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.

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

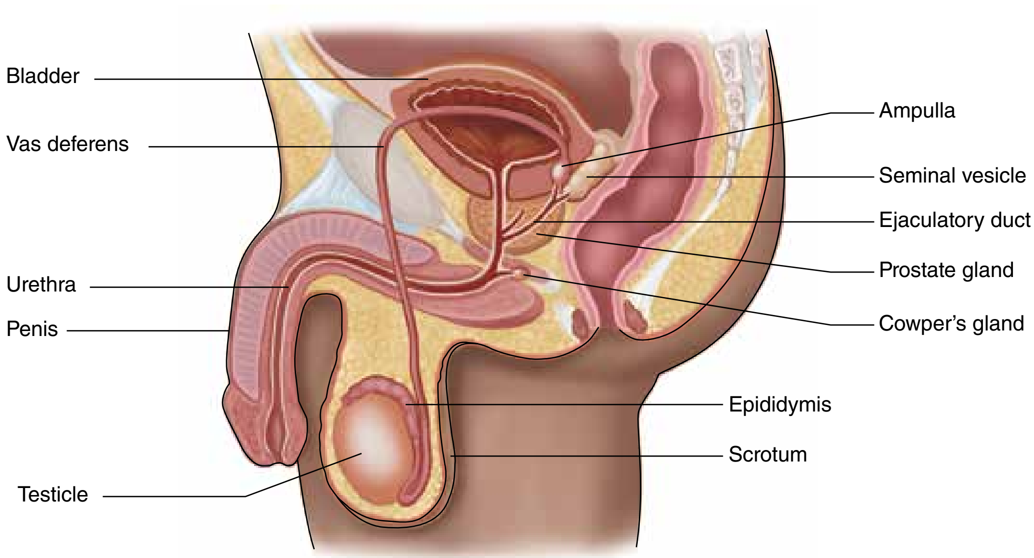
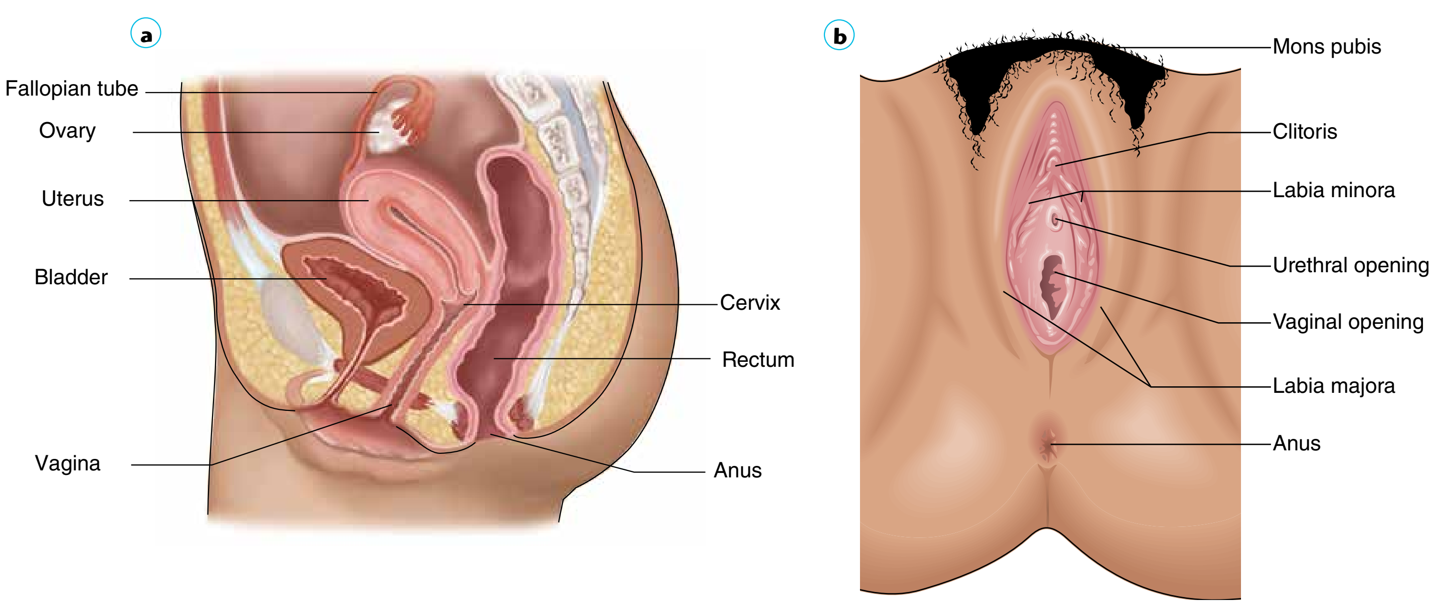


