

In Depth 7.5

Alcohol



Learning Outcomes

After reading this In Depth, you should be able to:

- 7.1 Explain what happens to alcohol in the body.
- 7.2 Identify some potential benefits and concerns related to moderate drinking.
- 7.3 Distinguish two types of alcohol use disorders and discuss their health effects.
- 7.4 Identify at least three strategies for limiting your drinking and three signs of an alcohol

7.4 Identify at least three strategies for limiting your drinking and three signs of an alcohol use disorder.

7.5 Explain how to talk to someone about an alcohol use disorder.

No one should have to spend his 21st birthday in an emergency room, but that's what happened to Todd the night he turned 21. His friends took him off campus to celebrate, and, with their encouragement, he attempted to drink 21 shots before the bar closed at 2 AM. Fortunately for Todd, when he passed out and couldn't be roused, his best friend noticed his cold, clammy skin and erratic breathing and drove him to the local emergency room. There, his stomach was pumped and he was treated for alcohol poisoning. He regained consciousness but felt sick and shaky for several more hours.

Not everyone is so lucky. Alcohol poisoning, which occurs when people consume more alcohol than their liver can metabolize, impairs essential body functions, including breathing, heart rate, and the transmission of nerve signals in the brain. In the United States, 2,200 people die of alcohol poisoning each year. That's about six deaths every day.¹

What makes excessive alcohol intake so dangerous, and why is moderate alcohol consumption often considered healthful? How can you tell if someone is struggling with problem drinking, and what can you do to help? What if that someone is you? We explore these questions **In Depth** here.

Alcohol is a chemical compound structurally similar to carbohydrates. *Ethanol* is the specific type of alcohol found in beer, wine, and distilled spirits such as whiskey and vodka. Throughout this discussion, the common term *alcohol* will be used to represent the specific compound *ethanol*.

Alcohol intake is usually described as “drinks per day.” A **drink** is defined as the amount of a beverage that provides $\frac{1}{2}$ fluid ounce of pure alcohol. For example, 12 oz of beer, 10 oz of a wine cooler, 4 to 5 oz of wine, and $1\frac{1}{2}$ oz of 80-**proof** whiskey, scotch, gin, or vodka are each equivalent to one drink (**Figure 1**). The term “proof” reflects the alcohol content of distilled spirits: 100-proof liquor is 50% alcohol whereas 80-proof liquor is 40% alcohol.

Figure 1

What does one drink look like? A drink is equivalent to $1\frac{1}{2}$ oz of distilled spirits, 4 to 5 oz of wine, 10 oz of wine cooler, or 12 oz of beer.



What happens to alcohol in the body?

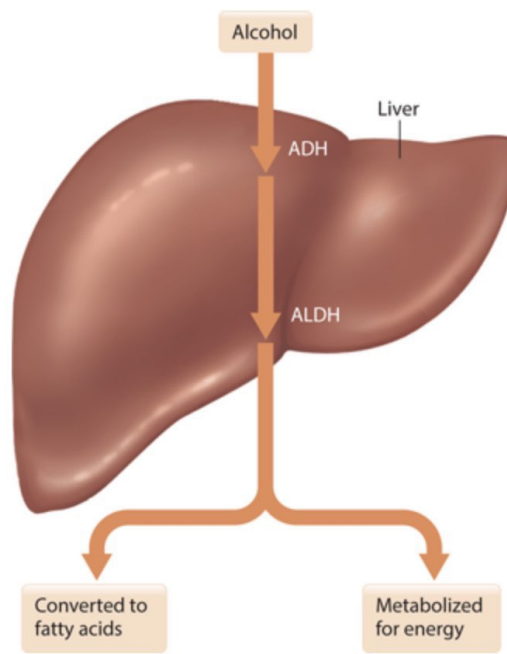
LO 1 Explain what happens to alcohol in the body.

Alcohol is absorbed directly from both the stomach and the small intestine; it does not require digestion prior to absorption. Consuming foods with some fat, protein, and fiber slows the absorption of alcohol and can reduce blood alcohol concentration (BAC) by as much as 50% compared to peak BAC when drinking on an empty stomach. Carbonated alcoholic beverages are absorbed very rapidly, which explains why champagne and sparkling wines are so quick to generate an alcoholic “buzz.” Women typically absorb 30% to 35% more of a given alcohol intake compared to a man of the same size, which may explain why women often show a greater response to alcohol compared to men.

Once absorbed, most alcohol is oxidized, or broken down, in the liver at a fairly steady rate. However, a small amount is oxidized in the stomach before it has even been absorbed. Cells in both the stomach and the liver secrete the enzyme alcohol dehydrogenase (ADH), which triggers the first step in alcohol degradation, while aldehyde dehydrogenase (ALDH) takes the breakdown process one step further (Figure 2). In women, ADH in the stomach is less active than in men; thus, women do not oxidize as much alcohol in their stomach, leaving up to 30% to 35% more intact alcohol to be absorbed.

Figure 2

Metabolism of alcohol.



On average, a healthy adult metabolizes the equivalent of one drink per hour. If someone has more than one drink in an hour, the excess alcohol is released back into the bloodstream, where it elevates BAC and triggers a range of behavioral and metabolic reactions. Through the blood, alcohol is quickly and completely distributed throughout all body fluids, exposing every tissue in your body—including your brain—to its toxic effects.



