14.4: How Much to Drink?

Skills to Develop

- Knowledge of different levels of alcohol intake and ways people consume alcohol
- Understanding of the mental and physical effects of alcohol at different levels of intake

How Much to Drink?

Most likely, you have observed people drinking alcohol, or been with people who are drinking, or drank alcohol yourself. What did you observe? People can consume alcohol in a variety of different ways for a variety of different reasons. The National Institute on Alcohol Abuse and Alcoholism (NIAAA) has defined different levels of drinking. Where do you or those around you fit in?

Table \( \PageIndex{1} \): Definitions of different levels of drinking

<table>
<thead>
<tr>
<th>Type of drinking</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate alcohol</td>
<td>Moderate drinking is up to 1 drink per day for women and up to 2 drinks per day for men (&quot;Dietary Guidelines for Americans 2015-2020,&quot; U.S. Department of Health and Human Services and U.S. Department of Agriculture)</td>
</tr>
<tr>
<td>consumption</td>
<td></td>
</tr>
<tr>
<td>Binge Drinking</td>
<td>NIAAA defines binge drinking as a pattern of drinking that brings blood alcohol concentration (BAC) levels to 0.08 g/dL. This typically occurs after 4 drinks for women and 5 drinks for men—in about 2 hours.</td>
</tr>
<tr>
<td></td>
<td>The Substance Abuse and Mental Health Services Administration (SAMHSA), which conducts</td>
</tr>
</tbody>
</table>

https://med.libretexts.org/Courses/Dominican_University/DU_Bio_1550%3A_Nutrition_(LoPresto)_OLD/Chapter_17%3A_Alc...
Type of drinking | Definition
--- | ---
the annual National Survey on Drug Use and Health (NSDUH), defines binge drinking as 5 or more alcoholic drinks for males or 4 or more alcoholic drinks for females on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past month.

Heavy Alcohol Use | SAMHSA defines heavy alcohol use as binge drinking on 5 or more days in the past month.

NIAAA’s Definition of Drinking at Low Risk for Developing Alcohol Use Disorder (AUD) | For women, low-risk drinking is defined as no more than 3 drinks on any single day and no more than 7 drinks per week. For men, it is defined as no more than 4 drinks on any single day and no more than 14 drinks per week. NIAAA research shows that only about 2 in 100 people who drink within these limits have AUD.

Those who should avoid alcohol: | • Individuals plan to drive a vehicle or operate machinery
• Take medications that interact with alcohol
• Have a medical condition that alcohol can aggravate
• Are pregnant or trying to become pregnant

The blood alcohol concentration (BAC) is measured in milligrams percent, comparing units of alcohol to units of blood. BAC is a measurement used legally to assess intoxication and the impairment and ability to perform certain activities, as in driving a car. As a general rule, the liver can metabolize one standard drink (defined as 12 ounces of beer, 5 ounces of wine, or 1 ½ ounces of hard liquor) per hour. Drinking more than this, or more quickly, will cause BAC to rise to potentially unsafe levels. Table 1 summarizes the mental and physical effects associated with different BAC levels.

<table>
<thead>
<tr>
<th>BAC Percent</th>
<th>Typical Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.02</td>
<td>Some loss of judgment, altered mood, relaxation, increased body warmth</td>
</tr>
<tr>
<td>0.05</td>
<td>Exaggerated behavior, impaired judgment, may have some loss of muscle control (focusing eyes), usually good feeling, lowered alertness, release of inhibition</td>
</tr>
<tr>
<td>0.08</td>
<td>Poor muscle coordination (balance, speech, vision, reaction time), difficulty detecting danger, and impaired judgment, self-control, reasoning, and memory</td>
</tr>
<tr>
<td>0.10</td>
<td>Clear deterioration of muscle control and reaction time, slurred speech, poor coordination, slowed thinking</td>
</tr>
<tr>
<td>0.15</td>
<td>Far less muscle control than normal, major loss of balance, vomiting</td>
</tr>
</tbody>
</table>

In addition to the one drink per hour guideline, the rate at which an individual’s BAC rises is affected by the following factors:
• Sex (A woman’s BAC will rise more quickly than a man’s.)
• Weight (BAC will rise more slowly for heavier people.)
• Genetics
• Length of time as a heavy drinker
• Type of alcohol consumed
• Amount of alcohol consumed
• Consumption rate
• Consumption before or after a meal (food in the stomach slows absorption)
• Mixture (carbonated mixers speed absorption)
• Medications may increase the bioavailability of alcohol.

*Figure \( \text{PageIndex}(2) \): In moderation, alcohol promotes some aspects of health. However, caution is necessary because excessive alcohol intake can have detrimental effects on health.*

Giving the liver enough time to fully metabolize the ingested alcohol is the only effective way to avoid alcohol toxicity. Drinking coffee or taking a shower will not help. The legal limit for intoxication in many states is a BAC of 0.08. Taking into account the rate at which the liver metabolizes alcohol after drinking stops, and the alcohol excretion rate, it takes at least five hours for a legally intoxicated person to achieve sobriety.

**Myths About Drinking**

• Alcohol does not warm you up.
• Mixing drinks does not lead to a hangover. Ethanol causes hangovers.
• Vitamins, tranquilizers, aspirin, drinking more water, breathing pure oxygen, exercising, and eating do not prevent a hangover or make it less worse.
• Drinking caffeinated beverages does not keep you from getting drunk or slow the intoxication process.
• Alcohol is a depressant
• Alcohol is a legal DRUG