

# Reproductive and Sexual Health

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# Lesson 1

## Sexuality, Sexual Orientation, and the Human Sexual Response

### Lesson Objectives

After reading this lesson, you should be able to

1. explain the various influences on an individual's sexuality,
2. explain what sexual orientation is, and
3. describe the four phases of the human sexual response.

### Lesson Vocabulary

abstinence, age of consent, bisexual, celibacy, clitoris, contraception, ejaculate, gay, HIV, labia minora, lesbian, masturbating, questioning, seminal vesicles, sexual assault, sexuality, sexual orientation, transgender, urethra

**Sexuality** is an important part of the life of human beings. It is described in this chapter as the feelings, thoughts, identities, sensuality, intimacy, and reproduction of people. The terms *sex* and *sexuality* are often used simultaneously and can also include being attracted by and attractive to others, in a relationship, and in love. Given the importance of sexuality, young people should be taught factual and complete information about it, and have access to confidential reproductive and sexual health services. Young people should be treated with respect; they should be involved in decisions about what they learn and should have input about policies that affect them. Even so, sex education in school is a controversial topic and should be discussed in a mature, factual manner.

Recently, the four leading U.S. health organizations concerned with the health of young people published the National Sexuality Education Standards (NSES). The standards were developed by medical and public health experts, teachers, and young people over a period of two years. Recommendations from these standards provide the basis for much of the information presented in this chapter. In this first lesson, you'll learn about sex and sexuality, media influence on people's views of sexuality, sexual orientation, and the human sexual response.

### Sex and Sexuality

The word *sex* is used in different ways. Most commonly it refers to your biological classification,

the state of being male or female. The word *sex* is also used to refer to a sexual relationship or sexual contact with someone (act of having sex). At other times it is used as a shortened version of the word **sexuality**. In this book we will refer to sexuality education because it is the preferred term in national standards. However, both *sex* and *sexuality* will be used as they relate to different concepts in this chapter.

Sexuality has been the topic of literature and dramatic performances for hundreds of years. In modern society, it has also been a frequent topic of television shows, popular songs, and movies. And now, of course, we can add the Internet and smartphones to the list of ways in which messages about sexuality are communicated. In one way or another, sexuality affects many aspects of life—for example, love, communication, relationships, law, health, media, and culture.

As discussed in other chapters of this book, most health issues involve both positive and negative aspects. Drugs, for example, can heal us or harm us, depending on how they are used. The same is true of human sexuality. Sexual relationships can be loving, fulfilling, and life affirming. They can also be manipulative, degrading, or, as in the case of **sexual assault**, dangerous (for more information on sexual assault, see the chapter on family living and healthy relationships). The more people know about human sexuality, the more likely it is that their sexual relationships will be positive. Information provides the basis for making good decisions that support individual beliefs. Not all



The more people know about human sexuality, the more likely it is that their sexual relationships will be positive.

Stewart Cohen/Digital Vision

people share the same beliefs about human sexuality and not all people will use the information they learn about human sexuality in the same way. Once you are informed about the facts, you can use the information to make decisions that are consistent

with your values and beliefs. In fact, study after study has revealed that students who participate in comprehensive sex education classes are much more likely than others to have good sexual health and stronger sexual relationships when they choose to become sexually active. Effective sex education can help you understand that sexual development is a normal, natural, healthy part of your human development.

## Am I Normal?

Young people often ask, “What is normal sexual development and sexual behavior?” Believe it or not, that’s a difficult question to answer. Statistics, like some given in this chapter, can let you know what is average or what is common, but *normal* is a value-laden word. For example, if a person chooses a life of **celibacy** (i.e., refrains from sexual activity), is that normal? One could reasonably say that it is normal, respected, and even expected



Susan Rae Tannenbaum/forolia.com

## DIVERSE PERSPECTIVES: Being Transgender

My name is Kelly, and I am transgender (a word referring to instances in which a person’s inner sense of gender does not correspond to his or her biological sex as male or female). From the time I was little, I knew that I was meant to be a girl although everyone else thought of me as a boy. My body didn’t match my feelings. I remember wanting to be like my sister Lisa, and I remember feeling confused and self-conscious about it. I wanted to wear her clothes, grow my hair like hers, and play with her tea sets and toys.

When I started going through puberty, it was unbearable. I hated the way my body was chang-

ing, and my feelings kept getting stronger. One day my mom confronted me—she asked me if I was gay. I said no. I told her that I was attracted to boys but that I didn’t want to be one—I told her I was a straight girl and not a gay guy. She didn’t understand, and we fought about it for years. Luckily, I found support in my school’s LGBTQ (lesbian, gay, bisexual, transgender, questioning) support group, and I kept bringing home pamphlets and information from my school counselor. Over time, we started to talk openly about it, and when I was in college I started hormone therapy and transitioned into living as a girl full time. I was lucky to have really supportive friends in college.

For the first time in my life, I feel whole, and I finally am beginning to feel comfortable in my skin. I worry that I will never find love or have a family of my own, but for now I am happy to finally just be me.

## HEALTHY COMMUNICATION

Have you had a serious conversation about sex with a parent, grandparent, guardian, older sibling, or other trusted adult? Do you know how these people in your life feel about sex? Make a list of things you would like to talk about with such a person regarding your sexuality and sexual health. Include statements of how you feel about being sexually active as well as questions you may have about sex. Then challenge yourself to actually have a conversation with this person. Use your list of questions and statements to guide you and remember to ask the person for his or her perspective on sex as well. Discussing sexual topics may be difficult to do, yet being able to tell a trusted adult your values and how you feel about being sexually active shows maturity and your willingness to have an open, healthy conversation about an important topic. You may find that adults may be uncomfortable discussing this topic and may disagree with having a comprehensive sex education class in school. Use such an opportunity to try and see both sides of the disagreement. Ask others to share their reasons for disagreeing and share your opinion as well. Discussing sex is a very personal matter that should be respected and taken seriously. At the appropriate time you will also want to have a similar conversation with the individual with whom you are thinking about being sexually active.

among certain religious leaders and their followers. Most adults, however, choose to engage in sexual relationships, though the age at which they do so varies widely. Many health experts and religious leaders believe that certain types of sexual behaviors should be reserved for adults, but people can hold different views even on the question of when a person becomes an adult. Also, puberty, which effects sexual development, happens anywhere from about the age of 10 to 16, with some individuals beginning puberty earlier and some beginning



Most people wonder if they are normal when it comes to sexual behavior and sexual development.

puberty later. There isn't an exact time in which sexual development takes place as it is truly an individual experience.

In the United States, for example, states differ in their legal definition of the **age of consent**—the age at which a person can legally consent to being sexually active. In the eyes of the law, even if a person under the age of consent agrees to a sexual relationship with a person above the legal age of consent, the adult can be charged with a crime for doing so. The age of consent in some U.S. states is 16, in others 17, and in still others 18.

Legal age of consent is just one example of the potentially confusing aspects of human sexuality. Others include laws and policies addressing birth control and abortion access, which are equally complex and varied. Even school policies vary widely on a number of topics—for example, how students are allowed to dress, access the Internet, dance at school functions, hold hands or kiss on school property, and hold after-school meetings of organizations such as LGBTQ (**lesbian, gay, bisexual, transgender, questioning**) clubs. As a result, it's always a good idea to find out the rules, policies, and laws in your school, community, and state. Of course, they may be changed over time to reflect ongoing developments in societal values.

## Influences on Human Sexuality

Our views of sexuality are affected by a wide range of influences—for example, family, friends, school,

culture, society, religion, and the media. Thus we don't learn about sexuality only from formal institutions, such as schools or religious groups. Sometimes, in fact, these influences are weaker—and other influences are stronger—than we think. Between 2006 and 2008, for example, among teens aged 15 to 19, 93 percent had received formal instruction about sexually transmitted infections (STIs), 89 percent about **HIV**, and 84 percent about **abstinence** (i.e., refraining from sex). But only about 67 percent had received formal instruction about **contraception**, and fewer males (62 percent) had received it than females (70 percent). In addition, although a large majority of students may receive certain types of sex education, they likely spend more time receiving messages about sexuality from other sources, such as family, friends, religious groups, television, movies, advertising, and using the Internet for information.

What's more, the information you receive about sexuality—whether online, from a friend, or from a parent—is sometimes incorrect or incomplete.



**The media has a strong influence on our views on sexuality but much of the information can be incorrect or incomplete.**

Yuri Arcurs - Fotolia

Not even all medical professionals have been well educated about sexuality issues. Therefore, you need to develop the skills to find reliable information and communicate effectively with others about sexuality. To do so, you can use some of the same principles discussed in this book's chapters on health care consumerism and family living and healthy relationships. Unlike popular TV shows, music, and movies, relationship problems in real life don't always get solved quickly and easily. You'll get better information if you seek out knowledgeable adults, such as school counselors and health professionals who specialize in sexual health and communication skills. You can also find reliable information on the web pages of the U.S. Centers for Disease Control and Prevention (CDC) and other reputable agencies and organizations.

### **CONNECT**

How much do you think the media influences teenagers' understanding of sex and sexuality? What are some of the sexuality-related messages you've seen portrayed in media sources? How might these messages influence *your* behaviors and choices?

Most people would like to believe that we're not influenced by advertising or other mass media, but research shows that we are. The same is true for the influence of our friends and family; in fact, we often underestimate the influence that family members and friends exert on us. Our culture also greatly influences how people dress, act, date, and recreate. Even people who know a lot about sexuality often make poor decisions when they are sexually aroused or under the influence of alcohol or other drugs. The emotional parts of the human brain tend to dominate the more logical parts at times.

For example, hundreds of thousands of teens have taken a vow not to have sex before they get married. These teens are sincere and well intentioned, but when they are faced with sexual temptation or the opportunity to have sex with someone they really like or love, their resolve may weaken. In addition, evidence shows that when students who participate in abstinence-only programs (which don't provide full sexuality education) do have sex, they are less likely to use a contraceptive, which means that they



We often underestimate the influence that friends and family members exert on us.

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face an increased risk of unintended pregnancy and sexually transmitted infections. On the other hand, when students are taught how to prevent pregnancy and STIs, they are more likely to be prepared to properly practice safer sex than those who believe they will always be able to abstain. Of course, some people can and do remain abstinent until marriage, yet surveys indicate that about 70 percent of teens have had sex by age 19.

## Changing Cultural Norms

Cultural norms change over time, including norms related to sexuality. For example, according to the U.S. Census, the average age of marriage in the United States is 28 for men and 27 for women. Changing norms also affect who can get married; specifically, same-sex couples can now marry in a number of U.S. states. In another area of sexuality, the U.S. teen birth rate is at its lowest in nearly 70 years, even though nearly half of unmarried teens (ages 15 to 19) reported in a recent survey that they have had sex—43 percent of girls and 42 percent of boys, according to the U.S. Centers for Disease Control and Prevention (CDC). Of course, the phrase “having sex” can mean different things to different people, ranging from sexual intercourse

to oral sex and other types of sexual interaction. Yet young people who are sexually active—whatever their definition of sex—make up more than their share of new cases of sexually transmitted infections, which will be discussed later in this chapter.