FIGURE 2 (*a*) Cross-section of the female human reproductive anatomy and (*b*) front view (supine) of the female reproductive anatomy.



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 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 endo-metrium 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.

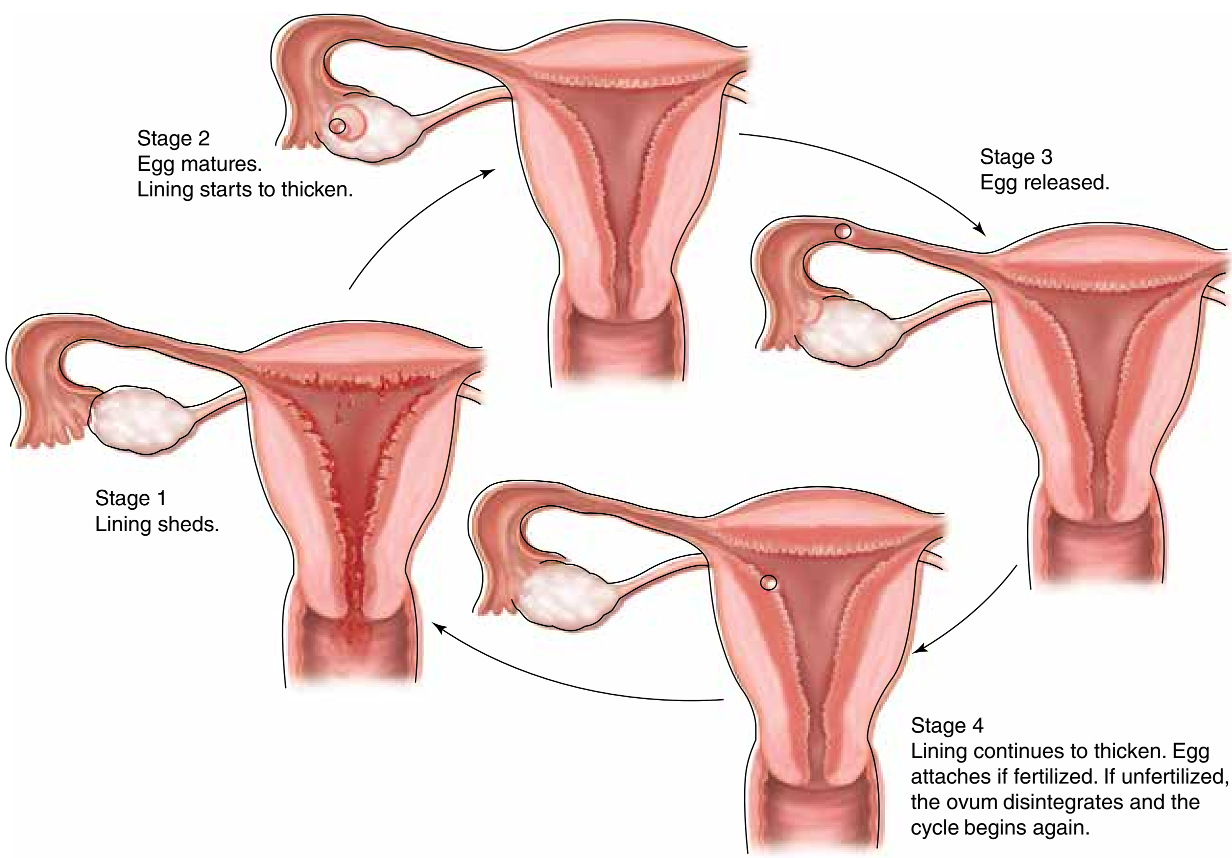


FIGURE 3 Cross-section of the uterus: one fallopian tube and one ovary. The four stages of the menstrual cycle last for a total of about 28 days, though some women have shorter or longer cycles.

