



ALCOHOL: SOME QUESTIONS AND ANSWERS

WHAT IS ALCOHOL?

Alcohol is the major chemical ingredient in wines, beers, and distilled beverages. It is a natural substance formed by the reaction of fermenting sugar with yeast spores. Although there are many alcohols, the kind in alcoholic beverages is known scientifically as $\text{C}_2\text{H}_5\text{OH}$, a colorless, inflammable liquid which has an intoxicating effect.

By strict definition alcohol is classified as a food, because it contains calories. However, it has no nutritional value. Alcohol is classified as a drug, because it dramatically affects the central nervous system.

Different alcoholic beverages are produced by using different sources of sugar for the fermentation process. Beer, for instance, is made from malted barley, wine from grapes or berries, whiskey from malted grains, and rum from molasses.

Most American beers contain 4% alcohol. Dinner wines, like Beaujolais or Chablis, are 10% to 12% alcohol. Dessert wines such as cherries are fortified with more alcohol to bring the level up to between 17-20%. Distilled beverages range from 40% (80 proof) to 50% (100 proof) alcohol.

Any two drinks which contain the same amount of alcohol will have a similar effect on the drinker. Thus a 12 ounce can of beer, an average 5 ounce glass of wine, or the usual highball or cocktail with an ounce of 100 proof liquor, all contain about $\frac{1}{2}$ ounce of alcohol, and if drunk slowly, will have equal effect on the brain and body.

HOW DOES ALCOHOL WORK IN THE BODY?

When you drink an alcoholic beverage, 20% of the alcohol in it is absorbed directly and immediately into the bloodstream through the stomach walls. Unlike other food, it does not have to be digested. The blood carries it directly to the brain where the alcohol acts on the central areas, slowing down or depressing brain activity. The other 80% of alcohol is processed only slightly slower through the gastrointestinal tract and into the bloodstream. Alcohol is in such a rush to get into the blood that moments later it can be found in all tissues, organs and secretions of the body.

A low level of alcohol in the blood, such as would result from taking one drink an hour, has a mild tranquilizing effect. Since alcohol is a central nervous system depressant, it may at first seem to stimulate you. Through evolutionary development, the brain consists of many layers, and alcohol's first effects will be exerted upon the upper, or newer, parts of the brain where learned behavior may temporarily disappear, making you lose your inhibitions, talk more freely, or feel like the life of the party. Or you may feel aggressive, or depressed.

Higher blood alcohol levels depress brain activity further to a point that memory, as well as muscular coordination and balance may be temporarily impaired. Still larger alcohol intake within a relatively short period of time depresses deeper parts of the brain, producing a state of loss of control in which judgment is severely affected, and sensory perceptions are dulled. If steady, heavy drinking continues, the alcohol will anesthetize the deepest levels of the brain and may result in coma or death.

HOW FAST DOES ALCOHOL TAKE EFFECT?

The speed with which alcohol enters the bloodstream and exerts its effect on the brain and body depends on several things:

1. How fast you drink. The half ounce of alcohol in the average highball, can of beer or glass of wine can be burned up in the body in about 1 hour. If you sip your drink slowly and do not have more than one drink an hour, the alcohol will not jolt your brain and will not have a chance to build up in your blood and you will feel little unpleasant effect. Gulping your drink, on the other hand, will produce immediate intoxicating effects and depression of deeper brain centers.
2. Whether your stomach is empty or full. Eating, especially before you drink as well as with your drink, will slow down the absorption rate of alcohol into your bloodstream and you will have a more even response to the alcohol.
3. What you drink. Wine and beer are absorbed less rapidly than hard liquors because they contain small amounts of non-alcoholic substances that slow down the absorption process. These substances have been removed from liquors in the distillation process. Diluting an alcoholic beverage with another liquid, such as water, also helps slow down absorption, but mixing with carbonated beverages can increase the rate of absorption.
4. How much you weigh. The same amount of alcohol can have a greater effect on a 120-pound person than a 180-pound person. Alcohol is quickly distributed uniformly within the circulatory system. Therefore, the heavier person will have smaller concentrations throughout the bloodstream and body than the lighter one.
5. The setting or circumstances you are in. For instance, if you are comfortably sitting and relaxing, having a drink with a friend, alcohol will not have as much effect on you as when you are standing and drinking at a cocktail party. On the other hand, if you are emotionally upset, under stress, or tired, alcohol may have a stronger impact on you than normal. Your expectations will also have an influence. If you think you are going to become drunk, the ease and speed with which you feel intoxicated will indeed be increased.

