

Chapter 22

Alcohol

Lesson 1

Choosing to Be Alcohol Free

Lesson 2

Harmful Effects of Alcohol Use

Lesson 3

Alcohol, the Individual, and Society



Myth or Fact?



Do You Know Which Is a Myth and Which Is a Fact About Alcohol?

Read each statement below and respond by writing *Myth* or *Fact* for each item.

- ▶ 1. Alcohol has the same chemical and physical effects on everyone who drinks.
- ▶ 2. Someone who doesn't act drunk isn't drunk.
- ▶ 3. When a person is intoxicated, coffee, a cold shower, or fresh air will sober him or her up.
- ▶ 4. Alcohol impairs judgment and social behaviors.
- ▶ 5. People can get into serious health, legal, and social problems *anytime* they use alcohol.
- ▶ 6. Drinking alcohol on weekends or once in a while is not harmful.
- ▶ 7. No amount of alcohol is safe for a pregnant woman to drink.
- ▶ 8. Binge drinking has no long-term effects.

HEALTH

Online



For instant feedback on your health status, go to Chapter 22 Health Inventory at health.glencoe.com.

Quick Write

Using Visuals. Teens who make the decision to avoid the use of alcohol enjoy safe and healthy activities. How can you and your peers make a statement about your decision to stay alcohol free?

Lesson 1

Choosing to Be Alcohol Free

VOCABULARY

ethanol
fermentation
depressant
intoxication
alcohol abuse


YOU'LL LEARN TO

- Identify factors, such as the media, that influence decisions about alcohol use and your health.
- Analyze the physical, mental, social, and legal consequences of alcohol use.
- Explain the relationship between alcohol use by adolescents and the role alcohol plays in unsafe situations.
- Develop strategies for preventing the use of alcohol.
- Demonstrate refusal strategies regarding alcohol use and the benefits of choosing to be alcohol free.



Fold a sheet of paper in half. On the left side of the paper, list reasons why drinking alcohol is risky for teens. On the right side, list alternatives to alcohol use.



 Recognizing the health risks of alcohol will help you make the decision to stay alcohol free. *How can avoiding alcohol use help you succeed in school?*

For many people the image is a familiar one: energetic young adults playing sports, cooking out, living life to the fullest. The purpose of this attractive advertisement scene is to promote and sell a drug—alcohol—that is addictive, physically damaging, and often an entry into other drug use. In reality, alcohol is a lethal drug with harmful physical, mental, social, and legal consequences. These consequences can result in serious health problems to the drinker and those around him or her and even death caused by disease, violence, or vehicle crashes.

The Facts About Alcohol

Alcohol, or, more accurately, **ethanol**—the type of alcohol in alcoholic beverages—is a powerful and addictive drug. Ethanol can be produced synthetically or naturally through the fermentation of fruits, vegetables, and grains. **Fermentation** is the chemical

action of yeast on sugars. Water, flavoring, and minerals are mixed with ethanol to produce a variety of beverages, such as beer and wine. Alcohol also can be processed to create spirits, or liquors, such as whiskey, rye, and vodka.

Immediate Effects of Alcohol Consumption

At first drinking alcohol may provide a kind of energy “rush.” This initial reaction masks alcohol’s true effects as a **depressant**, a drug that slows the central nervous system. Alcohol quickly affects a person’s motor skills by slowing reaction time and impairing vision. Clear thinking and good judgment also diminish. A variety of factors, including a person’s body size and stomach contents, determines alcohol’s effect. For this reason, the amount of alcohol that leads to intoxication varies from person to person. **Intoxication** is the state in which the body is poisoned by alcohol or another substance and the person’s physical and mental control is significantly reduced.



Factors That Influence Alcohol Use

Despite the many problems associated with alcohol use, many teenagers still choose to drink. Why? Several reasons influence teens in their choice to use—or not use—alcohol:

- ▶ **Peer pressure.** It’s normal for teens to want to feel accepted within a group. The desire to fit in is strong. Teens who choose friends who avoid alcohol use are more likely to be alcohol free than teens whose friends accept alcohol use.
- ▶ **Family.** Family members can help teens be alcohol free. Parents who discourage and avoid the use of alcohol are more likely to have teens who do the same. In fact, teens cite parental disapproval as the number one reason for not using alcohol.
- ▶ **Media messages.** Many media messages on TV and radio and in movies make alcohol use appear exciting, attractive, and fun. Many of these messages feature elements targeted to a teen audience, such as young, attractive people engaging in problem-free drinking in a partylike atmosphere. The message of many ads is “To fit in, drink alcohol.” However, teens who recognize these messages and their meanings are more likely to resist negative influences.

▲ Your family, friends, and peers influence your decisions about avoiding the use of alcohol. *How does your family support you in your healthy choice to be alcohol free?*

Did You Know?



Through the media teens are exposed to alcohol use in many forms.

- By the time teens reach ninth grade, most will have seen more ads for beer or wine than for any other product.
- A recent study found that 93 percent of the 200 most popular movie rentals depicted alcohol use.
- A review of top-selling rap recordings found alcohol mentioned in 47 percent of the songs.

Advertising Techniques

Companies that produce alcoholic beverages spend billions of dollars each year and use various strategies to advertise and sell their products. Advertisements appear on billboards, can be seen or heard on television and radio, and fill magazines and newspapers. Alcohol companies sponsor sporting events, music concerts, art festivals, exhibits, and other community events. They do this to

Real-Life Application

Seeing Through Alcohol Advertising

What media images come to mind when you think of advertisements for alcohol? Many advertisers appeal to emotions and desires to influence people to buy their products. By understanding the ways in which advertisers market alcohol, teens can make the informed choice to avoid using it.



