Lifet ime Physical
Fitness & Wellness
A Personalized Program

WERNER W. K. HOEGER
Professor Emeritus (Active)
Department of Kinesiology
Boise State University

and

SHARON A. HOEGER
Fitness and Wellness, Inc.
Boise, Idaho
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“Addictive behaviors are lifetime nightmares that focus on immediate self-gratification without thought or concern for one’s well-being or that of others. Ultimately, it takes away the control the person has over life itself.”

Objectives

▶ Address the detrimental effects of addictive substances, including marijuana, cocaine, methamphetamine, MDMA, heroin, spice, inhalant abuse, and alcohol.
▶ List the detrimental health effects of tobacco use in general.
▶ Recognize cigarette smoking as the largest preventable cause of premature illness and death in the United States.
▶ Enumerate the reasons people smoke.
▶ Explain the benefits and the significance of a smoking-cessation program.
▶ Learn how to implement a smoking-cessation program, to help yourself (if you smoke) or someone else go through the quitting process.

Find out if you’re prone to addictive behavior. Plan for a drug-free future (including freedom from tobacco use).

Visit www.cengagebrain.com to access course materials and companion resources for this text including quiz questions designed to check your understanding of the chapter contents. See the preface on page xv for more information.
What is drug addiction and how quickly can someone become addicted to drugs? Drug addiction (addictive behavior, substance abuse, or chemical dependency) is a complex brain disease characterized by compulsive and uncontrollable drug cravings even at the peril of serious negative consequences. How quickly addictive behavior develops cannot be predicted. There are vast individual differences among people in sensitivity to different drugs.

Psychological and physiological factors, as well as the type of drug used itself, influence a person’s response to the drug and subsequent addiction to it. Whereas one individual may use a certain drug several times without harmful effects, someone else may seriously overdose the first time that this same drug is used. All drugs have potentially damaging effects, and some have life-threatening consequences. One single moment of weakness, or caving in to peer pressure, can easily result in a lifetime nightmare, not just for users, but for everyone around them as well.

How can I tell if someone is addicted to drugs? People with addictive behavior compulsively seek and use drugs despite potential serious repercussions, such as physical and psychological harm. It is important to identify and address these behaviors early on to prevent further harm.

How is drug addiction treated? In the early stages of drug addiction, most people believe that they can stop using the drug(s) on their own. Most of these attempts, however, fail to achieve long-term abstinence. Long-term drug use results in altered brain functions that linger on long after the person stops using drugs. Effective treatment of drug addiction is rarely accomplished without professional help. Treatment modalities are behavioral-based therapies, oftentimes combined with medication to help the body detoxify and effectively manage symptoms of withdrawal. Responses to these therapies vary among individuals, and several courses of rehab may be necessary to overcome the problem. For some individuals, it becomes a lifelong battle, and relapses are possible even after prolonged periods of abstinence.

Real Life Story

Diego’s Experience

My fitness and wellness class motivated me to try to quit smoking, again! It wasn’t anything new, because I had tried several times before. I had my first cigarette when I was sixteen and I have now smoked for 10 years. I have tried to quit for the last five years. But during this time, the longest I ever went without a cigarette was about three months. When we did the chapter on behavior change, I started paying attention and taking all kinds of notes. Since it talked about lots of different things to help someone make a change, I figured I could try one at a time until I found whatever worked. I can tell you some things that didn’t work. When I announced to all my friends that I was quitting, they ended up making fun of me because I tried to quit so many times before. And then when they saw me light up again, they made fun of me even worse. I know they thought they were being funny, but it really made me feel discouraged. I think that telling people you are quitting could work, if you had different friends than the guys I hang out with. What finally worked for me almost two years after I finished the class was a combination of things. I set a SMART goal. I worked on my environment to avoid situations that made me want to smoke. Often when I wanted to smoke, I went for a jog, played sports, or went to the library to get rid of the craving. Even though it took me a really long time, I credit my success to that moment back in that class when I decided that I would try every method, and keep on trying, until something worked. Before, I was ashamed at how many times I had tried and failed to quit. But now, I’m proud of my accomplishment because I think most other people would have just given up. I have been smoke-free for two years.

Substance abuse remains one of the most serious health problems afflicting society. Chemical dependency is extremely destructive, having ruined and ended millions of lives. When addictive behaviors are at issue, education is vital—more, perhaps, than with any other unhealthy behavior. Education concerning these subjects may assist in the search for answers, treatment, and a more productive and better life. The information in this chapter will help you make informed decisions. The time to make healthy choices is now.
Addictive Behavior Survey

1. Have you ever suffered from addiction to any legal or illicit drug?

2. Do you regularly—on a weekly or nearly weekly basis—exceed the recommended one to two alcoholic beverages per day?

3. Have you absolutely/positively decided to forgo instant gratification and peer pressure by saying NO to substance abuse (legal or illicit) that may or will harm your health and long-term life satisfaction? What led to this decision and how long ago did you make this choice?

4. What are your feelings about tobacco use in general and exposure to secondhand smoke?

5. If you smoked cigarettes, have you quit? If you never smoked, have you helped someone else successfully quit smoking? If so, what approach did you use and why were you successful in accomplishing this goal?

Addiction

When most people think of addiction, they probably think of dark and dirty alleys, an addict shooting drugs into a vein, or a wino passed out next to a garbage can after having spent an evening drinking alcohol. Psychotherapists have described addiction as a problem of imbalance or unease within the body and mind.

Almost anything can be addicting. Of the many types of addiction, some addictive behaviors are more detrimental than others. The most serious form is chemical dependency on drugs such as tobacco, alcohol, cocaine, methamphetamine, MDMA (Ecstasy), heroin, marijuana, or prescription drugs. Less serious are addictions to work, coffee, shopping, and even exercise.

People who are addicted to food eat to release stress or boredom or to reward themselves for every small personal achievement. Many people are addicted to television and the Internet. Others become so addicted to their jobs that all they think about is work. It may start out as enjoyable, but when it totally consumes a person's life, work can become an unhealthy behavior. If you find that you are readily irritated, moody, grouchy, constantly tired, not as alert as you used to be, or making more mistakes than usual, you may be becoming a workaholic and need to slow down or take time off work.

Even though exercise has enhanced the health and quality of life of millions of people, a relatively small number become obsessed with exercise, which has the potential for overuse and addiction. Compulsive exercisers feel guilty and uncomfortable when they miss a day's workout. Often, they continue to exercise even when they have injuries and sicknesses that require proper rest for adequate recovery. People who exceed the recommended guidelines to develop and maintain fitness (see Chapters 6, 7, 8, and 9) are exercising for reasons other than health—including addictive behavior.

Addiction to caffeine can have undesirable side effects. In some individuals, caffeine doses in excess of 200 to 500 mg can produce an abnormally rapid heart rate, abnormal heart rhythms, higher blood pressure, and increased secretion of gastric acids, leading to stomach problems and possible birth defects in offspring. It also may induce symptoms of anxiety, depression, nervousness, and dizziness.

The caffeine content of drinks varies according to the product. In 6 ounces of coffee, for example, the content varies from 65 mg in instant coffee to as high as 180 mg in drip coffee. Soft drinks, mainly colas, range in caffeine content from about 30 to 70 mg per 12-ounce can. The Food and Drug Administration (FDA) recommends no more than 65 mg of caffeine per 12-ounce serving of cola beverage.

Energy drinks on the market, such as Red Bull, Full Throttle, Monster, and Rock Star, usually have an even higher caffeine content—somewhere in the range of 70 to 200 mg in an 8- to 12-ounce drink. Also quite popular at this time are 2-ounce five-hour energy drinks or shots with a caffeine equivalent equal to one cup of coffee, but the actual caffeine content is not made available. For energy drinks, the FDA requires that caffeine be listed on the label, but it does not mandate that the amount be specified.

Unknown to most consumers, however, caffeine is now added to a variety of other food items such as energy bars, candy, gum, and even oatmeal. Individuals who are caffeine sensitive should read all food labels for potential caffeine in those items.

Although previous examples may be the first addictions you think of, they are by no means the only forms. Other addictions can be to gambling, pornography, sex, people, places, and on and on.

According to the 2009 National Survey on Drug Use and Health (NSDUH) by the U.S. Department of Health and Human Services, more than 22 million Americans...
use illicit drugs, including marijuana, prescription-type psychotherapeutics, cocaine, hallucinogens, and heroin (Figure 13.1). Approximately two-thirds of the world’s production of illegal drugs is consumed in the United States. Each year, Americans spend more than $65 billion on illegal drugs.

### Risk Factors for Addiction

Although addictive behaviors cover a wide spectrum, they have factors in common that predispose people to addiction. Among these factors are the following:

- The behavior is reinforced.
- The addiction is an attempt to meet basic human needs, such as physical needs, the need to feel safe, the need to belong, the need to feel important, or the need to reach one’s potential.
- The addiction seems to relieve stress temporarily.
- The addiction results from peer pressure.
- The addiction can be present within the person’s value system (a person whose values wouldn’t let him or her shoot heroin may be able to rationalize compulsive eating or obsessive playing of computer games, for example).
- A serious physical illness is present, and the addiction may provide escape from pain or the fear of disfigurement.
- The addict feels pressured to perform or succeed.
- The addict has self-hate.
- A genetic link is present. Heredity might dictate susceptibility to some addictions.
- Society allows addiction. Advertising even encourages it (you can sleep better with a pill; snacking helps you enjoy life more fully; parties and sports are more fun with alcohol; shop ‘til you drop; and so on).

The same general traits and behaviors are involved in all kinds of addictions, whether they involve food, sex, gambling, shopping, or drugs.

Most people with addictions deny their problem. Even when the addiction is clear to people around them, addicts continue to deny that they are addicted. Instead, they tend to get angry when someone tries to talk about the behavior and are likely to make excuses for their actions. Many addicts also blame others for their problem. In some cases, an addict admits the problem but fails to take any steps to change.

Recognizing that all forms of addiction are unhealthy, this chapter focuses on some of the most self-destructive addictive substances in our society: marijuana, cocaine, methamphetamine, MDMA, heroin, alcohol, and tobacco. About half a million Americans die each year from tobacco, alcohol, and illegal drug use.

### Drugs and Dependence

A drug is any substance that alters the user’s ability to function. Drugs encompass over-the-counter drugs, prescription medications, and illegal substances. Many drugs lead to physical and psychological dependence.

Any drug can be misused and abused. “Drug misuse” implies the intentional and inappropriate use of over-the-counter or prescribed medications. Examples include taking more medication than prescribed, mixing drugs, not following prescription instructions, or discontinuing a drug prior to a physician’s approval. “Drug abuse” is the intentional and inappropriate use of a drug resulting in physical, emotional, financial, intellectual, social, spiritual, or occupational consequences of the abuse. Many substances, if used in the wrong manner, can be abused.

When drugs are used regularly, they integrate into the body’s chemistry, increasing the user’s tolerance to the drug and forcing the user to increase the dosage constantly to obtain similar results. Drug abuse leads to serious health problems, and more than half of all adolescent suicides are drug related. Often, drug abuse opens the gate to other illegal activities. According to the National Center on Addiction and Substance Abuse (CASA), the majority of convicted criminals—about 85 percent of federal and state inmates—have abused drugs.

According to the U.S. Department of Education, today’s drugs are stronger and more addictive, and they pose a greater risk than ever before. If you are uncertain about addictive behavior(s) in your life, the Addictive Behavior Questionnaire in Activity 13.1 can help you identify a potential problem. Some of the most commonly abused drugs in our society are discussed next.
Nonmedical Use of Prescription Drugs

Millions of Americans aged 12 or older have reported nonmedical use of psychotherapeutic drugs at some point in their lifetime. Psychotherapeutic drugs include any prescription pain reliever, tranquilizer, stimulant, or sedative (but not over-the-counter drugs). Further, in 2010, more than 15 million Americans abused prescription drugs, with thousands dying from a drug overdose. Currently, drug poisoning is the second leading cause of unintentional injury deaths in the United States. The most commonly abused prescription medications are:

- Opioids, commonly prescribed to treat pain. These include codeine and morphine.
- Central nervous system depressants, used to treat anxiety and sleep disorders. Examples include Mebaral, Nembutal, Valium, and Xanxan.
- Stimulants, prescribed to treat the sleep disorder narcolepsy, attention-deficit hyperactivity disorder (ADHD), and obesity. Examples include Dexedrine, Adderall, Ritalin, and Concerta.