## Sexual Orientation

According to the American Psychological Association (APA), **sexual orientation** is “an enduring pattern of emotional, romantic and/or sexual attractions to men, women or both sexes.” There are primarily three categories of sexual orientation: heterosexual (attracted emotionally and sexually to the opposite sex), gay and lesbian (attracted emotionally and sexually to the same sex), and bisexual (attracted emotionally and sexually to both men and women). Despite much research, professionals and scientists have not reached an agreement about the reasons that individuals develop a heterosexual, gay or lesbian, or bisexual orientation. However, many researchers do think both nature and nurture play a role in an individual’s sexual orientation as most individuals experience little or no sense of choice in their sexual orientation.

It’s common today to hear the term *LGBTQ* as a group noun referring to people who are

lesbian, gay, bisexual, transgender, and questioning. (A questioning person is unsure of their sexual orientation or gender identity.) As with other issues involving human sexuality, people's views vary and some people raise moral or religious concerns about being lesbian, gay, bisexual, transgender, or questioning. In addition, people sometimes disagree about the very terms used to talk about sexuality. For example, some people find the phrase "sexual preference" problematic; they argue that people do not choose their sexuality and thus it is similar to handedness (being left- or right-handed). Do people choose to be right- or left-handed? Do straight people choose to be straight? There was a time when parents and teachers tried to force left-handed people to be right-handed, but ultimately people came to believe that it is best for naturally left-handed people to be left-handed and naturally right-handed people to be right-handed. Of course, sexual orientation is more complex than handedness, but some people find that the comparison can help us understand individual differences.

People who are lesbian, gay, bisexual, transgender, or questioning may experience prejudice and discrimination that can cause negative psychological effects. As a result, many schools, universities, and government entities have established anti-discrimination policies or laws. Still, though some states now permit same-sex marriage and allow same-sex couples to adopt children, others do not. The majority of Americans, especially among young people, now favors allowing same-sex marriage. Many private organizations also work to prevent discrimination against lesbian, gay, bisexual, transgender, and questioning people. At the same time, many others work against equal rights for LGBTQ people and believe that gays and lesbians should be encouraged to become heterosexual. The APA's statement on that approach is as follows: "To date, there has been no scientifically adequate research to show that therapy aimed at changing sexual orientation (sometimes called reparative or conversion therapy) is safe or effective."

While there may always be some prejudice and discrimination for people who are lesbian, gay, bisexual, transgender, or questioning, it is also important to be tolerant of everyone. Regardless of whether it is sexual orientation, religious views, political views, or any other controversial topic, there may be disagreement based on personal opinions. Learning to be tolerant of others regardless of their sexual orientation is of great importance to each individual's dignity and self-esteem. Being respectful of an individual's sexual orientation doesn't mean you necessarily agree with it, but you respect the individual and the value they hold as a person.



**Most individuals experience little or no sense of choice in their sexual orientation.**

## Human Sexual Response

What actually happens, physiologically, when people are sexually aroused? Depending on which expert you consult, the human sexual response consists of three, four, or five stages. The phrase “human sexual response” for the purpose of this text will include four stages: excitement, plateau, orgasm, and resolution. Not all phases happen each time a person becomes sexually aroused. For example, circumstance or personal preference may cause a person to linger at excitement or plateau without feeling the need or desire to commit to going further. In addition, there is no set time frame for each phase. Rather, duration varies from person to person and even from experience to experience for the same person; that is, the phases don’t last the same amount of time every time a person is sexually stimulated. Thus variation is common; however, if having sex is ever painful, consult a medical professional who is trained in sexual health.

“The teen years should be a great experience filled with wondrous new ideas, challenges, [and] discoveries, and be the launching pad for a successful and happy life. The teen years are for growing up and getting an education, not for becoming a parent.”

—Carol Cassell, sex educator and author

### Excitement Phase

As the name indicates, this phase arouses exciting changes in the body. In both males and females, the heart rate increases, muscles tense, the skin may become flushed, the nipples may become hard and erect, and blood flow increases to the genitals (in females, to the **clitoris** [i.e., the highly sensitive erectile organ] and **labia minora** [i.e., inner lips of the vagina]; in males, to the penis, which becomes erect). The duration of the excitement phase varies from less than a minute to an hour or more.

### Plateau Phase

The plateau phase is an extension of the excitement phase and may be difficult to distinguish from it. In fact, individuals may pass quickly from excitement

to the third phase (orgasm), in which case the plateau phase lasts only several minutes; in other cases, it may last for hours. In this phase, more blood flows to the genitals, and the person’s breathing, heart rate, blood pressure, and muscle tension increase even more than in the excitement phase. A person in this phase may also experience muscle spasms in the hands, feet, or face.

### Orgasm Phase

This is the shortest phase of the human sexual response cycle, lasting from about three to eight seconds, depending on the individual. Orgasm involves a subjective experience of intense pleasure, sexual climax and release, as well as the physiological processes that accompany orgasm.

This phase is usually longer in females, and involves muscular contractions in the vaginal walls, the uterus, and sometimes the anus. In males, orgasm is the same as ejaculation, in which fluid from the **seminal vesicles** is combined with sperm and ejected (ejaculated as semen) from the body via muscle contractions in the **urethra**. In heterosexual genital intercourse, the seminal fluid that contains sperm (the **ejaculate**) is deposited in the woman’s vagina unless a condom is used, in which case it goes into the condom instead. While many individuals view orgasm as the ultimate goal of sexual intercourse, it is not uncommon for individuals to not experience orgasm. There may be a variety of reasons why an individual does not experience orgasm including, for example, physical causes, stress, and emotional reasons.

### Resolution Phase

In this phase, the body returns to its unstimulated state. The blood leaves the genitals, and the heart rate, breathing rate, and blood pressure return to normal. The psychological arousal of the experience will also subside usually leaving an individual in a state of relaxation. For the body to fully return to its unstimulated state takes approximately 15 minutes.

## Masturbation

Masturbation is the stimulation of one’s own genitals. Though it often goes undiscussed, it is normal, healthy, and common among men and women in U.S. society. Masturbation can be used



to relieve sexual tension, to experience pleasure, and to provide a means of sexual activity when a partner is not available. It is also a safe sexual alternative for people who wish to avoid pregnancy and sexually transmitted infection. The physiology of the sexual response is essentially the same regardless of whether a person is straight or gay and regardless of whether a person is **masturbating** (i.e., stimulating one's own genitals) or engaged in sex with another person. Emotionally, however, the sexual experience differs

greatly between masturbation and being sexually active with another person. It is important to learn how to have positive sexual experiences; understanding the human sexual response cycle can help you be aware of healthy sexual activity throughout your life.

Masturbation is considered a problem when it inhibits sexual activity with a partner, is done in public, or causes a person significant distress (e.g., if it is done compulsively or otherwise interferes with daily life and activities).

### Comprehension Check

1. Explain the various influences on an individual's sexuality.
2. What is sexual orientation?
3. Describe the human sexual response and its four phases.



## SELF-ASSESSMENT: Sexuality Survey

You've now learned some information about a variety of sexuality topics. To test your knowledge, answer true or false to each of the following questions. Record your results as directed by your teacher and compare your answers with the correct ones given at the end of the survey.

1. Menstruation is the process in which an unfertilized egg and the lining of the uterus leave the female body.
  - a. true
  - b. false
2. Sexuality is described as the feelings, thoughts, identities, sensuality, intimacy, and reproduction of people.
  - a. true
  - b. false
3. Male condoms are 99 percent effective in preventing STIs and pregnancy.
  - a. true
  - b. false
4. LGBTQ stands for "lesbian, gay, bisexual, transgender, or questioning."
  - a. true
  - b. false
5. A transgender person's inner sense of gender does not match his or her biological sex (male or female).
  - a. true
  - b. false
6. Sexual orientation primarily involves the heterosexual and bisexual categories.
  - a. true
  - b. false
7. The four phases of the human sexual response are excitement, plateau, orgasm, and resolution.
  - a. true
  - b. false
8. The four primary categories of contraceptive are barrier, hormonal, informational, and permanent.
  - a. true
  - b. false
9. The birth control pill often includes a combination of estrogen and testosterone.
  - a. true
  - b. false
10. Masturbation is the stimulation of one's own genitals.
  - a. true
  - b. false
11. Conception, or fertilization, is the union of an ovum and a sperm.
  - a. true
  - b. false

12. Female and male sterilization are the only contraceptive methods considered permanent.
  - a. true
  - b. false
13. Approximately 82 percent of teens have had sex by the age of 19.
  - a. true
  - b. false
14. Emergency contraception, or Plan B, can be used after intercourse to prevent sexually transmitted infection.
  - a. true
  - b. false
15. Sexting involves sending electronic messages with sexual photos or other sexual content.
  - a. true
  - b. false

Here are the correct answers: question 1 a, 2 a, 3 b (correct answer: 85 percent), 4 a, 5 a, 6 b (correct answer: heterosexual, gay, lesbian, and bisexual), 7 a, 8 a, 9 b (correct answer: estrogen and progestin), 10 a, 11 a, 12 a, 13 b (correct answer: 70 percent), 14 b (correct answer: to prevent pregnancy), and 15 a. If you got nine

or ten answers right, you really know your stuff. If you got seven or eight right, you're ahead of most people but still have some things to learn. If you got five or six right, you could stand to brush up on the facts. If you got four or fewer right, seek out more information.

## **Planning for Healthy Living**

Use the Healthy Living Plan worksheet to set a goal related to your sexual well-being.

## Lesson 2

# Birth Control, Pregnancy, and Sexually Transmitted Infections

### Lesson Objectives

After reading this lesson, you should be able to

1. describe the four stages of the menstrual cycle;
2. describe the three stages of childbirth;
3. define contraception and describe at least one form of contraceptive from each of the four primary categories; and
4. list four sexually transmitted infections (STIs) and describe their causes, symptoms, treatment, and prevention.

### Lesson Vocabulary

abortion, AIDS, conception, emergency contraception, female sterilization, menstrual cycle, placenta, pornography, rape, semen, sexting, sexually transmitted infection (STI), vasectomy

**Decisions** about your sexual health are among the most personal ones you make—and among the most difficult. When should you become sexually active? When you do, how will you protect yourself against disease or unwanted pregnancy? What type of contraceptive is right for you? Who in your sexual relationship needs to take responsibility for birth control? Nobody can answer these questions but you. This lesson gives you information to clarify the pros and cons of your options so that you can make the best decisions possible for you. Before you can make good decisions, you must know the facts. First, you will learn about the physiology of the reproductive system. This is followed by a discussion of menstruation, conception, pregnancy, and childbirth. The final sections describe methods of birth control and sexually transmitted infections.