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 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.

FIGURE 4 An ovum, or egg.

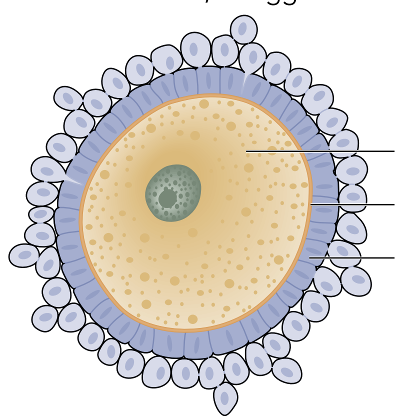


FIGURE 5 A mature sperm cell, or spermatozoa (magnified).

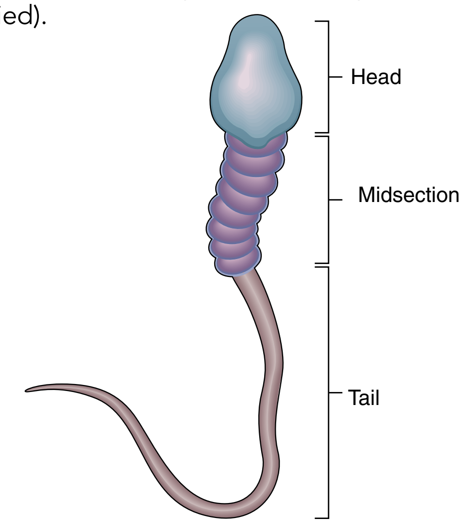
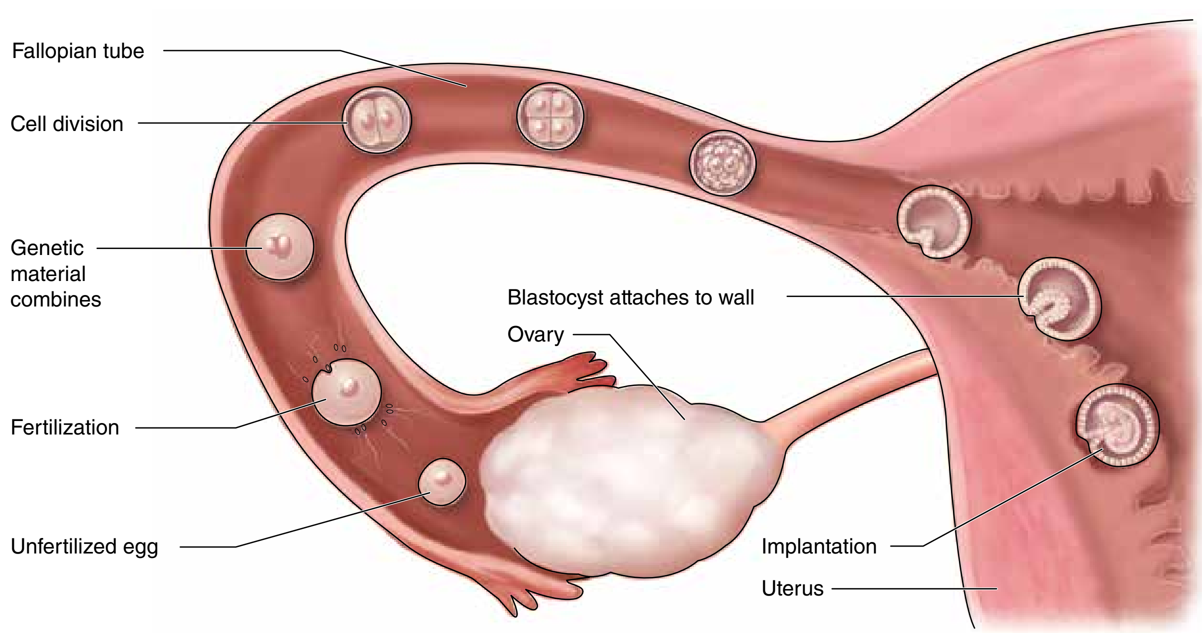


FIGURE 6 During conception and implantation, an egg becomes fertilized, undergoes cell division while traveling through the fallopian tube, and implants itself in the uterus. *Note:* The unfertilized egg is greatly magnified in the figure.