As with illegal drugs, abuse of prescription drugs presents serious health consequences. The risks associated with psychotherapy drug misuse or abuse vary depending on the drug. Some of the risks include respiratory depression or cessation, decreased or irregular heart rate, high body temperature, seizures, and cardiovascular failure. Abuse of prescription drugs, or using them in a manner other than exactly as prescribed, can lead to addictive behavior.

Marijuana

Marijuana (pot, grass, or weed as it is commonly called) is the most widely used illegal drug in the United States. Estimates by the Office of National Drug Control Policy indicate that 41.5 percent of Americans have smoked marijuana. Most users smoke loose marijuana that has been rolled into a joint or packed into a pipe. A few users bake it into foods such as brownies or use it to brew a tea. Marijuana cigarettes are often laced with other drugs such as crack cocaine.

In small doses, marijuana has a sedative effect. Larger doses produce physical and psychological changes. Studies in the 1960s indicated that the potential effects of marijuana were exaggerated and that the drug was relatively harmless. The drug as it is used today, however, is much stronger than when the initial studies were conducted. Most of the research today shows marijuana to be dangerous and harmful.

The main, and most active, psychoactive and mind-altering ingredient in marijuana is thought to be delta-9-tetrahydrocannabinol (THC). In the 1960s, THC content in marijuana ranged from .02 to 2 percent. Users called the latter “real good grass.” Today’s THC content averages 10 percent, although it has been reported as high as 27 percent. The average potency has doubled from 1998 to 2008.

THC reaches the brain within a few seconds after marijuana smoke is inhaled, and the psychic and physical changes reach their peak in about 2 or 3 minutes. THC then is metabolized in the liver to waste metabolites, but 30 percent of it remains in the body a week after the marijuana was smoked. THC is not completely eliminated until 30 days or more after an initial dose of the drug. The drug always remains in the system of regular users.

Some of the short-term effects of marijuana are tachycardia, dryness of the mouth, reddened eyes, stronger appetite, decrease in coordination and tracking (the eyes’ ability to follow a moving stimulus), difficulty in concentration, intermittent confusion, impairment of short-term memory and continuity of speech, interference with the physical and mental learning process during periods of intoxication, and increased risk for heart attack for a full day after smoking the drug. Another common effect is the amotivational syndrome. This syndrome persists after periods of intoxication but usually disappears a few weeks after the individual stops using the drug.

Key Terms

Marijuana A psychoactive drug prepared from a mixture of crushed leaves, flowers, small branches, stems, and seeds from the hemp plant cannabis sativa.

Tachycardia Faster than normal heart rate.

Amotivational syndrome A condition characterized by loss of motivation, dullness, apathy, and no interest in the future.
Critical Thinking

The legalization of marijuana for medical purposes is being heatedly debated across the United States. • Do you think this decision should rest with the government, medical personnel, or the individuals themselves?

Long-term harmful effects include atrophy of the brain (leading to irreversible brain damage), less resistance to infectious diseases, chronic bronchitis, lung cancer (marijuana smoke may contain as much as 50 to 70 percent more cancer-producing hydrocarbons than cigarette smoke), and possible sterility and impotence.

One of the most common myths about marijuana use is that it is not addictive. Lobbyists work to convince the federal government to legalize marijuana for medicinal purposes. Ample scientific evidence clearly shows that regular users of marijuana do develop physical and psychological dependence. As with cigarette smokers, when regular users go without the drug, they crave the substance, go through mood changes, are irritable and nervous, and develop an obsession to get more.

Cocaine

Similar to marijuana, cocaine was thought for many years to be relatively harmless. This misconception came to an abrupt halt a few years ago when two well-known athletes—Len Bias (basketball) and Don Rogers (football)—died suddenly following cocaine overdoses. Over the years, cocaine has been given several different names, including, among others, coke, C, snow, blow, nose candy, toot, flake, Peruvian lady, white girl, and happy dust. This drug can be sniffed or snorted, smoked, or injected.

When cocaine is snorted, it is absorbed quickly through the mucous membranes of the nose into the bloodstream. The drug is usually arranged in fine powder lines 1 to 2 inches long. Each line stimulates the autonomic nervous system for about 30 minutes. When cocaine is injected intravenously, larger amounts of cocaine can enter the body in a shorter time. The popularity of cocaine is based on the almost universal guarantee that users will find themselves in an immediate state of euphoria and well-being. It is an expensive drug—$400 to $1,800 per ounce for powdered cocaine. The addiction begins with a desire to get high, often at social gatherings, and usually with the assurance that “occasional use is harmless.” At least 25 percent of these first-time users will become addicted in four years, and for many it is the beginning of a lifetime nightmare.

Animal research with cocaine has shown that all laboratory animals can become compulsive cocaine users. Animals work more persistently at pressing a bar for cocaine than bars for other drugs, including opiates. In one instance, an addicted monkey pressed the bar almost 13,000 times until it finally got a dose of cocaine.

People respond in a similar way. Cocaine addicts prefer drug usage to any other activity and use the drug until the supply or the user is exhausted.

Cocaine users also exhibit unusual behaviors compared with their previous conduct, even to the point at which a user has been known to sell a child to obtain more cocaine. Educated people are not immune to cocaine addiction. Some, including lawyers, physicians, and athletes, have daily habits that cost them hundreds to thousands of dollars, with binges in the $20,000 to $50,000 range. Cocaine addiction can lead to loss of a job and profession, loss of family, bankruptcy, and death.

Increasingly more popular is crack cocaine, a smokable form of cocaine. It is many times more potent than powdered or injected cocaine and is highly addictive. Two-thirds of users in the United States who are addicted to cocaine use crack. Because it is so potent, crack doses are smaller and, therefore, less expensive, at $5 to $40 each, although users still spend hundreds of dollars a day to support their addiction.

Crack typically is made by boiling cocaine hydrochloride in a solution of baking soda and then letting the solution dry. The residue then is broken up, to be smoked in a pipe. The high from crack comes within seconds, faster than the high from injected cocaine. The crack high lasts about 12 minutes, which is shorter than the high from snorted or injected cocaine. Choosing to use cocaine in this form heightens the risk for emphysema and heart attack.

Cocaine seems to alleviate fatigue and raise energy levels, as well as lessen the need for food and sleep. Following the high comes a “crash,” a state of physiological and psychological depression, often leaving the user with the desire to get more. This can produce a constant craving for the drug. Similar to alcoholics, cocaine users recover only by abstaining completely from the drug. A single “backslide” can result in renewed addiction.

Light to moderate cocaine use is typically associated with feelings of pleasure and well-being. Sustained cocaine snorting can lead to a constant runny nose, nasal
congestion and inflammation, and perforation of the nasal septum. Long-term consequences of cocaine use include loss of appetite, digestive disorders, weight loss, malnutrition, insomnia, confusion, anxiety, and cocaine psychosis, characterized by paranoia and hallucinations. In one type of hallucination, referred to as formication, or “coke bugs,” the chronic user perceives imaginary insects or snakes crawling on or underneath the skin.

High doses of cocaine can cause nervousness, dizziness, blurred vision, vomiting, tremors, seizures, strokes, angina, cardiac arrhythmias, and high blood pressure. As with smoking marijuana, there is an increased risk for heart attack following cocaine use. The user’s risk may be 24 times higher than normal for up to three hours following cocaine use. Almost one-third of cocaine users who incurred a heart attack had no symptoms of heart disease prior to taking cocaine. In addition, intravenous users are at risk for hepatitis, HIV, and other infectious diseases.

Large overdoses of cocaine can precipitate sudden death from respiratory paralysis, cardiac arrhythmias, and severe convulsions. If individuals lack an enzyme used in metabolizing cocaine, as few as two to three lines of cocaine may be fatal.

Chronic users who constantly crave the drug often turn to crime, including murder, to sustain their habit. Some users view suicide as the only solution to this sad syndrome.

**Methamphetamine**

Methamphetamine, or “meth,” is a more potent form of amphetamine. Amphetamines in general are part of a large group of synthetic agents used to stimulate the central nervous system. Amphetamines were widely given to soldiers during World War II to help them overcome fatigue, improve endurance, enhance battlefield ferocity, heighten mood, and keep them going. During the Vietnam War, U.S. soldiers used more amphetamines than did soldiers from all countries combined during World War II.

A powerfully addictive drug, methamphetamine falls under the same category of psychostimulant drugs as amphetamines and cocaine. It is also known as a “club drug,” a group of illegal substances used at dance clubs, rock concerts, and raves (all-night dance parties). Other club drugs include MDMA, LSD, GHB, Rohypnol, and ketamine.

Methamphetamine typically is a white, odorless, bitter-tasting powder that dissolves readily in water or alcohol. The drug is a potent central nervous system stimulant that produces a general feeling of well-being, decreases appetite, increases motor activity, and decreases fatigue and the need for sleep.

Unlike most other drugs, methamphetamine reaches rural and urban populations alike. Young people especially prefer methamphetamine because of its low cost and long-lasting effects—up to 12 hours following use.

Methamphetamine was easily manufactured in clandestine “meth labs” using over-the-counter pseudoephedrine, typically found in cold medications. Because of the ease of accessibility to methamphetamine ingredients, in March 2006 the federal Combat Meth Act of 2005 was signed into law. This law requires retailers to keep cold medications behind the counter, and consumers are limited to the amount they can purchase.

Methamphetamine labs are set up almost anywhere, including garages, basements, or hotel rooms. The abundance of potential meth lab sites makes it difficult for drug enforcement agencies to locate many of these facilities. The risk of injury in a meth lab, however, is high, because potentially explosive environmental contaminants are discarded during production of the drug.

U.S. production of methamphetamine is now limited and will likely remain at low levels in the near future. Mexico is the primary source of methamphetamine for the United States. Production in Canada, however, has increased significantly, primarily by Canadian-based Asian drug trafficking organizations. These organizations run large-capacity super labs.

Methamphetamine can be snorted, swallowed, smoked, or injected. It is commonly referred to as “speed” or “crystal” when snorted or taken orally, “ice” or “glass” when smoked, and “crank” when injected. Depending on how it is taken, methamphetamine affects the body differently. Smoked or injected methamphetamine provides an immediate intense, pleasurable rush that lasts only a few minutes. Negative effects, nonetheless, can continue for several hours. When the drug is snorted or taken orally, the user does not experience a rush but develops a feeling of euphoria that lasts up to 16 hours.

Users of methamphetamine experience increases in body temperature, blood pressure, heart rate, and breathing rate; a decrease in appetite; hyperactivity; tremors; and violent behavior. High doses produce irritability, paranoia, irreversible damage to blood vessels in the brain (causing strokes), and risk for sudden death from hypothermia and convulsions if not treated at once.

Chronic abusers experience insomnia, confusion, hallucinations, inflammation of the heart lining, schizophrenia-like mental disorder, and brain cell damage similar to that caused by a stroke. Physical changes to the brain may last months or perhaps become permanent. Over time, methamphetamine use may reduce brain levels of dopamine, which can lead to symptoms similar to those of Parkinson’s disease. In addition, users frequently are involved in

**Key Terms**

**Cocaine** 2-beta-carbomethoxy-3-betabenzoyloxytropane, the primary psychoactive ingredient derived from coca plant leaves.

**Methamphetamine** A potent form of amphetamine.

**Amphetamines** A class of powerful central nervous system stimulants.

**Dopamine** A neurotransmitter that affects emotional, mental, and motor functions.
violent crime, homicide, and suicide. Using methamphetamine during pregnancy may cause prenatal complications, premature delivery, and abnormal physical and emotional development of the child.

