

# CHAPTER 10

## The Female Reproductive System

### ► OBSTETRICS, GYNECOLOGY



Fertility Friend is a commercial Web site ([www.fertilityfriend.com](http://www.fertilityfriend.com)) that has good information about tracking ovulation for people who are trying to get pregnant.

*After studying this chapter, you will be able to:*

- 10.1** Name the parts of the female reproductive system and discuss the function of each part
- 10.2** Define combining forms used in building words that relate to the female reproductive system
- 10.3** Identify the meaning of related abbreviations
- 10.4** Name the common diagnoses, clinical procedures, and laboratory tests used in treating disorders of the female reproductive system
- 10.5** List and define the major pathological conditions of the female reproductive system
- 10.6** Explain the meaning of surgical terms related to the female reproductive system
- 10.7** Recognize common pharmacological agents used in treating disorders of the female reproductive system

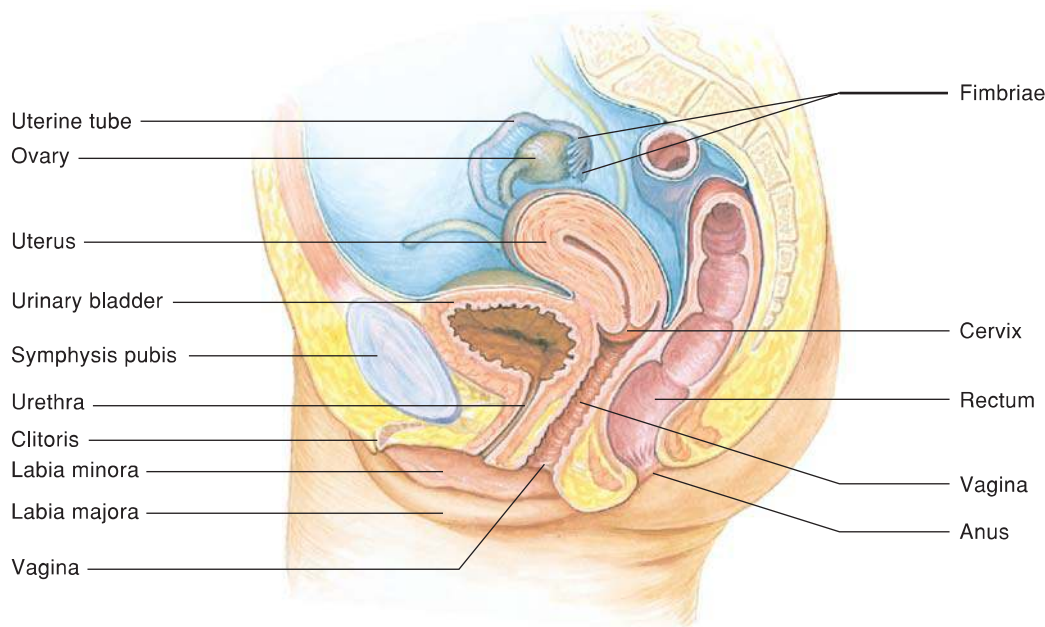
### Structure and Function

The female reproductive system is a group of organs and glands that produce **ova** (singular, **ovum**) or **egg cells** (female sex cells), move them to the site of fertilization, and, if they are fertilized by a sperm (male sex cell), nurture them until birth. The major parts of the female reproductive system (Figure 10-1) are the ovaries, fallopian tubes, uterus, and vagina.

### Reproductive Organs

The **ovaries** (also known as the female **gonads**) are two small, solid, oval structures in the pelvic cavity that produce ova and secrete female hormones. The ovaries lie on either side of the uterus. In the monthly cycle of egg production described below, one ovary usually releases only one mature ovum. In most women, the ovaries alternate this release, called **ovulation**, each month. In rare cases more eggs are released. In some women, the ovaries do not alternate regularly or do not alternate at all. The monthly production of ova or sex cells is fairly regular in most women. In males, the production of sex cells is not cyclical.

Within the ovaries are sex cells, also known as **gametes**. Before being released from an ovary, the cells develop in a part of the ovary called the **graafian follicle**. These sex cells have the potential to become fertilized and



**FIGURE 10-1** The female reproductive system has cycles that determine fertility.

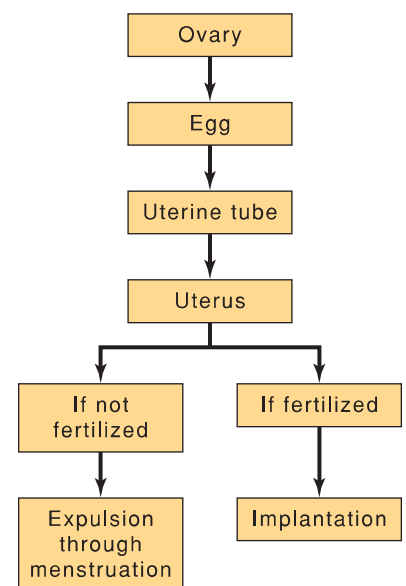
develop. In their immature stage, they are called **oocytes**; once mature (normally 5-7 days), they are known as ova. The ovum is then released from the graafian follicle to the **uterine** or **fallopian tubes**, the two tubes that lead from the ovaries to the uterus (Figure 10-2).

The **uterus** is the female reproductive organ in which a fertilized ovum implants and develops. When the ovum is not fertilized, the lining of the uterus is released during the monthly cycle, known as **menstruation**. This cycle is described later in this chapter.

The fertilized ovum attaches to the lining of the uterus where it develops during pregnancy (discussed later in this chapter). At the end of its development, the infant is born through the **vagina** or birth canal (the canal leading from the uterus to the **vulva**) in a routine delivery or surgically through the abdomen in a *Caesarean delivery*. The organs and structures described above form the basic reproductive structure. The female breast, the **mammary gland** (Figure 10-3), is also part of the female reproductive system as an *accessory organ*, providing milk to nurse the infant (*lactation*) after birth. The breast was also discussed in Chapter 4 as an apocrine gland. In addition to fertilization, female reproduction is controlled by hormones, such as estrogen and progesterone.

At birth, most females have from 200,000 to 400,000 immature ova (oocytes) in each ovary. Many of these disintegrate before the female reaches **puberty**, the stage at which ovulation and **menarche** (first menstruation) and the **menstruation** cycle occur (usually between 10 and 14 years of age). Menstruation is the cyclical release of the uterine lining usually occurring every 28 days. Most women menstruate monthly (except during pregnancy) for about 30 to 40 years. **Menopause** signals the end of the ovulation/menstruation cycle and, therefore, the end of the childbearing years.