ACTIVITY

Use a critical eye when looking at advertisements in magazines and newspapers and on billboards, television, and the Internet. Select three examples of alcohol advertising. For each example, ask yourself these questions:

1. **What is really being advertised?** Write a paragraph that analyzes how the ad appeals to an emotion or a desire in a particular audience.
2. **What is the hidden message?** Create a caption that describes what the advertisers want the intended audience to believe about drinking alcohol.
3. **What is the truth?** Explain why the ad is misleading, using at least three facts about alcohol use that the ad does not mention.

Demonstrate what you have learned from your analysis by writing a statement on the truthfulness of alcohol advertising.

What is really being advertised?

The ad is “selling” physical attractiveness. It appeals to an internal influence that most people share: the desire to be among friends who enjoy being together.

What is the hidden message?

“You need our beer to have fun with your friends.”

What is the truth?

Drinking beer is not the reason people are enjoying the party. This picture is staged. In fact, drinking alcohol impairs coordination; the ability to play volleyball would be affected. None of the risks of alcohol use are shown.

associate their products with attractive and healthy people having fun. It is important to thoroughly analyze and interpret media messages that encourage the consumption of alcohol.

Avoid Alcohol: Avoid Unsafe Situations

Alcohol use can be dangerous and even deadly. Alcohol-related traffic collisions are the number one cause of death and disability among teens. Alcohol use also is linked with deaths by drowning, fire, suicide, and homicide. Even if you are not drinking but are around people who are, you have an increased risk of being seriously injured, involved in a vehicle crash, or affected by violence. Alcohol-related incidents can be damaging to the health and safety of the user and those associated with the user.

Alcohol and the Law

If you are under 21, it is illegal to buy, possess, or consume alcohol. For teens who break the law, the costs can be very high. Teens can be arrested, fined, and sentenced to a youth detention center. By breaking the law, the offender risks both damaging his or her reputation and losing the trust and respect of friends and family members.

Alcohol, Violence, and Sexual Activity

Teens can protect their health by avoiding situations where alcohol is present. Teens who drink alcohol are more likely to be victims or perpetrators of violent crimes such as rape, aggravated assault, and robbery. They are also more likely to become involved in fights, resulting in school or police action.

Alcohol use and sexual activity are a dangerous mixture. Alcohol impairs a person's judgment, lowers his or her inhibitions, and compromises his or her moral standards. Teens who use alcohol are more likely to become sexually active at earlier ages, to engage in sexual activity more often, and to engage in unprotected sexual activity more often than teens who do not use alcohol. Such careless sexual activity can lead to unplanned pregnancy, sexually transmitted diseases, and emotional scars that don't heal easily.

Alcohol Abuse

Most young people do not live in families in which alcohol abuse is a problem. However, it is estimated that 25 percent of all youth are exposed to family **alcohol abuse**—the excessive use of alcohol—at some time before they reach the age of 18. Young people who live in a household in which a family member abuses alcohol are at a high risk for neglect, abuse, economic hardship, and social isolation. Sometimes, these problems can lead a young person to try alcohol

CHARACTER CHECK

Responsibility. Demonstrate your commitment to a lifestyle that does not include alcohol use by taking responsibility for your decisions.

Write and sign a pledge to stay alcohol free. Share your pledge with your parents and friends. Encourage your friends to sign pledges, too.

Did You Know?

Alcohol use is a serious matter. It is a key factor in

- 33 percent of suicides.
- 50 percent of homicides.
- 62 percent of assaults.
- 68 percent of manslaughter cases.
- 50 percent of head injuries.
- 41 percent of traffic fatalities.
- Alcohol also plays a major role in domestic abuse and injury, child abuse and neglect, and workplace injuries.
- More than half of all people who drown have consumed alcohol before entering the water.

Health Skills Activity

Refusal Skills: Avoiding Alcohol

Chantelle has been invited to a party at her friend Natasha's house. When Chantelle arrives, she is surprised to see people drinking alcoholic beverages. Natasha's parents are not at home.

Chantelle walks over to Natasha. "What kind of party is this?" she asks.

"It's a *high-school* party," Natasha says. "Here, have a beer."

"No, thanks," Chantelle responds. "Won't your parents be upset if they see this?"

"Don't worry," Natasha says. "They won't be home for hours. Here, have a drink. It'll loosen you up."

Chantelle knows she needs to communicate her refusal and leave the party. What should she do?




What Would You Do?

Apply the following refusal skills to write a response for Chantelle.

1. Say no in a firm voice.
2. Explain why you are refusing.
3. Suggest alternatives to the proposed activity.
4. Back up your words with body language.
5. Leave if necessary.



 Choosing to be alcohol free allows you to reach your potential and achieve your goals.

as an escape. However, drinking only makes the situation worse. Studies indicate that a person who begins drinking as a teen is four times more likely to develop alcohol dependence than an adult is.

Alcohol and Extracurricular Activities

The negative consequences of alcohol use for teens can extend to their eligibility for participation in extracurricular activities, including athletics. Most schools have adopted a zero-tolerance policy for students found using alcohol. If caught, students may become ineligible to participate or may be suspended from their activities or from school. A student's future college and job prospects could be damaged.

Being Alcohol Free

Deciding to be alcohol free is an important step in achieving a healthy lifestyle. Many people, especially teens, make the commitment to stay alcohol free. This commitment helps you:

- ▶ **Maintain a healthy body.** Avoiding alcohol use protects body organs from damage and decreases the chance of injury.
- ▶ **Make responsible decisions.** Having a clear head helps you make decisions to protect your health and the health of others.
- ▶ **Avoid risky behavior.** Teens who avoid alcohol reduce their risk of participating in unsafe behaviors such as sexual activity or drinking and driving, and of being a victim or perpetrator of a violent crime.
- ▶ **Avoid illegal activities.** Purchasing or possessing alcohol is against the law for anyone under the age of 21. You can avoid arrest and legal problems by being alcohol free.