## Reproductive System

The human reproductive system allows for the conception, development, and delivery of offspring. It differs, of course, between males and females but ultimately serves the overall purpose of reproduction. In the male reproductive system, sperm is produced in the testicles for release through the penis during sexual activity (figure 1). The female reproductive system includes the uterus, ovaries,

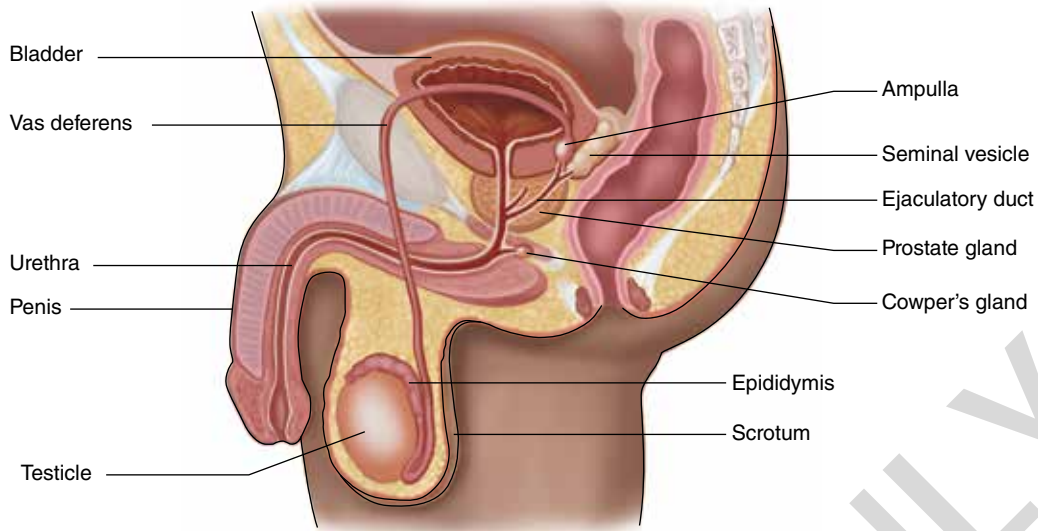
fallopian tubes, vagina, and external genitalia (figure 2). The female menstrual cycle is a monthly cycle that results in the release of a mature egg and prepares the walls of the uterus to implant the egg if it is fertilized by sperm. If fertilization does not occur, the lining of the uterus is shed through menstruation, and the cycle begins again.

## Menstrual Cycle

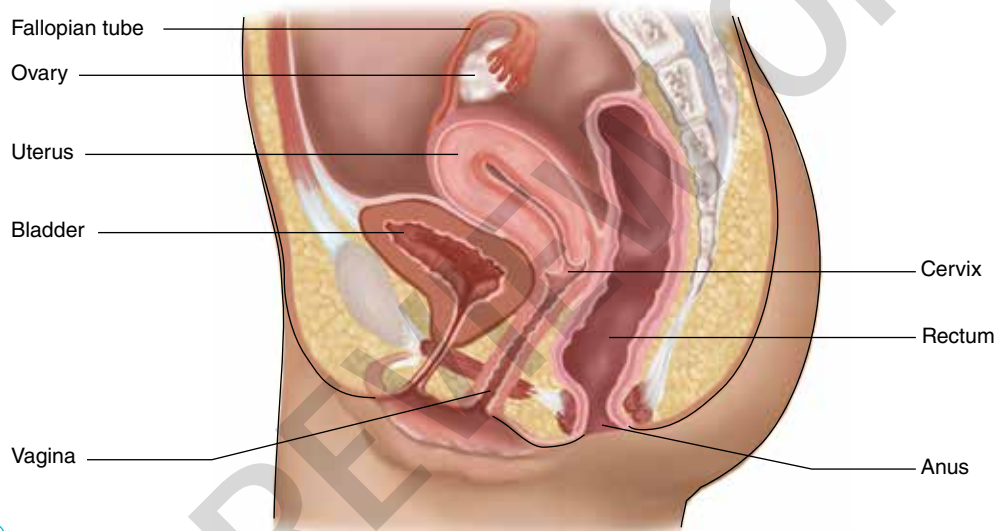
The **menstrual cycle** is a monthly series of changes involving ovulation, the uterine lining, and menstruation (also referred to as a “period”), in which the unfertilized egg and the lining of the uterus leave the body in a menstrual flow. The menstrual cycle consists of four stages (figure 3) and lasts for an average of 28 days, though some women have longer or shorter cycles. Menstrual flow usually lasts about five days but can vary from woman to woman.

Stage 1 of the menstrual cycle is the menstrual flow, in which the endometrium (the uterine lining that has thickened during the cycle) is partially shed and expelled through the vagina. The menstrual cycle consists of dark-colored blood mixed with mucous secretion from the uterine lining and secretion from the vagina. This stage lasts about five days and ends when the shedding is completed.

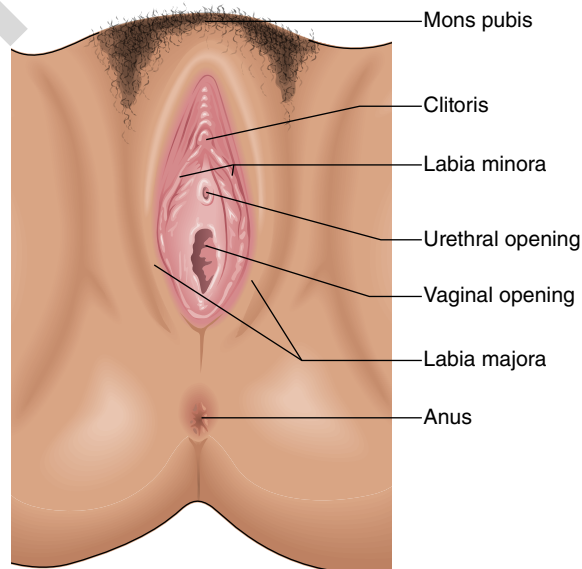
Stage 2 of the cycle includes days 6 through 12, during which an egg, or ovum, matures. The



**FIGURE 1** Cross-section of the male human reproductive anatomy.



**a**



**b**

**FIGURE 2** (a) Cross-section of the female human reproductive anatomy and (b) front view (supine) of the female reproductive anatomy.

maturation process of the ovum includes the ovum being released from the follicle where it developed and the secretion of progesterone. Progesterone is a steroid hormone secreted by the ovary and is necessary for pregnancy. The uterine lining or endometrium begins to thicken, and the uterus prepares for ovulation and the possibility that an ovum will be fertilized. During this time the cervix also begins to secrete a thick mucus, which will assist in the passage of sperm.

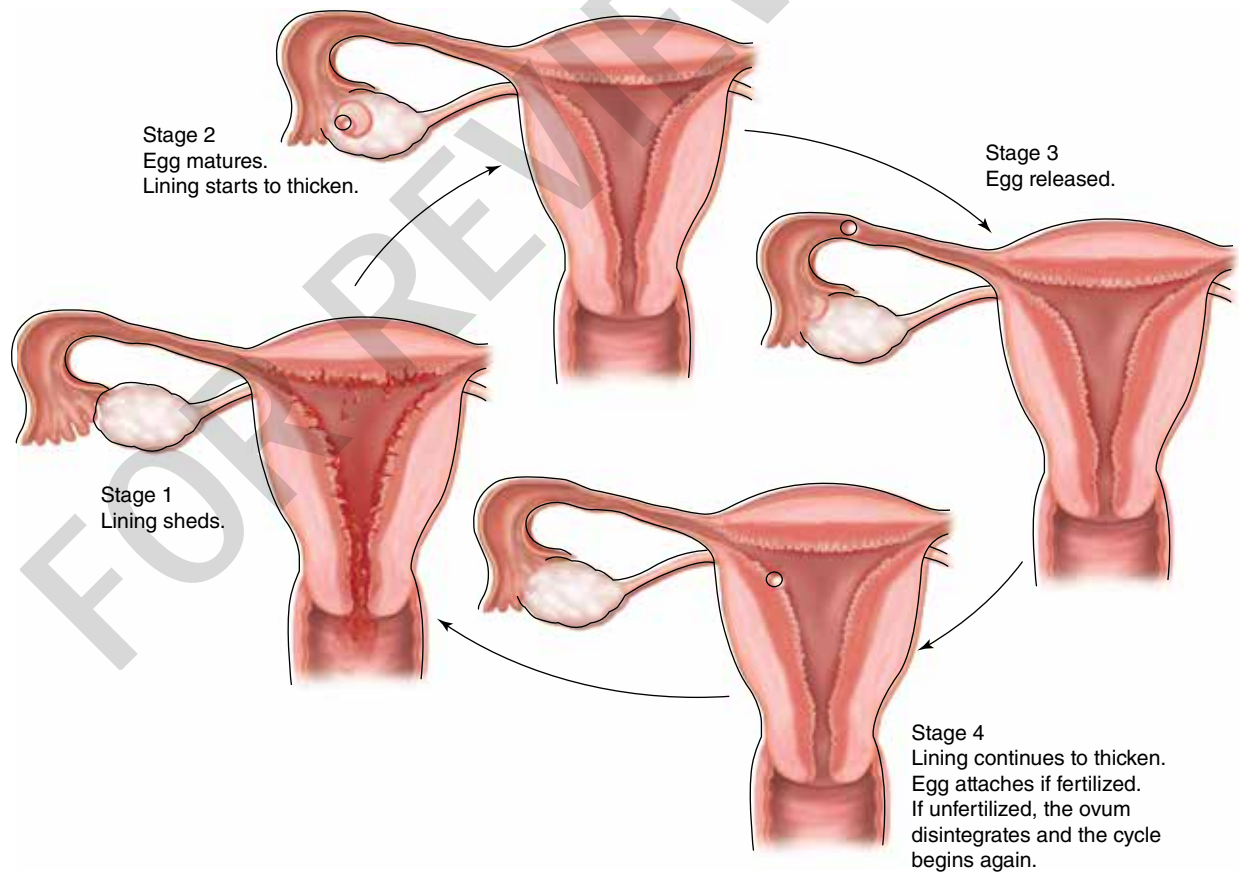
Stage 3 of the cycle includes days 13 and 14, which are marked by ovulation—the release of an egg from one of the fallopian tubes. After release, an egg lives for only 24 hours; if it isn't fertilized, it deteriorates and leaves the uterus during the next menstrual cycle.

Stage 4 consists of days 15 through 28. During this stage, if an egg has been fertilized, it moves from the fallopian tube into the uterus and attaches itself to the endometrium. Progesterone continues to be

secreted throughout the pregnancy to support the fertilized ovum. If an ovum has not been fertilized, the ovum disintegrates and the woman begins her next menstrual period, and the cycle begins again. Figure 3 illustrates the complete menstrual cycle.

## Conception

**Conception**, or fertilization, is the union of an ovum (figure 4) and a sperm (figure 5). When ovulation occurs (usually on day 13 or 14 of the menstrual cycle), an ovum is released into a fallopian tube. If sperm are present in the fallopian tube, the ovum can be fertilized. One ejaculation by the male releases about 200 to 500 million sperm, which may seem like a very high number, but many are irregular and never make it to the ovum's location. Sperm enter the uterus through the cervix, where they move into either the right or left fallopian tube in search of an ovum. Once an ovum is found, the

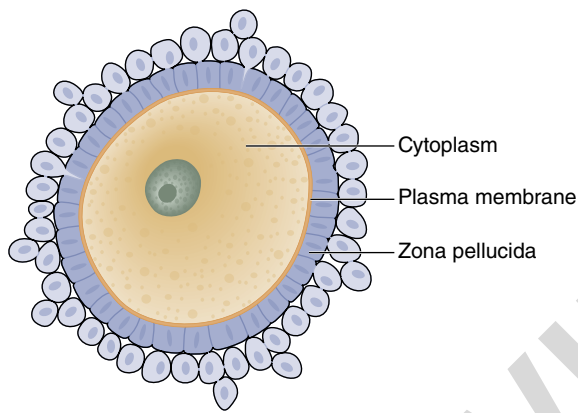


**FIGURE 3** Cross-section of the uterus: one fallopian tube and one ovary. The four stages of the menstrual cycle last for a total of about 28 days, though some women have shorter or longer cycles.