Similar to other stimulants, methamphetamine is often used in a binge cycle. Addiction takes hold quickly because the person develops tolerance to methamphetamine within minutes of using it. The “high” disappears long before blood levels of the drug drop significantly. The user then attempts to maintain the pleasurable feelings by taking in more of the drug, and a binge cycle ensues.

The binge cycle, which can last for a couple of weeks, consists of several stages. The initial rush lasts 5 to 30 minutes. During this stage, heart rate, blood pressure, and metabolism increase and the user receives a great sense of pleasure. The high follows, lasting up to 16 hours. During this stage, users become arrogant and more argumentative. The binge stage sets in next and lasts between 2 and 14 days. Addicts continue to use the drug in an attempt to maintain the high for as long as possible.

When addicts no longer can achieve a satisfying high, they enter the “tweaking stage,” the most dangerous stage in the cycle. At this point, users may have gone without food for several days and without sleep anywhere from 3 to 15 days. They become paranoid, irritable, and violent. Tweakers crave more of the drug, but no amount of amphetamines will restore the pleasurable, euphoric feelings they achieved during the high. Thus, the addicts become increasingly frustrated, unpredictable, and dangerous to those around them (including police officers and medical personnel) and to themselves. Once they finally crash, they are no longer dangerous. The users now become lethargic and sleep for 1 to 3 days.

Following the crash, addicts fall into a 1- to 3-month period of withdrawal. During this stage, they can be paranoid, aggressive, fatigued, depressed, suicidal, and filled with an intense craving for another high. Reuse of the drug relieves these feelings. Therefore, the incidence of relapse in users who seek treatment is high.

**MDMA (Ecstasy)**

MDMA, also known as Ecstasy, became popular among teenagers and young adults in the United States in the mid-1980s, when it evolved into the most common “club drug.” Although its use already constituted a serious drug problem in Europe, MDMA was not illegal in the United States until 1985. Prior to 1985, few Americans abused this drug. In the 1970s, some therapists used MDMA as a tool to help patients open up and feel at ease. MDMA is named for its chemical structure: 3,4-methylenedioxymethamphetamine. Street names for the drug are X-TC, E, Adam, and love drug.

MDMA use, once popular primarily among Hispanic Americans and Caucasians, is now spread to a wide range of demographic subgroups. Typically, dealers push the drug as a way to increase energy, pleasure, and self-confidence. MDMA is now available in numerous settings, including high schools, private homes, malls, and other popular gathering places for teenagers and young adults.

The trafficking of MDMA is increasing at an alarming rate, and multiple agencies have reported large seizures of the drug. Most of the supply comes from Canada. All Canadian labs combined are believed to produce more than 2 million tablets per week.

Although MDMA usually is swallowed in the form of one or two pills in doses of up to 120 mg per pill, it can also be smoked, snorted, or, occasionally, injected. Because the drug is often prepared with other substances, users have no way of knowing the exact potency of the drug or additional substances found in each pill. Further, many users combine MDMA with alcohol, marijuana, or other drugs, which makes it even more dangerous to use.

MDMA shares characteristics with stimulants and hallucinogens. Its chemical structure closely parallels the hallucinogen MDA (methylenedioxyamphetamine) and methamphetamine, both man-made stimulants that damage the brain. The addictive properties of MDMA and stimulation of hyperactivity have been compared to stimulants such as amphetamines and cocaine. The chemical structure of MDMA and its appeal, however, are similar to hallucinogens, but with milder psychedelic effects.

Among young people, MDMA has a reputation for being fun and harmless as long as it is used sensibly. But it is not a harmless drug. Research is uncovering many negative side effects. The pleasurable effects peak about an hour after a pill is swallowed and last for 2 to 6 hours. Users claim to feel enlightened and introspective, accepting of themselves and trustful of others. Because they tend to act and feel closer to, or more intimate with, the
people around them, some believe this drug to be an aphrodisiac, even though MDMA actually hampers sexual ability. MDMA also acts as a stimulant by increasing brain activity and making users feel more energetic.

Like most addictive drugs, the effects of MDMA are said to diminish with each use. MDMA users may experience rapid eye movement, faintness, blurred vision, chills, sweating, nausea, muscle tension, and teeth-grinding. Users often bring infant pacifiers to raves to combat the latter side effect. Individuals with heart, liver, or kidney disease or high blood pressure are especially at risk because MDMA increases blood pressure, heart rate, and body temperature. Thus, its use may lead to seizures, kidney failure, a heart attack, or a stroke. The hot, crowded atmosphere at raves and dance clubs also heightens the risk to the user. Deaths are more likely when water is unavailable because the crowded atmosphere, combined with the stimulant effects of MDMA, causes dehydration (bottled water is often sold at inflated prices at raves). Other evidence suggests that a pregnant woman using MDMA may find long-term learning and memory difficulties in her child.

The damaging effects of the drug can be long-lasting and are possible after only a few uses. Long-term side effects, lasting for weeks after use, include confusion, depression, sleep disorders, anxiety, aggression, paranoia, and impulsive behavior. Questions still remain about other potential long-term effects. Verbal and visual memory may be significantly impaired for years after prolonged use. Researchers are focusing on these lasting side effects, which may be the result of depleted serotonin, a neurotransmitter that is released with each dose of MDMA. The short-term effect of serotonin release is increased brain activity. Serotonin helps to regulate sleep cycles, pain, emotion, and appetite. Because MDMA may damage the neurons that release serotonin, long-term effects could be dangerous.

Advocates of MDMA are attempting to get approval to study medical uses of the drug. For example, MDMA could relieve suffering in terminally ill cancer patients. It could also help people in therapy for marital problems by encouraging introspection and conversation. Because MDMA is heralded as an instant antidepressant, it may help people who are in mourning. Opponents, meanwhile, question the value of MDMA as an effective treatment modality because its effects diminish with continued use.

**Heroin**

Heroin use has increased in recent years. Although the most common users are suburban, middle-class people and lower-income populations, its use is starting to appear in more affluent communities as well. Common nicknames for heroin include diesel, dope, dynamite, white death, nasty boy, china white, H. Harry, gumball, junk, brown sugar, smack, tootsie roll, black tar, and chasing the dragon. More recently, a heroin-based recreational drug referred to as “cheese” has become popular. The latter is a combination of heroin with crushed tablets of over-the-counter medications that contain acetaminophen and the antihistamine diphenhydramine. Most recently, an ultra-potent form of heroin, known as “black tar,” has become available and it is known to kill unsuspecting users before they even have a chance to remove the syringe or are done snorting the substance.

Heroin is classified as a narcotic drug. It is synthesized from morphine, a natural substance found in the seedpod of several types of poppy plants. In its purest form, heroin is a white powder, but on the streets it is typically available in yellow or brown powders. The latter colors are attained when pure heroin is combined with other drugs or substances such as sugar, cornstarch, chalk, brick dust, or laundry soap. Heroin also is sold in a hardened or solid form (black tar), which usually is dissolved with other liquids for use in injectable form. Many users combine heroin with cocaine, a risky process commonly called “speedballing.”

Today’s heroin is more pure, powerful, and affordable than ever before. Highly dangerous, heroin is a significant health threat to users in that they have no way of determining the strength of the drug purchased on the street, which places them at a constant risk for overdose and death.

Heroin can be injected intravenously or intramuscularly, sniffed/snorted, or smoked. Although injection is the predominant method of heroin use, users are turning away from intravenous injections because of the risk for HIV infection. The availability of relatively low priced, high-purity heroin further contributes to the number of people who smoke or snort the drug. Some users have the misconception that heroin is less addictive when it is snorted or smoked. Whether injected, snorted, or smoked, heroin is an extremely addictive drug, and both physical and psychological dependence develop rapidly. Drug tolerance sets in quickly, and each time the drug is used, a higher dose is required to produce the same effects. Use of heroin induces a state of euphoria that comes within seconds of intravenous injection or within 5 to 15 minutes with other methods of administration. Because the drug is a sedative, during the initial rush the person has a sense of relaxation and does not feel any pain. In users who inhale the drug, however, the rush may be accompanied by nausea, vomiting, intense itching, and at times severe asthma attacks. As the rush wears off, users experience

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**Key Terms**

- **MDMA** A synthetic hallucinogen drug with a chemical structure that closely resembles MDA and methamphetamine; also known as Ecstasy.
- **MDA** A hallucinogenic drug that is structurally similar to amphetamines.
- **Heroin** A potent drug that is a derivative of opium.
drowsiness, confusion, slowed cardiac function, and decreased breathing rate.

A heroin overdose can cause convulsions, coma, and death. During an overdose, heart rate, breathing, blood pressure, and body temperature drop dramatically. These physiological responses can induce vomiting and tight muscles and cause breathing to stop. Death is often the result of lack of oxygen or choking to death on vomit.

About 4 to 5 hours after taking the drug, withdrawal sets in. Heroin withdrawal is painful and usually lasts up to 2 weeks—but could go on for several months. Symptoms of short-term use include red/raw nostrils, bone and muscle pains, muscle spasms and cramps, sweating, hot and cold flashes, runny nose and eyes, drowsiness, sluggishness, slurred speech, loss of appetite, nausea, diarrhea, restlessness, and violent yawning. Heroin use can also kill a developing fetus or cause a spontaneous abortion.

Symptoms of long-term use of heroin include hallucinations, nightmares, constipation, sexual difficulties, impaired vision, reduced fertility, boils, collapsed veins, and a significantly elevated risk for lung, liver, and cardiovascular diseases, including bacterial infections in blood vessels and heart valves. The additives used in street heroin can clog vital blood vessels because these additives do not dissolve in the body, leading to infections and death of cells in vital organs. Sudden infant death syndrome (SIDS) also is seen more frequently in children born to addicted mothers.

Heroin addiction is treated with behavioral therapies and pharmaceutical agents. Medication suppresses withdrawal symptoms, which makes it easier for patients to stop using heroin. The combination of these two treatment modalities helps the individual learn to lead a more stable, productive, and drug-free lifestyle.

**Spice**

A new drug that provides a marijuana-like high, known as Spice, K2, Kind, Genie, Summit, Yucatan Gold, Purple Passion, Train Wreck, or Ultra (among other names) has recently become popular among teenagers and young adults. Spice is a drug made of a mixture of herbs sprayed with synthetic cannabinoids, compounds similar to the chemical THC found in marijuana. Because it is a legal substance in most states, users think it is a safe drug. The federal Drug Enforcement Agency, however, has labeled Spice as a “drug of concern” because it appears to have far more dangerous side effects than marijuana, including seizures, high blood pressure, anxiety attacks, hallucinations, nausea, loss of consciousness, and chemical dependency. Some samples tested have been shown to be 100 times more potent than marijuana and the negative side effects are by far more severe. Spice use is now banned in many states and the trend to ban it throughout the United States is gaining more support each day.

**Inhalant Abuse**

A new substance abuse trend increasingly popular among young people is a wide range of household and industrial chemical products whose vapors or aerosol gases are inhaled. Also referred to as “huffing” or “sniffing glue,” these drugs are taken by volatilization and not following burning and heating as is the case with tobacco, marijuana, or crack cocaine. Examples include whipped cream canisters, deodorants and hair sprays, glue, nail polish remover, spray paints, lighter and cleaning fluids.

Based on estimates, about 23 million Americans have used inhalants at least once in their lifetime. Approximately 15 percent of eighth graders have abused inhalants. Even occasional or single inhalant abuse can be extremely dangerous. The effects include alcohol-like intoxication, euphoria, hallucinations, drowsiness, disinhibition, lightheadedness, headaches, dizziness, slurred speech, agitation, loss of sensation, belligerence, depressed reflexes, impaired judgement, and unconsciousness. As with other drug abuse, users can be injured by the harmful effects of the vapors and detrimental intoxication behavior. More serious consequences include suffocation due to lack of oxygen supply, pneumonia, vomit aspiration, organ damage (including the brain, liver, and kidneys), abnormal heart rhythms, and sudden cardiac death. Inhalant abuse leads to a strong need to continue their use and these individuals are more likely to initiate other drug use and have a higher lifetime prevalence of substance abuse.