To find out how many Calories are in your favorite drink, go to <http://rethinkingdrinking.niaaa.nih.gov/>. From the “Tools” tab, click the “Calculators” link and select “Alcohol Calorie calculator.”

Despite what you may have heard, there is no effective intervention to speed up the breakdown of alcohol (Table 1). The key to keeping your BAC low is to drink alcoholic beverages while eating a meal or large snack, to drink very slowly, to have no more than one drink per hour, and to limit your total consumption of alcohol on any one occasion.

Table 1 Myths about Alcohol Metabolism

The Claim	The Reality
Physical activity, such as walking around, will speed up the breakdown of alcohol.	Muscles don’t metabolize alcohol; the liver does.
Drinking a lot of coffee will keep you from getting drunk.	Coffee intake simply leaves you both wired and drunk.
Using a sauna or steam room will force the alcohol out of your body.	Very little alcohol is lost in sweat; the alcohol will remain in your bloodstream.
Herbal and nutritional products are available that speed up the breakdown of alcohol.	No commercial supplement is effective in increasing the rate of alcohol metabolism.

A person who steadily increases his or her alcohol consumption over time becomes more tolerant

A person who steadily increases his or her alcohol consumption over time becomes more tolerant of a given intake of alcohol. Chronic drinkers experience *metabolic tolerance*, a condition in which the liver becomes more efficient in its breakdown of alcohol. This means that the person's BAC rises more slowly after consuming a certain number of drinks. In addition, chronic drinkers develop what is called *functional tolerance*, meaning they show few, if any, signs of impairment or intoxication, even at high BACs. As a result, these individuals may consume twice as much alcohol as when they first started drinking before they reach the same state of euphoria.

What do we know about moderate drinking?

LO 2 Identify some potential benefits and concerns related to moderate drinking.

The 2015–2020 *Dietary Guidelines for Americans* (DGAs) advise “If alcohol is consumed, it should be consumed in moderation and only by adults of legal drinking age.”² The definition of moderate drinking[Ⓟ] is based on a maximal daily intake of up to one drink per day for women and two drinks per day for men. A person who does not drink any alcohol on weekdays but downs a six-pack of beer most Saturday nights would *not* be classified as a “moderate drinker”! The DGAs also identify groups of individuals who should not consume alcohol at all, including women who are or may become pregnant and women who are breastfeeding.

The DGAs do not recommend that anyone begin consuming alcohol or drink more often in order to achieve certain health benefits because, as we discuss here, moderate alcohol intake is associated with both benefits and risks. When deciding whether or how much alcohol to drink, you need to weigh the pros and cons of alcohol consumption against your own personal health history.

Moderate Drinking Has Certain Health Benefits

In most people, moderate alcohol intake offers some psychological benefits, reducing stress and anxiety. Moderate use of alcohol can also improve appetite, especially for savory foods high in protein.³ This can be of great value to the elderly and people with a chronic disease that suppresses appetite.

In addition, light/moderate alcohol consumption appears to lower the risk of subsequent age-related dementia compared to those who abstain from alcohol and those who consume increasingly greater amounts.⁴ It has also been linked to lower rates of cardiovascular disease, especially in older adults and in people already at risk, such as those with type 2 diabetes. Consumption of a moderate amount of alcohol in any form (wine, beer, or distilled spirits) increases levels of the “good” type of cholesterol (HDL) while decreasing the concentration of

increases levels of the “good” type of cholesterol (HDL) while decreasing the concentration of “bad” cholesterol (LDL); it also reduces the risk of abnormal clot formation in the blood vessels.⁵

Recently, there has been a great deal of interest in *resveratrol*, a phytochemical found in red wines, grapes, and other plant foods. Some researchers are proposing that resveratrol may be able to reduce the risk for certain chronic diseases. However, the amount of resveratrol in a glass of red wine may be too small to provide a meaningful health benefit for most individuals.⁶

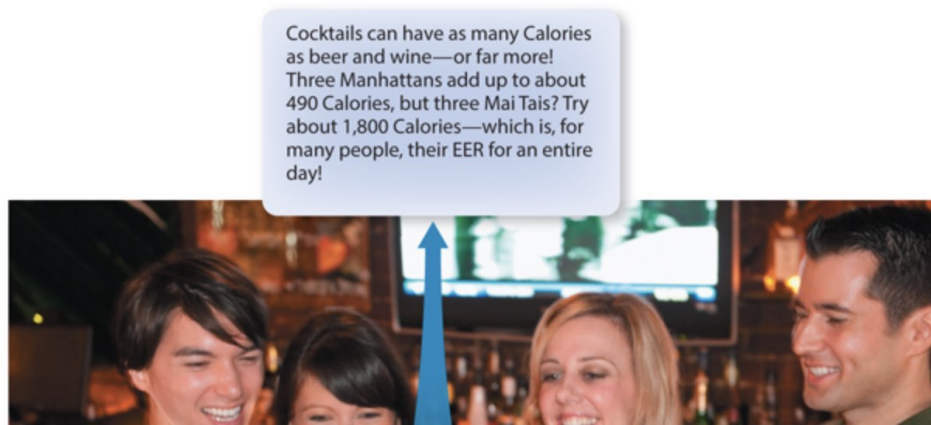
Moderate Drinking Is Associated with Certain Risks

Not everyone responds to alcohol in the same manner. A person’s age, genetic makeup, state of health, and use of medications can influence both immediate and long-term responses to alcohol intake, even at moderate levels. For example, women consuming low to moderate amounts of alcohol appear to have a slightly increased risk for breast cancer.⁷ In some studies, moderate drinking has been linked to a higher risk of bleeding in the brain (*hemorrhagic stroke*); however, other research has not found this association.⁸

Another concern is the effect of alcohol on our waistlines! As we pointed out in [Chapter 1](#), alcohol is not classified as a nutrient because it does not serve any unique metabolic role in humans. It does, however, provide energy: 7 Calories per gram. Only fat has more Calories per gram. As illustrated in [Figure 3](#), if you’re watching your weight, it makes sense to strictly limit your consumption of alcohol to stay within your daily energy needs.