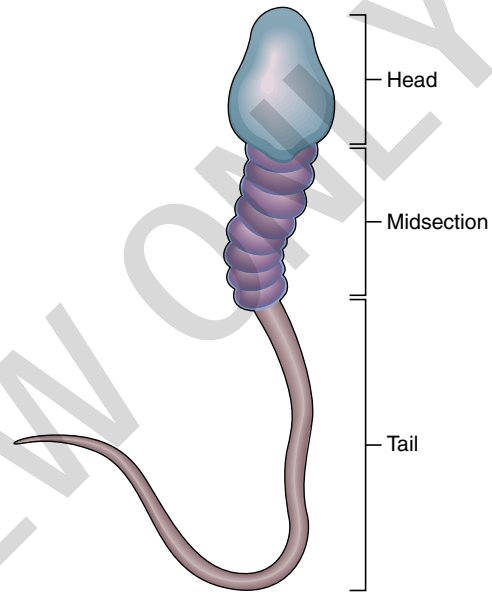
sperm work to penetrate it; if a sperm succeeds in doing so, the ovum changes so that no other sperm can get in. Conception has thus been completed. The fertilized ovum now begins cell division and continues to travel down the fallopian tube to the uterus, where it implants itself into the endometrium about 10 to 12 days after conception. This entire process is illustrated in figure 6.

## Pregnancy

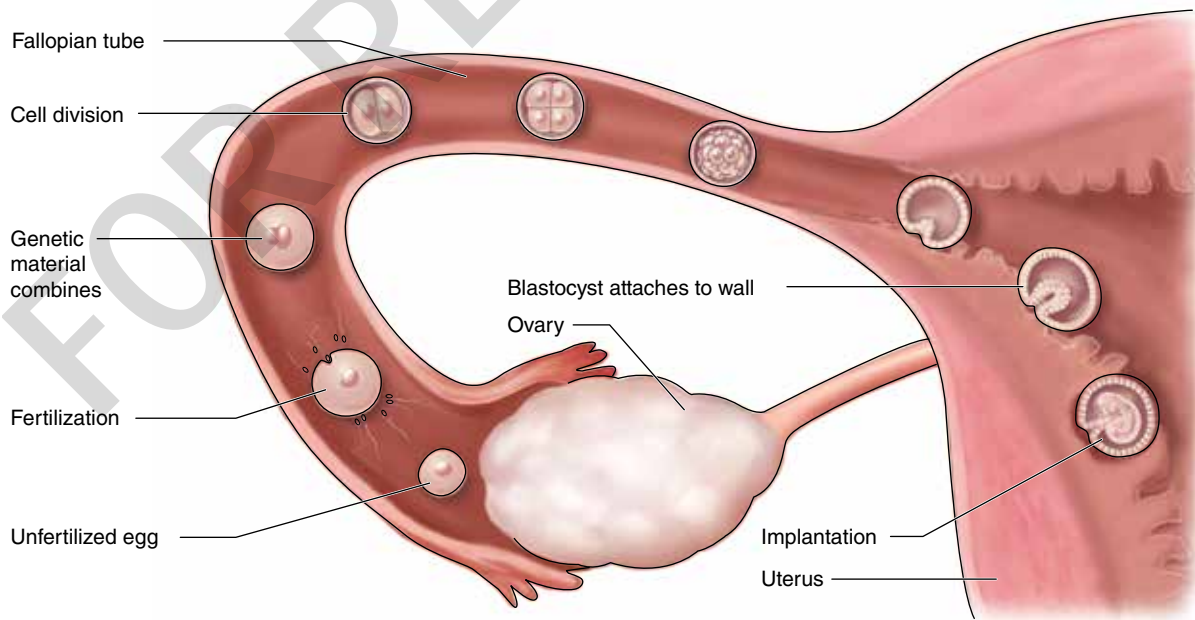
From the time of conception, human pregnancy lasts about 38 weeks, or 9 months, and it is often viewed as consisting of three-month increments known as trimesters. During the first trimester (the first three months), the fertilized ovum becomes an embryo (i.e., a developing baby through approximately



**FIGURE 4** An ovum, or egg.



**FIGURE 5** A mature sperm cell, or spermatozoa (magnified).



**FIGURE 6** During conception and implantation, an egg becomes fertilized, undergoes cell division while traveling through the fallopian tube, and implants itself in the uterus. Note: The unfertilized egg is greatly magnified in the figure.

the first six weeks after conception). The embryo begins to develop within the amniotic sac, which is a sac of fluid that surrounds the embryo. The amniotic sac protects the embryo from damage and helps maintain a steady temperature. The embryo receives oxygen and nourishment through the umbilical cord, which connects the embryo to the **placenta** (i.e., an organ that anchors the embryo to the uterus). By the third month of the first trimester, the term used to describe the developing baby changes from *embryo* to *fetus*. This marks the end of the embryonic period during which time the brain, arms and legs, heart, lungs, and internal organs



Over-the-counter pregnancy tests can be done at home. It's important to follow the instructions carefully to increase the chances of an accurate reading. If the test indicates pregnancy, you should follow up with a visit to the doctor.

### Facts About Teen Pregnancy

- Each year, almost 750,000 teens aged 15 to 19 become pregnant.
- The U.S. teen pregnancy rate is one of the highest in the developed world.
- More than 80 percent of teen pregnancies are unplanned.
- Risk factors for adolescent pregnancy include poor school performance and economic disadvantages. Adolescents who are pregnant are less likely to finish high school than teens who do not become pregnant.
- Teens are more likely than older mothers to have a second child within two years of their first child.
- Only about 50 percent of teen mothers receive a high school diploma by the age of 22 versus about 90 percent of women who do not give birth during adolescence.
- Less than 2 percent of teen mothers complete a two- or four-year college program by the age of 30.
- Teen fathers are 25 to 30 percent less likely to graduate from high school than teenage boys who are not fathers.
- Children of teenage mothers tend to achieve less in school; they are also more likely to drop out of high school, experience more health problems and chronic medical conditions, receive less emotional support and cognitive stimulation, and exhibit behavioral problems.
- Boys born to teen mothers have a higher incidence of serving time in juvenile detention centers or jail during adolescence, and girls born to teen mothers are more likely to become teen mothers themselves and face unemployment as young adults.
- Nearly all births among teen mothers are nonmarital (89 percent in 2011, up from 79 percent in 2000).
- Infants born to teen mothers are two to six times more likely to have low birth weight than those born to mothers who are age 20 or older.
- The younger a mother is (below the age of 20), the greater her infant's risk of dying during the first year of life. Teen mothers are more likely to have unhealthy habits and thus place their infants at greater risk for infection, chemical dependence, and inadequate growth.



begin to form. Also, the fetal period begins, which is more about growth and development.

At this time, the fetus begins showing male or female genitalia; in addition, limbs, eyebrows, and fingernails begin to become distinguishable by the end of the third month. At the end of the first trimester, the fetus measures approximately two inches.

During the second trimester—months 4 through 6—the fetus begins to breathe the amniotic fluid, and organs continue to develop including hearing, lungs, and brain waves. During the second trimester, the fetus may be startled by loud noises and can start to hear and recognize voices. Lungs continue to develop as the fetus is inhaling and exhaling small amounts of amniotic fluid. Brain wave activity measured in a developing fetus shows different sleep cycles. It is also during this trimester that the mother begins to gain weight and feels the baby move. By the end of the second trimester, the baby weighs approximately 2 pounds and is 12 inches in length.

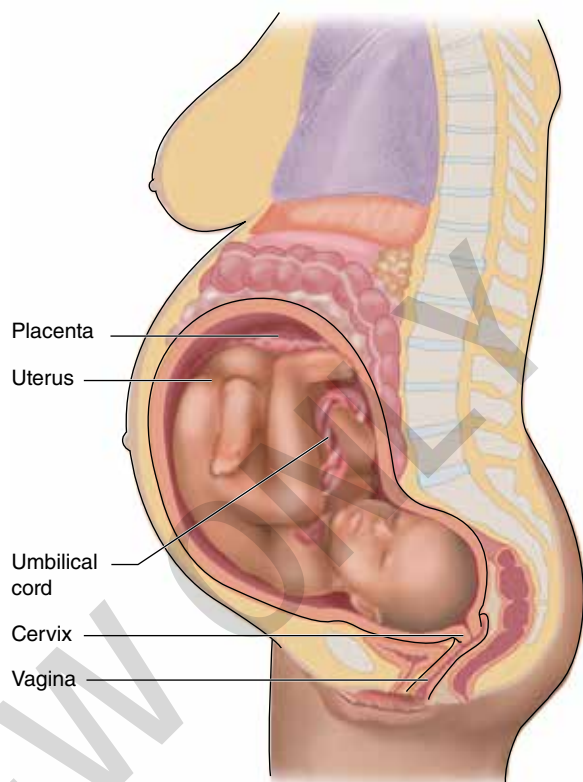
The third trimester begins with month 7 and ends at childbirth. During these last three months of pregnancy, the baby has a fully formed brain and nervous system and begins to build up fat, which will provide energy and help keep the baby warm—all in preparation for birth. At birth, the baby weighs approximately 7 pounds and is 18 to 20 inches in length.

## Childbirth

In preparation for birth, the fetus usually turns and positions his or her head against the mother's pelvic bone (figure 7). In addition, the cervix begins to dilate, and the amniotic sac may rupture (which is also known as “water breaking”).

Childbirth includes three stages of labor (figure 8). The first stage is the longest, lasting anywhere from a couple of hours to an entire day. During it, contractions begin, initially lasting 20 to 40 seconds and occurring every 10 to 20 minutes, then progressively getting stronger and lasting longer. The cervix continues to dilate (up to 8 to 10 centimeters wide), and the baby begins to move into the birth canal or vagina.

The second stage of childbirth lasts from a few minutes to a couple of hours. During this stage, the woman begins to push during contractions to help the baby move through the birth canal or vagina.