**Alcohol**

Drinking alcohol has been a socially acceptable behavior for centuries. Alcohol is an accepted accompaniment at parties, ceremonies, dinners, sport contests, the establishment of kingdoms or governments, and the signing of treaties between nations. Alcohol also has been used for medical reasons as a mild sedative or as a painkiller for surgery.

For a short period of 14 years, from 1920 to 1933, by constitutional amendment, the sale and use of alcohol were declared illegal in the United States. This amendment was repealed because drinkers and nondrinkers alike questioned the right of government to pass judgment on individual moral standards. In addition, organized crime activities to smuggle and sell alcohol illegally expanded enormously during this period.

Alcohol is the cause of one of the most significant health-related drug problems in the United States today. Based on the 2009 NSDUH, more than 130 million people 12 years and older (51.9 percent) used alcohol within a month of the survey, and 59.6 (23.7 percent) participated in binge drinking at least once in the 30 days prior to the survey. About 17 million (6.8 percent) were heavy drinkers; and 1 in 8 drove under the influence of alcohol.
at least once in the 12 months prior to the interview. The highest prevalence is among 21- to 25-year-olds, with more than 70 percent of this age group using alcohol within a month of the survey.

Alcohol drinkers are also more likely to misuse other drugs. Over half of lifetime drinkers have used one or more illicit drugs at some time in their lives, compared with less than 10 percent of lifetime nondrinkers.

Although modest health benefits are derived from moderate alcohol consumption, the media have extensively exaggerated these benefits. They like to discuss this topic because it seems to be “a vice that’s good for you.” Research supports the assertion that consuming no more than two alcoholic beverages a day for men and one for women provides modest benefits in decreasing the risk for cardiovascular disease. Not reported in the media, however, is that these modest health benefits do not always apply to African Americans.

The sale of alcohol was illegal in the United States between 1920 and 1933.

Approximately 14 million Americans will develop a drinking problem during their lifetime.

The benefits of modest alcohol use can be equated to those obtained through a small daily dose of aspirin (about 81 mg per day, or the equivalent of a baby aspirin) or eating a few nuts each day. Aspirin or a few nuts do not lead to impaired judgment or actions that you may later regret or have to live with for the rest of your life.

Consequences of Drinking Alcohol
Alcohol is not for everyone. Alcoholism seems to have both a genetic and an environmental component. The reasons some people can drink for years without becoming addicted, whereas others follow the downward spiral of alcoholism, are not understood. The addiction to alcohol develops slowly. Most people think they are in control of their drinking habits and do not realize they have a problem until they become alcoholics, when they find themselves physically and emotionally dependent on the drug. This addiction is characterized by excessive use of, and constant preoccupation with, drinking. Alcohol abuse, in turn, leads to mental, emotional, physical, and social problems.

The effects of alcohol intake include impaired peripheral vision, decreased visual and hearing acuity, slower reaction time, reduced concentration and motor performance (including increased swaying), and impaired judgment of distance and speed of moving objects. Further, alcohol alleviates fear, increases risk-taking, stimulates urination, and induces sleep. A single large dose of alcohol also may decrease sexual function. Two of the most serious consequences of alcohol abuse are increased risks of accidents and violent behavior. Exces-

What Constitutes a Standard Drink
In the United States a drink is considered to be 14 g of pure alcohol (ethanol) or the equivalent of:
- 5 ounces of wine
- 12 ounces of beer
- 1.5 ounces of 80-proof liquor

Key Terms

Alcohol (ethyl alcohol) A depressant drug that affects the brain and slows down central nervous system activity; has strong addictive properties.

Alcoholism Disease in which an individual loses control over drinking alcoholic beverages.
sive drinking has been linked to more than half of all deaths from car accidents. The risk for rape, domestic violence, child abuse, suicide, and murder also increases with alcohol abuse.

One of the most unpleasant, dangerous, and life-threatening effects of drinking is the synergistic action of alcohol when combined with other drugs, particularly central nervous system depressants. Each person reacts to a combination of alcohol and other drugs in a different way. The effects range from loss of consciousness to death.

Long-term effects of alcohol abuse are serious and often life-threatening (see Figure 13.2). Some of these detrimental effects are lower resistance to disease; cirrhosis of the liver; higher risk for breast, oral, esophageal, larynx, stomach, colon, and liver cancer; cardiomyopathy; irregular heartbeat; elevated blood pressure; greater risk for stroke; osteoporosis, inflammation of the esophagus, stomach, small intestine, and pancreas; stomach ulcers; sexual impotence; birth defects; malnutrition; damage to brain cells leading to loss of memory; depression; psychosis; and hallucinations.

Social Consequences of Alcohol Abuse
Alcohol abuse further leads to social problems that include loss of friends and jobs, separation of family members, child abuse, domestic violence, divorce, and problems with the law. Heavy drinking further contributes to decreased performance at work and school because drinkers are more likely to arrive late, make more mistakes, leave assignments incomplete, encounter problems with fellow workers or students, get lower grades and job evaluations, and flunk out of school or lose jobs.

Alcohol abuse also worsens financial concerns because drinkers have less money for needed items such as food and clothing, they fail to pay bills, and may have additional medical expenses, insurance premiums, and fines to pay.

Alcohol on Campus
Alcohol is the number one drug problem among college students. According to national surveys, about 66 percent of full-time college students reported using alcohol within the past month, and 45 percent had engaged in binge drinking (consumed five or more drinks in a row). Alcohol is a factor in about 28 percent of all college dropouts. Today’s student spends more money on alcohol than on books.

The statistics are sobering. For college students between the ages of 18 and 24,

- 1,825 died from alcohol-related unintentional injuries.
- Almost 700,000 were assaulted by another student who had been drinking.
- 599,000 were unintentionally injured under the influence of alcohol.
- More than 150,000 developed alcohol-related health problems.
- More than 97,000 were victims of alcohol-related sexual assault or date rape.
- 400,000 had unprotected sex.
- More than 100,000 were too intoxicated to know if they’d consented to having sex.
- Almost 3.4 million drove under the influence of alcohol in the past year.
In terms of academic work, a national survey involving about 94,000 college students from 197 colleges and universities conducted over three years showed that grade point average (GPA) was related to average number of drinks per week (see Figure 13.3). Students with a “D” or “F” GPA reported a weekly consumption of almost ten drinks. Students with “A” GPAs consumed about four drinks per week. Of significant concern, young adults ages 18 to 22 enrolled full-time in college are more likely than their peers (part-time students and those not enrolled in college) to use alcohol, binge-drink, and drink heavily.

In another national survey of almost 55,000 undergraduate students from 131 colleges, close to 25 percent of students said that their academic problems resulted from alcohol abuse. Of greater concern, 29 percent of the surveyed students admitted driving while intoxicated. Of the more than 18 million college students in the United States, between 2 and 3 percent eventually will die from alcohol-related causes. This represents more students than those who will receive advanced degrees (master’s and doctorate degrees combined).

Another major concern is that more than half of college students participate in games that involve heavy drinking (consuming five or more drinks in one sitting). Often, students take part because of peer pressure and fear of rejection. About 45 percent reported binge drinking at least once during the month prior to the survey. Data shows that one night of binge-drinking results in an extra intake of around 2,000 calories from alcoholic beverages alone, plus another 800 calories from food and munchies consumed during the drinking episode. Some students even binge-drink three days in a row on weekends.

Excessive drinking can also precipitate unplanned and unprotected sex (risking HIV infection), date rape, and alcohol poisoning. When some young people turn 21, they “celebrate” by having 21 drinks. Unaware of the

### Figure 13.3
Average number of drinks by college students per week by GPA.

<table>
<thead>
<tr>
<th>Number of alcoholic drinks per week</th>
<th>Grade point average (GPA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>A</td>
</tr>
<tr>
<td>4</td>
<td>B</td>
</tr>
<tr>
<td>6</td>
<td>C</td>
</tr>
<tr>
<td>8</td>
<td>D</td>
</tr>
<tr>
<td>10</td>
<td>F</td>
</tr>
</tbody>
</table>


**Behavior Modification Planning**

When Your Date Drinks . . .

- **Don’t** make excuses for his/her behavior, no matter how embarrassing.
- **Don’t** allow embarrassment to put you in a situation with which you are uncomfortable.
- **Do** be sure that body language and tone of voice match verbal messages you send.
- **Do** leave as quickly as you can, without your date. **Don’t** stop to argue. Intoxicated people can’t listen to reason.
- **Do** call a cab, a friend, or your parents. **Don’t** ride home with your date.

For women:
- **Do** make your position clear. “No!” is much more effective than “Please stop!” or “Don’t!”
- **Do** make it clear that you will call the police if rape is attempted.


**Try It** In your Online Journal or class notebook, write down strategies you can incorporate today to ensure your health and wellness.

**How to Cut Down on Drinking**

To find out if drinking is a problem in your life, refer to the questionnaire in Activity 13.2, developed by the American Medical Association. If you respond “yes” twice or more on this questionnaire, you may be jeopardizing your health.

If a person is determined to control the problem, it is not that difficult. The first and most important step is to want to cut down. If you want to do this but you cannot seem to do so, you had better accept the probability that alcohol is becoming a serious problem for you, and you should seek guidance from your physician or from an organization such as Alcoholics Anonymous.

**Key Terms**

- **Synergistic action** The effect of mixing two or more drugs, which can be much greater than the sum of two or more drugs acting by themselves.
- **Cirrhosis** A disease characterized by scarring of the liver.
- **Cardiomyopathy** A disease affecting the heart muscle.
Addictive Behavior Questionnaire

Name: _______________________________ Date: __________________

Course: ______________ Section: ______________ Gender: ______ Age: ______

Could you be an addict?

I. Recognizing Addictive Behavior

The following questionnaire has been designed to identify possible addictive behavior (chemical dependency). This test is not designed to determine if you have an addictive disease, but rather to help recognize potential addictive behavior in yourself or the people around you. The term “drug” may imply illicit substances or drugs (such as marijuana, cocaine, heroin, ecstasy, or methamphetamine), misuse of prescription drugs (painkillers, sleeping pills), or alcohol abuse.

1. Are you a compulsive person?
2. Are you a person of excesses?
3. Do you depend heavily on others or are you completely independent of others?
4. Do you spend a lot of time thinking about a drug(s)?
5. Do you use drugs other than for medical reasons?
6. Do you misuse prescription drugs?
7. Are you unable to stop using drugs or limit their use to required situations only?
8. Can you get through a week without misusing drugs?
9. Do friends or relatives sense or mention that you have a drug problem?
10. Has drug misuse ever created a problem between you and friends or relatives?
11. Have family members or friends ever sought help for problems associated with your misuse of drugs?
12. Have you ever sought help for drug misuse?
13. Do you deny or lie about the misuse of drugs?
14. Do you tend to associate with people who exhibit the same behaviors or take the same drugs you do?
15. Do you get angry at people who try to keep you from getting the drugs you desire?
16. Do you have a difficult time stopping the use of a drug when you start misusing it?
17. Do you experience withdrawal symptoms if you do not take the drugs you wish to have?
18. Has the misuse of drugs affected the way you function in life (school, work, recreation)?
19. Have you put yourself or others at risk by your actions while misusing drugs?
20. Have you unsuccessfully tried to cut back or stop the misuse of drugs?

Interpretation: If you answered “yes” to five or more of these questions, you may have an addictive behavior and should seek further evaluation by a physician, your institution’s counseling center, or contact the local mental health clinic for a referral (see the Yellow Pages in your local phone book). You may also contact the National Center for Substance Abuse Treatment at 1-800-662-4357 for 24-hour substance abuse treatment centers in your area. Depending on the question (for example, 7, 8, 12, 15, 16, 17, 18, 20), note that even fewer than five “yes” answers may already be indicative of chemical dependency.