Figure 3

Going out for a few drinks? You might want to stick to just one—Calories in alcoholic beverages really add up!





< Alcohol intake may also increase your *food* intake, because alcoholic beverages enhance appetite, particularly during social events, leading some people to overeat. Both current and lifelong intakes of alcohol increase the risk for obesity in both males and females, particularly for those who binge drink.⁹

Because the liver detoxifies both alcohol and medications, harmful drug–alcohol interactions are common. Many medications carry a warning label advising consumers to avoid alcohol while taking the drug. Alcohol magnifies the effect of certain pain relievers, sleeping pills, antidepressants, and antianxiety medications and can lead to loss of consciousness. It also increases the risk for gastrointestinal bleeding in people taking aspirin, as well as the risk for both bleeding and liver damage in people taking ibuprofen or acetaminophen.¹⁰ In diabetics using insulin or oral medications to lower blood glucose, alcohol can exaggerate the drug's effect, leading to an inappropriately low level of blood glucose.

As you can see, there are risks to moderate alcohol consumption. Although moderate drinkers at low risk for alcohol addiction or medication interaction can safely continue their current level of use, individuals who have a personal or family history of alcoholism or fall into any other risk category should consider abstaining.

What do we know about alcohol use disorders?

LO 3 Distinguish two types of alcohol use disorders and discuss their health effects.

Problem drinking that has become severe is medically diagnosed as an alcohol use disorder (AUD).¹¹

Alcohol Use Disorders Include Abuse and Dependence

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) recognizes two general types of AUD: alcohol abuse and alcohol dependence, commonly known as alcoholism. In the United States, about 17 million adults have an AUD.¹¹

Alcohol abuse is a pattern of alcohol consumption, whether chronic or occasional, that results in distress, danger, or harm to one's health, functioning, or interpersonal relationships. Both chronic and occasional alcohol abuse can eventually lead to alcoholism.

Binge drinking is a form of alcohol abuse defined as the consumption of five or more alcoholic drinks on one occasion by a man or four or more drinks for a woman. In a recent survey, nearly 25% of people ages 18 or older reported binge drinking within the previous month.¹¹ People who binge-drink report engaging in about four episodes a month.¹²

Among the many consequences of binge drinking is an increased risk for potentially fatal falls, drownings, and automobile accidents. Acts of physical violence, including vandalism and physical and sexual assault, are also associated with binge drinking. The consequences also carry over beyond a particular episode: binge drinking impairs cognition, planning, problem solving, memory, and inhibition, leading to significant social, educational, and employment problems. About 25% of college students who binge-drink report academic consequences of their drinking, from missed classes to a low GPA.¹³ Finally, hangovers, which are discussed shortly, are practically inevitable, given the amount of alcohol consumed during a binge.

Alcohol dependence [Ⓢ], commonly known as *alcoholism*, is a disease characterized by:

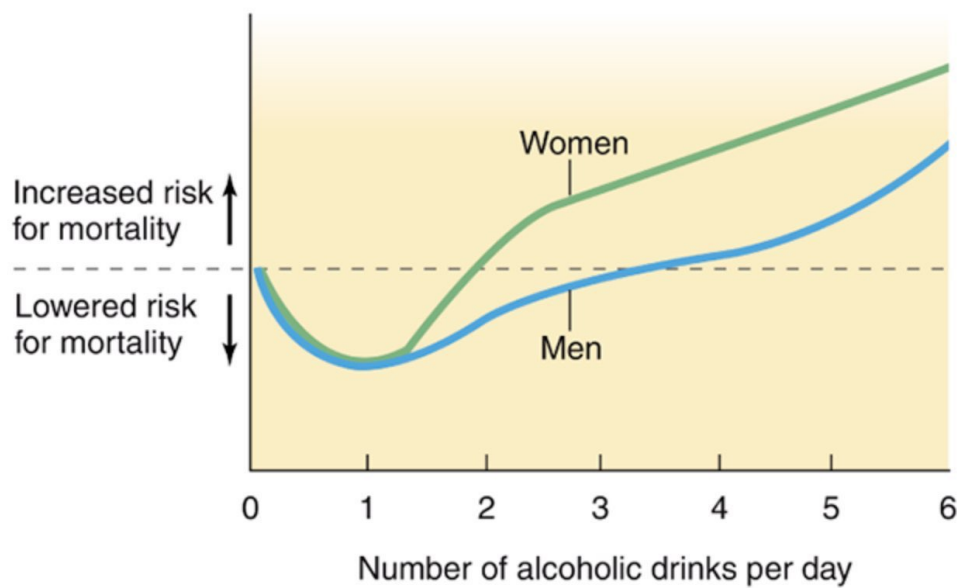
- *Craving*: a strong need or urge to drink alcoholic beverages.
- *Loss of control*: the inability to stop once drinking has begun.
- *Physical dependence*: the presence of nausea, sweating, shakiness, and other signs of withdrawal after stopping alcohol intake.
- *Tolerance*: the need to drink larger and larger amounts of alcohol to get the same “high,” or pleasurable sensations, associated with alcohol intake.

