohol consumption, is defined as consuming
 - For women, 4 or more drinks in about 2 hours
 - For men, 5 or more drinks in about 2 hours
- *Heavy* drinking is defined as consuming
 - For women, more than 3 drink per day on average
 - For men, more than 4 drinks per day on average

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However, there are some persons who should not drink any alcohol, including those who are:

- Pregnant or trying to become pregnant
- Taking prescription or over-the-counter medications that may cause harmful reactions when mixed with alcohol
- Younger than 21 years of age
- Recovering from alcoholism or are unable to control the amount they drink
- Suffering from a medical condition that may be worsened by alcohol
- Driving, planning to drive, or participating in other activities requiring skill, coordination, and alertness

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DID YOU KNOW

- Alcohol is the #1 drug problem in the U.S.
- There are more than 12 million alcoholics in the U.S.
- Three-fourths of all adults drink alcohol; 6% are alcoholics
- Americans spend a total of \$197 million each day on alcohol
- In the U.S., a person is killed in an alcohol-related car accident every 30 minutes
- Nearly 7 million persons age 12 to 20 are binge drinkers
- 75% of all high school seniors report being drunk at least once
- Kids who begin drinking before the age of 15 are four times more likely to become alcoholics than those who do not begin drinking until the legal age of 21
- People with a higher education are more likely to drink.
- Higher income people are more likely to drink.

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UNDERAGE & COLLEGE DRINKING

Underage and college drinking are significant public health problems, and they exact an enormous toll on the intellectual and social lives of students in the United States. Both age categories are plagued with binge drinking.

As children mature, it is natural for them to assert their independence, seek new challenges, and try taking risks. Underage drinking is a risk that attracts many developing adolescents and teens. Other reasons why young people drink alcohol include:

- Peer pressure
- Increased independence or desire for alcohol, or
- Stress

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Underage Drinking



*May Lead to
Adult Alcohol Abuse*



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UNDERAGE & COLLEGE DRINKING (cont'd)

For college students it has become a ritual that students often see as an integral part of the higher education experience. Many college students come to college with established drinking habits, and the college experience can exacerbate the problem.



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UNDERAGE & COLLEGE DRINKING (cont'd)

Although the majority of students come to college already having some experience with alcohol, certain aspects of college life, such as unstructured time, the widespread availability of alcohol, inconsistent enforcement of underage drinking laws, and limited interactions with parents and other adults, can intensify the problem. In fact, college students have higher binge-drinking rates and a higher incidence of drunk driving than their non-college peers.

The first 6 weeks of freshman year is an especially vulnerable time for heavy drinking and alcohol-related consequences because of student expectations and social pressures at the start of the academic year.

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ALCOHOL ABUSE

There is one common thread that all alcoholics have in common. They did not intend to become alcoholics. Alcoholism is the result of a progressive need and usage of alcohol. There is a three stage process in the development of an alcoholic:

A Social Drinker

Drinking often begins during the teen years for many adolescents as a result of experimentation, or peer pressure. From there it continues into adulthood as part of the socially acceptable behavior of relaxing and enjoying the company of friends in a bar or social gathering. For most individuals, the drinking of alcohol at this stage remains just social with average usage.

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ALCOHOL ABUSE (cont'd)

Symptomatic Drinking

This stage of drinking occurs when the sensation caused by drinking becomes more and more important beyond the aspect of social drinking. Often the drinker begins to indulge in drinking alone. As with any drug, the drinker will not be aware of the need as far as quantity increasing in order to maintain the same level of effects.

Addictive/Alcoholic Drinking

The prolonged duration of the symptomatic drinking eventually develops into a situation where the body needs the alcohol and the drinker no longer in control. The alcohol has become the focal point of the drinker's existence. Attempts to stop drinking often have bad side effects which include delirium tremens (also called DT's), or convulsions.

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IMMEDIATE HEALTH RISKS

Excessive alcohol use has immediate effects that increase the risk of many harmful health conditions. These immediate effects are most often the result of binge drinking and include the following:

- Unintentional injuries, including traffic injuries, falls, drowning, burns, and unintentional firearm use injuries
- Violence, including intimate partner violence and child abuse or maltreatment. About 35% of victims report that the offenders are under the influence of alcohol. Alcohol use is also associated with 2 out of every 3 incidents involving spousal abuse and violence.