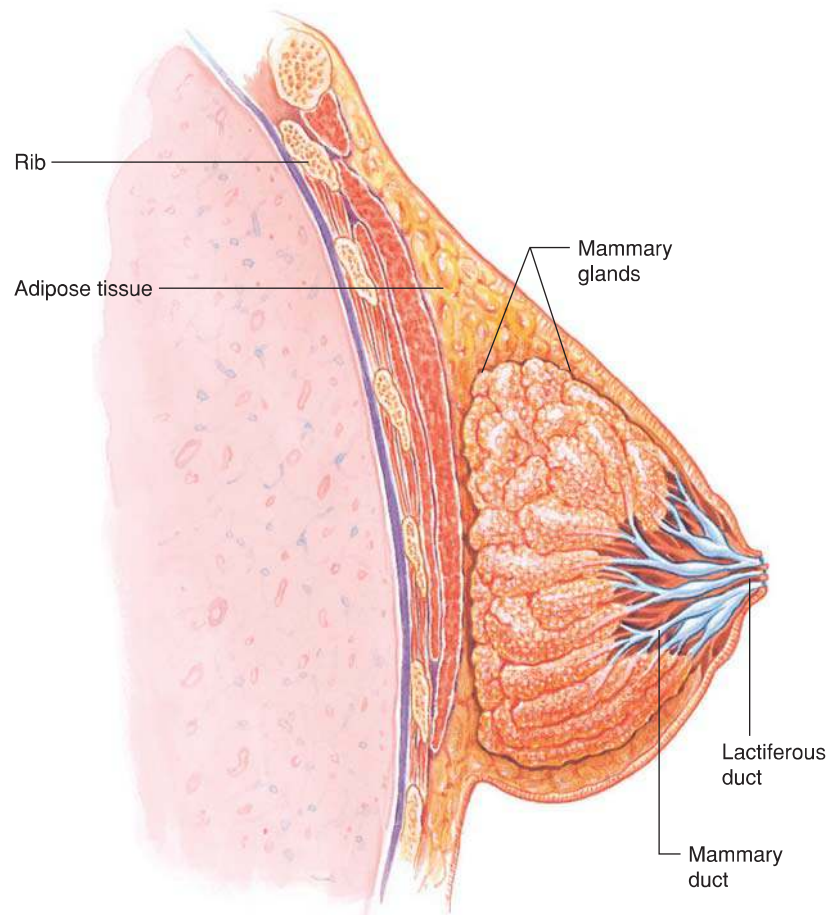
After release, the ovum next enters the uterine or fallopian tubes, which have fingerlike ends called **fimbriae** that sweep the ovum further



**FIGURE 10-2** The path of an egg in the ovarian cycle.

The Museum of Menstruation and Women's Health online ([www.mum.org](http://www.mum.org)) has many facts about menstruation and how it has been regarded throughout history.

**FIGURE 10-3** The female breast has mammary glands and ducts through which nourishment is provided to the infant.

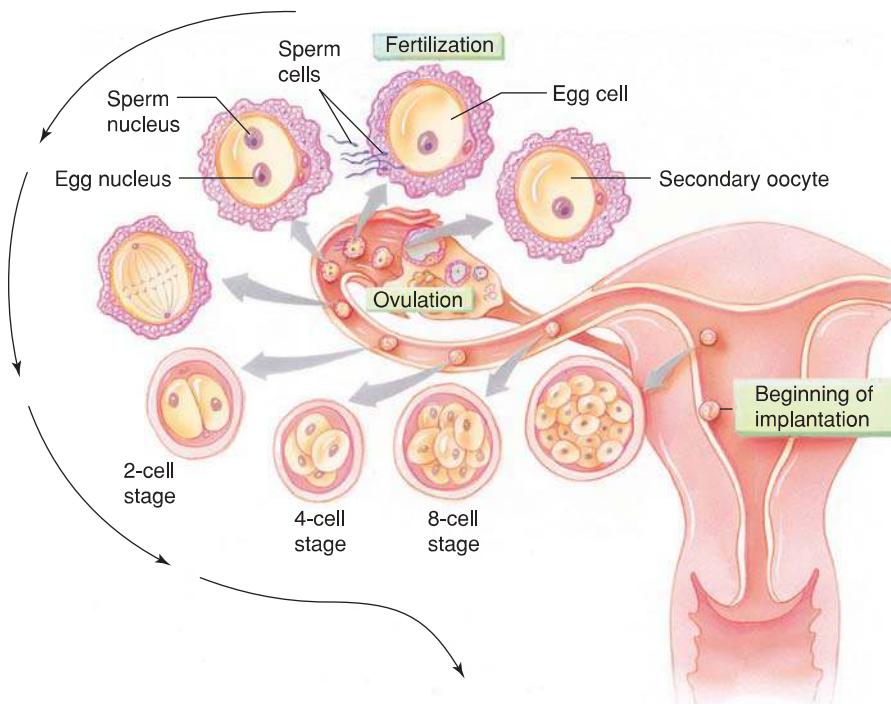


down into one of the fallopian tubes, where it may be fertilized by a sperm. Fertilized or not, the ovum moves by contractions of the tube to the uterus (Figure 10-4). The uterus is pear-shaped and about the size of the fist. It is wider at the top than at the bottom, where it attaches to the vagina. Once inside the uterus, a fertilized ovum attaches to the uterine wall, where it will be nourished for about 40 weeks of development (**gestation**). The upper portion of the uterus, the **fundus**, is where a nutrient-rich organ (the **placenta**) grows in the uterine wall. An ovum that has not been fertilized is released along with the lining of the uterus (**endometrium**) during menstruation.

The middle portion of the uterus is called the **body**. It leads to a narrow region, the **isthmus**. The neck or lower region of the uterus is the **cervix**. The cervix is a protective body with glands that secrete mucous substances into the vagina. The cervical canal is the opening leading to the uterine cavity. Cells from the distal part of the cervical canal are collected during a routine Pap smear. The opening of the cervical canal into the vagina is called the **cervical os**. Cervical cancers are more likely to occur in the distal third of the cervical canal and os, accessible during routine PAP smears.

The vagina has small transverse folds called **rugae** that can expand to accommodate an erect penis during intercourse or the passage of a baby during childbirth. A fold of mucous membranes, the **hymen**, partially covers the external opening (**introitus**) of the vagina. It is usually ruptured during the female's first sexual intercourse, but may be broken earlier during physical activity or because of use of a tampon. It may also be congenitally absent.

**FIGURE 10-4** Movement of an oocyte during the female cycle.



The uterus (Figure 10-5) is made up of three layers of tissue—the **perimetrium**, the outer layer; the **myometrium**, the middle layer; and the **endometrium**, the inner mucous layer. The outer layer is a protective layer of membranous tissue. The middle layer is really three layers of smooth muscle that move in strong downward motions. The uterus stretches during pregnancy. The endometrium is deep and velvety, has an abundant supply of blood vessels and glands, and is built up and broken down during the ovulation/menstruation cycle.