Alcohol Use Disorders Have Toxic Effects

Alcohol is a drug. It exerts a narcotic effect on virtually every part of the brain, acting as a sedative and depressant. Alcohol also has the potential to act as a direct toxin; in high concentrations, it can damage or destroy cell membranes and internal cell structures. As shown in [Figure 4](#), an alcohol intake between 1/2 and 1 drink per day is associated with the lowest risk of mortality for both men and women. The risk of death increases sharply as alcohol intake increases above 2 drinks per day for women, and 3½ drinks per day for men. These increased mortality risks are related to alcohol’s damaging effects on the brain, the liver, and other organs, as well as its role in motor vehicle accidents and other traumatic injuries.

Figure 4

The effect of alcohol consumption on mortality risk. Consuming 1/2 to 1 drink per day is associated with the lowest mortality risk for all adults. The risk of death increases sharply at levels of alcohol intake above 2 drinks per day for women and above 3½ drinks per day for men.



Alcohol Hangovers

Alcohol hangover  is an extremely unpleasant consequence of drinking too much alcohol. It lasts up to 24 hours, and its symptoms include headache, fatigue, dizziness, muscle aches, nausea and vomiting, sensitivity to light and sound, and extreme thirst. Some people also experience depression, anxiety, irritability, and other mood disturbances. While some aspects of a hangover may be due to nonalcoholic compounds known as *congeners* (found in red wines, brandy, and whiskey, for example), most of the consequences are directly related to the alcohol itself. These include the following:

- *Fluid and electrolyte imbalance:* Alcohol's diuretic effect increases urine output, leading to an excessive loss of fluid and electrolytes and contributing to dizziness and lightheadedness.
- *Irritation and inflammation:* Alcohol irritates the lining of the stomach, causing inflammation (gastritis), increasing gastric acid production, and triggering abdominal pain, nausea, and vomiting.
- *Metabolic disturbances:* Alcohol disrupts normal metabolism, leading to low levels of blood glucose and elevated levels of lactic acid, and resulting in fatigue, weakness, and mood changes.
- *Biological disturbances:* Alcohol disrupts various biological rhythms, such as sleep patterns, leading to an effect similar to that of jet lag.

While many folk remedies, including various herbal products, claim to prevent or reduce hangover effects, few have proven effective. Drinking water or other nonalcoholic beverages will minimize the risk for dehydration, and toast or dry cereal is effective in bringing blood glucose levels back to normal. Getting adequate sleep can counteract the fatigue, and the use of antacids can help reduce nausea and abdominal pain. While aspirin, ibuprofen, and acetaminophen might be useful for headaches, they are not safe for treating hangovers. As noted earlier, all three drugs can cause gastrointestinal bleeding, and interactions between alcohol and either acetaminophen or ibuprofen can cause liver damage.¹⁰

Reduced Brain Function

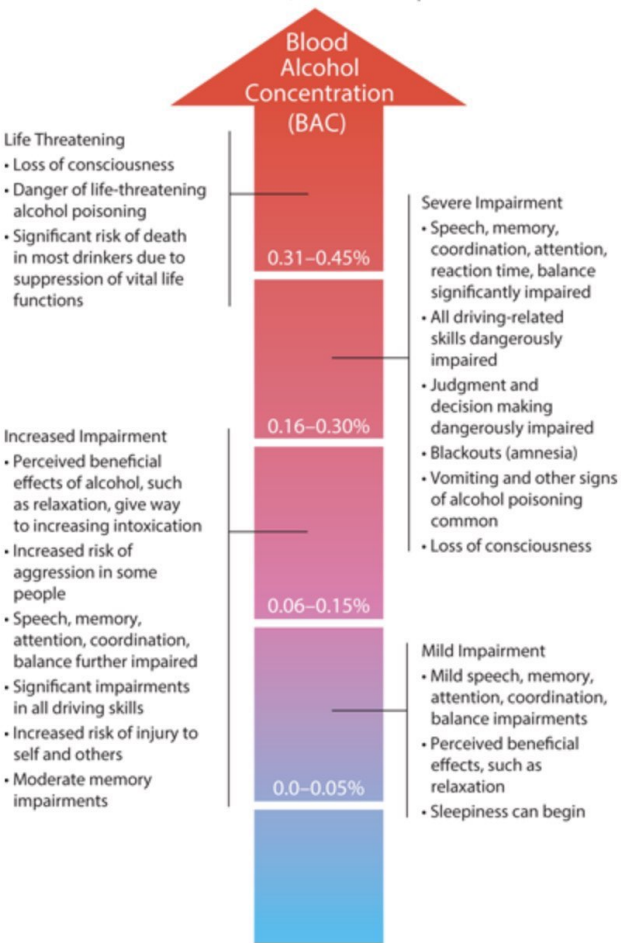
Alcohol is known for its ability to alter behavior, mainly through its effects on the brain. Even a low BAC impairs reasoning and judgment (**Figure 5** ). Alcohol also interferes with normal sleep patterns, alters sight and speech, and leads to loss of both fine and gross motor skills such as handwriting, hand-eye coordination, and balance. Many people who drink experience unexpected mood swings, intense anger, or unreasonable irritation. Others react in the opposite direction,

mood swings, intense anger, or unreasonable irritation. Others react in the opposite direction, becoming sad, withdrawn, and lethargic. When teens or young adults chronically consume excessive amounts of alcohol, they may permanently alter brain structure and function.¹⁴ Intellectual functioning and memory can be lost or compromised. In addition, early exposure to alcohol increases the risk for future alcohol addiction and may contribute to lifelong deficits in learning-related behaviors.¹⁵