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IMMEDIATE HEALTH RISKS (cont'd)

- Risky sexual behaviors, including unprotected sex, sex with multiple partners, and increased risk of sexual assault. These behaviors result in unintended pregnancy or sexually transmitted diseases.
- Miscarriage and stillbirth among pregnant women, and a combination of physical and mental birth defects among children that last through life.
- Alcohol poisoning, a medical emergency that results from high blood alcohol levels that suppress the central nervous system and can cause loss of consciousness, low blood pressure and body temperature, coma, respiratory depression, or death.

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LONG TERM HEALTH RISKS/ALCOHOL'S EFFECTS ON THE BODY

Alcohol enters your bloodstream as soon as you take your first sip. Alcohol's immediate effects can appear within about 10 minutes. As you drink, you increase your blood alcohol concentration (BAC) level, which is the amount of alcohol present in your bloodstream.

The higher the BAC level, the more impaired an individual becomes by the alcohol effects. Drinking too much – on a single occasion or over time – can take a serious toll on a person's health.

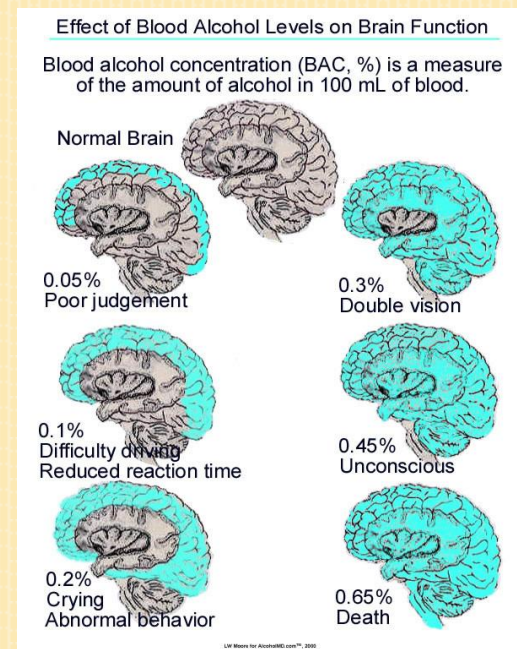
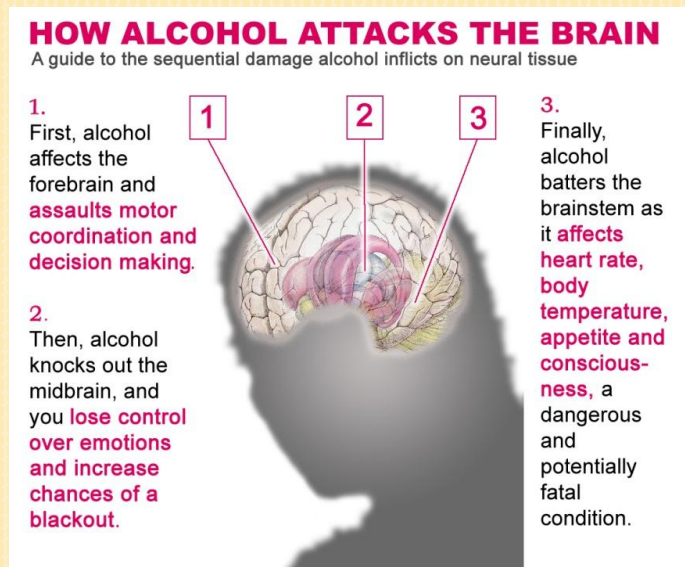
Over time, excessive alcohol use can lead to the development of chronic diseases, neurological impairments and social problems. The following details how alcohol can affect the body:

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LONG TERM HEALTH RISKS/ALCOHOL'S EFFECTS ON THE BODY (cont'd)

Brain

Alcohol interferes with the brain's communication pathways, and can affect the way the brain looks and works. These disruptions can change mood and behavior, and make it harder to think clearly and move with coordination.