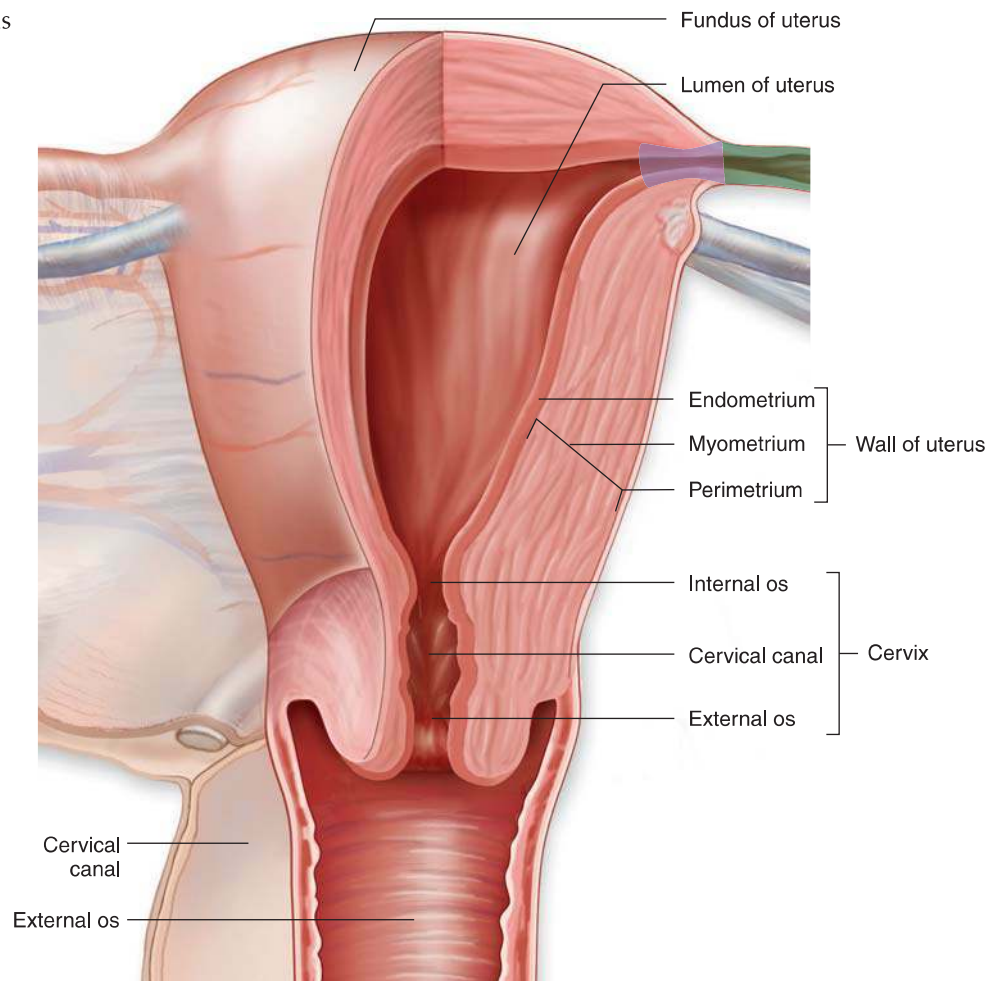
The external genitalia (Figure 10-6), collectively known as the **vulva**, consist of a mound of soft tissue, the **mons pubis**, which is covered by pubic hair after puberty. Two folds of skin below the mons pubis, the **labia majora**, form the borders of the vulva. Between the labia majora lie two smaller skin folds, the **labia minora**, which merge at the top to form the **foreskin** of the **clitoris**, the primary female organ of sexual stimulation. The **Bartholin's glands** are embedded in the vaginal tissue near the introitus. The duct from these glands is located between the labia minora. The glands produce a lubricating fluid that bathes the vagina and surrounding vulva.

The space between the bottom of the labia majora and the anus is called the **perineum**. During childbirth, it is possible for the perineum to become torn. A surgical procedure (*episiotomy*) is commonly done before childbirth to avoid tearing the perineum, because an even surgical incision is easier to repair.

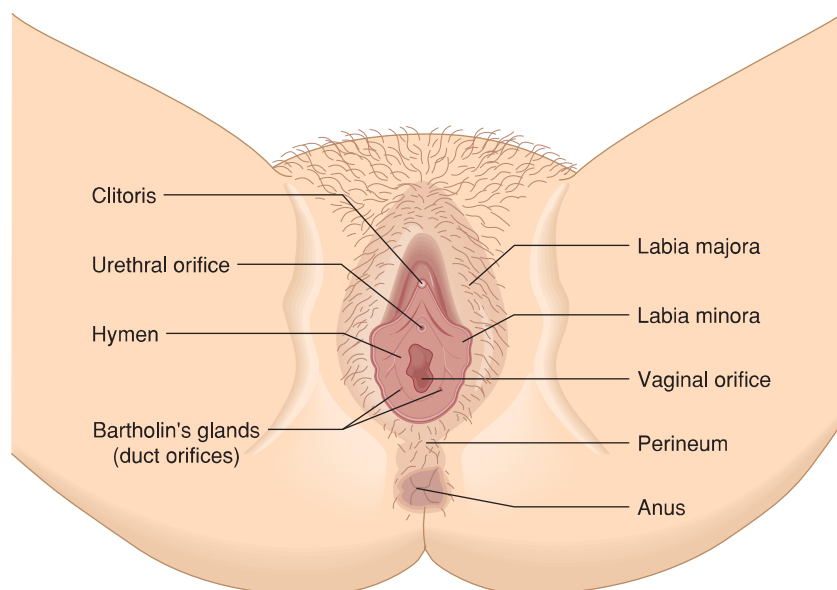
The mammary glands or breasts are full of glandular tissue that is stimulated by hormones after puberty to grow and respond to the cycles of menstruation and birth. During pregnancy, hormones stimulate the **lactiferous** (milk-producing) ducts and **sinuses** that transport milk to the **nipple** (or *mammary papilla*). The dark-pigmented area surrounding the nipple is called the **areola**. After birth (**parturition**), the mammary glands experience a *let-down reflex*, which allows milk to flow through the nipples (lactation) when the infant suckles.



**FIGURE 10-5** The uterine wall has several layers.



**FIGURE 10-6** External female genitalia.



## Hormones and Cycles

The ovaries secrete **estrogen** and **progesterone**, the primary female **hormones**. In the stages before and during puberty, estrogen and progesterone play an important role in the development of mature genitalia and of secondary sex characteristics, such as pubic hair and breasts. Other hormones help in childbirth