Call home for a ride if you find yourself in a situation where alcohol is present. *What other strategies can you use to avoid unsafe situations?*



Refusing Alcohol

Even if the pressure to use alcohol becomes intense, saying no is much easier when you're prepared. If you find yourself in a situation in which alcohol is present, be assertive: refuse to drink, leave the situation quickly, and call for a ride home. Remember that your best defense is to avoid situations in which alcohol is present. Avoid parties where alcohol is served. Practice refusal skills at home to build confidence when you are with peers.



Lesson 1 Review

Reviewing Facts and Vocabulary

1. Define the terms *alcohol*, *depressant*, and *intoxication*.
2. Identify and explain ways families can have a positive influence on teens' decisions about alcohol use.
3. Describe two effective refusal strategies for avoiding the use of alcohol.

Thinking Critically

4. **Analyzing.** Explain the depressant effects of alcohol. How might alcohol affect your ability to make healthful decisions?
5. **Synthesizing.** Explain why refusing alcohol will help you avoid unsafe situations such as sexual assault and violence. In what ways will you also be avoiding the risk of exposure to STDs?

Applying Health Skills

Advocacy. Prepare a pamphlet or an article for your school newspaper that advocates an alcohol-free lifestyle. Describe the risks and consequences of alcohol use. Be sure to explain the benefits of being alcohol free and to include examples of effective communication skills when avoiding alcohol use.



WORD PROCESSING Give your pamphlet or article a professional look by using word-processing software. See health.glencoe.com for tips on using different features of most word-processing programs.



Lesson 2

Harmful Effects of Alcohol Use

VOCABULARY

metabolism
blood alcohol
concentration
binge drinking
alcohol poisoning


YOU'LL LEARN TO

- Examine the short-term effects of alcohol use.
- Apply responsible decision making by associating the risks and consequences of drinking and driving.
- Recognize the dangers of alcohol-drug interactions.
- Demonstrate refusal strategies concerning alcohol use.



Make a list of all the organs in the body you can think of that are affected by alcohol use. Make a word web of your ideas with the term “alcohol use” in the center.



 Many over-the-counter and prescription drugs carry warning labels about alcohol interactions. *Analyze how these warnings help protect users from health risks.*

Statistics confirm that drinking alcohol is a high-risk behavior. Nevertheless, some teens feel pressured to drink alcohol. Finding out about the physical effects alcohol has on the body can help you strengthen your commitment to staying alcohol free.

Short-Term Effects of Drinking

The short-term effects of alcohol are different for each individual. Many of these effects are described in **Figure 22.1**. Some factors that influence the onset of these effects include:

- ▶ **Body size and gender.** A small person feels the effect of the same amount of alcohol faster than a large person does. In general, alcohol moves into the bloodstream faster in females.
- ▶ **Food.** Food in the stomach slows down the passage of alcohol into the bloodstream.
- ▶ **Amount and rate of intake.** As the amount of alcohol consumed increases, the level of alcohol in the bloodstream also rises. When a person drinks alcohol faster than the liver can break it down, intoxication results. When blood alcohol levels become too high, alcohol poisoning can occur.

Alcohol and Drug Interactions

Alcohol and medications or any other drugs don't mix. Interactions between medications and alcohol can lead to illness, injury, or even death. In fact, alcohol-drug interactions are a factor in about one-fourth of all emergency room admissions. To understand why these interactions occur, you must understand how the body works. When a drug enters the body, it travels through the bloodstream to its target organ or tissue. Over time, the body metabolizes the drug. **Metabolism** is the process by which the body breaks down substances. Alcohol travels through the bloodstream to the brain. At the same time, the liver metabolizes the alcohol in the bloodstream and makes it less active. Then the kidneys filter the neutralized particles and other waste products from the blood and produce urine, which is excreted.

The presence of both alcohol and medication or another drug within a person's body can be dangerous. This is because alcohol combined with medicines or other drugs can result in a *multiplier effect*, in which the medication has a greater or different effect than if it were taken alone. Both prescription drugs and over-the-counter medicines, such as aspirin, can alter the way in which alcohol affects the body. Labels on medicines that might cause reactions warn against combining them with alcoholic beverages.

Did You Know?

Females become intoxicated faster and stay that way longer than do males of comparable size. Why?

- Females have a higher percentage of body fat and less water in their bodies than males. As a result, alcohol in females is less diluted and has a stronger and more lasting effect.
- The enzyme that controls alcohol processing is 70 percent more effective in males than in females.

FIGURE 22.1

SHORT-TERM EFFECTS OF ALCOHOL

Physical and mental impairment begin with the first drink of alcohol and increase as more alcohol is consumed.

Nervous System	Cardiovascular System	Digestive System	Respiratory System
<ul style="list-style-type: none"> Brain. The brain becomes less able to control the body. Movement, speech, and vision may be affected. Memory. Thought processes are disorganized, and memory and concentration are dulled. Judgment. Judgment is altered and coordination is impaired. 	<ul style="list-style-type: none"> Heart. With a low intake, alcohol causes an increase in heart rate and blood pressure. At higher intake levels, heart rate and blood pressure decrease and heart rhythm becomes irregular. Risk of cardiac arrest increases. Blood Vessels. Alcohol causes the blood vessels to expand. The increased surface area of the blood vessels allows body heat to escape and the body's temperature to drop. 	<ul style="list-style-type: none"> Stomach. Some alcohol passes quickly from the stomach into the bloodstream. Stomach acid production increases and often results in nausea and vomiting. Liver. Toxic chemicals are released as the liver metabolizes alcohol. These chemicals cause inflammation and scarring. Kidneys. Alcohol causes the kidneys to increase urine output, which can lead to dehydration. 	<ul style="list-style-type: none"> Lungs. Carbon dioxide formed by the liver is released from the body through the lungs. Breathing. Alcohol depresses nerves that control involuntary functions such as breathing. If an excessive amount of alcohol is consumed, breathing may slow, become irregular, or stop.