Figure 5

Effects of increasing blood alcohol concentration on brain function. The first brain region affected is the cerebral cortex, which governs reasoning and judgment. At increasing levels of impairment, the cerebellum, which controls and coordinates movement, the hippocampus, which is involved in memory storage, and the brain stem, which regulates consciousness, breathing, and other essential functions, may become involved.

As BAC Increases, So Does Impairment



THEO



"I was driving home from a post-game party last night when I was pulled over by the police. The officer said I seemed to be driving 'erratically' and asked me how many drinks I'd had. I told him I'd only had three beers and explained that I was pretty tired from the game. Then, just to prove I was fine, I offered to count backward from a hundred, but I must have sounded sober, because he didn't make me do it. I can't believe he thought I was driving drunk! Still, maybe three beers after a game really is too much."

Do you think it is physiologically possible that Theo's driving had been impaired after consuming three beers? To answer, you'll need to consider both Theo's body weight and the effect of playing a long basketball game. What other factors that influence the rate of alcohol absorption or breakdown could have affected Theo's BAC? How could all of these factors influence a decision about whether "three beers after a game really is too much"?

Alcohol Poisoning

As shown in **Figure 5**, as BAC increases, the person is at increasing risk for **alcohol poisoning**, a metabolic state in which the respiratory center of the brain is depressed. This reduces the level of oxygen reaching the brain and increases the risk for fatal respiratory or cardiac failure.

Like Todd in our opening story, many binge drinkers lose consciousness, but their BAC can continue to rise as the alcohol in their GI tract is absorbed and released into the bloodstream. Moreover, alcohol irritates the GI tract, and vomiting—even while unconscious—is common. The person can choke on their vomit and suffocate. For these reasons, if someone passes out after a night of hard drinking, he or she should never be left alone to “sleep it off.” If the person has cold and clammy skin, a bluish tint to the skin, or slow or irregular breathing, or if the person exhibits confusion or stupor, or cannot be roused, seek emergency health care immediately.

Reduced Liver Function

The liver performs an astonishing number and variety of body functions, including nutrient metabolism, glycogen storage, the synthesis of many essential compounds, and the detoxification of medications and other potential poisons. As noted earlier, it is the main site of alcohol metabolism. When an individual’s rate of alcohol intake exceeds the rate at which the liver can break down the alcohol, liver cells are damaged or destroyed. The longer the alcohol abuse continues, the greater the damage to the liver.

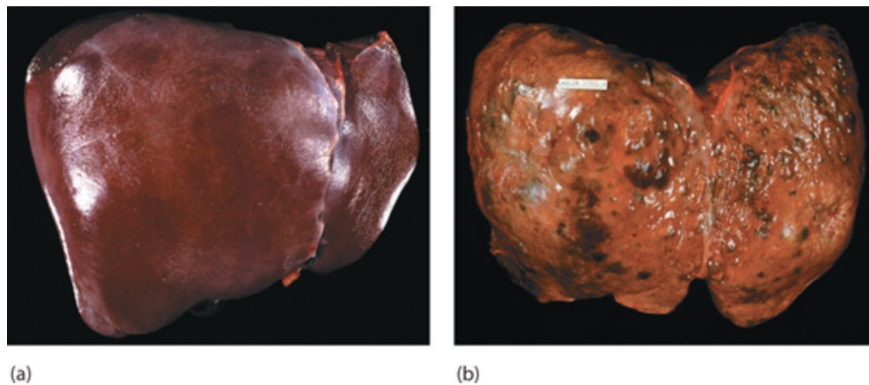
Fatty liver[Ⓟ], a condition in which abnormal amounts of fat build up in the liver, is an early yet reversible sign of liver damage commonly linked to alcohol abuse. Once alcohol intake stops and a healthful diet is maintained, the liver is able to heal and resume normal function.

Alcoholic hepatitis[Ⓟ] is a more severe condition, resulting in loss of appetite, nausea and vomiting, abdominal pain, and jaundice (a yellowing of the skin and eyes, reflecting reduced liver function). Mental confusion and impaired immune response often occur with alcoholic hepatitis. While avoidance of alcohol and a healthful diet often result in full recovery, many people experience lifelong complications from alcoholic hepatitis.

Cirrhosis of the liver[Ⓟ] is often the result of long-term alcohol abuse; liver cells are scarred, blood flow through the liver is impaired, and liver function declines (**Figure 6**[□]). This condition almost always results in irreversible damage to the liver and can be life-threatening. Blood pressure increases dramatically, large amounts of fluid are retained in the abdominal cavity, and metabolic wastes accumulate. In some cases, liver function fails completely, resulting in the need for a liver transplant or the likelihood of death.