**TABLE 10-1 Major Reproductive Hormones**

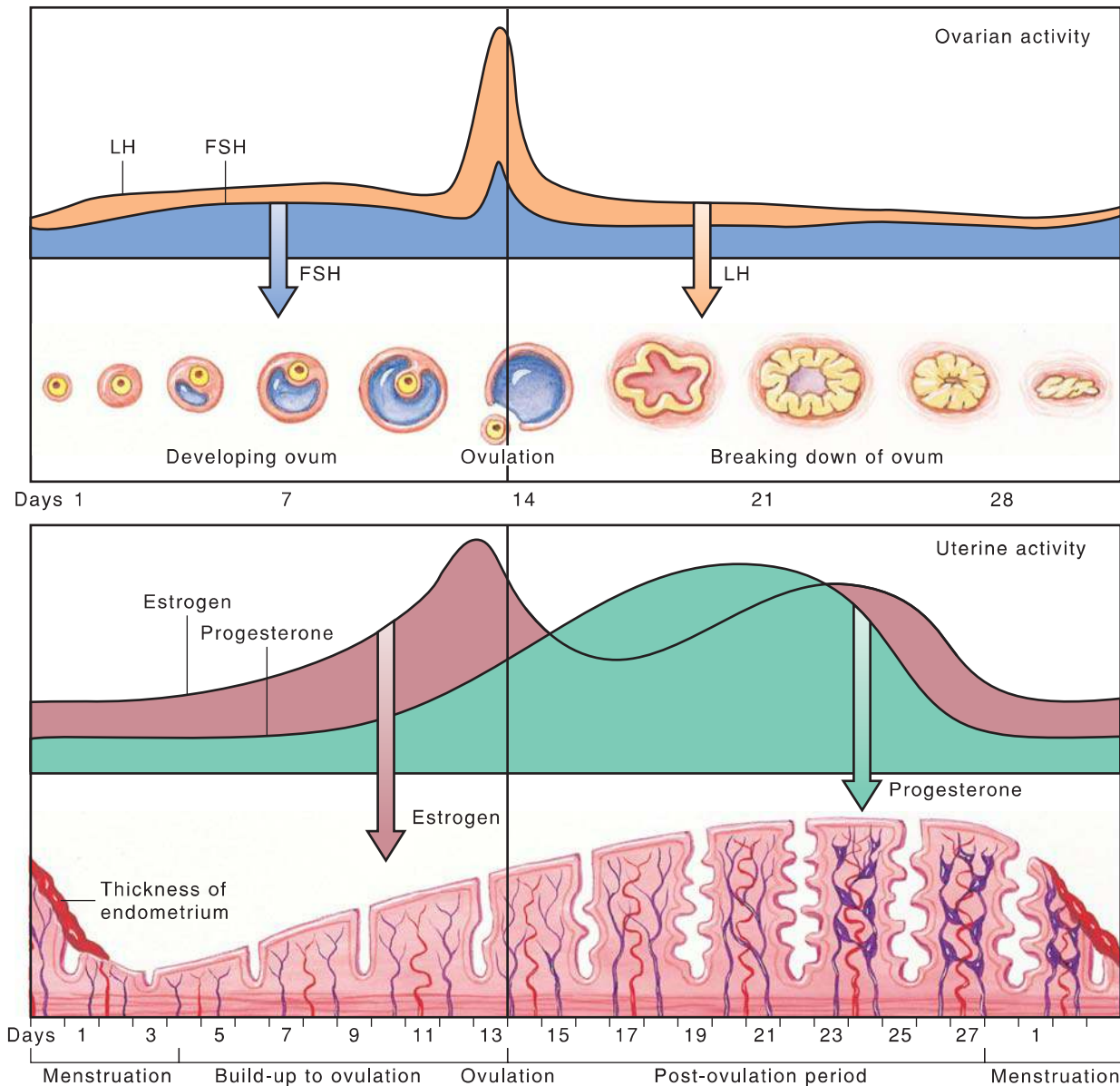
| Hormone                            | Purpose   | Source                          |
|------------------------------------|---|---------------------------------|
| estrogen                           | stimulates development of female sex characteristics and uterine wall thickening; inhibits FSH and increases LH | ovarian follicle; corpus luteum |
| progesterone                       | stimulates uterine wall thickening and formation of mammary ducts   | corpus luteum                   |
| prolactin                          | promotes lactation  | pituitary gland                 |
| oxytocin                           | stimulates labor and lactation  | pituitary gland                 |
| FSH (follicle-stimulating hormone) | stimulates oocyte maturation; increasing estrogen   | pituitary                       |
| HCG (human chorionic gonadotropin) | stimulates estrogen and progesterone from corpus luteum   | placenta, embryo                |
| LH (luteinizing hormone)           | stimulates oocyte maturation; increases progesterone  | pituitary                       |

and milk production. Table 10-1 lists the major reproductive hormones and their functions. In the chapter on the endocrine system (Chapter 15), hormones that stimulate glands in the female reproductive system are discussed.

## Ovulation and Menstruation

Ovulation and menstruation are contained within the average 28-day female cycle (Figure 10-7). Although the timing of cycles may vary, the average female cycle is divided into four phases as follows:

1. Days 1-5. Menstruation takes place during the first five days. The endometrial lining sloughs off and is released, causing generally slow bleeding through the vagina.
2. Days 6-12. The **follicle-stimulating hormone (FSH)** is released from the anterior pituitary. The body reactions take place in the ovary where an immature ovum is matured in the graafian follicle and in the uterus where the endometrial lining that has been passed out of the body during menstruation is built up again. The rebuilding of the lining is prompted by the production of estrogen. During this time, menstruation has stopped.
3. Days 13-14. The next two days, approximately two weeks after the beginning of menstruation, is the time of ovulation or the egg's release from the graafian follicle and the beginning of its trip down the fallopian tube. This release is stimulated by the pituitary's release of **luteinizing hormone (LH)**, which prompts the fimbriae to swell and wave to entice the newly released ovum toward the fallopian tube. Meanwhile, the graafian follicle fills with a yellow substance that secretes estrogen and progesterone. This secreting structure is known as the **corpus luteum**. The secreted hormones encourage the uterus to prepare for a pregnancy by growing the endometrium into a thick, nutritive layer.
4. Days 15-28. In the second 14 days of the cycle, either fertilization occurs or the built-up endometrium starts to break down as estrogen and progesterone levels drop. The symptoms (bloating, cramps, nervousness, and depression) of the hormonal changes during the phase leading to menstruation (*premenstrual syndrome [PMS]*) appear.



**FIGURE 10-7** The cycles of ovulation and menstruation are parts of the overall female cycle.

It is at the point of ovulation that fertilization can occur or be prevented. Prevention of fertilization is accomplished with **contraception**. Contraceptive methods include the **intrauterine device (IUD)**, **intrauterine ring**, **condom** (both male and female), **spermicide**, **diaphragm**, **cervical cap**, or **sponge**.

Some forms of hormone interaction will also prevent fertilization. A combination of estrogen and progesterone in varying levels of strengths shut off production of follicle-stimulating hormone (FSH) and luteinizing hormone (LH), without which ovulation cannot occur. These doses are taken in pill form, by injection, via a patch, or through a ring that is inserted in the vagina. The *rhythm method* is another method that may be used. It involves knowing one's cycle carefully and abstaining from intercourse for a few days before, during, and after the time of ovulation—about 2 days.

Other female hormones, such as *oxytocin*, aid in the birth process by intensifying contractions of the uterus. Release of hormones is a function of the endocrine system, discussed in Chapter 15.

## Pregnancy

As a result of contact between the sperm and an ova usually through sexual intercourse (**coitus** or **copulation**), fertilization may occur. Fertilization should take place soon after ovulation and high in the fallopian tube to ensure the cells are at the proper stage of development when entering the uterus. If fertilized, implantation in the uterus takes place, the placenta forms, and pregnancy begins. Fertilization may also take place through *artificial insemination*. This can take place either by mechanical insertion of sperm from a sperm donor or by *in vitro* fertilization, which occurs in a laboratory that harvests ova and fertilizes them in the laboratory before implanting them into the uterus. A pregnant woman is known as a **gravida**, with gravida I being the first pregnancy, gravida II being the second, and so on.

An **umbilical cord** connects the placenta to the navel of the fetus so that the mother's blood and the fetal blood do not mix, but nutrients and waste products are exchanged. The fetus develops in a sac containing the **chorion**, the outermost membrane covering the fetus, and the **amnion**, the innermost membrane next to the fluid surrounding the fetus (**amniotic fluid**). The birth process usually begins when the sac breaks naturally or is broken by medical intervention.

The placenta separates from the uterus after delivery and is expelled from the body as the **afterbirth**. The umbilical cord is then severed and tied so that the infant is physically separated from its mother. At the end of this process, the woman is known as a **para** (one who has maintained a pregnancy to the point of viability). Para I refers to the first such pregnancy, para II the second, and so on. The period of time immediately after the birth (parturition) of the infant is known as *postpartum*.

Baby Center ([www.babycenter.com](http://www.babycenter.com)) is a commercial site that shows fetal development during pregnancy.