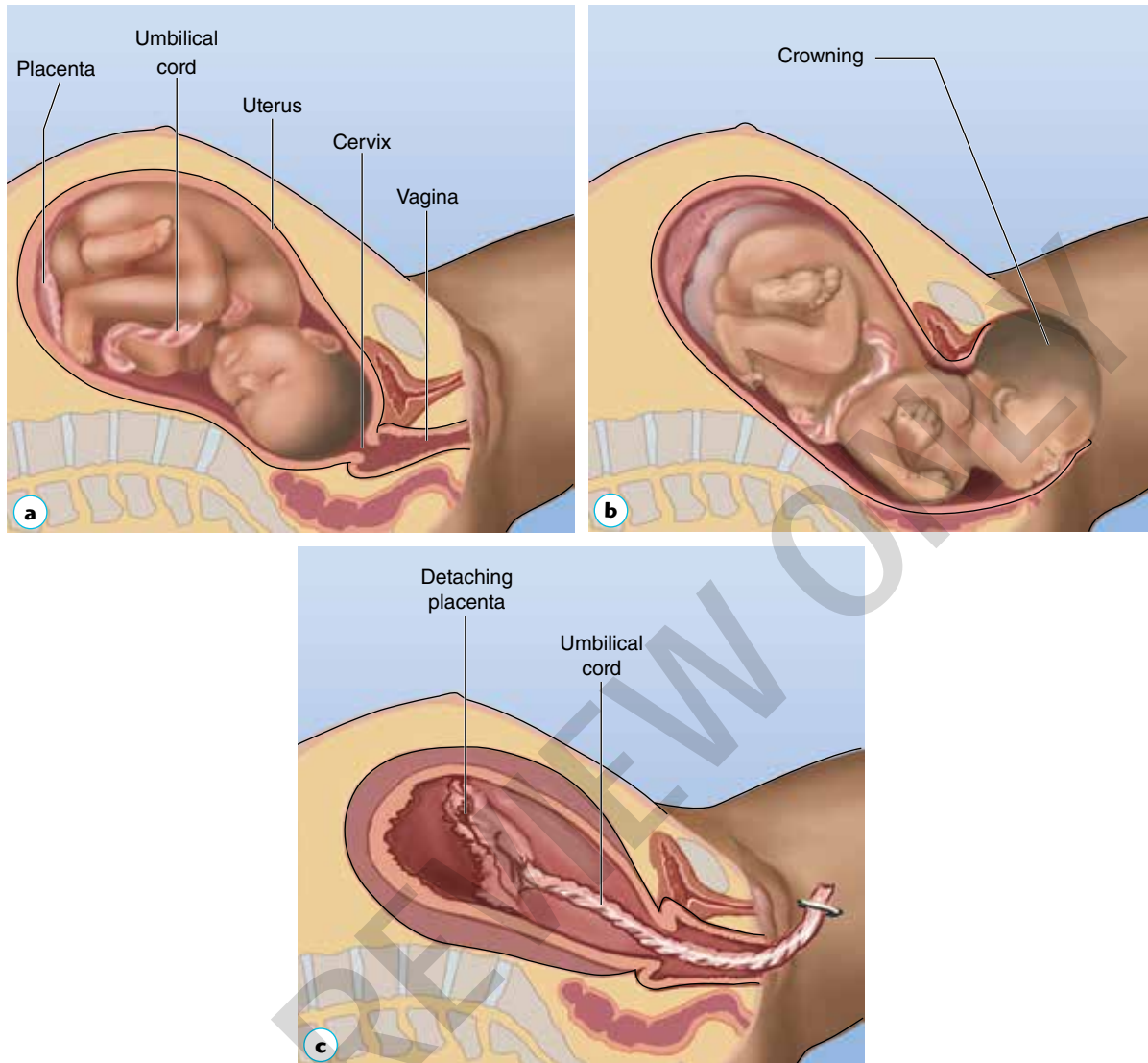
**FIGURE 7** Near the end of pregnancy, the fetus positions his or her head against the mother's pelvic bone.

Once delivered, the baby can breathe on his or her own, and the umbilical cord is cut.

The third stage of childbirth is the delivery of the placenta, which happens very shortly after delivery of the baby and lasts only about 10 minutes.

## Contraception

Contraception, or birth control, includes a variety of methods used to prevent an egg from being fertilized by a sperm cell. A majority of American men and women who are sexually active use some type of birth control, but no single contraceptive method is best for everyone. Decisions about contraceptive use should take into account many factors, including cost, side effects, effectiveness, convenience, ease of use, and protection against both pregnancy and sexually transmitted infections (STIs). The only contraceptive that is 100 percent effective against both pregnancy and STIs is abstinence—refraining from vaginal sex, oral sex, anal sex, and naked



**FIGURE 8** During childbirth, the mother goes through three stages of labor: (a) stage 1, (b) stage 2, and (c) stage 3.

genital-to-genital rubbing (“outercourse”). Before using any contraceptive, make sure to read all of the directions and information on the packaging. If you have further questions contact a medical care provider.

Contraceptives fall into four main categories: barrier, hormonal, informational, and permanent. As their name suggests, barrier contraceptives create a barrier that blocks sperm from entering the female’s cervix (neck of the uterus); they include female condoms (figure 9), male condoms (figure 9), diaphragms (fit over the cervix to provide a bar-

rier) (figure 10), cervical caps (figure 10), sponges (figure 11), and spermicides (figure 12).

Hormonal methods of contraception usually use estrogen and progestin together; some use progestin only. They can be administered in various forms such as a pill (figure 13), skin patch (Ortho Evra), shot (Depo-Provera), or intrauterine device (IUD) (figure 14). Hormonal contraceptives such as the birth control pill can also be used to ease menstrual pain or regulate the menstrual cycle, and some doctors prescribe birth control pills for acne and other medical conditions.



**FIGURE 9** Female condom (top) and male condom (bottom).



**FIGURE 10** Cervical cap (left) and diaphragm (right).



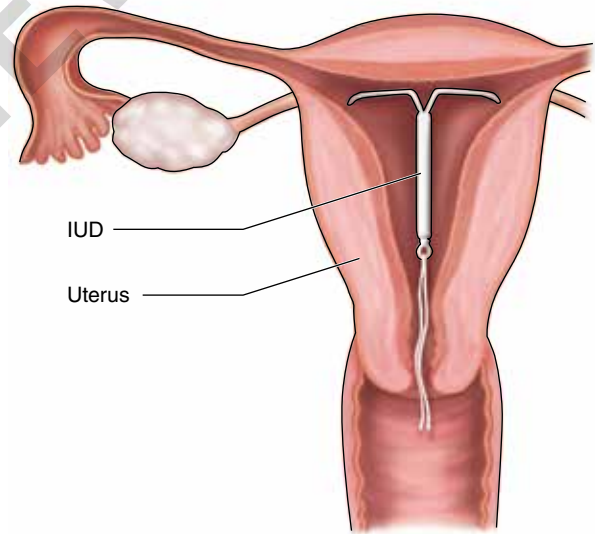
**FIGURE 11** Contraceptive sponge.



**FIGURE 12** Tube of spermicide jelly.



**FIGURE 13** Birth control pills.  
Bill Crump/Brand X Pictures



**FIGURE 14** Placement of the IUD in the uterus.

The third category—informational contraception—includes fertility awareness (figure 15) and withdrawal (see table 1 for more about these and other methods of contraception). These approaches do not work as well as the barrier and hormonal methods—especially with teens—as the fertility awareness method is only effective with a woman who has a regular menstrual cycle. Many teen girls do not have a regular menstrual cycle and the

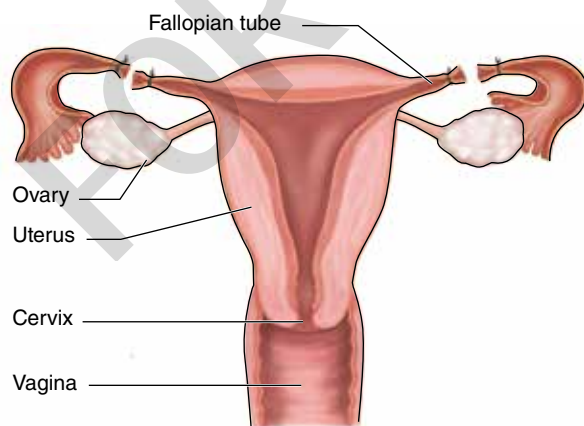
Su	M	T	W	Th	F	Sa
① Start of period	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

**FIGURE 15** The calendar rhythm method, a type of fertility awareness, identifies the first and last days of the fertile time in a female's cycle.

withdrawal method is difficult sometimes since the man must withdraw his penis prior to ejaculation. Sperm can be present even prior to ejaculation.

Permanent contraceptive methods include **female sterilization** and male sterilization (**vasectomy**) (see figures 16 and 17). These methods are used by adults who do not wish to have any more children. See table 1 for a listing of contraceptives and their advantages and disadvantages.

At different stages of people's lives, they may have different needs for contraception. Some people, for example, choose a particular method (e.g., condom use) because they wish to prevent both STIs and pregnancy. Surgical methods (sterilization), on the other hand, are generally chosen by people who already have the size of family they want.



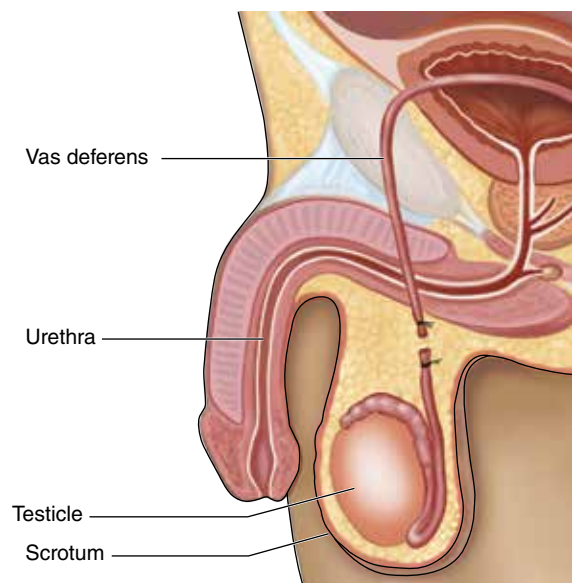
**FIGURE 16** One method of female sterilization is a laparoscopic procedure where the fallopian tubes are cut or blocked to prevent eggs from reaching the uterus.

Given the importance of your decisions about whether and when to use contraception, you should make them in consultation with someone who is knowledgeable about the pros and cons of each method. That person might be a parent, teacher, school counselor, older sibling, medical professional, or other trusted individual. Of course, it is also extremely important for you to communicate with your sexual partner about your wants, needs, and expectations. Becoming sexually active shouldn't be determined by statistics or by what others do; it should be determined by your values, your relationship with your partner, and other determinants that are important to you and your partner. After all, it's your health and your future at stake.

Unfortunately, much inaccurate information is available on the web, in the media, and from friends and peers; therefore, you need to be careful about where you get your information. This book's chapter titled Health Care Consumerism offers you some guidelines for finding reliable and useful information.