Figure 6

Cirrhosis of the liver is often caused by chronic alcohol abuse. (a) A healthy liver; (b) a liver damaged by cirrhosis.



Increased Risk for Chronic Disease

While moderate drinking may provide some health benefits, it is clear that chronically high intakes of alcohol damage a number of body organs and systems, increasing a person's risk for chronic disease and death:¹⁶

- *Bone health:* Men and women who are alcohol dependent experience abnormal vitamin D and calcium metabolism with the result that up to 40% of alcoholics have osteoporosis.
- *Pancreatic injury and diabetes:* Alcohol damages the pancreas, which produces insulin, and decreases the body's ability to properly respond to insulin. The result is chronically elevated blood glucose levels and an increased risk for diabetes.
- *Cancer:* Research has most strongly linked alcohol consumption, particularly at high intakes, to increased risk for cancer of the mouth and throat, esophagus, stomach, liver, colon, and female breast.¹⁷

Malnutrition

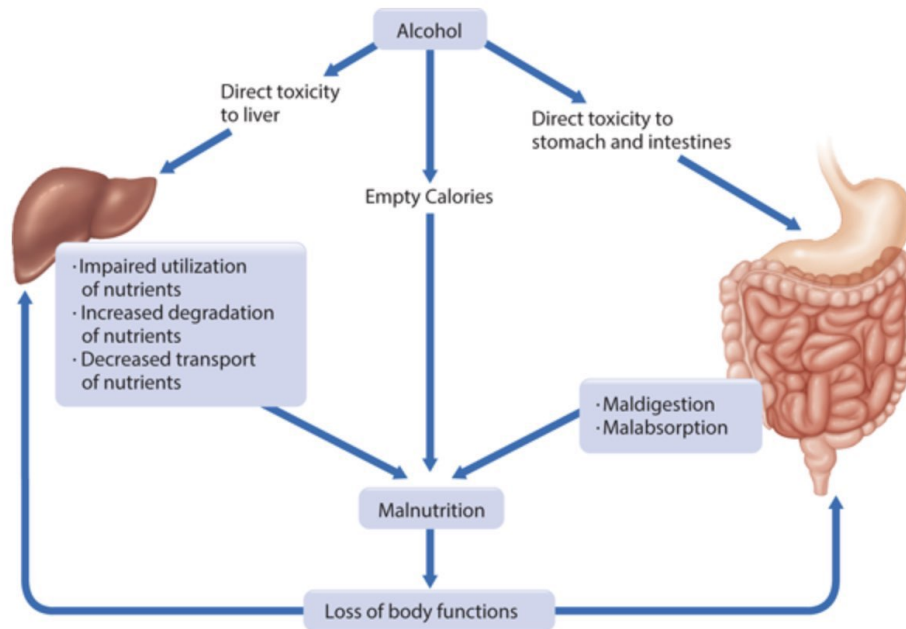
As alcohol intake increases to 30% or more of total energy intake, appetite is lost and intake of healthful foods declines. Over time, the diet becomes deficient in protein, fats, carbohydrates, vitamins A and C, and minerals such as iron, zinc, and calcium (Figure 7).

Figure 7

Alcohol-related malnutrition. Excess alcohol consumption contributes directly and indirectly to widespread nutrient deficiencies.

Figure 7

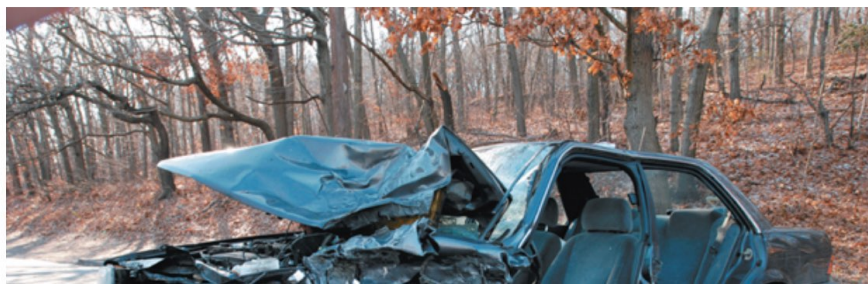
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Even if food intake is maintained, long-term exposure to alcohol damages the stomach, small intestine, and pancreas. As a result, the digestion of foods and absorption of nutrients become inadequate, leading to malnutrition and inappropriate weight loss. Finally, alcohol interferes with the ability of cells to utilize nutrients.

Increased Risk for Traumatic Injury

Excessive alcohol intake is the third leading preventable, lifestyle-related cause of death for Americans of all ages, contributing to nearly 80,000 deaths per year.¹⁸ It has been estimated that nearly 2,000 young Americans die each year from alcohol-related unintentional injuries, including motor vehicle accidents, falls, and drownings. An additional 600,000 college-age students are seriously injured while under the influence of alcohol.¹⁹ Rates of physical and sexual assaults and vandalism also increase when people are under the influence of alcohol.





Excessive alcohol intake greatly increases the risk for car accidents and other traumatic injuries.