II. Stage of Change for Addictive Behavior

If chemical dependency is a problem in your life, use Figure 2.5 (page 61) and Table 2.3 (page 60) to identify your current stage of change for participation in a treatment program for addictive behavior.

III. Changing Addictive Behavior

On a separate sheet of paper indicate the steps that you are going to take to correct addictive behavior(s) and identify people or organizations that you will contact to help you get started.
American Medical Association Questionnaire on Drinking

Name: ___________________________ Date: ___________

Course: ___________________ Section: ___________ Gender: _______ Age: _______

**Alcohol abuse: Are you drinking too much?**

1. When you are holding an empty glass at a party, do you always actively look for a refill instead of waiting to be offered one?

2. If given the chance, do you frequently pour out a more generous drink for yourself than seems to be the “going” amount for others?

3. Do you often have a drink or two when you are alone, either at home or in a bar?

4. Is your drinking ever the direct cause of a family quarrel, or do quarrels often seem to occur, if only by coincidence, when you have had a drink or two?

5. Do you feel that you must have a drink at a specific time every day—right after work, for instance?

6. When worried or under unusual stress, do you almost automatically take a stiff drink to “settle your nerves”?

7. Are you untruthful about how much you have had to drink when questioned on the subject?

8. Does drinking ever cause you to take time off work or to miss scheduled meetings or appointments?

9. Do you feel physically deprived if you cannot have at least one drink every day?

10. Do you sometimes crave a drink in the morning?

11. Do you sometimes have “mornings after” when you cannot remember what happened the night before?

**Evaluation**

You should regard a “yes” answer to any one of the above questions as a warning sign. Do not increase your consumption of alcohol. Two “yes” answers suggest that you already may be becoming dependent on alcohol. Three or more “yes” answers indicate that you may have a serious problem, and you should get professional help.
few suggestions also may help you cut down your alcohol intake.

- Set reasonable limits for yourself. Decide not to exceed a certain number of drinks on a given occasion, and stick to your decision. No more than two beers or two cocktails a day is a reasonable limit. If you set a target such as this and consistently do not exceed it, you have proven to yourself that you can control your drinking.

- Learn to say no. Many people have “just one more” drink because others in the group are doing this or because someone puts pressure on them, not because they really want a drink. When you reach the sensible limit you have set for yourself, politely but firmly refuse to exceed it. If you are being the generous host, pour yourself a glass of water or juice “on the rocks.” Nobody will notice the difference.

- Drink slowly. Don’t gulp down a drink. Choose your drinks for their flavor, not their “kick,” and savor the taste of each sip.

- Dilute your drinks. If you prefer cocktails to beer, try tall drinks: Instead of downing gin or whiskey straight or nearly so, drink it diluted with a mixer such as tonic water or soda water in a tall glass. That way you can enjoy both the flavor and the act of drinking, but you will take longer to finish each drink. Also, you can make your two-drink limit last all evening or switch to the mixer by itself.

- Do not drink on your own. Confine your drinking to social gatherings. You may have a hard time resisting the urge to pour yourself a relaxing drink at the end of a hard day, but many formerly heavy drinkers have found that a soft drink satisfies the need as well as alcohol did. What may help you really unwind, even with no drink at all, is a comfortable chair, loosened clothing, and perhaps a soothing audiocassette, television program, good book to read, or even some low- to moderate-intensity physical activity.

**Treatment of Addictions**

Recovery from any addiction is more likely to be successful with professional guidance and support. The first step is to recognize the reality of the problem. The Addictive Behavior Questionnaire in Activity 13.1 will help you recognize possible addictive behavior in yourself or someone you know. If the answers to more than half of these questions are positive, you may have a problem, in which case you should contact a physician, your institution’s counseling center, or the local mental health clinic for a referral (see the Yellow Pages in your phone book).

You also may contact the Substance Abuse and Mental Health Services Administration (SAMHSA) at 1-800-662-HELP (1-800-662-4357) for referral to 24-hour substance abuse treatment centers in your local area. All information discussed during a phone call to this center is kept strictly confidential. Information also is available on the Internet at http://www.samhsa.gov. The national center provides printed information on drug abuse and addictive behavior.

About 4.3 million Americans received treatment for addictive behavior in 2009. An additional 21 million people were estimated to need treatment for illicit drug or alcohol abuse, but did not receive such treatment at any specialty facility.

Among intervention and treatment programs for addiction are psychotherapy, medical care, and behavior modification. If addiction is a problem in your life, you need to act upon it without delay. Addicts do not have to resign themselves to a lifetime of addiction. The sooner you start, and the longer you stay in treatment, the better are your chances to recover and lead a healthier and more productive life.

**Tobacco Use**

People throughout the world have used tobacco for hundreds of years. Before the 18th century, they smoked tobacco primarily in the form of pipes or cigars. Cigarette smoking per se did not become popular until the mid-1800s, and its use started to increase dramatically in the 20th century.

An estimated 71 million Americans aged 12 and older use tobacco products, including 60 million cigarette smokers, 13.1 million cigar smokers, 8.7 million using smokeless tobacco, and 1.9 million pipe smokers. As depicted in Figure 13.4, tobacco use in general declines with education.

When tobacco leaves are burned, hot air and gases containing tar (chemical compounds) and nicotine are released in the smoke. More than 4,000 toxic chemicals have been found in tobacco smoke and at least 69 are proven carcinogens. The harmful effects of cigarette
smoking and tobacco use in general were not exactly known until the early 1960s, when research began to show a link between tobacco use and disease.

In 1964, the U.S. Surgeon General issued the first major report presenting scientific evidence that cigarettes were indeed a major health hazard in our society. More than 42 percent of the U.S. adult population smoked cigarettes at the time. In 2009, 23.3 percent of people 12 years and older smoked cigarettes. Young people who smoke are also more likely to abuse other illicit drugs. Smokers between the age of 12 and 17 are five times more likely to use drugs than non-smokers in this same age group.

Morbidity and Mortality

Tobacco use in all its forms is considered a significant threat to life. World Health Organization estimates indicate that 10 percent of the 6 billion people presently living will die as a result of smoking-related illnesses, which kill more than 5 million people each year. At the present rate of escalation, this figure is expected to climb to 8 million deaths annually by the year 2030. A total of 100 million tobacco-related deaths occurred in the 20th century, and based on estimates, that there will be one billion deaths in the 21st century.

To gain some perspective on the seriousness of the tobacco problem, American Cancer Society statistics indicate that overdoses of illegal drugs kill about 17,000 people per year in the United States, and drug felonies and drug-related murders kill another 1,600 people each year. This brings drug-related deaths to a grand total of 18,600 annually. By comparison, tobacco, a legal drug, kills about 25 times as many people as all illegal drugs combined.

Cigarette smoking is the largest preventable cause of illness and premature death in the United States. Death rates from heart disease, cancer, stroke, aortic aneurysm, chronic bronchitis, emphysema, and peptic ulcers all increase with cigarette smoking.

In pregnant women, cigarette smoking has been linked to retarded fetal growth, higher risk for spontaneous abortion (miscarriage), and prenatal death. Smoking is also the most prevalent cause of injury and death from fire. The average life expectancy for a chronic smoker is 13 to 14 years shorter than for a nonsmoker, and the death rate among chronic smokers during their most productive years of life, between ages 25 and 65, is twice the national average. If we consider all related deaths, smoking is responsible for almost 470,000 unnecessary deaths each year—enough deaths to wipe out the entire population of Miami and Miami Beach in a single year. For every tobacco-related death, there are 20 others, or 8.6 million people in the United States, who suffer from at least one serious illness associated with cigarette smoking.

Based on a report by U.S. government physicians, each cigarette shortens life by 7 minutes. This figure represents 5.5 million years of potential life that Americans lose to smoking each year.

Effects on Cardiovascular System

Estimates by the American Heart Association indicate that more than 30 percent of fatal heart attacks—or 120,000 in the United States annually—result from smoking. The risk for heart attack is 50 to 100 percent higher for smokers than for nonsmokers. The mortality rate following heart attacks also is higher for smokers, because their attacks usually are more severe and their risk for deadly arrhythmias is much greater.

Cigarette smoking affects the cardiovascular system by increasing heart rate, blood pressure, and susceptibility to atherosclerosis, blood clots, coronary artery spasm, cardiac arrhythmia, and arteriosclerotic peripheral vascular disease. Evidence also indicates that smoking decreases high-density lipoprotein (HDL) cholesterol, the “good” cholesterol that lowers the risk for heart disease. Smoking further increases the amount of fatty acids, glucose, and various hormones in the blood. The carbon monoxide in smoke hinders the capacity of the blood to carry oxygen to body tissues. Both carbon monoxi-
oxide and nicotine can damage the inner walls of the arteries and thereby encourage the buildup of fat on them. Smoking also causes increased adhesiveness and clustering of platelets in the blood, decreases platelet survival and clotting time, and increases blood thickness. Any of these effects can precipitate a heart attack.

Smoking and Cancer

The American Cancer Society reports that 87 percent of lung cancer is attributable to smoking. Lung cancer is the leading cancer killer, accounting for approximately 160,000 deaths in the United States in the year 2009, or about 30 percent of all deaths from cancer. Cigarette smoking also leads to chronic lower respiratory disease, the third leading cause of death in the United States (see also Chapter 1). Figure 13.5 illustrates normal and diseased alveoli.

The most common carcinogenic exposure in the workplace is cigarette smoke. Both fatal and nonfatal cardiac events are increased greatly in people who are exposed to passive smoke. About 50,000 additional deaths result each year in the United States from secondhand smoke (also known as environmental tobacco smoke, or ETS), including 46,000 from cardiovascular diseases, 3,400 from lung cancer, and 430 from SIDS. Furthermore, almost 22 million children between the ages of 3 and 11 are exposed to secondhand smoke, and approximately 30 percent of the indoor workforce is not protected by smoke-free workplace policies. According to the U.S. Surgeon General, the evidence clearly shows that there is no risk-free level of exposure to ETS, prompting Dr. Richard Carmona, U.S. Surgeon General (2002–2006), to state: “Based on the science, I wouldn’t allow anyone in my family to stand in a room with someone smoking.”

Two large-scale reviews of research studies on American, Canadian, and European communities that have passed laws to curb secondhand smoke by banning it in public places, including bars and restaurants, have shown an average drop of 17 percent in heart attacks in the first year as compared to communities without such a ban. There is a further 26 percent decline in heart attacks for at least three years each year thereafter. Within 20 minutes of secondhand smoke inhalation, chemical changes can be detected in the body’s blood clotting mechanism, increasing the risk for heart attack or stroke. Nonsmokers exposed to secondhand smoke at home or at the office have up to a 30 percent greater risk of suffering a heart attack.

Although half of all cancers are now curable, the five-year survival rate for lung cancer is less than 13 percent. Furthermore, cigarette smoking is responsible for most cancers of the oral cavity, larynx, and esophagus (see

Adverse Effects of Secondhand Smoke

- A 30 percent increase in coronary heart disease risk (some adverse effects begin within minutes to hours of exposure).
- Increases blood clotting, enhancing the risk of heart attacks and strokes.
- Lowers HDL (good) cholesterol.
- Increases oxidation of LDL cholesterol, enhancing atherosclerosis.
- Increases oxygen free radicals.
- Decreases levels of antioxidants.
- Increases chronic inflammation.
- Increases insulin resistance, leading to higher blood sugar levels and risk for diabetes.
- Increases lung and overall cancer risk.
- Increases risk for pulmonary diseases.
- Increases risk for adverse effects during pregnancy.
- Increases sudden infant death syndrome (SIDS) risk.
Figure 13.6). Tobacco use is also related to the development of and deaths from bladder, pancreas, kidney, and cervical cancers.

Critical Thinking

You are in a designated nonsmoking area and the person next to you lights up a cigarette. • What can you say to this person to protect your right to clean air?