## Menopause

Menopause, the cessation of menstruation, takes place after levels of estrogen decline. Most women experience menopause between the ages of 45 and 55. However, some women may experience it earlier than that or later. The period of hormonal changes leading up to menopause is called the **climacteric**. The three to five years of decreasing estrogen levels prior to menopause is called **perimenopause**. The hormonal changes cause symptoms in some women that can be uncomfortable, such as night sweats, fatigue, irritability, or vaginal dryness. Hormone replacement therapy is sometimes used. Some women find relief from increasing their intake of natural plant estrogens found in such products as soy.

Postmenopausal women are at greater risk for osteopenia and osteoporosis (discussed in Chapter 5) because estrogen has been shown to help in maintaining and increasing bone mass. It is suggested that all women monitor their intake of calcium starting in their early years of menstruation and continuing throughout their lives to help avoid bone loss after menopause.

The North American Menopause Society ([www.menopause.org](http://www.menopause.org)) provides information to consumers and health professionals regarding menopause.

## VOCABULARY REVIEW

In the previous section, you learned terms relating to the female reproductive system. Before going on to the exercises, review the terms below and refer to the previous section if you have any questions. Pronunciations are provided for certain terms. Sometimes information about where the word came from is included after the term. These etymologies (word histories) are for your information only. You do not need to memorize them.



| Term   | Definition  |
|--|---|
| <b>afterbirth</b> [ĂF-těr-běρθ]<br>after + birth   | Placenta and membranes that are expelled from the uterus after birth.   |
| <b>amnion</b> [ĂM-nē-ŏn]<br>From Greek <i>amnios</i> , lamb  | Innermost membrane of the sac surrounding the fetus during gestation.   |
| <b>amniotic</b> [ăm-nē-ŎT-ĭk] <b>fluid</b>   | Fluid surrounding the fetus and held by the amnion.   |
| <b>areola</b> [ă-RĒ-ŏ-lă]<br>Latin, small area   | Darkish area surrounding the nipple on a breast.  |
| <b>Bartholin's</b> [BĂR-thŏ-lěnz] <b>gland</b><br>After Casper Bartholin (1655–1738), Danish anatomist | One of two glands on either side of the vagina that secrete fluid into the vagina.  |
| <b>body</b>  | Middle portion of the uterus.   |
| <b>cervix</b> [SĒR-vĭks]<br>Latin, neck  | Protective part of uterus, located at the bottom and protruding through the vaginal wall; contains glands that secrete fluid into the vagina.   |
| <b>chorion</b> [KŎ-rē-ŏn]  | Outermost membrane of the sac surrounding the fetus during gestation.   |
| <b>climacteric</b> [klĭ-MĂK-těr-ĭk, klĭ-măk-TĒR-ĭk]<br>Greek <i>klimakter</i> , the rung of a ladder   | Period of hormonal changes just prior to menopause.   |
| <b>clitoris</b> [KLĭT-ŏ-rĭs]<br>Greek <i>kleitoris</i>   | Primary organ of female sexual stimulation, located at the top of the labia minora.   |
| <b>coitus</b> [KŎ-ĭ-tūs] Latin   | Sexual intercourse.   |
| <b>condom</b> [KŎN-dŏm]  | Contraceptive device consisting of a rubber or vinyl sheath placed over the penis or as a lining that covers the vaginal canal, blocking contact between the sperm and the female sex organs. |
| <b>contraception</b> [kŏn-tră-SĔP-shŭn]<br>contra-, against + conceptive, able to conceive             | Method of controlling conception by blocking access or interrupting reproductive cycles; birth control.   |
| <b>copulation</b> [kŏp-yū-LĂ-shŭn]<br>Latin <i>copulatio</i> , a joining                               | Sexual intercourse.   |
| <b>corpus luteum</b> [KŎR-pŭs LŪ-tē-ŭm]<br>Latin, yellow body  | Structure formed after the graafian follicle fills with a yellow substance that secretes estrogen and progesterone.   |
| <b>diaphragm</b> [DĪ-ă-frăm]<br>Greek <i>diaphragma</i> , partition                                    | Contraceptive device that covers the cervix and blocks sperm from entering; used in conjunction with spermicide.  |
| <b>endometrium</b> [ĔN-dŏ-MĒ-trē-ŭm]<br>endo-, within + Greek <i>metra</i> , uterus                    | Inner mucous layer of the uterus.   |
| <b>estrogen</b> [ĔS-trŏ-jěn]<br>estr(us), sexual cycle phase in female animals + -gen, producing       | One of the primary female hormones produced by the ovaries.   |

| Term   | Definition   |
|--|--|
| <b>fallopian</b> [fă-LŌ-pē-ăn] <b>tube</b><br>After Gabriele Fallopio (1523–1562), Italian anatomist     | One of the two tubes that lead from the ovaries to the uterus; uterine tube.                               |
| <b>fimbriae</b> [FĪM-brē-ē]<br>Latin, fringes  | Hairlike ends of the uterine tubes that sweep the ovum into the uterus.                                    |
| <b>follicle</b> [FÖL-ĭ-kl] <b>-stimulating hormone (FSH)</b>   | Hormone necessary for maturation of oocytes and ovulation.   |
| <b>foreskin</b> [FÖR-skin]<br>fore-, in front + skin   | Fold of skin at the top of the labia minora.   |
| <b>fundus</b> [FÜN-dūs] Latin, bottom  | Top portion of the uterus.   |
| <b>gamete</b> [GĂM-ēt]<br>Greek, wife or <i>gametes</i> , husband  | Sex cell; <i>see</i> ovum.   |
| <b>gestation</b> [jēs-TĀ-shŭn]<br>Latin <i>gestation</i>   | Period of fetal development in the uterus; usually about 40 weeks.   |
| <b>gonad</b> [GŌ-năd] From Greek <i>gone</i> , seed  | Male or female sex organ; <i>see</i> ovary.  |
| <b>graafian follicle</b> [gră-FĒ-ăn FÖL-ĭ-kl]<br>After Reijnier de Graaf (1641–1673), Dutch physiologist | Follicle in the ovary that holds an oocyte during development and then releases it.                        |
| <b>gravida</b> [GRĂV-ĭ-dă] Latin, from <i>gravis</i> , heavy   | Pregnant woman.  |
| <b>hormone</b> [HÖR-mōn]<br>Greek <i>hormon</i> , one that rouses  | Chemical secretion from glands such as the ovaries.  |
| <b>hymen</b> [HĪ-mēn]<br>Greek, membrane   | Fold of mucous membranes covering the vagina of a young female; usually ruptures during first intercourse. |
| <b>intrauterine</b> [ĪN-tră-YŪ-tēr-ĭn] <b>device (IUD)</b><br>intra-, within + uterine                   | Contraceptive device consisting of a coil placed in the uterus to block implantation of a fertilized ovum. |
| <b>introitus</b> [ĭn-TRŌ-ĭ-tūs]<br>Latin, entrance   | External opening or entrance to a hollow organ, such as a vagina.  |
| <b>isthmus</b> [ĪS-mūs]<br>Greek, narrow area  | Narrow region at the bottom of the uterus opening into the cervix.   |
| <b>labia majora</b> [LĀ-bē-ă mă-JŌR-ă]<br>Latin, larger lips   | Two folds of skin that form the borders of the vulva.  |
| <b>labia minora</b> [mĭ-NŌR-ă]<br>Latin, smaller lips  | Two folds of skin between the labia majora.  |
| <b>lactiferous</b> [lăk-TĪF-ēr-ūs]<br>lacti-, milk + -ferous, bearing                                    | Producing milk.  |
| <b>luteinizing</b> [LŪ-tē-ĭn-Ī-zĭng] <b>hormone (LH)</b><br>From Latin <i>luteus</i> , dark yellow       | Hormone essential to ovulation.  |
| <b>mammary</b> [MĂM-ă-rē] <b>glands</b><br>From Latin <i>mamma</i> , breast                              | Glandular tissue that forms the breasts, which respond to cycles of menstruation and birth.                |