Fetal and Infant Health Problems

Alcohol is a known **teratogen** (a substance that causes fetal harm). It readily enters the fetal bloodstream and, because the fetal liver cannot effectively break it down, accumulates in the fetal blood and tissues, increasing the risk for various birth defects. The effects of maternal alcohol intake are dose-related: the more the mother drinks, the greater the potential harm to the fetus. Drinking early in pregnancy—even before the woman realizes she is pregnant—is particularly harmful. However, no level of alcohol consumption at any time during pregnancy is safe. Women who are or think they may be pregnant should entirely abstain. Despite the fact that this advice is widely publicized, nearly 8% of women report consuming alcohol during their pregnancy and over 17% of these women report binge drinking.²⁰ It is estimated that more than 40,000 U.S. infants are born each year with some type of alcohol-related defect.

Fetal alcohol syndrome (FAS) is the most severe consequence of maternal alcohol consumption and is characterized by malformations of the face, limbs, heart, and nervous system. The characteristic facial features of a child with FAS persist throughout life (Figure 8). Newborn and infant death rates are abnormally high, and those who do survive may suffer from lifelong emotional, behavioral, social, learning, and developmental problems. FAS is one of the most common causes of mental retardation in the United States, despite the fact that it is completely preventable.

Figure 8

A child with fetal alcohol syndrome (FAS). The facial features typical of children with FAS include a short nose with a low, wide bridge; drooping eyes with an extra skinfold; and a flat, thin upper lip. These external traits are typically accompanied by behavioral problems and learning disorders. The effects of FAS are irreversible.



Fetal alcohol effects (FAE) are a more subtle set of consequences related to maternal alcohol intake. Although usually not diagnosed at birth, FAE often becomes evident when the child enters preschool or kindergarten. The child may exhibit hyperactivity, attention deficit disorders, or impaired learning abilities. It is estimated that the incidence of FAE may be 10 times greater than that of FAS.

The only way to prevent these disorders is for sexually active women not using reliable contraception to abstain from all alcoholic beverages. In addition, women who are pregnant should entirely abstain from alcohol consumption. Although some pregnant women do have an occasional alcoholic drink with no apparent ill effects, FAE can occur with light to moderate alcohol intake; thus, the best advice is to abstain throughout pregnancy.

Women who are breastfeeding should also abstain from alcohol because it easily passes into the breast milk at levels equal to blood alcohol concentrations. If consumed by the infant, the alcohol in breast milk can slow motor development and depress the central nervous system. Alcohol also has a diuretic effect. The normal fluid losses experienced by a breastfeeding woman are therefore exacerbated with alcohol intake, leaving her at risk for dehydration, and reducing her ability to produce milk, putting the infant at risk for malnutrition.

Should you be concerned about your alcohol intake?

LO 4 Identify at least three strategies for limiting your drinking and three signs of an alcohol use disorder.

Knowing that a moderate intake of alcohol may provide some health benefits and that excessive intake causes a wide range of problems, what can you do to control your drinking? Check out the **Quick Tips** for practical strategies that can help you avoid the negative consequences of excessive alcohol consumption.

Quick Tips

Taking Control of Your Alcohol Intake

- ✓ Think about *why* you are planning to drink. Is it to relax and socialize, or are you using alcohol to release stress? If the latter, try some stress-reduction techniques that don't involve alcohol, such as working out or talking with a friend.
- ✓ Decide in advance what your alcohol intake will be, and plan some strategies for sticking to your limit. If you are going to a bar, for example, take only a small amount of cash and leave your credit card at home. At a party, stay occupied dancing, sampling the food, and talking with friends.
- ✓ Make sure you have a protein-containing meal or snack before your first alcoholic drink. Having food in the stomach delays its emptying, allowing time for more of the alcohol to be broken down. As a result, less will be absorbed into the bloodstream.
- ✓ "Pace and Space" your drinks. Before your first alcoholic drink, have something nonalcoholic. Once your thirst has been satisfied, your rate of fluid intake will drop. After that, rotate between alcoholic and nonalcoholic drinks. Remember, pure orange juice doesn't look any different from orange juice laced with vodka, so no one will even know what you are—or are not—drinking.
- ✓ Dilute hard liquor with large amounts of diet soda, sparkling water, or juice. Diluted beverages are lower in Calories, too.

✓ Whether or not your drink is diluted, sip slowly to allow your liver time to keep up with your alcohol intake.

✓ If your friends pressure you to drink and you'd rather not, volunteer to be the designated driver. You'll have a "free pass" for the night in terms of saying no to alcohol.

If you have trouble keeping your drinking moderate, for example, by practicing the Quick Tips, then even if you're not dependent on alcohol, you may be experiencing an alcohol use disorder. In addition to the amount you drink, you should be concerned if you drink at inappropriate times. This includes, for example, before or while driving a car, while at work/school, when you need to deal with negative emotions, or if you are or might be pregnant.

< If you answer "yes" to one or more of the following questions, provided by the NIAAA, you may have an AUD: >

- Have you ever felt you should cut down on your drinking?
- Have people annoyed you by criticizing your drinking?
- Have you ever felt bad or guilty about your drinking?
- Do you drink alone when you feel angry or sad?
- Has your drinking ever made you late for school or work?
- Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover?
- Do you ever drink after promising yourself you won't?

If you need help taking control of your drinking, talk with a trusted friend, relative, coach, teacher, or healthcare provider. Many campuses have support groups that can help.

How can you talk to someone about an alcohol use disorder?

LO 5 Explain how to talk to someone about an alcohol use disorder.