WHY DO PEOPLE DRINK?

People drink for a variety of social, cultural, religious or medical reasons. They drink at parties and celebrations with friends and relatives. They drink in religious ceremonies. Some drink wine to complement the taste of their dinners. Some drink to relax, some to increase their appetites.

The drinking of most people is integrative drinking; that is, the use of alcohol is an adjunct to other activities, such as meal, family and religious feasts or an evening with friends.

Some people use alcohol for its own sake, for the anesthetizing effect it has on the mind and body. These are the people who cannot do without alcohol; who drink to get drunk; who drink for courage; who use alcohol as an escape from life; who drink to forget their worries; who cannot have fun without alcohol; who use alcohol as a drug. These uses of alcoholic beverages often lead to drinking problems.

IS DRINKING ALCOHOLIC BEVERAGES DANGEROUS?

All substances which exert an effect on the brain have the potential to be dangerous. This is true of alcohol. Irresponsible use of alcohol includes the heavy risk of harming oneself or others.

On the other hand, responsible use of alcoholic beverages has been widely practiced throughout history without negative effects or consequences. Of those persons in our society who choose to drink, most do so without harm to themselves or others. Whether alcohol usage is responsible or irresponsible, harmless or dangerous, of course, depends on many factors such as time, place, quantity, reason, and the person.

For the average, healthy person, a certain amount of alcohol can be used without any lasting effects on the body or brain, but continuous drinking of large quantities can cause structural damage. Cirrhosis of the liver is closely linked to heavy, continuous consumption of alcohol, and there is a positive correlation between this type of alcohol consumption and ulcers, heart disease and diabetes. Heavy drinking over many years may be complicated by serious nervous or mental disorders, or may cause permanent brain damage. Alcohol, like many other drugs that affect the central system can also be physiologically addicting, i.e., produce withdrawal symptoms when alcohol intake ceases.

WHAT IS DRUNKENNESS?

Drunkenness, or intoxication, is the temporary loss of control over physical and mental powers due to overconsumption of alcohol. Symptoms and their severity vary from person to person. The widespread feeling that drunkenness is acceptable, or even a comical form of behavior, may contribute to problem drinking in our society.

You cannot sober up by drinking black coffee, taking a cold shower, or breathing pure oxygen. Alcohol takes a specific amount of time to burn up in the body. Most of the work is done in the liver (as a general rule, it will take as many hours as the number of drinks consumed to completely sober up). Alcohol's effects can be controlled only by the circumstances (rate and concentration) under which it is taken into the body. Once it is in the bloodstream, nothing can be done except wait.

WHAT IS A HANGOVER?

A hangover is the body's reaction to drinking irresponsibly, such as consuming too much alcohol at a time when you are tired or under stress. The associated miseries of nausea, gastritis, anxiety and headache vary by individual, but a universal characteristic of all hangovers is extreme fatigue. There is no scientific evidence to support the curative claims of coffee, vitamins, drugs, etc. Doctors usually prescribe aspirin, rest, and solid food.

If you choose to drink, the best way to avoid a hangover is to drink responsibly—sipping slowly, with food in the stomach, under relaxed social circumstances, and paying attention to your responses to the alcohol so intoxication is avoided.

WHAT CONSTITUTES A DRINKING PROBLEM?

The common factor in all drinking problems is the negative effect they have on the health or well-being of the drinker, and on his or her associates.

One authority in the alcohol problem field suggests these criteria for drinking problems:

1. Anyone who must drink in order to function or to cope with life has a severe drinking problem.
2. Anyone who by his/her own personal definition, or that of his/her family and friends, frequently drinks to intoxication has a drinking problem.
3. Anyone who goes to work intoxicated has a drinking problem.
4. Anyone who is intoxicated while driving a car has a drinking problem.
5. Anyone who sustains a bodily injury which requires medical attention as a consequence of being intoxicated has a drinking problem.
6. Anyone who comes into conflict with the law as a consequence of being intoxicated has a drinking problem.
7. Anyone who, under the influence of alcohol, does something he/she avows he/she would never do without alcohol has a drinking problem.

WHEN DOES AN INDIVIDUAL BECOME AN ALCOHOLIC PERSON?

A consistent pattern of drinking problems indicates a loss of control over one's drinking and therefore constitutes an alcoholic problem.

Professionals agree that there is no exact dividing line applicable in all cases separating the alcoholic person from the non-alcoholic person. Each individual's case must be diagnosed by a physician, psychiatrist, or other therapist.