| Term  | Definition   |
|---|--|
| <b>menarche</b> [mě-NĀR-kē]<br>meno-, menstruation + Greek <i>arche</i> , beginning | First menstruation.  |
| <b>menopause</b> [MĚN-ō-pāwz]<br>meno- + pause                                      | Time when menstruation ceases; usually between ages 45 and 55.   |
| <b>menstruation</b> [měn-strū-Ā-shŭn]<br>Latin <i>menstruo</i> , to menstruate      | Cyclical release of uterine lining through the vagina; usually every 28 days.  |
| <b>mons pubis</b> [mōnz pyū-BĪS]  | Mound of soft tissue in the external genitalia covered by pubic hair after puberty.  |
| <b>myometrium</b> [MĪ-ō-MĒ-trē-ŭm]<br>myo-, muscle + Greek <i>metrium</i> , uterus  | Middle layer of muscle tissue of the uterus.   |
| <b>nipple</b> [NĪP-l]   | Projection at the apex of the breast through which milk flows during lactation.  |
| <b>oocyte</b> [Ō-ō-sīt] oo-, egg + -cyte, cell                                      | Immature ovum produced in the gonads.  |
| <b>ovary</b> [Ō-vă-rē] From Latin <i>ovum</i> , egg                                 | One of two glands that produce ova.  |
| <b>ovulation</b> [ŌV-yū-LĀ-shŭn]  | Release of an ovum (or rarely, more than one ovum) as part of a monthly cycle that leads to fertilization or menstruation.   |
| <b>ovum</b> ( <i>pl.</i> , <i>ova</i> ) [Ō-vŭm (Ō-vă)]<br>Latin, egg                | Mature female sex cell produced by the ovaries, which then travels to the uterus. If fertilized, it implants in the uterus; if not, it is released during menstruation to the outside of the body. |
| <b>para</b> [PĀ-ră]<br>Latin <i>pario</i> , to bring forth                          | Woman who has given birth to one or more viable infants.   |
| <b>parturition</b> [păr-tŭr-ĪSH-ŭn]<br>Latin <i>parturition</i>                     | Birth.   |
| <b>perimenopause</b> [pěr-ĭ-MĚN-ō-pāws]<br>peri-, around + menopause                | Three- to five-year period of decreasing estrogen levels prior to menopause.   |
| <b>perimetrium</b> [pěr-ĭ-MĒ-trē-ŭm]<br>peri- + Greek <i>metra</i> , uterus         | Outer layer of the uterus.   |
| <b>perineum</b> [PĚR-ĭ-NĒ-ŭm]   | Space between the labia majora and the anus.   |
| <b>placenta</b> [plă-SĚN-tă]<br>Latin, flat cake                                    | Nutrient-rich organ that develops in the uterus during pregnancy; supplies nutrients to the fetus.   |
| <b>progesterone</b> [prō-JĚS-těr-ōn]<br>pro-, before + gest(ation)                  | One of the primary female hormones.  |
| <b>puberty</b> [PYŪ-běr-tē]<br>Latin <i>pubertas</i>                                | Preteen or early teen period when secondary sex characteristics develop and menstruation begins.   |
| <b>sinus</b> [SĪ-nŭs] Latin, cavity   | Space between the lactiferous ducts and the nipple.  |
| <b>spermicide</b> [SPĚR-mĭ-sĭd]<br>sperm + -cide, killing                           | Contraceptive chemical that destroys sperm; usually in cream or jelly form.  |

| Term   | Definition  |
|--|---|
| <b>sponge</b> [spŭnj]<br>Greek <i>spongia</i> , sea sponge                         | Polyurethane contraceptive device filled with spermicide and placed in the vagina near the cervix.                              |
| <b>umbilical</b> [ŭm-BĪL-ĭ-kāl] <b>cord</b><br>From Latin <i>umbilicus</i> , navel | Cord that connects the placenta in the mother's uterus to the navel of the fetus during gestation for nourishment of the fetus. |
| <b>uterine</b> [YŪ-tĕr-ĭn] <b>tube</b>   | One of two tubes through which ova travel from an ovary to the uterus.  |
| <b>uterus</b> [YŪ-tĕr-ŭs] Latin  | Female reproductive organ; site of implantation after fertilization or release of the lining during menstruation.               |
| <b>vagina</b> [vă-JĪ-nă] Latin   | Genital canal leading from the uterus to the vulva.   |
| <b>vulva</b> [VŪL-vă] Latin  | External female genitalia.  |

## CASE STUDY

### Examining the Patient

Dr. Liana Malvern is an internist on the staff of Crestwood HMO. She examined Jane Smits and entered the following notes on Jane's record.

### Critical Thinking

1. The patient was afebrile. What does afebrile mean?
2. The patient has normal menstruation, but she has only one ovary. How is that possible?

*S: Patient is a 29-year-old female who reports generalized lower abdominal pain for the past three days, which seems to have worsened today. She had trouble sleeping last night because of it. States she threw up one time last night but it was after she coughed. She ate today, had no problems digesting her food. She has been afebrile, not taking any medicines. Patient admits to having unprotected sexual intercourse with a new partner. Patient denies burning upon urination; no appreciable vaginal discharge. Her last menstrual period was eleven days ago.*

*Past history—she has had ovarian cysts on the right ovary. The right ovary and right fallopian tube were removed surgically. She states that her appendix was removed ten years ago. She states she has fairly normal periods.*

*O: Exam shows her to be afebrile. She has bilateral lower quadrant discomfort but no rebound and no remarkable guarding. Pelvic exam done. Normal appearing introitus; cervix is viewed. No remarkable discharge. She is minimally uncomfortable to manipulation of the cervix but does have more discomfort with palpation toward the uterus. Rectal exam is negative.*

*Lab: White count: 15,500 with 70 segs. UA: 3-5 red cells, no white cells.*

*A: Probable pelvic inflammatory disease*

*P: Prescription for Doxycycline (antibiotic) for infection and recommended ibuprofen for pain. To return to office if any increased symptoms appear such as fever, nausea, vomiting, or increased pain.*



## STRUCTURE AND FUNCTION EXERCISES

### Follow the Path

Using letters a through d, put the following in order according to the path of an ovum from its production to implantation.

3. uterine tube \_\_\_\_\_
4. ovary \_\_\_\_\_
5. fimbriae \_\_\_\_\_
6. uterus \_\_\_\_\_

### Check Your Knowledge

Fill in the blanks.