You may suspect that a close friend or relative might be one of the nearly 17 million Americans with an AUD. If your friend or relative uses alcohol to calm down, cheer up, or relax, that may be a sign of alcohol dependency. The appearance of tremors or other signs of withdrawal as well as the initiation of secretive behaviors when consuming alcohol are other indications that alcohol has become a serious problem.

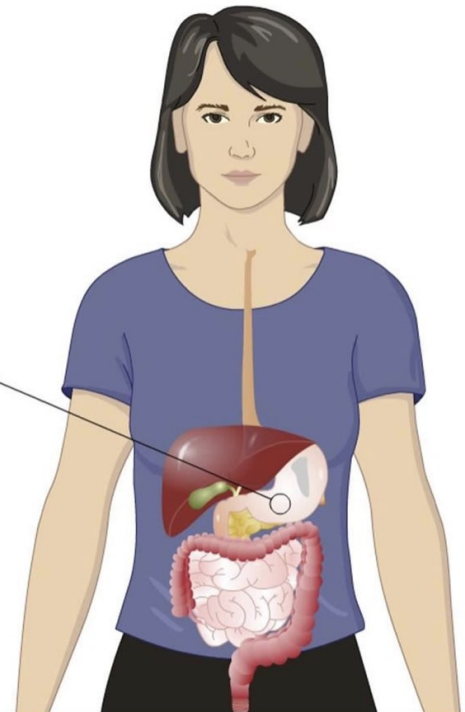
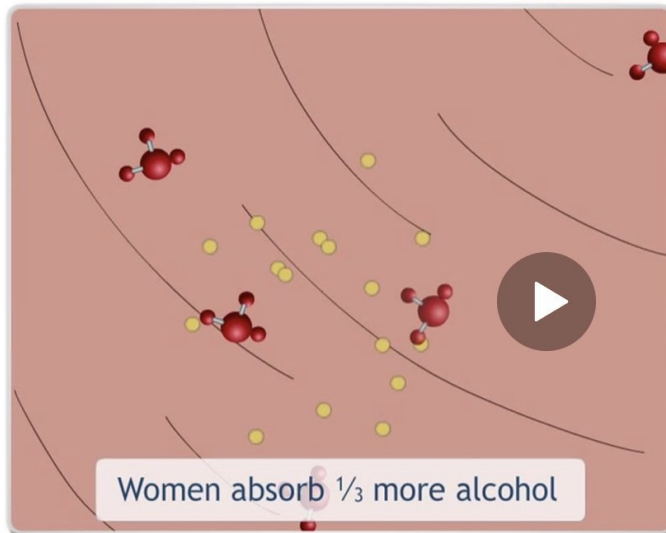
Many people become defensive or hostile when asked about their use of alcohol; denial is very common. The single hardest step toward sobriety is often the first: accepting the fact that help is needed. Some people respond well when confronted by a single person, while others benefit more from a group intervention. There should be no blaming or shaming: AUD is a medical disorder with a genetic component. The NIAAA suggests the following approaches when trying to get a friend or relative into treatment:

- *Stop “covering” and making excuses:* Often, family and friends will make excuses to others to protect the person from the results of his or her drinking. It is important, however, to stop covering for that person so he or she can experience the full consequences of inappropriate alcohol consumption.
- *Intervene at a vulnerable time:* The best time to talk to someone about problem drinking is shortly after an alcohol-related incident, such as a DUI arrest, an alcohol-related traffic accident, or a public scene. Wait until the person is sober and everyone is relatively calm.
- *Be specific:* Tell the person exactly why you are concerned; use examples of specific problems associated with his or her drinking habits (e.g., poor school or work performance; legal problems; inappropriate behaviors). Explain what will happen if the person chooses not to get help—for example, no longer going out with the person if alcohol will be available, no longer riding with him or her in motor vehicles, moving out of a shared home, and so on.
- *Get help:* Professional help is available from a wide variety of agencies and providers. Several contacts are listed in the [Web Links](#) . If the person indicates a willingness to get help, take him or her to a treatment center immediately. The longer the delay, the more likely it is that the person won’t go.
- *Enlist the support of others:* Whether or not the person agrees to get help, calling upon other

- *Get help:* Professional help is available from a wide variety of agencies and providers. Several contacts are listed in the [Web Links](#). If the person indicates a willingness to get help, take him or her to a treatment center immediately. The longer the delay, the more likely it is that the person won't go.
- *Enlist the support of others:* Whether or not the person agrees to get help, calling upon other friends and relatives can often be effective, especially if one of these people has battled an AUD.

Treatment for AUDs works for many, but not all, individuals. Success is measured in small steps, and relapses are common. Research suggests that most people with an AUD cannot just “cut down”; they need to completely abstain from alcohol consumption if they are to achieve full and ongoing recovery.

Watch Animation: Alcohol Absorption



Web Links

www.aa.org

Alcoholics Anonymous

This site provides both links to local AA groups and information on the AA program.

www.al-anon.alateen.org

Al-Anon Family Group Headquarters

This site provides links to local Al-Anon and Alateen groups, which offer support to spouses, children, and other loved ones of people addicted to alcohol.

www.niaaa.nih.gov

National Institute on Alcohol Abuse and Alcoholism

Visit this website for information on the prevalence, consequences, and treatments of alcohol-related disorders.

www.collegedrinkingprevention.gov

College Drinking: Changing the Culture

The NIAAA developed this website for college students seeking information and advice on the subject of college drinking.