## Emergency Contraception

**Emergency contraception**, more commonly known as the "morning-after pill" and also as Plan B, can be used after intercourse to prevent pregnancy. It is used in emergency circumstances such as unprotected intercourse, **rape**, broken



**FIGURE 17** In a vasectomy, the vas deferens is cut or blocked to prevent sperm from being ejaculated.

**TABLE 1 Birth Control Methods: Advantages and Disadvantages**

Type	Advantages	Disadvantages
<b>Barrier contraceptives</b>		
<b>Male condom</b> —covers the penis with a sheath of thin material (usually latex). It is about 85 percent effective in preventing STIs and pregnancy.	<ul style="list-style-type: none"> <li>• Protects against both pregnancy and STIs</li> <li>• Readily available</li> <li>• Inexpensive</li> </ul>	<ul style="list-style-type: none"> <li>• May reduce sensitivity</li> <li>• Disrupts spontaneity</li> <li>• Must be used correctly to be effective</li> </ul>
<b>Female condom</b> —lines the vaginal canal and collects sperm-containing fluid that is present before, during, or after ejaculation. It has a flexible ring at each end, one of which is closed and is inserted into the vagina, and the other of which is open and stays on the outside of the female's body. It is about 79 percent effective in preventing STIs and pregnancy.	<ul style="list-style-type: none"> <li>• Protects against both pregnancy and STIs</li> <li>• Can be inserted up to eight hours before intercourse</li> <li>• Does not require a prescription</li> </ul>	<ul style="list-style-type: none"> <li>• May be difficult to use effectively</li> <li>• May not stay in place during intercourse</li> <li>• Is more expensive than the male condom</li> </ul>
<b>Diaphragm</b> —latex rubber covering for the cervix. The diaphragm is used with a spermicide, and this combination is about 84 percent effective in preventing pregnancy.	<ul style="list-style-type: none"> <li>• Can be inserted up to six hours before sex</li> <li>• Can be used just prior to sexual intercourse</li> </ul>	<ul style="list-style-type: none"> <li>• No STI protection</li> <li>• May increase frequency of vaginal infection</li> <li>• Must be fitted by a health care professional</li> </ul>
<b>Cervical cap</b> —covering for the cervix (similar to a diaphragm). When used with spermicide, this approach is about 86 percent effective in preventing pregnancy in females who have not had children. It may be less effective for women who have given birth due to changes in the cervix.	<ul style="list-style-type: none"> <li>• Can be inserted several hours before sex</li> <li>• May be more comfortable due to smaller size as compared to the diaphragm</li> <li>• Can be used just prior to sexual intercourse</li> </ul>	<ul style="list-style-type: none"> <li>• No STI protection</li> <li>• May increase frequency of vaginal infection</li> <li>• Must be fitted by a health care professional</li> </ul>
<b>Sponge</b> —pillow-shaped product made of polyurethane foam that contains spermicide and fits snugly over the cervix. This approach is about 84 percent effective in preventing pregnancy in females who have not had children. It may be less effective for women who have given birth due to changes in the cervix.	<ul style="list-style-type: none"> <li>• Can be inserted up to 24 hours before intercourse</li> <li>• Can be used just prior to sexual intercourse as well</li> <li>• No prescription needed (one size fits all)</li> </ul>	<ul style="list-style-type: none"> <li>• No STI protection</li> <li>• May increase the frequency of vaginal infection</li> <li>• May cause skin irritation</li> </ul>
<b>Spermicide</b> —substance that kills sperm by means of the active ingredient nonoxynol-9. Forms include jellies, foams, films, and suppositories. Spermicides are inserted into the vagina and create a barrier at the cervix while killing sperm. Spermicide use is only about 71 percent effective in preventing pregnancy.	<ul style="list-style-type: none"> <li>• Can be used just prior to sexual intercourse</li> <li>• Available over the counter</li> <li>• Inexpensive</li> <li>• Can increase the effectiveness of other contraceptive methods when used in combination</li> </ul>	<ul style="list-style-type: none"> <li>• No STI protection</li> <li>• May cause skin irritation</li> </ul>
<b>Hormonal contraceptives</b>		
<b>Pill</b> —combination of estrogen and progestin delivered into the female body orally. Birth control pills must be taken at the same time each day. The Pill is about 92 percent effective in preventing pregnancy.	<ul style="list-style-type: none"> <li>• Highly effective</li> <li>• Reduces menstrual cramps</li> <li>• Often results in regulated, lighter, and shorter menstrual periods</li> </ul>	<ul style="list-style-type: none"> <li>• No STI protection</li> <li>• Various possible side effects</li> <li>• Must be taken every day at approximately the same time</li> </ul>
<b>Patch</b> —flexible application (as thin as a bandage) placed in one of four areas: outer side of upper arm, upper torso, buttocks, abdomen. The patch releases a combination of estrogen and progestin into the body through the skin. It must be changed once a week. It is about 92 percent effective in preventing pregnancy.	<ul style="list-style-type: none"> <li>• Highly effective</li> <li>• Reduces menstrual cramps</li> <li>• Often results in regulated, lighter, and shorter menstrual periods</li> </ul>	<ul style="list-style-type: none"> <li>• No STI protection</li> <li>• Various possible side effects</li> <li>• Possible adverse reaction to the adhesive</li> </ul>

&gt; continued

TABLE 1 &gt; continued

Type	Advantages	Disadvantages
<b>Shot</b> —progestin-only injection most commonly known as Depo-Provera. The shot protects against pregnancy for 3 months. It is about 97 percent effective in preventing pregnancy.	<ul style="list-style-type: none"> <li>• Highly effective</li> <li>• Reduces menstrual cramps</li> </ul>	<ul style="list-style-type: none"> <li>• No STI protection</li> <li>• Various possible side effects</li> <li>• Aversion to shots in some people</li> </ul>
<b>Intrauterine devices (IUD)</b> —small T-shaped device inserted into the uterus to prevent pregnancy. The IUD is about 98 percent effective in preventing pregnancy.	<ul style="list-style-type: none"> <li>• Long lasting form of birth control (up to 12 years)</li> <li>• Hormonal IUDs may reduce period cramps and reduce menstrual flow</li> <li>• Effective immediately upon insertion</li> </ul>	<ul style="list-style-type: none"> <li>• No STI protection</li> <li>• Must be fitted by a health care professional</li> </ul>
<b>Informational contraceptives</b>		
<b>Fertility awareness</b> —information provided to help couples achieve or prevent pregnancy. The four methods are calendar rhythm, standard days, ovulation, and symptothermal. In order to prevent pregnancy, users must understand the female reproductive system and the menstrual cycle in order to know when the woman is fertile and abstain from intercourse during this time. Fertility awareness methods are approximately 78 percent to 88 percent effective, depending on which approach is used.	<ul style="list-style-type: none"> <li>• No medicine to take</li> <li>• No side effects</li> <li>• Increased knowledge of the female fertility cycle</li> </ul>	<ul style="list-style-type: none"> <li>• No STI protection</li> <li>• Difficult to use if a person is unable to correctly interpret fertility signs or has an irregular menstrual cycle</li> </ul>
<b>Withdrawal</b> —method also known as “pulling out” or coitus interruptus. The male withdraws his penis from his partner’s vagina prior to ejaculation. This method is about 73 percent effective in preventing pregnancy.	<ul style="list-style-type: none"> <li>• No medical side effects</li> <li>• No cost</li> <li>• Can be used at any time</li> </ul>	<ul style="list-style-type: none"> <li>• No STI protection</li> <li>• Uncertainty about exactly when ejaculation will occur during intercourse</li> <li>• Self-control required by both the male and the female to disrupt intercourse</li> </ul>
<b>Permanent contraceptives</b>		
<b>Female sterilization</b> —blocking of the egg’s pathway to the uterus by cutting, cauterizing, or blocking the fallopian tubes. This method is about 99 percent effective in preventing pregnancy.	<ul style="list-style-type: none"> <li>• Highly effective</li> <li>• Permanent with a quick recovery</li> <li>• No medicine to take</li> </ul>	<ul style="list-style-type: none"> <li>• No STI protection</li> <li>• As with any surgical procedure, possibility of complications</li> <li>• Permanent, which some people may later regret (however can be reversed with surgery in some situations)</li> </ul>
<b>Male sterilization</b> —cutting or blocking of the vas deferens tube (i.e., tube that carries sperm from the epididymis to the ejaculatory duct) to prevent sperm from being ejaculated. This method, also known as vasectomy, is about 99 percent effective in preventing pregnancy.	<ul style="list-style-type: none"> <li>• Highly effective</li> <li>• Permanent with a quick recovery</li> <li>• No medicine to take</li> </ul>	<ul style="list-style-type: none"> <li>• No STI protection</li> <li>• As with any surgical procedure, possibility of complications</li> <li>• Permanent, which some people may later regret (however can be reversed with surgery in some situations)</li> </ul>

## Teen Sexual Activity and Contraception Use

- Only 16 percent of 15-year-olds have had sex, but 33 percent of 16-year-olds have done so, as well as 48 percent of 17-year-olds and 61 percent of 18-year-olds. There is little difference by gender in the age of the first sexual encounter.
- Teens are waiting longer to be sexually active. In 1995, 19 percent of females and 21 percent of males aged 15 years or younger had been sexually active; in contrast, in the years 2006 through 2008, 11 percent of females and 14 percent of males in that same age group had been sexually active.
- With the average age of the first sexual encounter being just 17 years and most individuals remaining single until at least their mid-20s, young adults may face increased risk for unintended pregnancy and STIs for 10 years or more.
- Among teens, 78 percent of females and 85 percent of males report using contraception the first time they had sex.
- The most common contraceptive method used during first-time intercourse is the male condom (reported by 68 percent of females and 80 percent of males).



Emergency contraception, also known as the morning-after pill, can be effective up to 120 hours after unprotected intercourse.

Photodisc

condoms, forgotten birth control pills, and incorrect use of another contraceptive method. Plan B prevents ovulation, thus making fertilization and pregnancy impossible. The effectiveness of Plan B is approximately 90 percent. Its advantages include its availability over the counter (for people aged 18 or older) and the fact that it can be taken up to five days after having unprotected intercourse. Disadvantages include the fact that it provides no STI protection and may cause side effects, which vary by the individual person.

## Abortion

**Abortion** is a medical intervention that ends a pregnancy. It is also an issue in which the American public is sharply divided. A 2012 poll by Quinnipiac University revealed the following: 22 percent of Americans thought that abortion should be legal in all cases, 33 percent that it should be legal in most cases, 25 percent that it should be illegal in most cases, and 14 percent that it should be illegal in all cases; the remaining 6 percent were undecided.

As you may have noticed, the topic of abortion has been addressed in many books, films, TV shows, and web posts. One factor that makes this issue so controversial is the ongoing dispute about when life begins. The debate is also influenced by many other factors, and table 2 summarizes some of the arguments for and against abortion.

**TABLE 2** Opposing Views on Abortion

Arguments opposing abortion	Arguments supporting abortion
<ul style="list-style-type: none"> <li>• Abortion is a form of murder and demeans human life.</li> <li>• Other birth control is readily available; thus abortion shouldn't be a form of birth control.</li> <li>• Abortion wipes out the societal contributions of a potentially valuable human being.</li> <li>• Women who have abortions may suffer major psychological damage from the experience.</li> <li>• Advances in genetic testing may prompt more abortions (e.g., to avoid having a "non-ideal" child).</li> <li>• Many couples spend years on adoption waiting lists; thus instead of having an abortion, a potential mother could offer the baby for adoption.</li> <li>• The decision to have an abortion is often made by minors and young adults who don't have the maturity and life experience to make a good decision.</li> <li>• People have the right not to see their tax dollars go to something they find immoral. The government contributes to health care institutions that may perform abortions. Thus, tax dollars are going to those institutions.</li> <li>• Abortion eliminates the legal rights of the unborn child.</li> <li>• Abortion exposes women to various health risks and to the danger of losing their fertility.</li> </ul>	<ul style="list-style-type: none"> <li>• Abortion is not murder because it is performed before an embryo or fetus has developed into a person.</li> <li>• Laws and policies should not control a woman's body.</li> <li>• Women should be able to make their own decisions about this matter.</li> <li>• If abortion were illegal, women would face increased risk of dying or becoming sterile due to poorly performed abortion procedures done in unsafe conditions.</li> <li>• Birth control sometimes fails.</li> <li>• It may be better to have an abortion than to have a baby who will be brought up poor and neglected, in which case the child will suffer and possibly hurt society (if he or she grows up to a life of crime or dependence).</li> <li>• If abortion is illegal, then one mistake can trap a woman for life.</li> <li>• Giving up a child for adoption can be just as emotionally damaging as having an abortion.</li> <li>• Carrying and delivering a baby can be painful and sometimes dangerous to the mother. A number of medical complications can develop.</li> <li>• In cases of rape, it is unreasonable to ask a woman to have a baby fathered by her rapist.</li> </ul>

Adapted, by permission, from Balanced Politics. Available: [www.balancedpolitics.org/abortion.htm](http://www.balancedpolitics.org/abortion.htm).