Other Forms of Tobacco

Many tobacco users are aware of the health consequences of cigarette smoking but may fail to realize the risk of pipe smoking, cigar smoking, and tobacco chewing. As a group, pipe and cigar smokers have lower risks for heart disease and lung cancer than cigarette smokers. Nevertheless, blood nicotine levels in pipe and cigar smokers have been shown to approach those of cigarette smokers, because nicotine is still absorbed through the membranes of the mouth. Therefore, these tobacco users still have a higher risk for heart disease than nonsmokers do.

Cigarette smokers who substitute pipe or cigar smoking for cigarettes usually continue to inhale the smoke, which actually results in more nicotine and tar being brought into their lungs. Consequently, the risk for disease is even higher if pipe or cigar smoke is inhaled. The risk and mortality rates for lip, mouth, and larynx cancer for pipe smoking, cigar smoking, and tobacco chewing are actually higher than for cigarette smoking.

Smokeless Tobacco

Smokeless tobacco has been promoted in the past as a safe alternative to cigarette smoking. The Advisory Committee to the U.S. Surgeon General has stated that smokeless tobacco represents a significant health risk and is just as addictive as cigarette smoking.

Approximately 8 million Americans use smokeless tobacco. The greatest concern is the increase in use of smokeless tobacco among young people. Surveys indicate that about 13 percent of high school males use smokeless tobacco. The average starting age for smokeless tobacco use is 10 years old.

Using smokeless tobacco can lead to gingivitis and periodontitis. It carries a fourfold increase in oral cancer, and in some cases even premature death. People who chew or dip also have a higher rate of cavities, sore gums, bad breath, and stained teeth. Their senses of smell and taste diminish; consequently, they tend to add more sugar and salt to food. These practices alone increase the risk for being overweight and having high blood pressure. Nicotine addiction and its related health risks also hold true for smokeless tobacco users. Nicotine blood levels approach those of cigarette smokers, increasing the risk for diseases of the cardiovascu-

Key Terms

Alveoli Air sacs in the lungs where gas exchange (oxygen and carbon dioxide) takes place.
lar system. Further, research has revealed changes in heart rate and blood pressure similar to those of cigarette smokers.

Using tobacco in any form can be addictive and poses a serious threat to health and well-being. Completely eliminating its use is the single most important lifestyle change a tobacco user can make to improve health, quality of life, and longevity.

Health Care Costs of Tobacco Use

Heavy smokers use the health care system, especially hospitals, twice as much as nonsmokers do. The yearly cost to a given company has been estimated to be up to $5,000 per smoking employee. These costs include employee health care, absenteeism, additional health insurance, morbidity/disability and early mortality, on-the-job time lost, property damage/maintenance and depreciation, worker compensation, and the impact of second-hand smoke.

If every smoker were to give up cigarettes, in 1 year alone sick time would drop by approximately 90 million days, heart conditions would decrease by 280,000, chronic bronchitis and emphysema would number 1 million fewer cases, and total death rates from cardiovascular disease, cancer, and peptic ulcers would fall off drastically.

Every day, almost 1,300 Americans die from smoking-related illnesses. That is the equivalent of three fully loaded jumbo jets crashing every day with no survivors. Imagine what the coverage and concern would be if 470,000 people each year were to die in the United States alone because of airplane accidents! People would not even consider flying anymore. Most people would think of it as a form of suicide.

Smoking kills more Americans in a single year than died in battle during World War II and the Vietnam War combined. Think of the public outrage if 470,000 Americans were to die annually in a meaningless war. What if a single nonprescription drug were to cause more than 138,000 deaths from cancer and 120,000 fatal heart attacks each year? The U.S. public would not tolerate these situations. We would mount an intense fight to prevent the deaths.

Yet, are we not committing slow suicide by smoking cigarettes? Isn’t tobacco a nonprescription drug available to almost anyone who wishes to smoke, killing more than 470,000 people each year? If cigarettes were invented today, the tobacco industry would be put on trial for mass murder.

Trends

The fight against all forms of tobacco use has been gaining momentum. This was not always the case. It has been difficult to fight an industry that wields such enormous financial and political influence as does the tobacco industry in the United States. Tobacco is the sixth-largest cash crop in the United States, producing 2.5 percent of the gross national product. The tobacco industry has influenced elections cleverly by emphasizing the individual’s right to smoke, avoiding the fact that so many people die because of it.

Philip Morris, one of the largest tobacco-producing companies in the world, receives nearly 70 percent of its profits from the sale of cigarettes. Philip Morris has donated millions of dollars to prominent organizations, so they no longer question the detrimental effects of tobacco use. Among the organizations that have received donations from Philip Morris are United Way, YMCA, Salvation Army, Pediatric AIDS Foundation, Red Cross, Cystic Fibrosis Foundation, March of Dimes, Easter Seals, Muscular Dystrophy Association, Multiple Sclerosis Society, Hemophilia Foundation, United Cerebral Palsy, American Civil Liberties Union, American Bar Association, Task Force for Battered Women, Boy Scouts, Boys and Girls Club, and Big Brothers and Big Sisters. We call drug runners unprincipled scum, yet we welcome Philip Morris with glee and we call it civic pride.

Tobacco was socially accepted for many years. Cigarette smoking, however, is no longer acceptable in most social circles. Smoking is prohibited in most public places as a result of nonsmokers and ex-smokers alike fighting for their rights to clean air and health.

Many smokers are unaware of, or simply do not care to realize, how much cigarette smoke bothers nonsmokers. Smokers sometimes think that blowing the smoke off to the side is enough to get it out of the way. As a matter of fact, it is not enough. Smokers do not comprehend this until they quit and later find themselves in that situation. Suddenly they realize why cigarette smoke is so unpleasant and undesirable to most people.

The FDA Drug Abuse Advisory Committee has taken a strong stance against the use of all forms of tobacco products. Although the American Heart Association (AHA) commends the work initiated by the FDA, the AHA has further stated that the FDA and the federal
government have an obligation to take regulatory action against the national problem of nicotine addiction and abuse of cigarettes and tobacco products in general. In a statement before the FDA Drug Abuse Advisory Committee, the AHA indicated that “it is a national health travesty that a product such as tobacco (which accounts for almost 470,000 deaths in the U.S. each year), has escaped regulation under every major health and safety law enacted by Congress to protect the public health.” The U.S. Surgeon General’s has stated that health education combined with social, economic, and regulatory approaches is imperative to offset the tobacco industry’s marketing and promotions and to promote nonsmoking environments.

Why People Smoke

People typically begin to smoke without realizing its detrimental effects on their health and life in general. Although people start to smoke for many different reasons, the three fundamental instigators are peer pressure, the desire to appear “grown up,” and rebellion against authority. Smoking only three packs of cigarettes can lead to physiological addiction, turning smoking into a nasty habit that has become the most widespread example of drug dependency in the United States.

Smoking Addiction and Dependency

The drug nicotine has strong addictive properties. Within seconds of inhalation, nicotine affects the central nervous system and can act simultaneously as a tranquilizer and a stimulant. The stimulating effect produces strong physiological and psychological dependency. The physical addiction to nicotine is six to eight times more powerful than the addiction to alcohol, and most likely greater than that of some of the hard drugs currently used.

Psychological dependency develops over a longer time. People smoke to help themselves relax, and they also gain a certain amount of pleasure from the ritual of smoking. Smokers automatically associate many activities of daily life with cigarettes—coffee drinking, alcohol drinking, being part of a social gathering, relaxing after a meal, talking on the telephone, driving, reading, and watching television. In many cases, the social rituals of smoking are the most difficult to eliminate. The dependency is so strong that years after people have stopped smoking, they may still crave cigarettes when they engage in certain social activities.

Most of the remaining information in this chapter is written directly to smokers. Nonsmokers, however, will gain a better understanding of smokers by reading it. The following material also provides valuable information so that you can help others implement a smoking-cessation program.

“Why Do You Smoke?” Test

Most people smoke for a variety of reasons. To find out why people smoke, the National Clearinghouse for Smoking and Health developed the simple “Why Do You Smoke?” Test. This test, contained in Activity 13.3, lists some statements by smokers describing what they get out of smoking cigarettes. Smokers are asked to indicate how often they have the feelings described in each statement when they are smoking.

The scores obtained on this test assess smokers for each of six factors that describe individuals’ feelings when they smoke. The first three highlight the positive feelings that people derive from smoking. The fourth factor relates to reducing tension and relaxing. The fifth reveals the extent of dependence on cigarettes. The sixth factor differentiates habit smoking and purely automatic smoking. Each of the remaining factors fits one of the six reasons for smoking discussed next. A score of 11 or above on any factor indicates that smoking is an important source of satisfaction for you. The higher you score (15 is the highest), the more important a given factor is in your smoking, and the more useful a discussion of that factor can be in your attempt to quit.

If you do not score high on any of the six factors, chances are that you do not smoke much or have not been smoking for long. If so, giving up smoking, and staying off, should be fairly easy.

1. Stimulation. If you score high or fairly high on the stimulation factor, you are one of those smokers who is stimulated by the cigarette. You think it

Cigarette smoking is the single largest preventable cause of illness and premature death in the United States.
helps wake you up, organize your energies, and keep you going. If you try to give up smoking, you may want a safe substitute—a brisk walk or moderate exercise, for example—whenever you feel the urge to smoke.

2. Handling. Handling things can be satisfying, but you can keep your hands busy in many ways without lighting up or playing with a cigarette. Why not toy with a pen or pencil? Try doodling. Play with a coin, a piece of jewelry, or some other harmless object.

3. Pleasure/Pleasurable Relaxation. Finding out whether you use the cigarette to feel good—you get real, honest pleasure from smoking—or to keep from feeling bad (Factor 4) is not always easy. About two-thirds of smokers score high or fairly high on accentuation of pleasure, and about half of those also score as high or higher on reduction of negative feelings. Those who do get real pleasure from smoking often find that honest consideration of the harmful effects of their habit is enough to help them quit. They substitute social and physical activities and find that they do not seriously miss cigarettes.

4. Crutch: Tension Reduction. Many smokers use cigarettes as a crutch during moments of stress or discomfort. Ironically, the heavy smoker—the person who tries to handle personal problems by smoking many times a day—is apt to discover that cigarettes do not help deal with problems effectively. This kind of smoker may stop smoking readily when everything is going well but may be tempted to start again in a time of crisis. Again, physical exertion or social activity may be a useful substitute for cigarettes, especially in times of tension.

5. Craving: Psychological Addiction. Quitting smoking is difficult for people who score high on this factor. The craving for a cigarette begins to build the moment the previous cigarette is put out, so tapering off is not likely to work. This smoker must go cold turkey. If you are dependent on cigarettes, you might try smoking more than usual for a day or two to spoil your taste for cigarettes, then isolating yourself completely from cigarettes until the craving is gone.

6. Habit. If you are smoking from habit, you no longer get much satisfaction from cigarettes. You light them frequently without even realizing you are doing it. You may have an easy time quitting and staying off if you can break the habitual patterns you have built up. Cutting down gradually may be effective if you change the way you smoke cigarettes and the conditions under which you smoke them. The key to success is to become aware of each cigarette you smoke. You can do this by asking yourself, “Do I really want this cigarette?” You might be surprised at how many you do not want.

**Smoking Cessation**

If you are contemplating a smoking-cessation program or are preparing to stop cigarette smoking, you need to know that quitting smoking is not easy. Annually, only about 20 percent of smokers who try to quit the first time succeed. The addictive properties of nicotine and smoke make quitting difficult.

The American Psychiatric Association and the National Institute on Drug Abuse have indicated that nicotine is perhaps the most addictive drug known to humans. The U.S. Surgeon General has concluded that:

- Cigarettes and other forms of tobacco are addicting.
- Nicotine is the drug responsible for the addictive behavior.
- Pharmacological and behavioral traits that determine addiction to tobacco are similar to those that determine addiction to drugs such as heroin and cocaine.