HEALTH Online

To investigate what Mothers Against Drunk Driving (MADD) is doing about reducing drunk driving crashes, use Web Links at health.glencoe.com.

These are some typical alcohol-drug interactions.

- ▶ Alcohol may slow down a drug's absorption by the body. This increases the length of time that the alcohol or drug is in the body and increases the risk of harmful side effects from the drug.
- ▶ Frequent drinking may increase the number of metabolizing enzymes in the body. This can cause medications to be broken down faster than normal, decreasing their effectiveness.
- ▶ Metabolizing enzymes can change some medications into chemicals that can damage the liver or other organs. For example, when taken with alcohol, acetaminophen, a common painkiller and fever reducer, can cause serious liver damage even when it is used in small amounts.
- ▶ Alcohol can increase the effects of some drugs. For example, antihistamines, which are taken for colds or allergies, react with alcohol and cause excessive dizziness and sleepiness. This effect is especially dangerous if you are operating machinery or driving.


Driving Under the Influence

Drinking alcohol impairs vision, reaction time, and coordination. When drinking is mixed with driving, the results can be disastrous or even deadly. In fact, *driving while intoxicated* (DWI), also known as *driving under the influence* (DUI), is the leading cause of death among teens. A person is said to be intoxicated when his or her blood alcohol concentration exceeds the state's legal limit.

Blood alcohol concentration (BAC) is the amount of alcohol in a person's blood, expressed as a percentage. In most states driving while

intoxicated is defined as having a 0.1 percent BAC, although in some states the figure is 0.08. However, signs of intoxication can begin to appear at BACs as low as 0.02. **Figure 22.2** on the next page illustrates the alcohol content of some common alcoholic beverages. Remember that for anyone under 21, there is no acceptable BAC percentage. Medical researchers have found that drinking of any sort

- ▶ slows reflexes.
- ▶ reduces a person's ability to judge distances and speeds.
- ▶ increases risk-taking behaviors.
- ▶ reduces a person's concentration while increasing forgetfulness.

 **Alcohol-related vehicle fatalities are a leading cause of death for teens.**

What effect does alcohol have on a person's ability to control a vehicle?



Consequences of DWI

When a person is stopped for drinking and driving, a police officer will administer a field sobriety test before the person is given a breathalyzer test to measure BAC. The consequences for a teen caught driving while intoxicated or driving under the influence may include

- ▶ harm to the driver and others.
- ▶ severely restricted driving privileges and/or immediate confiscation of a driver's license.
- ▶ alcohol-related injuries, property damage, and death.
- ▶ living with regret and remorse from these consequences.
- ▶ loss of parental trust and respect.
- ▶ arrest, jail time, court appearance, and a heavy fine or bail.
- ▶ a police record and possible lawsuits.
- ▶ higher insurance rates—up to three times higher than those for nondrinking peers.

Like drinking and driving, riding in a vehicle with a driver who has been drinking is also a serious matter. Every day at least a dozen teens are killed in alcohol-related crashes. Never ride in a vehicle with a driver who has been drinking. If you are faced with this situation, find a ride with someone who has not been drinking or call home to have someone come to get you.

Binge Drinking

Recent studies show that **binge drinking**, *drinking five or more alcoholic drinks at one sitting*, is a serious problem among young people. Rapid binge drinking (sometimes done on a bet or dare) is especially dangerous because it is possible to consume a fatal dose of alcohol. Binge drinking can cause alcohol poisoning.

Alcohol Poisoning

It is very dangerous, and can be deadly, to drink a large amount of alcohol. **Alcohol poisoning** is *a severe and potentially fatal physical reaction to an alcohol overdose*. Alcohol acts as a depressant and shuts down involuntary actions such as breathing and the gag reflex that prevents choking. A fatal dose of alcohol will eventually stop these involuntary actions. It's common for a person who has consumed too much alcohol to vomit because alcohol is a stomach irritant. If the involuntary actions are shut down, a person can choke and be asphyxiated by his or her own vomit.

FIGURE 22.2

COMPARING BEER, WINE, AND SPIRITS

Each of these beverages contains the same amount of pure alcohol—about 0.5 ounces.

Drink	Alcohol by Volume	Alcohol Content
Beer 12 oz.	4%	0.5 oz.
Wine 5 oz.	10%	0.5 oz.
Vodka or Whiskey 1.25 oz.	40%	0.5 oz.

Saying No to a Driver Who Has Been Drinking

You've heard the statement "Don't drink and drive." It's also dangerous to ride in a car if you suspect the driver has been drinking. Here are some ways to refuse that ride.

- Make a firm commitment to yourself not to ride with someone who has been drinking. If you know that alcohol will be available at a party, don't go.
- When you suspect a driver has been drinking, be prepared to make the right choice for your health and safety. Be strong. Find another way home.

Direct Statements: "I am not riding with you. You have been drinking."

Excuses: "I forgot to tell you—my dad is picking me up."

Insults: "You are really crazy to drive after drinking."

Humor: "I'm not getting in that car with you; I value my life."

Alternate suggestion: "Give me the keys; I'll drive."