Although the popular image of an alcoholic is a Skid Row derelict, this group actually comprises only about 5% of the total. Fully half of the alcoholic people in the nation are employed.

Because every case is different, it is impossible to list all of the signs and symptoms that might give early warning of a person's developing alcoholism. Familiar signs, however, are the need to drink before facing certain situations, frequent drinking to intoxication, a steady increase in the amount of alcohol consumed, drinking alone, early morning drinking, not making it to work on Monday morning, frequent denial of drinking, family quarrels and disruptions over drinking, and the occurrence of blackouts. For a drinker, a blackout does not mean passing out, but is a period of temporary amnesia. He/she walks, talks, and does things normally and in a state of full consciousness, but can't remember them later on. Blackouts can be a sign of a serious form of alcoholism.

WHAT ARE THE CAUSES OF ALCOHOLISM?

Alcoholism is a complex interaction of biological, psychological and sociological factors. Scientists do not yet indict a single cause, but professionals who work with alcoholic individuals report an unusual amount of stress and much deprivation in the lives of these persons. Researchers are continuing their studies of the multiple causes of alcoholism, such as genetic and chemical abnormalities in the body, poor nutrition, emotional problems, childhood deprivations and environmental conditions.

Alcoholism would be impossible without alcohol, of course; but alcohol can no more be considered the sole cause of alcoholism than marriage can be considered the sole cause of divorce, or the tubercle bacillus the sole cause of tuberculosis.

HOW CAN A PERSON WITH AN ALCOHOL PROBLEM BE HELPED?

The idea that nothing can be done for someone with a drinking problem no longer prevails. A person can be helped at any stage as long as treatment and rehabilitation resources are available, and stigma of having an alcohol problem is not allowed to interfere, and he/she is treated with acceptance and understanding.

Problem drinking or alcoholism is recognized by professionals as a symptom or more than just a drinking problem. Help can be provided by a doctor, a clergyperson, a local welfare agency, a clinic, a psychologist or psychiatrist, a general hospital or psychiatric hospital, or the local chapter of AA. Many large business or industrial firms and labor unions also have programs to help employees and members find treatment.

The primary goal of treatment is to help the drinker alter his/her drinking pattern and handle his/her problems without resorting to irresponsible use of alcohol, and to develop a new lifestyle not revolving around the use of alcohol. For the addicted person, recovery is best maintained by total abstinence. Between a third and a half of the people who seek help recover from alcoholism, a figure that compares favorably with the results of treatment for other psychological or behavioral problems.

HOW CAN WE PREVENT ALCOHOL PROBLEMS?

Problem drinking and alcoholism can never be controlled solely by treating the casualties. The goal must be prevention and this requires early identification of alcohol problems in an individual, and the development of responsible attitudes and behavior in the use of alcoholic beverages. It also requires full respect and acceptance of an individual's choice not to drink; not drinking is as responsible and acceptable a decision as sensible drinking.

Hosts and hostesses have a responsibility to their friends to prevent irresponsible drinking at dinner parties or social gatherings. Food should always be served before and with drinks, and soft drinks made available as an alternative to alcoholic beverages. No guest who elects not to drink alcoholic beverages should be cajoled or shamed into doing so. This includes the abstainer, the recovered alcoholic, or the social drinker who recognizes he/she has had enough.

Attitudes that accompany responsible drinking behavior in other cultures have been identified. In societies where drinking is practiced only as an adjunct to other activity, where guidelines for drinking are strictly adhered to, and where drunkenness is severely censured, problem drinking is rare. On the other hand, where drinking is accepted as a way of avoiding reality, or where drunkenness is condoned or tolerated, there is a high incidence of problem drinking.

Studies comparing social drinkers with persons who have drinking problems show that for the most part the latter were introduced to alcohol later in life, began with hard liquors, and had their first drinking experience outside the home, and got drunk the very first time. Conversely, responsible drinkers usually first tasted alcoholic beverages with their family when they were young, drank occasionally at home, started with wine or beer, and did not get drunk.

Programs of education about alcohol, its properties and effects, its potential for harm, and its responsible and irresponsible uses, are now underway by many governmental agencies and private groups. The aim is prevention of abuse, problems and alcoholism through developing public awareness of the facts about alcohol.

(Reprinted from U.S. Department of Health Education and Welfare, Public Health Service)

*Distributed by Wisconsin Department of Transportation, Maps and Document Sales,
PO Box 7713, Madison, WI 53707-7713*