Smokers develop a tolerance to nicotine and tobacco smoke. They become dependent on both physical and psychological withdrawal symptoms when they stop smoking. Even though giving up smoking can be extremely difficult, it is by no means impossible, as attested by the many people who have quit.

During the last four decades, cigarette smoking in the United States had declined gradually among smokers of all ages. Of concern, the latest data indicates that the rate of people who smoke has leveled off since 2003.

Surveys have shown that between 75 and 90 percent of all smokers would like to quit. In 1964 (when the U.S. Surgeon General first reported the link between smoking and increased risk for disease and mortality), 40 percent of the adult population—53 percent of men and 32 percent of women—smoked. In 2006, only 23.5 percent of adult men and 18.1 percent of adult women smoked. More than 45 million Americans have given up cigarettes. More than 49 percent of all adults who have ever smoked have quit since 1964.

Further, more than 91 percent of successful ex-smokers have been able to do it on their own, either by quitting cold turkey or by using self-help kits available from organizations such as the American Cancer Society, the American Heart Association, and the American Lung Association. Only 6.8 percent of ex-smokers have done so as a result of formal cessation programs. Smokers’ information and treatment centers are listed in the Yellow Pages of the telephone book.

**“Do You Want to Quit?” Test**

The most important factor in quitting cigarette smoking is the person’s sincere desire to do so. Although a few smokers can simply quit, this usually is not the case.
Those who can quit easily are primarily light or casual smokers. They realize that the pleasure of an occasional cigarette is not worth the added risk for disease and premature death. For heavy smokers, quitting most likely will be a difficult battle. Even though many do not succeed the first time around, the odds of quitting are much better for those who repeatedly try to stop.

If you are a smoker and want to find your readiness to quit, the “Do You Want to Quit?” Test, developed by the National Clearinghouse for Smoking and Health contained in Activity 13.4, will measure your attitude toward the four primary reasons you want to quit smoking. The results indicate whether you are ready to start the program. On this test, the higher you score in any category, say, the Health category, the more important that reason is to you. A score of 9 or above in one of these categories indicates that this is one of the most important reasons you may want to quit.

1. **Health.** Knowing the harmful consequences of cigarettes, many people have stopped smoking and many others are considering doing so. If your score on the Health factor is 9 or above, the health hazards of smoking may be enough to make you want to quit now. If your score on this factor is low (6 or below), consider the hazards of smoking. You may be lacking important information or may even have incorrect information. If so, health considerations are not playing the role they should in your decision to keep smoking or to quit.

2. **Example.** Some people stop smoking because they want to set a good example for others. Parents quit to make it easier for their children to resist starting to smoke. Doctors quit to discourage their students from smoking. Sports stars want to set an example for their young fans. Husbands quit to influence their wives to quit, and vice versa. Examples have a significant influence on our behavior. Surveys show that almost twice as many high school students smoke if both parents are smokers, compared with those whose parents are nonsmokers or former smokers. If your score is low (6 or lower), you might not be interested in giving up smoking to set an example for others. Perhaps you do not realize how important your example could be.

3. **Aesthetics.** People who score high (9 or above) in this category recognize and are disturbed by some of the unpleasant aspects of smoking. The smell of stale smoke on their clothing, bad breath, and stains on their fingers and teeth might be reason enough to consider quitting.

4. **Mastery.** If you score 9 or above on this factor, you are bothered by knowing that you cannot control your desire to smoke. You are not your own master. Awareness of this challenge to your self-control may make you want to quit.

### Breaking the Habit

The following seven-step plan has been developed as a guide to help you quit smoking. You should complete the total program in 4 weeks or less. Steps One through Four combined should take no longer than 2 weeks. A maximum of 2 additional weeks is allowed for the rest of the program.

**Step One**

Decide positively that you want to quit. Avoid negative thoughts of how difficult this can be. Think positive. You can do it.

Now prepare a list of the reasons you smoke and why you want to quit (Activity 13.5). Make several copies of the list and keep them in places where you commonly smoke. Frequently review the reasons for quitting, because this will motivate and prepare you psychologically to quit. When the reasons for quitting outweigh the reasons for smoking, you will have an easier time quitting. Read as much information as possible on the detrimental effects of tobacco and the benefits of quitting.

**Step Two**

Initiate a personal diet and exercise program. About one-third of the people who quit smoking gain weight. This could be caused by one or a combination of the following reasons:

1. Food becomes a substitute for cigarettes.
2. Appetite increases.
3. Basal metabolism may slow down.

If you start an exercise and weight-control program prior to giving up cigarettes encourages cessation and helps with weight control during the process.
### “Why Do You Smoke?” Test

Name: ___________________________ Date: ___________________________

Course: ___________________________ Section: ___________________________ Gender: ________ Age: ________

<table>
<thead>
<tr>
<th></th>
<th>Always</th>
<th>Frequently</th>
<th>Occasionally</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>B.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>C.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>D.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>E.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>F.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>G.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>H.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>I.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>J.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>K.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>L.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>M.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>N.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>O.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>P.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Q.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>R.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Scoring Your Test:

Enter the numbers you have circled on the test questions in the spaces provided below, putting the number you circled for question A on line A, for question B on line B, etc. Add the three scores on each line to get a total for each factor. For example, the sum of your scores for lines A, G, and M gives you your score on “Stimulation,” lines B, H, and N give the score on “Handling,” etc. Scores can vary from 3 to 15. Any score 11 and above is high; any score 7 and below is low.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>G</th>
<th>M</th>
<th>=</th>
<th>Stimulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ACTIVITY 13.4**

**“Do You Want to Quit?” Test**

Name: ____________________________ Date: ______________

Course: __________________ Section: __________ Gender: ________ Age: ________

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Mildly Agree</th>
<th>Mildly Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Cigarette smoking might give me a serious illness.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>B. My cigarette smoking sets a bad example for others.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>C. I find cigarette smoking to be a messy kind of habit.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>D. Controlling my cigarette smoking is a challenge to me.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>E. Smoking causes shortness of breath.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>F. If I quit smoking cigarettes, it might influence others to stop.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>G. Cigarettes damage clothing and other personal property.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>H. Quitting smoking would show that I have willpower.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>I. My cigarette smoking will have a harmful effect on my health.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>J. My cigarette smoking influences others close to me to take up or continue smoking.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>K. If I quit smoking, my sense of taste or smell would improve.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>L. I do not like the idea of feeling dependent on smoking.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**Scoring Your Test:**

Write the number you have circled after each statement on the test in the corresponding space to the right. Add the scores on each line to get your totals. For example, the sum of your scores A, E, and I gives you your score for the Health factor. Scores can vary from 3 to 12. Any score of 9 or over is high, and a score of 6 or under is low.

A _______ + E _______ + I _______ = _______ Health
B _______ + F _______ + J _______ = _______ Example
C _______ + G _______ + K _______ = _______ Aesthetics
D _______ + H _______ + L _______ = _______ Mastery

problem. If anything, exercise and lower body weight create more awareness of healthy living and strengthen the motivation for giving up cigarettes.

Even if you gain some weight, the harmful effects of cigarette smoking are much more detrimental to human health than a few extra pounds of body weight. Experts have indicated that as far as the extra load on the heart is concerned, giving up one pack of cigarettes a day is the equivalent of losing between 50 and 75 pounds of excess body fat!

Step Three
Decide on the approach you will use to stop smoking. You may quit cold turkey or gradually cut down the number of cigarettes you smoke daily. Base your decision on your scores obtained on the “Why Do You Smoke?” Test. If you score 11 points or higher in either the “Crutch: Tension Reduction” or the “Craving: Psychological Addiction” categories, your best chance for success is quitting cold turkey. If your highest scores occur in any of the other four categories, you may choose either approach.

People still argue about which approach is more effective. Quitting cold turkey may cause fewer withdrawal symptoms than tapering off gradually. When you are cutting down slowly, the fewer cigarettes you smoke, the more important each one becomes. Therefore, you have a greater chance for relapse and returning to the original number of cigarettes you smoked. But when the cutting-down approach is accompanied by a definite target date for quitting, the technique has been shown to be quite effective. Smokers who taper off without a target date for quitting are the most likely to relapse.

Step Four
Keep a daily log of your smoking habit for a few days. This will help you understand the situations in which you smoke. To assist you in doing this, make copies of Activity 13.6, or develop your own form. Keep this form with you, and every time you smoke, record the required information. Keep track of the number of cigarettes you smoke, times of day you smoke them, events associated with smoking, amount of each cigarette smoked, and a rating of how badly you needed that cigarette. Rate each cigarette from 1 to 3:

1 = desperately needed
2 = moderately needed
3 = no real need

This daily log will assist you in three ways:

1. You will get to know your habit.
2. It will help you eliminate cigarettes you do not crave.
3. It will help you find positive substitutes for situations that trigger your desire to smoke.

Step Five
Set the target date for quitting. If you are going to taper off gradually, read the instructions under the “Cutting Down Gradually” discussion before you proceed to Step Six. When you set the target date, choose a special date to add a little extra incentive. An upcoming birthday, anniversary, vacation, graduation, family reunion—all are examples of good dates to free yourself from smoking. Dates when you are going to be away from events and environments that trigger your desire to smoke may be especially helpful. Once you have set the date, do not change it. Do not let anyone or anything interfere with this date.

Let your friends and relatives know of your intentions and ask for their support. Consider asking someone else to quit with you. That way, you can support each other in your efforts to stop. Avoid anyone who will not support you in your effort to quit. When you are attempting to quit, other people can be a prime obstacle. Many smokers are intolerable when they first stop smoking, so some friends and relatives prefer that the person continue to smoke.

Step Six
Stock up on low-calorie foods—carrots, broccoli, cauliflower, celery, popcorn (butter- and salt-free), fruits, sunflower seeds (in the shell), sugarless gum—and drink plenty of water. Keep the food handy on the day you stop and the first few days following cessation. Substitute this food for a cigarette when you want one.

Step Seven
On your quit day and the first few days thereafter, do not keep cigarettes handy. Stay away from friends and events that trigger your desire to smoke, and drink a lot of water and fruit juices. To replace the old behavior with new behavior, replace smoking time with new, positive substitutes that will make smoking difficult or impossible.

When you want a cigarette, take a few deep breaths and then occupy yourself by doing any of a number of things, such as talking to someone else, washing your hands, brushing your teeth, eating a healthy snack,
Reasons for Smoking Versus Quitting

Name: ________________________________ Date: ________________

Course: __________________ Section: ___________ Gender: ________ Age: ________

Make several copies of this list and keep them in places where you commonly smoke. Frequently review the reasons for quitting to help motivate and prepare you psychologically to quit.

**Reasons for Smoking Cigarettes**

1. ____________________________
2. ____________________________
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**Reasons for Quitting Cigarette Smoking**

1. ____________________________
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Daily Cigarette Smoking Log

Name: ____________________________ Date: ____________

Course: _____________________ Section: ____________ Gender: _______ Age: _______

Make copies of this form. Keep one copy with you every day and, every time you smoke, record the required information. This log will help you get to know your habit, eliminate cigarettes you really do not crave, and find positive substitutes for situations that trigger your desire to smoke.

Today’s Date: ____________ Quit Date: ____________ Decision Date: ____________

Cigarettes to be Smoked Today: ____________ Brand: ________________________

<table>
<thead>
<tr>
<th>No.</th>
<th>Time</th>
<th>Activity</th>
<th>Amount Smoked(^a)</th>
<th>Rating(^b)</th>
<th>Remarks/Substitutes</th>
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Additional comments and list of friends and/or activities to avoid

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\(^a\)Amount smoked: entire cigarette, two-thirds, half, etc.

\(^b\)Rating: 1 = desperately needed, 2 = moderately needed, 3 = no real need
chewing on a straw, doing dishes, playing sports, going for a walk or a bike ride, going swimming, and so on. Engage in activities that require the use of your hands. Try gardening, sewing, writing letters, drawing, doing household chores, or washing the car. Visit non-smoking places such as libraries, museums, stores, and theaters. Plan an outing or a trip away from home. Any of these activities can keep your mind off cigarettes. Record your choice of activity or substitute under the Remarks/Substitutes column in Activity 13.6.