What You'll Need

- 1 index card per student
- hole punch
- colored pencils or markers
- scissors

What You'll Do

1. Working with a small group, brainstorm a list of refusal strategies a teen can use to avoid riding in a car with a driver who has been drinking.
2. Write and present a skit that has dialogue showing one or more successful refusal skills. Be sure that every group member has a part.
3. Act out your skit for the class. Analyze each skit for the dialogue you think is most effective. Remember

and practice these statements so that you'll be prepared if a drinking driver offers you a ride.

Apply and Conclude

On your own, cut a 3" × 5" index card in half so that you have a 3" × 2½" card. Punch a hole in one corner. Write "Don't Ride with a Drunk Driver" on the card. Then write at least two statements you can use to refuse such a ride. Use markers to make the card eye-catching. After your teacher laminates the card, place it on your key ring.



Effects of Alcohol Poisoning


Passing out is a common effect of drinking too much alcohol. Alcohol doesn't stop entering a person's bloodstream after he or she passes out, however. Instead, alcohol in the stomach and intestines continues to enter the bloodstream, and blood alcohol concentration continues to rise. For this reason, it's dangerous to assume that a person who has consumed a lot of alcohol will be fine if left to "sleep it off."

Symptoms that indicate alcohol poisoning include

- ▶ mental confusion, stupor, coma, inability to be roused, vomiting, and seizures.
- ▶ slow respiration—10 seconds between breaths or fewer than 8 breaths a minute.
- ▶ irregular heartbeat.
- ▶ hypothermia or low body temperature—pale or bluish skin color.
- ▶ severe dehydration from vomiting.

A person who exhibits any of these signs or has passed out may die if left untreated. If you suspect that a person has alcohol poisoning, call 911 immediately.



 The consequences of binge drinking can have serious effects on a person's health. **What should you do if you suspect someone has alcohol poisoning?**



Lesson 2 Review

Reviewing Facts and Vocabulary

1. Define *blood alcohol concentration* and *metabolism*.
2. Examine the short-term effects of alcohol use. List three ways alcohol impairs the functioning of the nervous system.
3. What are the signs of alcohol poisoning?

Thinking Critically

4. **Analyzing.** Explain why it's dangerous to mix alcohol and medications or other drugs.
5. **Synthesizing.** Describe the legal and financial consequences of operating a motor vehicle while under the influence of alcohol. Explain why these are only a few of the risks faced by a person driving under the influence.

Applying Health Skills

Advocacy. Prepare a public service announcement to get the word out about the health risks of binge drinking. Include facts about alcohol's effects on the body, as well as the risks involved with rapid binge drinking and how it can cause alcohol poisoning. Demonstrate effective refusal strategies to avoid these risks.



WORD PROCESSING Word processing can help you organize and present your information. See health.glencoe.com for tips on how to get the most out of your word-processing program.

Lesson 3

Alcohol, the Individual, and Society

VOCABULARY

fetal alcohol syndrome (FAS)
alcoholism
alcoholic
recovery
detoxification
sobriety

YOU'LL LEARN TO

- Relate the nation's health goals in *Healthy People 2010* to reducing injury, death, and disease caused by alcohol-related influences.
- Examine the effects of alcohol use on body systems and the risk of disease caused by alcohol use.
- Analyze the harmful effects of alcohol on a fetus.
- Identify and assess community health services for the prevention and treatment of alcoholism and alcohol use.



Fold a sheet of paper into three sections. Label the sections “physical,” “mental/emotional,” and “social.” Then list the ways that alcohol use affects each part of the health triangle.



▲ Compare the healthy liver (top) with the liver that has been damaged by alcohol use. **Explain the relationship between a healthy liver and an alcohol-free lifestyle.**

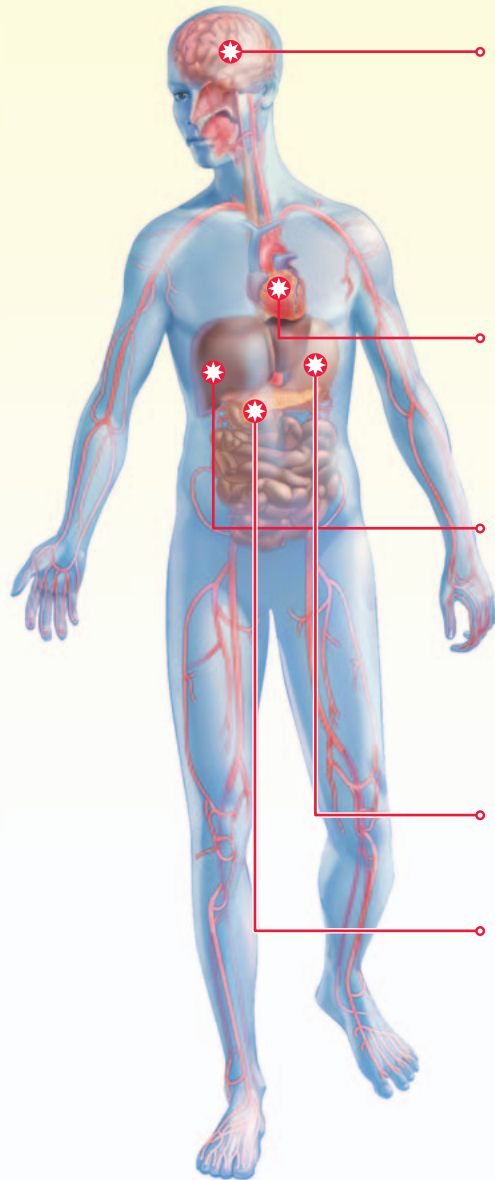
The costs of alcohol use are far-reaching and involve individuals, families, and society. One goal of *Healthy People 2010* is to reduce a number of risk behaviors associated with alcohol. This includes reducing the amount of average annual alcohol consumption, binge drinking, and the total number of alcohol-related deaths and deaths due to alcohol-related vehicle crashes.