7. The oocyte is first released from the \_\_\_\_\_.
8. Implantation usually takes place in the \_\_\_\_\_.
9. The release of an ovum from the ovary is called \_\_\_\_\_.
10. The release of the uterine lining on a cyclical basis is called \_\_\_\_\_.
11. The upper portion of the uterus where the placenta usually develops is the \_\_\_\_\_.
12. The opening at the bottom of the uterus into the vagina is called the \_\_\_\_\_.
13. The outermost layer of the uterus is the \_\_\_\_\_.
14. The mammary glands make up the tissue of the \_\_\_\_\_.
15. The first menstruation is known as \_\_\_\_\_.
16. The time when menstruation is beginning to cease is called \_\_\_\_\_.
17. The primary female hormones are \_\_\_\_\_ and \_\_\_\_\_.
18. Birth control pills or implants are chemical forms of \_\_\_\_\_.
19. The fetus gestates in a sac containing the \_\_\_\_\_, the outermost membrane, and the \_\_\_\_\_, the innermost membrane.
20. When the placenta is expelled from the body, it is called the \_\_\_\_\_.
21. The period after the birth of a baby is known as \_\_\_\_\_.

## Combining Forms and Abbreviations

The lists below include combining forms and abbreviations that relate specifically to the female reproductive system. Pronunciations are provided for the examples.

| COMBINING FORM | MEANING | EXAMPLE  |
|----------------|---------|--|
| amni(o)        | amnion  | <i>amniocentesis</i> [ĂM-nē-ō-sĕn-TĒ-sĭs], test of amniotic fluid by insertion of a needle into the amnion |
| cervic(o)      | cervix  | <i>cervicitis</i> [sĕr-vĭ-SĪ-tĭs], inflammation of the cervix  |

| COMBINING FORM | MEANING        | EXAMPLE   |
|----------------|----------------|---|
| colp(o)        | vagina         | <i>colporrhagia</i> [kōl-pō-RĀ-jē-ă], vaginal hemorrhage  |
| episi(o)       | vulva          | <i>episiotomy</i> [ě-píz-ē-ŌT-tō-mē] surgical incision into the perineum to prevent tearing during childbirth               |
| galact(o)      | milk           | <i>galactopoiesis</i> [gă-LĀK-tō-pōy-Ē-sīs], milk production  |
| gynec(o)       | female         | <i>gynecology</i> [gī-ně-KŎL-ō-jē], medical specialty that diagnoses and treats disorders of the female reproductive system |
| hyster(o)      | uterus         | <i>hysterectomy</i> [hīs-tēr-ĚK-tō-mē], surgical removal of the uterus  |
| lact(o), lacti | milk           | <i>lactogenesis</i> [lăk-tō-JĚN-ē-sīs], milk production   |
| mamm(o)        | breast         | <i>mammography</i> [mă-MŎG-ră-fē], imaging of the breast  |
| mast(o)        | breast         | <i>mastitis</i> [măs-TĪ-tīs], inflammation of the breast  |
| men(o)         | menstruation   | <i>menopause</i> [MĚN-ō-păwz], cessation of menstruation  |
| metr(o)        | uterus         | <i>metropathy</i> [mě-TRŎP-ă-thē], disease of the uterus  |
| oo             | egg            | <i>oogenesis</i> [ō-ō-JĚN-ē-sīs], production of eggs  |
| oophor(o)      | ovary          | <i>oophoritis</i> [ō-ōf-ōr-Ī-tīs], inflammation of an ovary   |
| ov(i), ov(o)   | egg            | <i>ovoid</i> [Ō-vöyd], egg-shaped   |
| ovari(o)       | ovary          | <i>ovariocele</i> [ō-VĀR-ē-ō-sēl], hernia of an ovary   |
| perine(o)      | perineum       | <i>perineocele</i> [pěr-ī-NĚ-ō-sēl], hernia in the perineum   |
| salping(o)     | fallopian tube | <i>salpingoplasty</i> [săl-PĪNG-ō-plăs-tē], surgical repair of a fallopian tube   |
| uter(o)        | uterus         | <i>uteroplasty</i> [YŪ-tēr-ō-plăs-tē], surgical repair of the uterus  |
| vagin(o)       | vagina         | <i>vaginitis</i> [văj-ī-NĪ-tīs], inflammation of the vagina   |
| vulv(o)        | vulva          | <i>vulvitis</i> [vül-VĪ-tīs], inflammation of the vulva   |

| ABBREVIATION | MEANING                                 | ABBREVIATION | MEANING   |
|--------------|---|--------------|---|
| AB           | abortion                                | HRT          | hormone replacement therapy                                       |
| AFP          | alpha-fetoprotein                       | HSG          | hysterosalpingography   |
| AH           | abdominal hysterectomy                  | HSO          | hysterosalpingo-oophorectomy                                      |
| CIS          | carcinoma in situ                       | IUD          | intrauterine device   |
| CS           | caesarean section                       | LH           | luteinizing hormone   |
| C-section    | caesarean section                       | LMP          | last menstrual period   |
| Cx           | cervix                                  | multip       | multiparous   |
| D & C        | dilation and curettage                  | OB           | obstetrics  |
| DES          | diethylstilbestrol                      | OCP          | oral contraceptive pill   |
| DUB          | dysfunctional uterine bleeding          | P            | para (live births)  |
| ECC          | endocervical curettage                  | Pap smear    | Papanicolaou smear  |
| EDC          | expected date of confinement (delivery) | PID          | pelvic inflammatory disease                                       |
| EMB          | endometrial biopsy                      | PMP          | previous menstrual period   |
| ERT          | estrogen replacement therapy            | PMS          | premenstrual syndrome   |
| FHT          | fetal heart tones                       | primip       | primiparous (having one child)                                    |
| FSH          | follicle-stimulating hormone            | TAH-BSO      | total abdominal hysterectomy with bilateral salpingo-oophorectomy |
| G            | gravida (pregnancy)                     | TSS          | toxic shock syndrome  |
| gyn          | gynecology                              | UC           | uterine contractions  |
| HCG          | human chorionic gonadotropin            |              |   |

## CASE STUDY

### Treating an Unusual Occurrence

Dr. Alvino's next patient, Sarah Messer, was having a heavier than usual menstrual flow. After the visit, her record read as follows.

#### Critical Thinking

22. Did the laboratory tests confirm that the patient was pregnant?
23. What do BP and P mean, and were Sarah Messer's BP and P normal?

*S: Patient is a 22-year-old female who presents with a heavier than usual menstrual flow. Patient states she is using 12–15 pads per day. She states her period started two days ago but is much heavier than usual. Period was about two days late. She is sexually active, no form of birth control, does not think she could be pregnant. She is worried about going to work where she is on her feet all day, and that she seems to flow heavier when she is on her feet. Patient reports cramping*

O: Examination shows a young, white female who does not appear in any remarkable distress. She is afebrile. BP 122/70, P 80. Abdomen is soft, no remarkable discomfort, no guarding or rebound present. Pelvic exam was performed. Cervix was closed, significant amount of blood in the cervical vault. There was no remarkable discharge otherwise noted. No discomfort at cervix. No remarkable discomfort or mass in the LLQ on bimanual exam. Lab shows negative serum pregnancy. Noticeable discomfort on RLQ exam. White count 5500 with 62 segs, HCG 11.5. She has had a persistent problem with her right ovary. A previous ultrasound showed problems with the ovary, most likely benign ovarian cysts.

A: Menorrhagia. Persistent right ovarian pain.

P: Prescribed Naprosyn 250 mg., one b.i.d. for pain. Provided patient with note to take off work for next two days. Patient to rest and report blood flow tomorrow. Patient to return if problems continue; will monitor HCG.