**Quitting Cold Turkey**

Many people have found that quitting all at once is the easiest way to do it. Most smokers have tried this approach at least once. Even though it might not work the first time, they don’t allow themselves to get discouraged, and they eventually succeed. Many times, after several attempts, all of a sudden they are able to overcome smoking without too much difficulty.

On the average, as few as three smokeless days are sufficient to break the physiological addiction to nicotine. The psychological addiction may linger for years but will get weaker as time goes by.

**Cutting Down Gradually**

Tapering off cigarettes can be done in several ways:

1. Eliminate cigarettes you do not strongly crave (those ranked numbers 3 and 2 on your daily log).
2. Switch to a brand lower in nicotine/tar every few days.
3. Smoke less of each cigarette.
4. Smoke fewer cigarettes each day.

Most people prefer a combination of these four suggestions.

Before you start cutting down, set a target date for quitting. Once the date is set, don’t change it. The total time until your quit date should be no longer than 2 weeks. Reduce the total number of cigarettes you smoke each day by 10 to 25 percent. As you smoke less, be careful not to take more puffs or inhale more deeply as you smoke, because this would offset the principle of cutting down.

As an aid in tapering off, make several copies of Activity 13.6. Before you start cutting down, set a target date for quitting. Once the date is set, don’t change it. The total time until your quit date should be no longer than 2 weeks. Reduce the total number of cigarettes you smoke each day by 10 to 25 percent. As you smoke less, be careful not to take more puffs or inhale more deeply as you smoke, because this would offset the principle of cutting down.

As an aid in tapering off, make several copies of Activity 13.6. By now you should have already completed the first daily log of your smoking habit—see Step Four under “Breaking the Habit” on page 452. Start a new daily log and every night review your data and set goals for the following day.

Decide and record which cigarettes will be easiest to give up, what brand you will smoke, the total number of cigarettes to be smoked, and how much of each you will smoke. Log any comments or situations you want to avoid, as well as any substitutes you could use to help you in the program. For example, if you always smoke while drinking coffee, substitute juice for coffee. If you smoke while driving, arrange for a ride or take a bus to work. If you smoke with a certain friend at lunch, avoid having lunch with that friend for a week or so. Continue using this log until you have stopped smoking completely.

**Nicotine-Substitution Products**

Nicotine-substitution drug products such as nicotine transdermal patches and nicotine gum were developed to help people kick the tobacco habit. These products are most effective when they are used in a physician-supervised cessation program. As with tapering off, these products gradually decrease the amount of nicotine used until the person no longer craves the drug.

Nicotine patches supply a steady dose of nicotine through the skin. The patches are more effective when used in conjunction with exercise. About eight out of ten smokers who use this therapy successfully quit smoking. Only about half of those who use patches alone are able to quit.

Nicotine-replacement patches are available in various doses, delivering anywhere from about 5 to 21 mg of nicotine in a 24-hour period. A typical program lasts between 3 and 10 weeks, with an average weekly cost to the consumer of about $50.

Public safety concerns regarding the use of nicotine patches, including indications, precautions, warnings, contraindications, potential abuse, and marketing and labeling issues are monitored and regulated by the FDA. People contemplating their use should pay careful attention to contraindications and potential side effects. Pregnant and lactating women and people with heart disease or high blood pressure or who have had a recent heart attack should check with their physician prior to using nicotine-substitution products. Skin redness, swelling, or rashes are sometimes associated with the use of nicotine patches. Other undesirable side effects are listed on the label and should be monitored closely.

**Critical Thinking**

If you ever smoked or now smoke cigarettes, discuss your perceptions of how others accepted your behavior. • If you smoked and have quit, how did you accomplish the task, and has it changed the way others view you? • If you never smoked, how do you perceive smokers?

**Life after Cigarettes**

When you first quit smoking, you can expect a series of withdrawal symptoms for a few days; among them are lower heart rate and blood pressure, headaches, gastrointestinal discomfort, mood changes, irritability, aggressiveness, and difficulty sleeping.

The physiological addiction to nicotine is broken only 3 days following your last cigarette. Thereafter, you should not crave cigarettes as much. For the habitual smoker, the psychological dependency could be the most difficult to
The first few days probably will not be as difficult as the first few months. Any of the activities of daily life that you have associated with smoking—either stress or relaxation, joy or unhappiness—may trigger a relapse even months, or at times years, after quitting.

Ex-smokers should realize that even though some harm may have been done already, it is never too late to quit. The greatest early benefit is a lower risk for sudden death. Furthermore, the risk for illness starts to decrease the moment you stop smoking. You will have fewer sore throats and sores in the mouth, less hoarseness, no more cigarette cough, and lower risk for peptic ulcers.

Circulation to the hands and feet will improve, as will gastrointestinal and kidney and bladder functions. Everything will taste and smell better. You will have more

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**Behavior Modification Planning**

**Tips to Help Stop Smoking**

Check the suggestions that may work for you and incorporate them into your own retraining program.

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**Preparing to Quit**

- Create a personal list of reasons to quit. Keep the list handy, review it frequently, and add to it as needed.
- Know what to expect. Information is available from government sources, health organizations, doctors, hospitals, or on the Web. Talk with people who have quit or contact a local group or a hotline.
- Review any past attempts to quit. Determine what worked and what didn’t work for you.
- Get a physical examination and discuss your desire to quit smoking with your doctor. Ask whether medication may help you quit.
- Create a stop-smoking plan customized to your personality, preferences, and schedule. If you are tapering off, set intermediate goals. Make sure to plan for times of intense desire for a cigarette. Be prepared and determine what you can use as a substitute for that cigarette. Is there anyone you can call for assistance or to help you distract your mind? Do not forget to include rewards for your success. Sign a contract and ask a friend to sign it as a witness.
- Determine your quit day. Choose a special day, such as a birthday, an anniversary, or a holiday. Select a day on which you will not feel a strong temptation to smoke—for instance, a stressful work day. Once you pick a date, do not alter this date.
- Enlist the support of friends, loved ones, team members, coworkers—as many people as you can. Ask others not to smoke around you or leave cigarettes in view. If you can, find someone else who wants to quit with you.

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**While Tapering Off**

- Inquire about counseling. Individual, group, and telephone counseling can improve your chances of success.
- Consider starting a weight loss and exercise program before you quit. Such positive action will increase your confidence in your ability to quit and can keep you from gaining weight when you stop smoking.
- Stage a farewell activity to cigarettes and smoking; perhaps by overindulging so the idea of smoking is no longer appealing, or with a ceremony to destroy all cigarettes, lighters, and ashtrays.
- Change your environment. Clean your room or house, clothes, and car to remove the scent of tobacco smoke. Rearrange the furniture, paint the walls a different color, open windows to freshen the air, and buy plants or flowers.
- Plan changes in your routine. Reschedule regular activities, use different routes to get to places you normally go, go to bed earlier and get up earlier, avoid being rushed.
- Start a new hobby or other activity; for example, dancing, making videos, painting, acting, or learning to cook ethnic foods—something enjoyable that you’ve wanted to do for a long time.
- Stock up on healthy, low-calorie snacks.
energy, and you will gain a sense of freedom, pride, and well-being. You no longer will have to worry whether you have enough cigarettes to last through a day, a party, a meeting, a weekend, or a trip.

When you first quit and you think how tough it is and how miserable you feel because you cannot have a cigarette, try the opposite: Think of the benefits and how great it is not to smoke! The ex-smoker’s risk for heart disease approaches that of a lifetime nonsmoker 10 years following cessation; and for cancer, 15 years after quitting.

If you have been successful and stopped smoking, a lot of events can still trigger your urge to smoke. When confronted with these events, some people rationalize and think, “One cigarette won’t hurt. I’ve been off for months (years in some cases)” or “I can handle it. I’ll...
Start thinking of yourself as a nonsmoker—no “butts” about it. Remind yourself how difficult it has been and how long it has taken you to get to this point. If you have come this far, you certainly can resist brief moments of temptation. It will get easier rather than harder as time goes on.

Assess Your Behavior

Log on to www.cengagebrain.com to access CengageNOW and the Behavior Change Planner where you can take the Wellness Profile assessment and gauge your level of risk in the area of addictive behavior.

1. Is your life free of addictive behavior? If not, will you commit right now to seek professional help at your institution’s counseling center? Addictive behavior destroys health and lives—don’t let it waste yours.

2. Are you prepared to walk away, even at the peril of losing close friendships and relationships, if you are put in a situation where you are pressured to drink, smoke, or engage in any other form of drug (legal or illegal) abuse?

Assess Your Knowledge

Evaluate how well you understand the concepts presented in this chapter using the chapter-specific quizzing available in the online materials at www.cengagebrain.com.

1. The following substance is not an object of chemical dependency.
   a. Ecstasy
   b. Alcohol
   c. Cocaine
   d. Heroin
   e. All are objects of chemical dependency.

2. The most widely used illegal drug in the United States is
   a. marijuana.
   b. alcohol.
   c. cocaine.
   d. heroin.
   e. Ecstasy.

3. Cocaine use
   a. causes lung cancer.
   b. leads to atrophy of the brain.
   c. can lead to sudden death.
   d. causes amotivational syndrome.
   e. All these things are possible.

4. Methamphetamine
   a. is less potent than amphetamine.
   b. increases fatigue.
   c. helps a person relax.
   d. is a central nervous system stimulant.
   e. increases the need for sleep.

5. Ecstasy
   a. is popular among middle-aged people.
   b. is a relatively harmless drug.
   c. is used primarily by African American males.
   d. increases heart rate and blood pressure.
   e. All are correct choices.

6. Treatment of chemical dependency is
   a. accomplished primarily by the individual alone.
   b. most successful when there is peer pressure to stop.
   c. best achieved with the help of family members.
   d. seldom accomplished without professional guidance.
   e. usually done with the help of friends.

7. Cigarette smoking is responsible for about _______ unnecessary deaths in the United States each year.
   a. 10,000
   b. 80,000
   c. 250,000
   d. 470,000
   e. 1,000,000

8. Cigarette smoking increases death rates from
   a. heart disease.
   b. cancer.
   c. stroke.
   d. aortic aneurysm.
   e. all of the above.

9. The percentage of lung cancer attributed to cigarette smoking is
   a. 25 percent.
   b. 43 percent.
   c. 58 percent.
   d. 64 percent.
   e. 87 percent.

10. Smoking cessation results in
    a. a decrease in sore throats.
    b. improved gastrointestinal function.
    c. a decrease in risk for sudden death.
    d. better tasting of foods.
    e. All of these changes occur.

Correct answers can be found at the back of the book.
Chapter 13
Notes

4. See note 3.
7. See note 1.


**Suggested Readings**


This page contains answers for this chapter only

Chapter 13

American Medical Association Alcohol Abuse Questionnaire

- When you are holding an empty glass at a party, do you always actively look for a refill instead of waiting to be offered one?
- If given the chance, do you frequently pour out a more generous drink for yourself than seems to be the “going” amount for others?
- Do you often have a drink or two when you are alone, either at home or in a bar?
- Is your drinking ever the direct cause of an argument, or do arguments often seem to occur, if only by coincidence, when you have had a drink or two?
- Do you feel that you must have a drink at a specific time every day?
- When worried or under unusual stress, do you almost automatically take a stiff drink to “settle your nerves”?
- Are you untruthful about how much you have had to drink when questioned on the subject?
- Does drinking ever cause you to take time off work or to miss class, scheduled meetings, or appointments?
- Do you feel physically deprived if you cannot have at least one drink every day?
- Do you sometimes crave a drink in the morning?
- Do you sometimes have “mornings after” when you cannot remember what happened the night before?

Even one checked box is a warning sign that you may have a problem with alcohol.