Abortion has also been addressed by the U.S. Supreme Court, which ruled in a famous 1973 case, *Roe v. Wade*, that a woman's right to privacy under the Fourteenth Amendment of the U.S. Constitution includes the right to have an abortion. However, the court also ruled that this right must be balanced against the state's legal interest in the life of the fetus and in the pregnant woman's health. Since this decision was made, many states have passed laws protecting human embryos and fetuses. Religious views about abortion, and abortion rights, also vary and sometimes conflict.

## Sexually Transmitted Infections

There are many kinds of **sexually transmitted infections (STI)**, also known as sexually transmitted diseases (STD). Though not limited to young

people, these conditions are common among teens. STIs have various causes, and treatment is specific to the infection. Proper use of condoms can help prevent most of them, but, just as seat belts and airbags are not foolproof in car accidents, condoms are not 100 percent protective. The only completely effective method of preventing an STI is abstinence.

Some facts about STIs may surprise you. For example, it is possible to have more than one STI at a time, and having an STI does not make a person immune to getting it again. In addition, a person can transmit an STI even if he or she has no symptoms.

As you may know, some STIs can be deadly, such as **AIDS** and untreated syphilis. Thus, if you are sexually active, you should know how to decrease your risk of getting or giving an STI. Of course, if you abstain from sexual activity, you can't give or get an STI.





**Being educated about STIs is the first step in prevention.**

Bill Crump/Brand X Pictures

## Chlamydia

This common STI affects both men and women and can seriously and permanently damage a woman's reproductive organs. It is the most frequently reported bacterial STI in the United States and occurs most often among young people.

Chlamydia can be transmitted through anal, vaginal, or oral sex and can also be spread from an infected woman to her baby during childbirth. In women, the cervix and urethra are infected first, and if the infection is left untreated it can spread to the uterus and fallopian tubes.

Most infected people do not have symptoms, but some do. Infected women may experience abnormal vaginal discharge or a burning sensation when urinating. Men may experience discharge from the penis or a burning sensation when urinating.

Fortunately, chlamydia is easily treated and cured with antibiotics. However, repeated infection is common, and persons with sex partners who have not been appropriately treated are at high risk for reinfection. The risk of getting or giving chlamydia can be reduced by correct and consistent use of latex male condoms.

## Gonorrhea

This bacterial STI grows easily in the warm, moist areas of the female reproductive tract and in the urethra in both women and men. It can also grow

in the mouth, throat, eyes, and anus. It can be transmitted through anal, vaginal, or oral sex and can also be spread from an infected woman to her baby during childbirth.

Most women with gonorrhea do not have symptoms. If symptoms do appear, they may include vaginal discharge or bleeding and a painful or burning sensation when urinating. Some men with the infection may also have no symptoms. When symptoms do occur, they may include a burning sensation when urinating or a white, yellow, or green discharge from the penis.

Gonorrhea is treated with antibiotics, which will stop the infection but will not repair any permanent damage done by the disease. Untreated gonorrhea can cause serious and permanent health problems. The risk of getting or giving gonorrhea can be reduced by correct and consistent use of latex male condoms.

## Genital Herpes

This STI is caused by types 1 and 2 of the herpes simplex virus (HSV). Both types can cause sores or blisters on or around the mouth and genitals. These viruses remain in the body for life and can cause periodic outbreaks. About 25 percent of people in the United States have genital herpes, but 90 percent of them are unaware of it due to not having any of the symptoms or not recognizing the symptoms.

The virus can be transmitted through anal, vaginal, or oral sex. Infected individuals can transmit the virus even if they do not have a visible sore and do not know they are infected.

Symptoms of genital herpes may include an itching or burning sensation in the genitals and small, painful blisters on or around the genitals, rectum, or mouth. The blisters break and leave painful sores, along with flu-like symptoms that may last two to four weeks. Repeated outbreaks are common.

There is no cure for herpes, but antiviral medications can prevent or shorten outbreaks, and daily use of antiviral medication can reduce the likelihood of transmission. The risk of getting or giving genital herpes can be reduced by correct and consistent use of latex male condoms. However, when herpes sores or other symptoms are present, individuals should abstain from sexual activity. And remember that even if an infected person has no symptoms, he or she can still infect a sex partner.

## Genital HPV Infection

Genital human papillomavirus (HPV) is the most common STI; in fact, more than 40 types of HPV can infect the genital areas, mouth, and throat in both men and women. HPV can cause serious health problems, including certain cancers (e.g., cervical, vaginal, anal, oropharyngeal, and penile). It can be transmitted through anal, vaginal, or oral sex even when the infected person has no signs or symptoms.

Other health problems caused by HPV include genital warts and recurrent respiratory papillomatosis, in which warts grow in the throat. Each of these health problems has its own symptoms to contend with.

There is no treatment for the HPV virus itself, but treatments do exist for each of the health problems caused by it. In addition, the HPV vaccine can protect males and females against some of the most common types of HPV. The risk of getting HPV may also be lowered by proper use of a male condom.

## Trichomoniasis or Trich

This infection, caused by a protozoan parasite, is the most common curable STI. It is more common in women than in men. It is transmitted through vaginal sex, and the most commonly infected body part in women is the lower genital tract, whereas in men it is the inside of the penis.

About 70 percent of infected people do not have signs or symptoms. Among those who do, both men and women may experience itching or irritation in the genitals, discomfort or burning with urination, and a discharge from either the vagina or penis. Symptoms may come and go.

Treatment is a single dose of an antibiotic medication, which can cure the infection. People who have been treated can get it again if all of the symptoms have not gone away or if they are with a partner who has not been treated for the infection. Using male latex condoms correctly and consistently may reduce the risk of getting or spreading trichomoniasis, but since condoms don't cover everything it is possible to get or spread the infection even when using one.

## Pelvic Inflammatory Disease (PID)

This STI infects only women—specifically, the uterus, fallopian tubes, and other female repro-

ductive organs. PID can lead to infertility, ectopic pregnancy (pregnancy in the fallopian tube or elsewhere outside the uterus), and chronic pelvic pain. It occurs when bacteria move upward from a woman's vagina or cervix into her reproductive organs. Many cases of PID are associated with chlamydia and gonorrhea. A woman's risk of developing PID also increases along with the number of sex partners she has due to the increased exposure to STIs, especially chlamydia and gonorrhea.

Because the symptoms of PID are often vague, it often goes untreated. The most common symptom is lower abdominal pain.

PID can be cured with antibiotics, but any damage already done to the reproductive organs cannot be reversed. The risk of PID can be reduced by consistent and correct use of latex male condoms.

## Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS)

HIV is the virus that causes AIDS. Once you have HIV, you have it for life. HIV affects T cells, which fight infection. HIV can be transmitted through blood, **semen**, preseminal fluid (i.e., a clear, colorless, sticky fluid that emits from a man's penis when he is sexually aroused; it is similar in composition to semen), rectal fluid (i.e., a lubricating mucus that is secreted from the rectum during anal intercourse), vaginal fluid, and breast milk. For transmission to occur, the infected fluid must come in direct contact with a mucous membrane or damaged tissue. Transmission occurs primarily through unprotected anal, vaginal, or oral sex; through needle sharing; through blood-to-blood contact; or between mother and child during pregnancy, birth, or breastfeeding. HIV is *not* spread through general day-to-day contact or through the air; nor does it live for very long outside of the body.

Symptoms of HIV infection can include flu-like ailments and opportunistic infections that take advantage of a weakened immune system. AIDS-defining illnesses include certain cancers, dementia, and progressive and extreme weight loss.

There is no cure for HIV or AIDS; therefore, treatment of both is symptomatic. HIV treatment primarily includes antiretroviral therapy, which helps to prolong the duration and quality of survival in people and may help to restore and preserve the



## HEALTH TECHNOLOGY

Modern technology enables various activities—such as web surfing, **sexting**, and ever-changing birth control approaches. Sexting is the sending or receiving sexually explicit or sexually suggestive images or video, usually via a cell phone. People in general but especially students need to understand that those messages and especially the photos do not always stay with the person they were sent to. Sexting messages and photos are often sent on to other people or are posted on social media sites for the world to see. According to the FBI Law Enforcement Bulletin, approximately 20 percent of teens have sent naked or seminude images of themselves or posted them online. One in six teens between the ages of 12 and 17 have received a naked or nearly nude picture via text message from someone they know. There are many stories of teens who have been bullied and harassed when their sexting pictures have been sent schoolwide or posted on social media sites.

Before sending an inappropriate sexual picture of yourself, someone else, or an inappropriate text or post on a social media site, think about the consequences of your actions. You cannot control who may ultimately see your picture, text, or post or where else it may end up. Never send images or messages that you wouldn't want everyone to see. By sending inappropriate pictures or messages, you may end up getting fired from a job, removed from a team or organization, be humiliated, lose educational opportunities as colleges are monitoring social media sites, and even get in trouble with the law. There are currently seventeen states that have passed laws that address sexting.

Another technology example is easy access to **pornography**, often via the web, which may expose young people to sexual images that they



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don't want to see or don't understand. These images may also portray exploitive sexuality as normal or healthy. Be well aware that people who produce pornography are not generally trying to represent what is actually normal, typical, or safe. To the contrary, just as scenes in "reality television" are often manipulated to keep viewers interested or even shocked, pornography and other sexually explicit materials are often exaggerated, contrived, or manipulated. Videos are not reality. Reality is reality, and you should be able to create your own reality that is safe, healthy, and fulfilling.

### CONNECT

Do you think that sexting is an acceptable way to connect or communicate with others? What are some ways in which sexting might negatively affect a person's well-being? Are there circumstances in which you think sexting might be beneficial to an individual or relationship? Should sexting be illegal?

function of the immune system. The antiretroviral drugs suppress the virus even to undetectable levels, but they do not completely eliminate HIV from the body. By suppressing the amount of virus in the body, people infected with HIV can lead longer and healthier lives. A person infected with HIV is diagnosed with AIDS when his or her immune system is seriously compromised and signs of HIV infection are severe. Signs may include *pneumocystis carinii pneumonia*—an extraordinarily rare condition in people without HIV infection—and *opportunistic infections*, which rarely cause harm in healthy individuals. Once an individual has been diagnosed with AIDS, antiretroviral drugs may continue to be used and opportunistic infections are treated as they arise.

The risk of HIV and AIDS can be reduced by consistent and correct use of latex male condoms, as well as female condoms; during oral sex, use a dental dam. A dental dam is a barrier contraceptive made of thin latex rubber and is placed over the labia during oral or vaginal intercourse.