Long-Term Effects of Alcohol on the Body

Alcohol use has long-term effects on the user and on others as well. In teens alcohol use can interfere with growth and development. Excessive alcohol use over a prolonged period of time can damage most body systems. These effects are more severe on the body of a young person. **Figure 22.3** shows some of the long-term effects of alcohol abuse.

LONG-TERM EFFECTS OF ALCOHOL USE

Alcohol affects many of the major organs in the body, and long-term drinking can cause death. The worst damage occurs after years of abuse, but some damage occurs with only moderate drinking.



Changes to the Brain

- **Addiction**—inability to stop drinking.
- **Loss of brain functions**—loss of verbal skills, visual and spatial skills, and memory.
- **Brain damage**—long-term excessive use of alcohol can lead to major brain damage and even to a reduction of brain size. Moderate drinking can destroy brain cells; however, the brain can regain some of its lost abilities over time if a person stops drinking.

Cardiovascular Changes

- **Heart**—damage to heart muscle.
- **Enlarged heart**—from increased workload caused by alcohol.
- **High blood pressure**—damages the heart and can cause heart attack and stroke.

Liver Problems

- **Fatty liver**—fats build up in the liver and cannot be broken down; excess fat blocks the flow of blood to liver cells, leading to cell death.
- **Alcoholic hepatitis**—inflammation or infection of the liver.
- **Cirrhosis**—liver tissue is replaced with useless scar tissue; the disease can lead to liver failure and death unless a liver transplant is performed.

Digestive System Problems

- **Irritation**—digestive lining is damaged; can lead to stomach ulcers and cancer of the stomach and esophagus.

Pancreas Problems

- **Lining of the pancreas**—swells to block the passage from the pancreas to the small intestine. Chemicals the small intestine needed for digestion can't pass through the blocked area. The chemicals begin to destroy the pancreas itself, causing pain and vomiting. A severe case can lead to death.

Alcohol During Pregnancy

When a pregnant female drinks, so, in effect, does her fetus. Alcohol passes from the mother's body into the bloodstream of the fetus. Unlike the adult liver, the fetus's liver is not developed enough to process the alcohol. As a result, a pregnant female who drinks during pregnancy risks permanent damage to the fetus.

fetal alcohol syndrome

For more information on fetal development, see Chapter 19, pages 488–489.

Drinking during the first few weeks of pregnancy—when many women do not yet realize they are pregnant—can be especially harmful to a baby’s central nervous system. Infants born to mothers who drink during pregnancy may be at risk of **fetal alcohol syndrome (FAS)**, a group of alcohol-related birth defects that include physical and mental problems.

Effects of Fetal Alcohol Syndrome (FAS)

The effects of fetal alcohol syndrome are both severe and lasting. An FAS baby may be born with a small head and deformities of the face, hands, or feet. Heart, liver, and kidney defects, as well as vision and hearing problems, are common. FAS babies experience slow growth and coordination and have difficulties with learning, attention, memory, and problem solving.

FAS is the leading known cause of mental retardation in the United States. The good news is that it’s totally preventable—provided that expectant mothers understand two things: there is no safe amount of alcohol to drink and no safe time in which to drink it. Even small amounts of alcohol can harm a fetus.

Alcoholism

One of the most devastating effects of alcohol use is **alcoholism**, a disease in which a person has a physical or psychological dependence on drinks that contain alcohol. Alcoholism is characterized by an impaired ability to study, work, or socialize normally.

Alcoholics


An **alcoholic** is an addict who is dependent on alcohol. Some alcoholics may display harmful behaviors such as drunken driving and violent or aggressive actions. Others may become quiet and withdrawn. Alcoholism isn’t limited to any age, race, ethnic, or socioeconomic group. Alcoholics may be middle-aged business

people or high-school athletes. Regardless of background, alcoholics can develop serious health problems, such as cirrhosis of the liver and brain damage. An alcoholic might display these symptoms:

- ▶ **Craving.** An alcoholic has a compulsion, or strong need, to drink; he or she cannot manage tension or stress without drinking.
- ▶ **Loss of control.** An alcoholic cannot limit his or her drinking and is preoccupied with alcohol.



GOVERNMENT WARNING:
(1) ACCORDING TO THE SURGEON GENERAL,
WOMEN SHOULD NOT DRINK ALCOHOLIC
BEVERAGES DURING PREGNANCY BECAUSE
OF THE RISK OF BIRTH DEFECTS.
(2) CONSUMPTION OF ALCOHOLIC BEVERAGES
IMPAIRS YOUR ABILITY TO DRIVE A CAR OR
OPERATE MACHINERY AND MAY CAUSE
HEALTH PROBLEMS.

 **Avoiding tobacco, alcohol, and other drugs is an important decision a female can take toward a healthy pregnancy.**
What other steps can an expectant mother take to protect the health of her unborn child?

- ▶ **Physical dependence.** When not drinking, an alcoholic may experience withdrawal symptoms, such as nausea, sweating, shakiness, and anxiety.
- ▶ **Tolerance.** An alcoholic experiences a need to drink increasingly greater amounts of alcohol in order to feel its effects.
- ▶ **Health, family, and legal problems.** An alcoholic often suffers repeated injuries, receives multiple drunk driving citations, and has frequent arguments and generally poor relationships with family members.

Factors Affecting Alcoholics


Growing scientific evidence suggests a genetic link to alcoholism. In fact, the American Academy of Child and Adolescent Psychiatry reports that children of alcoholics are four times more likely than other children to become alcoholics. However, this does not necessarily mean that a person with such a genetic predisposition will become an alcoholic. Other environmental factors, such as family, friends, culture, peer pressure, availability of alcohol, and stress, also put a person at risk for alcoholism. There is, however, one guarantee: You can protect yourself against this disease by making the healthy choice to stay alcohol free.