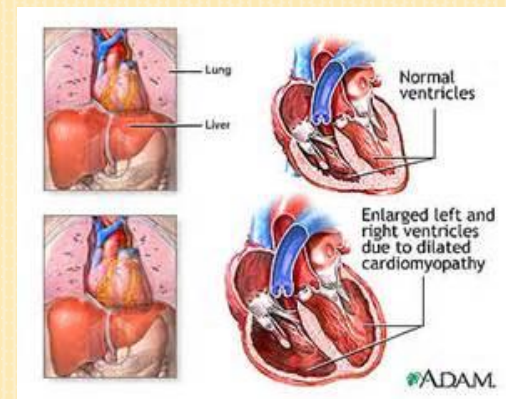
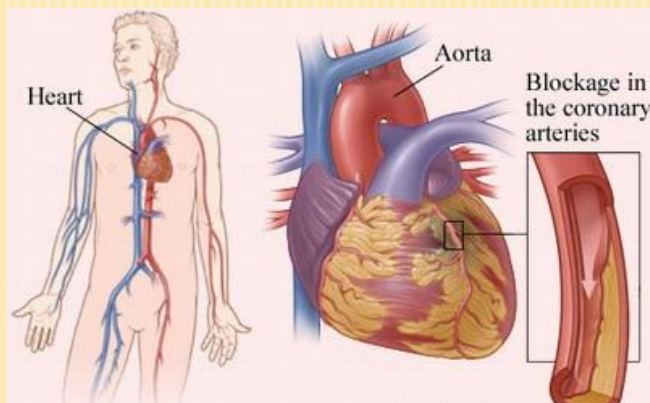


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Heart

Drinking a lot over a long time or too much on a single occasion can damage the heart, causing problems including:

- Cardiomyopathy – Stretching and drooping of heart muscle
- Arrhythmias – Irregular heart beat
- Stroke
- High blood pressure
- Research also shows that drinking moderate amounts of alcohol may protect healthy adults from developing coronary heart disease.



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LONG TERM HEALTH RISKS/ALCOHOL'S EFFECTS ON THE BODY (cont'd)

Liver

Heavy drinking takes a toll on the liver, and can lead to a variety of problems and liver inflammations including:

- Steatosis, or fatty liver
- Alcoholic hepatitis
- Fibrosis
- Cirrhosis



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Pancreas

Alcohol causes the pancreas to produce toxic substances that can eventually lead to pancreatitis, a dangerous inflammation and swelling of the blood vessels in the pancreas that prevents proper digestion.

Cancer

Drinking too much alcohol can increase your risk of developing certain cancers, including cancers of the:

- Mouth
- Esophagus
- Throat
- Liver
- Breast

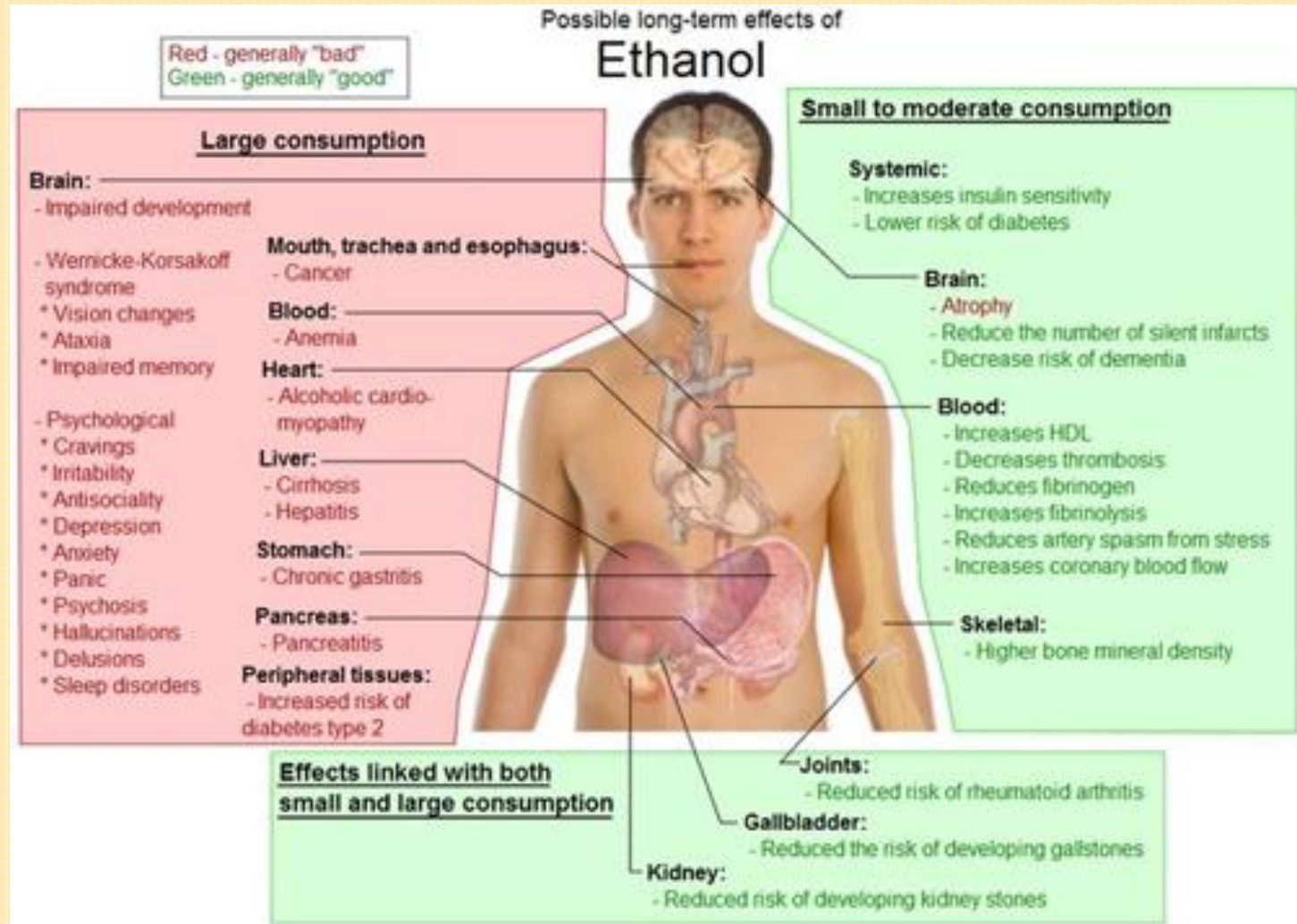
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Immune System:

Drinking too much can weaken your immune system, making your body a much easier target for disease. Chronic drinkers are more liable to contract diseases like pneumonia and tuberculosis than people who do not drink too much. Drinking a lot on a single occasion slows your body's ability to ward off infections – even up to 24 hours after getting drunk.