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 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 trimes-ter, 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 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.

Over-the-counter pregnancy tests can be done at home. It's important to follow the instructions carefully to increase the changes 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.

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.

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.

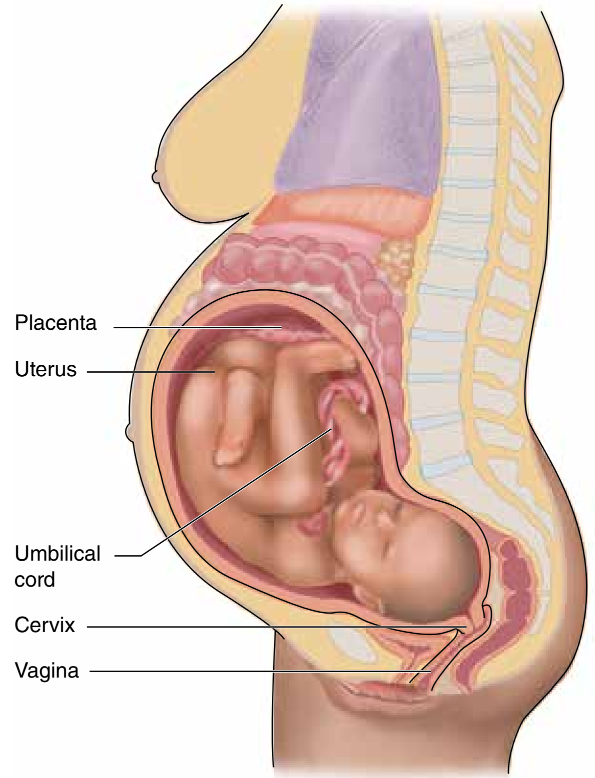
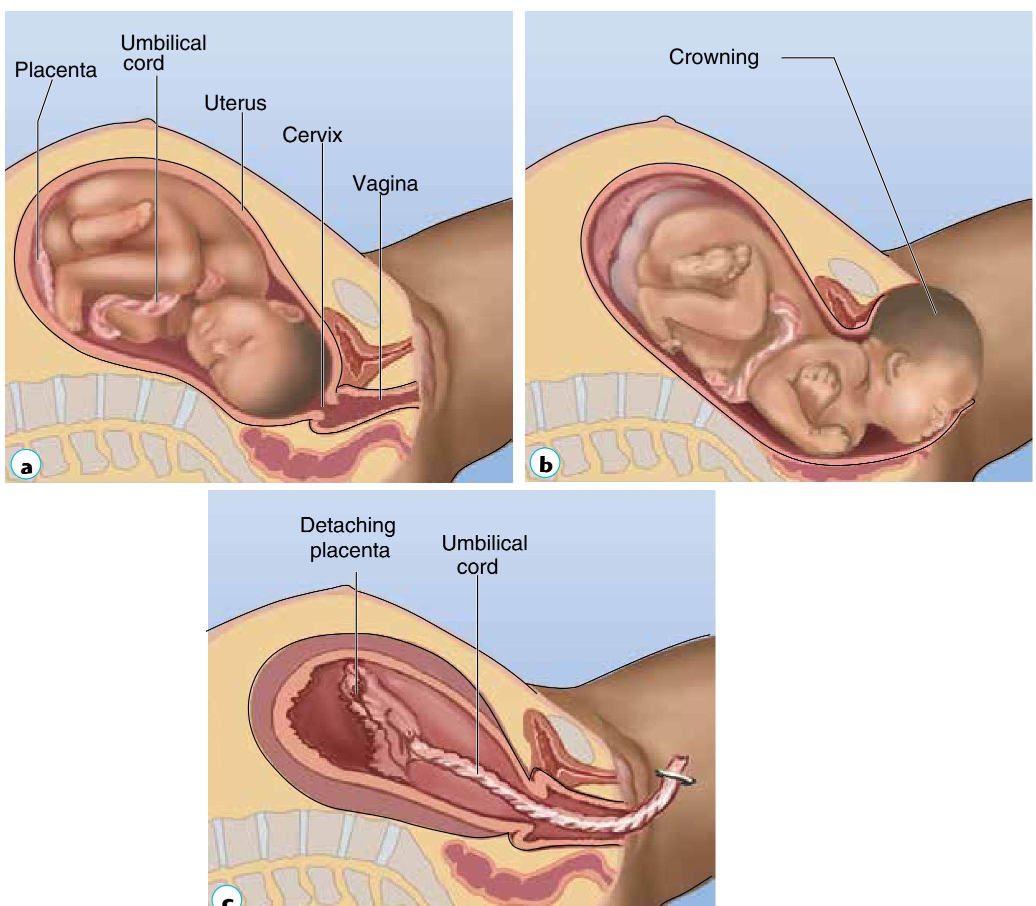