Stages of Alcoholism

According to the American Medical Association, alcoholism develops in three stages. All alcoholics do not experience each stage equally.

- ▶ **Stage 1—Abuse.** Typically, alcoholism begins with social drinking in an attempt to relax. Over time, a physical and psychological dependence on alcohol to manage stress develops. At this point a person begins to drink and become intoxicated regularly, which can result in blackouts and memory loss. Often, a person begins to lie or make excuses about his or her drinking. The person needs to consume more alcohol to feel the desired effect. He or she may be a problem drinker.
- ▶ **Stage 2—Dependence.** The person reaches a point where he or she cannot stop drinking and is physically dependent on the drug. Alcohol becomes the person's central focus. The drinker tries to hide the problem, but performance on the job, at school, or at home soon suffers. The drinker makes excuses and blames others for problems.



 Family members of alcoholics also experience the negative effects of alcoholism. **List ways a person can avoid the risks of alcoholism.**

hotlink

domestic violence For more information on dealing with family crises, see Chapter 11, page 286.

STEPS TO RECOVERY

Step 1: Admission

The person admits to having a drinking problem and asks for help.

Step 2: Detoxification

The person goes through **detoxification**, a process in which the body adjusts to functioning without alcohol.

Step 3: Counseling

The person receives counseling to help him or her learn to live without alcohol.

Step 4: Recovery

The person takes responsibility for his or her own life.

- ▶ **Stage 3—Addiction.** In the final stage of alcoholism, drinking is the *most* important thing in a person's life. The person is addicted to the drug and his or her life is out of control, although frequently he or she does not realize or acknowledge this fact. Because liver damage is common at this stage, less alcohol may be required to produce intoxication. If the alcoholic stopped drinking, he or she would experience severe withdrawal symptoms.

Effects on Family and Society

There are an estimated 14 million alcoholics in the United States. Alcohol use is a major factor in the four leading causes of accidental death—car accidents, falls, drownings, and house fires. Alcohol also plays a major role in violent crimes, such as homicide, forcible rape, and robbery. For example:

- ▶ About 40 percent of violent crimes, totaling about 3 million annually, are alcohol-related.
- ▶ Two-thirds of victims who encounter **domestic violence** report that alcohol was a factor in the crime.
- ▶ Nearly half of all homicide victims have alcohol in their bloodstreams.

Often, alcoholism has indirect, as well as direct, effects on people associated with alcoholics. These people may be involved in a process known as *codependency*. Codependents learn to ignore their own needs and focus their energy and emotions on the needs of the alcoholic. In the process codependents lose their trust in others, their self-esteem, and, at times, their own health.

Treatment for Alcohol Abuse

Although alcoholism cannot be cured, it *can* be treated. The process of learning to live an alcohol-free life is called **recovery**. As many as two-thirds of all alcoholics who try to recover do so with proper treatment. The goal of treatment programs is to stop or control the intake of alcohol. Counseling and medication can help an alcohol user set goals to deal with problems of alcohol abuse. **Sobriety**, living without alcohol, is a lifelong commitment. Many resources are available to help people who have a drinking problem. Help is also available for the families and friends of a problem drinker. Some of these programs are described in **Figure 22.4**.

FIGURE 22.4

WHERE TO GET HELP FOR ALCOHOL ABUSE

There are many places to get information about treatment for alcohol dependency. The goal of these programs is to provide support for alcoholics, family members, and friends affected by alcoholism.



Lesson 3 Review

Reviewing Facts and Vocabulary

1. Identify three serious effects of alcohol abuse.
2. Define *sobriety*. Explain why sobriety is a lifelong commitment.
3. What steps must an alcoholic take during the recovery process?

Thinking Critically

4. **Analyzing.** Explain how damage can occur in the body of the developing fetus when a pregnant woman drinks alcohol.
5. **Synthesizing.** Alcoholism can have devastating effects on people associated with an alcoholic. Explain ways that these individuals can be affected, and tell how and where those living with an alcoholic can get help.

Applying Health Skills

Accessing Information. Consult your school counselor or use the phone book to identify community resources for families with alcohol-related problems. Research the availability of family counseling. Explain why these sources are valid. Share your information in a flyer or pamphlet.



PRESENTATION SOFTWARE Use presentation software to show the results of your research on community resources to your family and friends. See health.glencoe.com for tips on using presentation software.

Researching Alcohol Issues on the Internet

A variety of Internet resources exist that provide information regarding alcohol-related issues. These Web resources may be from a nonprofit advocacy organization, a government institution, a journalist, or even a business. In this activity, you will learn to evaluate Internet resources regarding teen drinking and driving and validate the information contained in those resources.

Criteria

- **Who is the author?** Is the page created by an individual, news organization, or charitable organization?
- **Who is the audience?** Is the page intended for a particular age group or other specific demographic group?
- **How current is the information contained in the source?** What date appears on the page? Can you verify the date from other sources?
- **Is the information provided factual?** Research the source of any statistics, check any references or other sources listed on the page, and check all facts against other sources you know to be reliable.
- **What is the purpose of the page?** Is there a particular viewpoint on the subject matter? If so, what is that viewpoint?

ACTIVITY

Suppose you have been assigned to write a research paper on the subject of teen drinking and driving. Using Web Links at health.glencoe.com, choose one Web site or article on the Internet that contains information on the topic of teen drinking and driving. Evaluate the information found in your Web resource by answering the questions in the grid above.