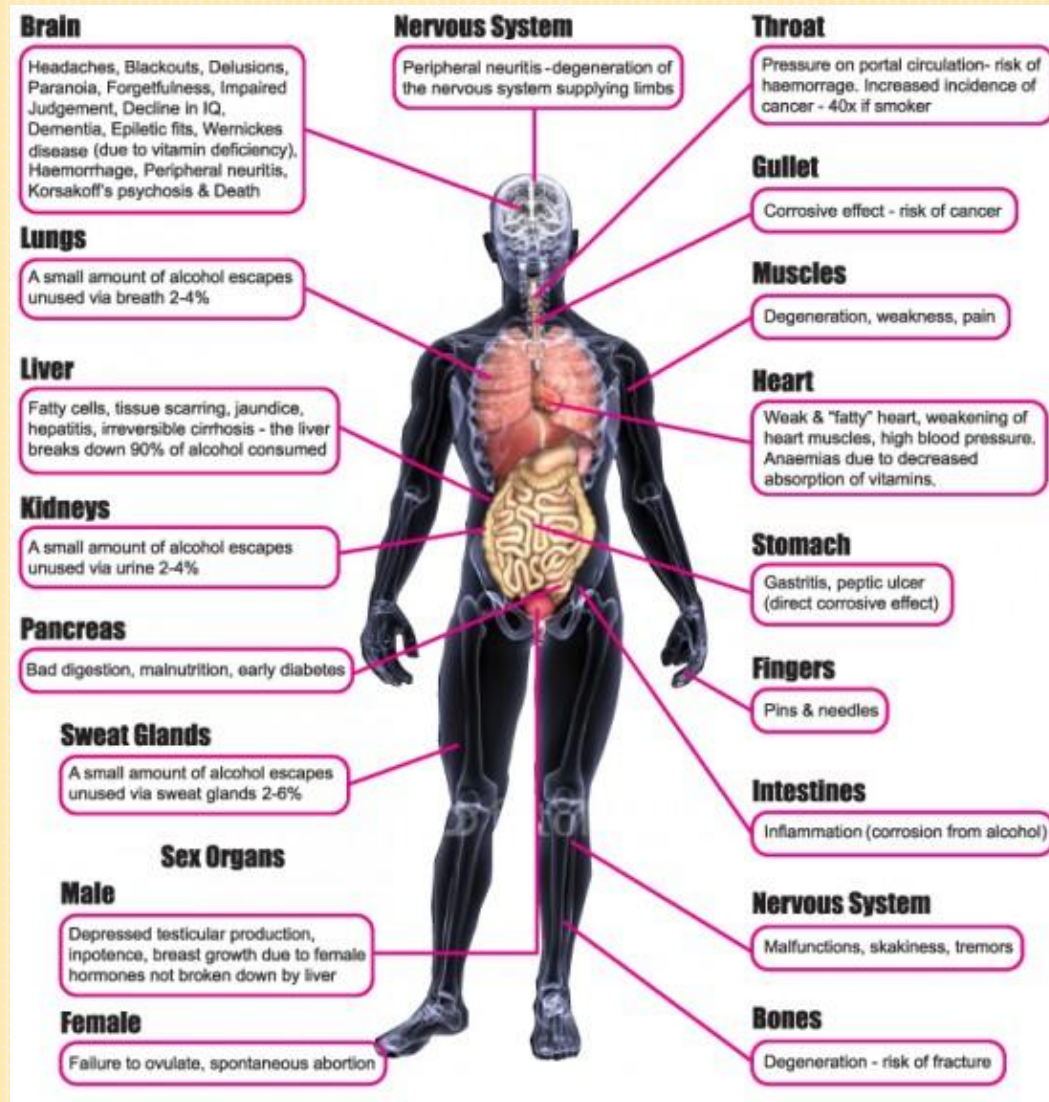
The following chart details the possible long term effects depending upon small/moderate vs. large consumption of alcohol.

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Full effects and impact of Alcohol abuse



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DID YOU KNOW

Alcohol is a factor in the following:

- 73% of all felonies,
- 73% of child beating cases,
- 41% of rape cases,
- 81% of wife battering cases,
- 72% of stabbings, and
- 83% of homicides.



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Common signs and symptoms of alcohol abuse include:

- **Repeatedly neglecting your responsibilities at home, work, or school because of your drinking.** For example, performing poorly at work, flunking classes, neglecting your kids, or skipping out on commitments because you're hung over.
- **Using alcohol in situations where it's physically dangerous,** such as drinking and driving, operating machinery while intoxicated, or mixing alcohol with prescription medication against doctor's orders.
- **Experiencing repeated legal problems on account of your drinking.** For example, getting arrested for driving under the influence or for drunk and disorderly conduct.
- **Continuing to drink even though your alcohol use is causing problems in your relationships.** Getting drunk with your buddies, for example, even though you know your wife will be very upset, or fighting with your family because they dislike how you act when you drink.
- **Drinking as a way to relax or de-stress.** Many drinking problems start when people use alcohol to self-soothe and relieve stress. Getting drunk after every stressful day, for example, or reaching for a bottle every time you have an argument with your spouse or boss.