FIGURE 7 Near the end of pregnancy, the fetus positions his or her head against the mother's pelvic bone.

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



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 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 barrier) (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

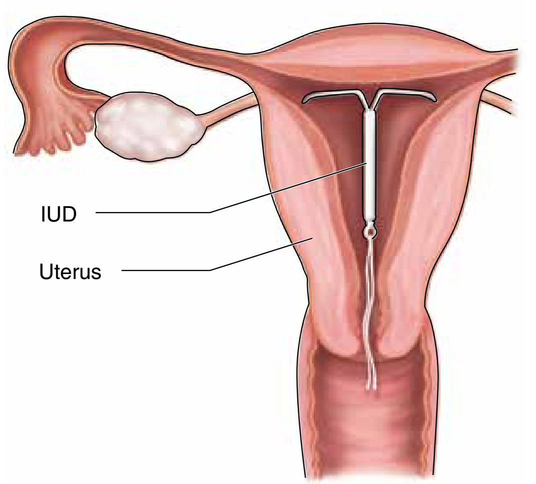


FIGURE 14 Placement of the IUD in the uterus.

The third category—informational contracep-tion—includes fertility awareness 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 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.

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.

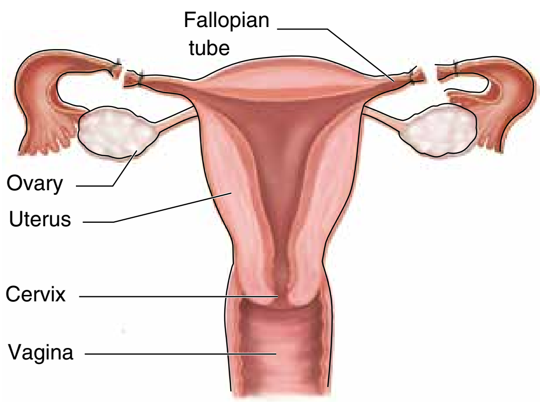
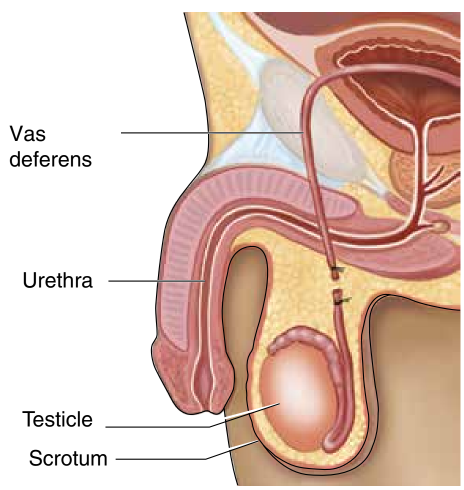


FIGURE 17 In a vasectomy, the vas deferens is cut or blocked to prevent sperm from being ejaculated.



