

Alcohol and the Body

Alcohol enters the bloodstream very quickly. Unlike most other foods and beverages, it does not have to be digested. When it reaches the stomach, it passes directly into the intestines, where it is absorbed into the bloodstream. Within minutes after being consumed, it reaches the brain.

Alcohol is a depressant. That means it slows down bodily functions - both mental and physical. Whatever we do, we do more poorly after consuming alcohol. The biggest problem is that one of the functions that alcohol affects is the ability to judge how well one is doing. This means that although people may be performing more and more poorly, they may think they are doing better and better.

Alcohol in the bloodstream eventually reaches the liver, where it is burned up and eliminated from the body. The average liver can eliminate about one drink per hour. When a person drinks alcohol at a rate greater than one drink an hour, the alcohol begins to accumulate in the body. The amount of alcohol in the body is referred to as Blood Alcohol Concentration, or BAC. BAC expresses the amount of alcohol in the body as a percent of the body's total fluids.

At a BAC of approximately .05%, most people become impaired, meaning their performance begins to suffer noticeably. At a BAC of between .08% and .10%, they can no longer function normally and are by most state laws, intoxicated.

Accident Facts, National Safety Council BAC is a function of three factors:

1. number of ounces of alcohol consumed;
2. number of hours over which it has been consumed; and
3. number of pounds the person weighs.

Number of Ounces

BAC depends in part upon the amount of alcohol a person has consumed. The typical drink contains about six-tenths of an ounce of alcohol. This is equally true for beer, wine, or liquor. The alcohol in each of these is shown below:

Drink Size Percent Alcohol Amount of Alcohol

can of beer 12 oz. X 5% = .6 oz.

glass of wine 5 oz. X 12% = .6 oz.

shot of liquor 1.5 oz. X 40% = .6 oz.

Number of Hours

Since it takes about one hour to burn off each drink, the greater the number of hours during which drinking has occurred the less alcohol is still left in the body. For example, if a healthy person takes no more than one drink an hour, alcohol will never accumulate in the body, no matter how long the person drinks. However, if a person takes two drinks an hour,

alcohol will build up in the bloodstream. At the end of the first hour, one drink will have been burned off, but the other will still be in the bloodstream. If two drinks are taken in the next hour, one of them will be burned off and one will remain, leaving two drinks in the bloodstream.

To figure out how many drinks there are in the bloodstream, just use the following formula:

drinks consumed - hours = drinks left in the bloodstream

For instance, if a person has consumed six drinks in three hours, there will be three drinks left in the bloodstream (6-3=3).

Body Weight

The number of drinks, minus the number of hours spent drinking, determines how much alcohol is in the bloodstream. This amount, and a person's weight, determine the BAC.

The rule about weight in BAC is: the bigger the body, the lower the BAC for any given amount of alcohol. The reason for this is that bigger people have more blood and other bodily fluids. The greater the amount of fluid, the smaller will be the percent of alcohol in the system.

Estimating BAC

Charts or tables have been prepared to help people figure out BAC from number of drinks, the number of hours, and the number of pounds. Since these charts may not be available when they are needed, simple rules of thumb have been developed to help people estimate BAC.

People who are small in stature, and weigh less than 120 pounds, will generally become intoxicated with only three drinks in their systems, while people over 180 pounds can have as many as five drinks in their systems before becoming intoxicated, according to the law.

For people of average weight (e.g., 140-180 pounds), four drinks in the system will produce a BAC of approximately .08% to .10%, i.e., intoxication. Since you know that alcohol leaves the body at one drink an hour, it is easy to figure out how many drinks are left in the system. A person who has consumed six drinks in two hours will have (six minus two) four drinks in the system.