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WARNING SIGNS

Alcoholism is the result of a progressive drinking condition worsening, and therefore changes are gradual. There are early warning signs that can alert you to a potential problem in the making. Some early warning signs are:

- Frequent tardiness often explained with increasingly complex excuses
- Frequent usage of breath mints to kill the smell of alcohol
- Overall fall off of work productivity
- Excessive calling in sick
- Increased incidents of accidents

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WARNING SIGNS (cont'd)

Physical signs may also be present:

- General disheveled (messy) physical appearance
- Diminished mental capacity, appearance of not being focused or grasping simple ideas
- There may be abnormal weight loss
- General appearance of being fatigued, dozing while working

Psychological signs may include:

- Low level of tolerance
- Explosive outbursts and over-reacting to situations
- Decline in ability of working with fellow employees due to attitude issues
- Erratic mood swings

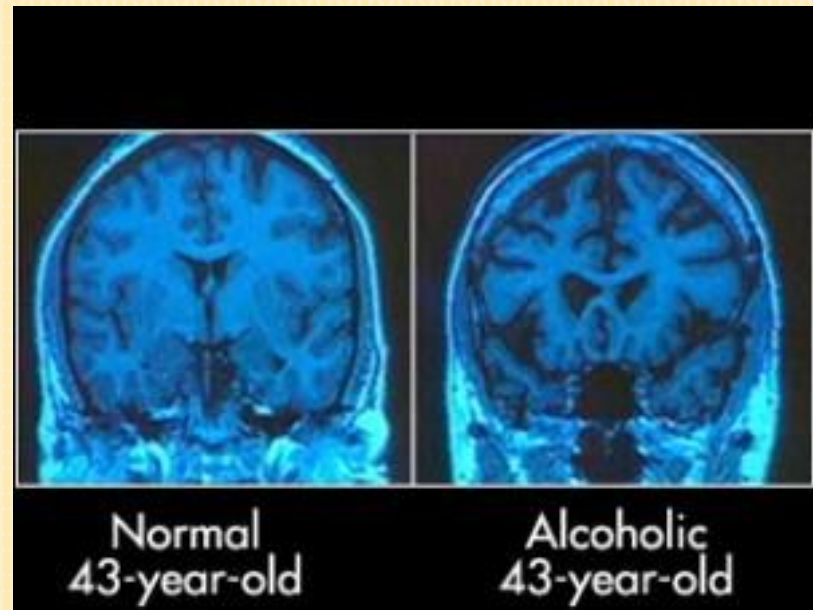
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CONSEQUENCES OF DRINKING TOO MUCH

The higher your BAC, the more impaired a person becomes who abuses alcohol. The alcohol's effects include:

- Reduced inhibitions
- Slurred speech
- Motor impairment
- Confusion
- Memory problems
- Concentration problems
- Violent behavior, and
- Suicide and homicide

Brain deterioration



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Alcohol and Prescription Medications

You have probably seen this warning label on medicines you've taken. The danger is real. Mixing alcohol with certain medications can cause nausea and vomiting, headaches, drowsiness, fainting, or loss of coordination. It also can put you at risk for internal bleeding, heart problems, and difficulties in breathing. In addition to these dangers, alcohol can make a medication less effective or even useless, or it may make the medication harmful or toxic to your body.



Some medicines that you might never have suspected can react with alcohol, including many medications which can be purchased “over-the-counter”—that is, without a prescription. Even some herbal remedies can have harmful effects when combined with alcohol.

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Alcohol and Prescription Medications (cont'd)

Mixing alcohol and medicines can be harmful. Alcohol, like some medicines, can make you sleepy, drowsy, or lightheaded. Drinking alcohol while taking medicines can intensify these effects. You may have trouble concentrating or performing mechanical skills. Small amounts of alcohol can make it dangerous to drive, and when you mix alcohol with certain medicines you put yourself at even greater risk. Combining alcohol with some medicines can lead to falls and serious injuries, especially among older people.

Some medications—including many popular painkillers and cough, cold, and allergy remedies — contain more than one ingredient that can react with alcohol. Read the label on the medication bottle to find out exactly what ingredients a medicine contains. Ask your pharmacist if you have any questions about how alcohol might interact with a drug you are taking.

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Alcohol and Prescription Medications (cont'd)

Alcohol and medicines can interact harmfully even if they are not taken at the same time.



Remember ...

Mixing alcohol and medicines puts you at risk for dangerous reactions. Protect yourself by avoiding alcohol if you are taking a medication and don't know its effect. To learn more about a medicine and whether it will interact with alcohol, talk to your pharmacist or other health care provider.

ALCOHOL AWARENESS TRAINING

This concludes the training module

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