EXPRESS YOUR VIEWS

Working in groups of three or four, create a storyboard for a Web site dedicated to warning teenagers of the dangers of drinking and driving. A storyboard is a mock-up of what each page of your Web site would look like. Include information from the research activity above. Use persuasive language and graphics to illustrate your points. Also, include a list of resources where teens can find further information on the subject.

CROSS-CURRICULUM CONNECTIONS



Create a Campaign. Use your peer pressure in a positive way by organizing an anti-drinking campaign, which will culminate in a class rally. First, put your writing skills to work to appeal to other teens not to use alcohol. Your teacher will divide you into teams and assign each team a different task. Write speeches and skits, create slogans for placards, posters, and bumper stickers. Write a special pledge for students to sign. Devise games to show teens that there are fun alternatives to drinking. Share your final products during the class rally.



Research Alateen. Alcoholics Anonymous, or AA, has helped alcoholics worldwide by introducing them to the 12-step program. Write a short research report on the story of Bill W., who founded the organization in the 1930s, as well as how the organization developed. Then investigate the creation of related groups such as Alateen.



Calculate BAC. The average person's body contains 4 quarts of blood. The standard BAC for intoxication is 0.1 percent. How many ounces of pure alcohol must the average person have in his or her blood to be considered intoxicated?



Find Out More About Addiction. Alcoholism is addiction to alcohol. Recent research has shown that the process of becoming addicted is similar regardless of the substance or activity that is misused. Regular use of the substance alters the neural pathways in the brain. Research the connection between the concentration of neurotransmitters, such as serotonin and dopamine, and addiction to drugs and alcohol.



Substance Abuse Counselor

Do you like helping friends with their problems? Would you enjoy counseling people who need to find help for alcohol abuse problems in their families? As a substance abuse counselor, you would assess and treat people with substance problems and help those who live with alcoholics or substance abusers.

More than half of all counselors in the United States have a master's degree. Most states require some form of credentials, certification, license, or registry before someone can become a counselor. Find out more about this and other health careers by clicking on Career Corner at health.glencoe.com.



Chapter 22 Review

► EXPLORING HEALTH TERMS *Answer the following questions on a sheet of paper.*

Lesson 1 *Fill in the blanks with the correct term.*

alcohol abuse	fermentation
depressant	intoxication
ethanol	

Drinks that contain (**_1_**) act as a (**_2_**) on the central nervous system. Drinking alcohol can lead to physical and mental impairment that is called (**_3_**). (**_4_**) puts family members at risk for neglect, physical abuse, or economic hardship.

Lesson 2 *Match each definition with the correct term.*

blood alcohol concentration	metabolism
binge drinking	alcohol poisoning

5. The process by which the body breaks down substances.
6. Drinking five or more alcoholic drinks at one sitting.
7. The amount of alcohol in a person's blood expressed as a percentage.
8. A severe and potentially fatal physical reaction to an alcohol overdose.

Lesson 3 *Fill in the blanks with the correct term.*

alcoholism	alcoholic
detoxification	fetal alcohol syndrome
sobriety	recovery

9. _____ is a condition in which a fetus has been adversely affected mentally and physically by the mother's alcohol use during pregnancy.
10. A(n) _____ has an addiction to alcohol.
11. _____ is a process in which the body adjusts to functioning without alcohol.

► RECALLING THE FACTS *Use complete sentences to answer the following questions.*

Lesson 1

1. List three factors that influence alcohol use.
2. What are some of the risks of alcohol use?
3. Describe the effects that alcohol has on the body.
4. What impact can alcohol use have on a teen's education and career goals?

Lesson 2

5. Describe one typical alcohol-drug interaction.
6. What are some factors that affect an individual's short-term reaction to alcohol?
7. What are some consequences of driving while intoxicated or driving under the influence?
8. Explain how alcohol poisoning can cause a person's blood alcohol concentration to continue to rise even after the person stops consuming alcohol.

Lesson 3

9. What are some specific goals of *Healthy People 2010* for reducing ways in which alcohol affects the family and society?
10. What is a safe amount of alcohol that a mother can drink during pregnancy?
11. Describe the symptoms an alcoholic might display.
12. Describe two programs that offer help to alcoholics and their families. Explain the services they provide.

► THINKING CRITICALLY

- 1. Analyzing.** What are some strategies alcohol companies use to target teens in their advertising? (LESSON 1)
- 2. Synthesizing.** Consider the short-term effects of alcohol on major body systems. How might the organs in the digestive and respiratory systems be damaged by alcohol use over a long period of time? (LESSON 2)
- 3. Analyzing.** Describe an effective strategy for locating appropriate help and resources available to an alcoholic and his or her family members. (LESSON 3)

► HEALTH SKILLS APPLICATION

- 1. Practicing Healthful Behaviors.** What consequences are faced by students who are caught using or possessing alcohol? (LESSON 1)
- 2. Communication Skills.** Suppose a friend who has been drinking is going to drive himself or herself and others home. How would you respond to this situation? (LESSON 2)
- 3. Advocacy.** Find out about groups at your school that advocate for an alcohol-free lifestyle. Get involved with a group, using what you have learned about the consequences of drinking to get local stores to advocate for less advertising of alcohol products. (LESSON 3)

BEYOND the Classroom

Parent Involvement

Advocacy. With your parents or guardians, learn more about SADD—Students Against Destructive Decisions. Learn when, where, and why it was founded, what its mission is, and how you and your family can get involved. Draw up a contract for all family members to sign that includes a commitment never to drink and drive and never to ride with any driver who has been drinking—even a family member.



School and Community

Support Programs. Locate an alcohol treatment program in your community. Contact the agency and find out how the program works, what is required of participants, and how people are supported during the recovery process. Report to your class what you have learned.