## Syphilis

Syphilis is a highly contagious disease transmitted by direct contact with a syphilitic sore known as a chancre. Chancres are primarily found on the external genitals, vagina, or anus; in the rectum; on the lips; and in the mouth. The disease is transmitted during vaginal, anal, or oral sex. Pregnant women who have syphilis can also transmit the disease to their unborn children. Pregnant women with syphilis have a higher rate of having stillborn babies and babies who die shortly after birth.

It is common for an infected person to be unaware of having the disease initially because it takes approximately 21 days between infection and the start of the

first symptom of syphilis to be recognized. Syphilis follows a progression of three stages. The first (also known as primary) stage consists of single or multiple chancre marks. A chancre is usually painless and appears at the location where syphilis entered the body, so the person may be unaware of it. The initial chancres typically last three to six weeks and will heal whether the infected person gets treatment or not.

However, if the person is not treated, the infection will progress to the second stage. Symptoms at the second stage include skin rashes or sores in the mouth, vagina, or anus. Again, the symptoms will disappear with or without treatment.

If left untreated, the infection will progress to the third, or latent, stage of the disease. In this stage, the person continues to have the syphilis infection but generally has no signs or symptoms of the disease. This stage may last for many years.

The final, or late, stage of syphilis can appear 10 to 20 years after the first infection. In this stage, the disease may begin to damage the brain, nerves, eyes, heart, and other organs. This damage can cause long-term complications, including death.

Syphilis is treatable with antibiotics, such as penicillin, and curable if caught early. A blood test is available for detecting syphilis. The use of the correct antibiotic in stages 1 and 2 is very effective in curing a person with syphilis. In higher doses, the drugs may also cure the disease in the latent stage.

The transmission of syphilis can be reduced by correct and consistent use of latex male condoms, but the risk of getting or giving syphilis by direct contact with a chancre can still occur if the chancre is in an area not covered by a condom. You can get syphilis more than once, and reinfection is common. A follow-up test is recommended for those who have been treated for the infection to ensure that the disease is no longer present.

## Comprehension Check

1. Describe the four stages of the menstrual cycle.
2. Describe the three stages of childbirth.
3. Define conception and describe at least one form of contraceptive from each of the four primary categories.
4. List four sexually transmitted infections (STIs) and describe their causes, symptoms, treatment, and prevention.



## MAKING HEALTHY DECISIONS: Self-Perceptions

Jack is a shy guy who generally doesn't like social situations. Still, when the time came for prom, he got up the nerve to ask Brianna, a girl he liked who was really smart and funny, to go with him. When she said yes, he felt pretty good about himself.



At the dance, however, Jack noticed that a few of Brianna's friends were standing in a corner watching them. To Jack, it looked like they were laughing at him, and he began to feel self-conscious. He excused himself and went to the restroom to check his appearance. He thought his hair looked a little messy but otherwise couldn't figure out what they might be laughing about. When he came out of the restroom, Brianna was with the other girls, and they were all laughing loudly. Jack felt insecure for the rest of the night, and things got more awkward. Jack ended up cutting the evening shorter than he'd planned. He just didn't feel good about himself, and he worried that anything else he did would be gossiped about

and made fun of later. He felt very self-conscious, and his self-perception crashed. The next year, Jack decided to skip the prom so that no one would be able to make fun of him.

In reality, the girls had simply been laughing about a video that a friend of theirs had taken of her brother doing something funny. The girls had wanted to share it with Brianna because they knew she would get a good laugh out of it, but Jack never knew that.

### For Discussion

What initially contributed to Jack having a positive self-perception? What then contributed to Jack feeling less sure of himself? What generalization did Jack make that influenced a later decision? Use the information in the Skills for Healthy Living feature to help you when answering these questions.



## SKILLS FOR HEALTHY LIVING: Self-Perceptions

The way you see yourself is called your self-perception. When you're young, your self-perception derives largely from how other people react to you—for example, how your parents and other caregivers handle and care for you. As a teen, you're likely to both watch others people's responses to you and look inward at yourself. Whether or not you realize it, you're also weighing whether other people's thoughts, attitudes, actions, and reactions are acceptable to you. Thus your self-perception is influenced by social comparisons.

Self-perception also depends on your experiences. If you have positive experiences that you view as being successful, you tend to see yourself in a positive way. Conversely, negative experiences can decrease the likelihood of you viewing yourself in a positive way. At some point, then, you begin to see yourself in your own way.

Your self-perception and your perceptions of the world are so closely related that they are often difficult to separate. How you look at the world depends on what you think of yourself, and what you think of yourself is influenced by how you look at the world. Even though your self-perception is considerably influenced early in your life, it will continue to be shaped as you accumulate life experiences. As you move through your life, consider the following tips to help you build a positive self-perception.

- **Don't ignore or attempt to "delete" experiences.** We can all learn from negative and unpleasant experiences. Instead of just feeling bad, acknowledge the experience and try to identify and remember what you can learn from it.
- **Check your perceptions.** Sometimes our own judgment is inaccurate,

and these inaccuracies can influence your self-perception. Check your perceptions—both of yourself and of situations—with trusted people and, if needed, reframe your thinking.

- **Be specific.** If you have a negative experience with a particular person or event, try not to generalize it. For example, if one boy says something negative or cruel to you, don't assume that all boys think the same way. Or, if you do poorly at a drawing assignment, don't assume that you'll always be bad at art. Learning to be specific in your perceptions will help you be more precise in them as well.

- **Stay healthy, get rest, and exercise.** Make every effort to come to the world as healthy, well rested, and sufficiently exercised as possible. Perception depends in part on your senses, and the better condition your senses are in, the more likely it is that they will serve you effectively.
- **Be patient.** Take your time when considering how to think about a situation. Doing so will help you develop a more accurate perception of the situation, whereas rushing to judgment about yourself or others rarely helps.

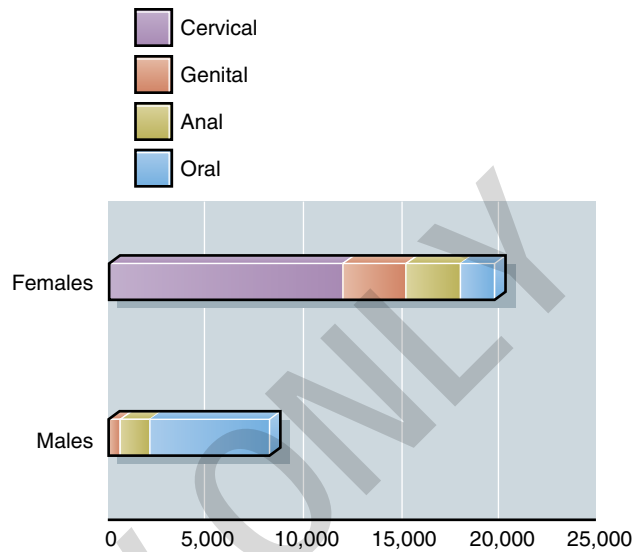
## HPV Vaccine May Lower Cancer Risk

**Human papillomavirus (HPV)** is a group of more than 100 very common viruses, about 40 of which can be transmitted sexually, according to the Office on Women’s Health in the U.S. Department of Health and Human Services. Perhaps it’s not surprising, then, that nearly 80 million Americans are currently infected with an HPV strain, according to the U.S. Centers for Disease Control and Prevention (CDC). About 20 million of these people are between the ages of 15 and 49.

In fact, nearly all sexually active men and women will get a type of sexually transmitted HPV at some point in life. Most types of HPV, however, are not related to cancer or other complications, and the body’s immune system typically handles them without consequences. Some types, however, are related to cancer. Figure 18 shows new cases of HPV-related cancer (annually).

According to Dr. Lori Wirth, of Massachusetts General Hospital in Boston, “Anyone who has led a normal sex life will get HPV and develop antibodies to the virus. But a minority of people who have contact with the virus who don’t effectively clear the virus from their system will develop other diseases.” One of the possibilities is cancer.

Currently, two vaccines exist that can provide protection from some of the most dangerous strains of HPV. Gardasil, approved by the U.S. Food and Drug Administration for people between the ages of 9 and 26, provides protection from HPV types 6, 11, 16, and 18. Strains 16 and 18 are related to the leading causes of cervical and other cancers, and strains 6 and 11 cause genital warts. The other vaccine, Cervarix, protects only against strains 16 and 18 and is approved only for women between the ages of 10 and 25. “The vaccines that are available right now are one of our only



**Figure 18** New cases of HPV-related cancer (annually).

protections against HPV,” says Dr. Nieca Goldberg of NYU Langone Medical Center.

Some people argue that only women need HPV vaccines, mostly to reduce cervical cancer risk, since 12,000 women get cervical cancer annually. However, vaccinated men are also less likely to transmit the dangerous strains of HPV. And both men and women can get genital warts, which affect 360,000 people in the United States each year. Thus the CDC recommends that both boys and girls receive the HPV vaccine between the ages of 11 and 12, or as soon as possible if they are older and weren’t vaccinated at that age.

### For Discussion

Do you think that getting a vaccine to protect against a sexually transmitted infection could influence a teenager’s sexual behavior? Why or why not?

# CHAPTER REVIEW

## Reviewing Concepts and Vocabulary

As directed by your teacher, answer items 1 through 5 by correctly completing each sentence with a word or phrase.

1. A \_\_\_\_\_ is the most commonly used contraceptive.
2. The letter T in LGBTQ stands for \_\_\_\_\_.
3. The first phase of the human sexual response cycle is called \_\_\_\_\_.
4. The sending of sexual messages or photos via a cell phone is called \_\_\_\_\_.
5. \_\_\_\_\_ is a person's sexual identity in relation to the gender of the people to which they are attracted.

For items 6 through 10, as directed by your teacher, match each term in column 1 with the appropriate phrase in column 2.

- |                     |  |
|---------------------|--|
| 6. conception       | a. monthly changes involving ovulation, uterine lining, and menstruation |
| 7. bisexual         | b. refraining from sexual activity                                       |
| 8. semen            | c. person who is attracted to both men and women                         |
| 9. celibacy         | d. union of an ovum and a sperm  |
| 10. menstrual cycle | e. fluid containing sperm that is discharged during ejaculation          |

For items 11 through 15, as directed by your teacher, respond to each statement or question.

11. How could using a condom help prevent STIs and pregnancy?
12. Why isn't there one treatment for all STIs?
13. Besides preventing pregnancy, what is a reason that women would use birth control pills?
14. Briefly describe the three trimesters of pregnancy.
15. What is the American Psychological Association's (APA) view on sexual orientation?

## Thinking Critically

Write a paragraph in response to the following question.

Your friend Sally tells you that she had unprotected sex last night, but she doesn't want you to tell anybody else. She regrets what she did and feels worried that she might get pregnant. She didn't mention STIs. What advice would you give Sally? What resources would you recommend? What agencies or organizations might be able to help? How do you feel about keeping this secret?

## Take It Home

Ask your parents, guardians, or other trusted adults how they learned about human sexuality. What are their views about sex education in school? Ask them if they think it was easier or harder to learn about sexuality when they were young. Do they think there is too much access to sexual information nowadays? Do you?