Surgical methods (sterilization), on the other hand, are generally chosen by people who already have the size of family they want.

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 relation-ship 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.

TABLE 1 Birth Control Methods: Advantages and Disadvantages

Type	Advantages	Disadvantages
Barrier contraceptives		
Male condom—covers the penis with a sheath of thin material (usually latex). It is about 85 percent effective in preventing STIs and pregnancy.	• Protects against both pregnancy and STIs • Readily available • Inexpensive	• May reduce sensitivity • Disrupts spontaneity • Must be used correctly to be effective
Female condom—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.	• Protects against both pregnancy and STIs • Can be inserted up to eight hours before intercourse • Does not require a prescription	• May be difficult to use effectively • May not stay in place during intercourse • Is more expensive than the male condom
Diaphragm—latex rubber covering for the cervix. The diaphragm is used with a spermicide, and this combination is about 84 percent effective in preventing pregnancy.	• Can be inserted up to six hours before sex • Can be used just prior to sexual intercourse	• No STI protection • May increase frequency of vaginal infection • Must be fitted by a health care professional
Cervical cap—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.	• Can be inserted several hours before sex • May be more comfortable due to smaller size as compared to the diaphragm • Can be used just prior to sexual intercourse	• No STI protection • May increase frequency of vaginal infection • Must be fitted by a health care professional
Sponge—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.	• Can be inserted up to 24 hours before intercourse • Can be used just prior to sexual intercourse as well • No prescription needed (one size fits all)	• No STI protection • May increase the frequency of vaginal infection • May cause skin irritation
Spermicide—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.	• Can be used just prior to sexual intercourse • Available over the counter • Inexpensive • Can increase the effectiveness of other contraceptive methods when used in combination	• No STI protection • May cause skin irritation
Hormonal contraceptives		
Pill—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.	• Highly effective • Reduces menstrual cramps • Often results in regulated, lighter, and shorter menstrual periods	• No STI protection • Various possible side effects • Must be taken every day at approximately the same time
Patch—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.	• Highly effective • Reduces menstrual cramps • Often results in regulated, lighter, and shorter menstrual periods	• No STI protection • Various possible side effects • Possible adverse reaction to the adhesive

TABLE 1 > continued

Type	Advantages	Disadvantages
Shot—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.	• Highly effective • Reduces menstrual cramps	• No STI protection • Various possible side effects • Aversion to shots in some people
Intrauterine devices (IUD)—small T-shaped device inserted into the uterus to prevent pregnancy. The IUD is about 98 percent effective in preventing pregnancy.	• Long lasting form of birth control (up to 12 years) • Hormonal IUDs may reduce period cramps and reduce menstrual flow • Effective immediately upon insertion	• No STI protection • Must be fitted by a health care professional
Informational contraceptives		
Fertility awareness—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.	• No medicine to take • No side effects • Increased knowledge of the female fertility cycle	• No STI protection • Difficult to use if a person is unable to correctly interpret fertility signs or has an irregular menstrual cycle
Withdrawal—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.	• No medical side effects • No cost • Can be used at any time	• No STI protection • Uncertainty about exactly when ejaculation will occur during intercourse • Self-control required by both the male and the female to disrupt intercourse
Permanent contraceptives		
Female sterilization—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.	• Highly effective • Permanent with a quick recovery • No medicine to take	• No STI protection • As with any surgical procedure, possibility of complications • Permanent, which some people may later regret (however can be reversed with surgery in some situations)
Male sterilization—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.	• Highly effective • Permanent with a quick recovery • No medicine to take	• No STI protection • As with any surgical procedure, possibility of complications • Permanent, which some people may later regret (however can be reversed with surgery in some situations)

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.

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 burn-ing 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.

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 medica-tion, 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 reproductive 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.

Being educated about STIs is the first step in prevention.
Bill Crump/Brand X Pictures

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 exter-nal 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 syphi-lis 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 infec-tion 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.

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.

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.

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 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.

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 compre-hensive 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.