## COMBINING FORMS AND ABBREVIATIONS EXERCISES

### Build Your Medical Vocabulary

For the following definitions, provide a medical term. Use the combining forms listed in this chapter and in Chapters 1, 2, and 3.

- |   |  |
|---|--|
| 24. narrowing of the vulva _____                | 34. formation and development of the egg _____ |
| 25. x-ray of the breast _____                   | 35. any disease of the breast _____            |
| 26. production of milk _____                    | 36. plastic surgery of the uterus _____        |
| 27. hernia of an ovary _____                    | 37. inflammation of a fallopian tube _____     |
| 28. agent that stimulates milk production _____ | 38. removal of the cervix _____                |
| 29. suture of the perineum _____                | 39. ovarian tumor _____                        |
| 30. vaginal infection due to a fungus _____     | 40. incision into an ovary _____               |
| 31. uterine pain _____                          | 41. narrowing of the uterine cavity _____      |
| 32. inflammation of the vulva _____             | 42. resembling a woman _____                   |
| 33. vaginal hemorrhage _____                    | 43. rupture of the amniotic membrane _____     |

### Make a Match

Match the definition in the right-hand column with the correct term in the left-hand column.

- |                              |  |
|------------------------------|--|
| 44. ____ episioepineorrhaphy | a. rupture of an ovary                                 |
| 45. ____ galactophoritis     | b. vaginal pain  |
| 46. ____ ovariorrhexis       | c. surgical repair of the perineum                     |
| 47. ____ oviduct             | d. egg movement  |
| 48. ____ colpodynia          | e. inflammation of the milk ducts                      |
| 49. ____ metritis            | f. escape of amniotic fluid                            |
| 50. ____ perineoplasty       | g. uterine tube  |
| 51. ____ ookinesis           | h. inflammation of the uterus and fallopian tubes      |
| 52. ____ amniorrhea          | i. inflammation of the uterus                          |
| 53. ____ metrosalpingitis    | j. surgical repair of a tear in the vulva and perineum |



## Diagnostic, Procedural, and Laboratory Terms

An e-mail can be sent to you regularly to remind you when you need a Pap smear or mammogram. Go to [www.myhealthtestreminder.com](http://www.myhealthtestreminder.com) and register to get the regular e-mails.



**FIGURE 10-8** Early breast cancer detection has been increased by mammography, which can locate a cancerous growth up to two years earlier than it can be felt by palpation.

The major function of the female reproductive system is to bear children. There are several basic tests for pregnancy. Diagnosis of fertility problems involves more sophisticated technology. Aside from pregnancy, the health of the female reproductive system is monitored on a regular basis by a **gynecologist**, a physician who diagnoses and treats disorders of the female reproductive system. An **obstetrician** diagnoses and treats both normal and abnormal pregnancies and childbirths.

A routine gynecological exam usually includes a **Papanicolaou (Pap) smear**, a gathering of cells from the cervix to detect cervical or vaginal cancer or other anomalies. The vagina is held open by a vaginal *speculum*, a device that holds open any cavity or canal for examination. The cervix and vagina may also be examined by **colposcopy**, use of a lighted instrument (a *colposcope*) for viewing into the vagina. The colposcope is used for almost all vaginal examinations and is a very common instrument in a gynecological or obstetrical office.

**Hysteroscopy** is the use of a *hysteroscope*, a lighted instrument for examination of the interior of the uterus. **Culdoscopy** is the use of an endoscope to examine the contents of the pelvic cavity. These tests can determine whether masses, tumors, or other abnormalities are present. Some abnormalities are caused by sexually transmitted diseases.

Depending on a woman's age, a routine gynecological exam usually includes a prescription for a **mammogram**, a cancer screening test that can detect tumors before they can be felt. **Mammography** is a procedure that provides images of breast tissue (Figure 10-8). The age recommended for routine mammography differs according to family history, physical condition, and the recommending body. (Recommendations from the American Medical Association, American Cancer Society, and the National Institutes for Health vary.)

A pregnancy test is a blood or urine test to detect *human chorionic gonadotropin (HCG)*, a hormone that stimulates growth during the first trimester of pregnancy. A pregnancy test may also involve palpation of the uterus during an internal examination by the gynecologist or an obstetrician.

Several tests for fertility problems include **hysterosalpingography**, a procedure to x-ray the uterus and uterine tubes after a contrast medium is injected; **pelvic ultrasonography**, imaging of the pelvic region using sound waves (used both for detection of tumors and for examination of the fetus); and **transvaginal ultrasound**, also a sound wave image of the pelvic area but done with a probe inserted into the vagina. Male fertility tests are discussed in Chapter 11.

During pregnancy, the dimensions of the pelvis are measured during **pelvimetry**, an examination to see if the pelvis is large enough to allow delivery. **Fetal monitoring** records an infant's heart rate and other functions during labor. There is also a simple blood test recently developed to detect pregnant women at risk for preeclampsia (see the pathological terms section below), a potentially fatal condition. The birth process is discussed in Chapter 17.

## VOCABULARY REVIEW

In the previous section, you learned terms related to diagnosis, clinical procedures, and laboratory tests. Before going on to the exercises, review the terms below and refer to the previous section if you have any questions. Pronunciations are provided for certain terms. Sometimes information about where the word came from is included after the term. The etymologies (word histories) are for your information only. You do not need to memorize them.

| Term   | Definition   |
|--|--|
| <b>colposcopy</b> [köl-PÖS-kō-pē]<br>colpo-, vagina + -scopy, a viewing  | Examination of the vagina with a colposcope.   |
| <b>culdoscopy</b> [kŭl-DÖS-kō-pē]<br>French <i>cul-d(e)-sac</i> , bottom of a sack + -scopy  | Examination of the pelvic cavity using an endoscope.   |
| <b>gynecologist</b> [gī-ně-KÖL-ō-jīst]<br>gyneco-, female + -logy, study of  | Specialist who diagnoses and treats the processes and disorders of the female reproductive system. |
| <b>hysterosalpingography</b> [HĪS-tēr-ō-sāl-pīng-GÖG-ră-fē]<br>hystero-, uterus + salpingo-, fallopian tube + -graphy, a recording     | X-ray of the uterus and uterine tubes after a contrast medium has been injected.                   |
| <b>hysteroscopy</b> [hīs-tēr-ÖS-kō-pē]<br>hystero- + -scopy  | Examination of the uterus using a hysteroscope.  |
| <b>mammography</b> [mă-MÖG-ră-fē]<br>mammo-, breast + -graphy  | X-ray imaging of the breast as a cancer screening method.  |
| <b>obstetrician</b> [öb-stē-TRĪSH-ŭn]<br>Latin <i>obstetrix</i> , midwife  | Physician who specializes in pregnancy and childbirth care.  |
| <b>Papanicolaou</b> [pă-pă-NĒ-kō-lŭ] ( <b>Pap</b> ) <b>smear</b><br>After George N. Papanicolaou (1883–1962), Greek-American physician | Gathering of cells from the cervix and vagina to observe for abnormalities.                        |
| <b>pelvimetry</b> [pěl-VĪM-ě-trē]<br>pelvi(s) + -metry, measurement  | Measurement of the pelvis during pregnancy.  |

## CASE STUDY

### Seeing a Specialist

The first patient, Jane Smits, called two days after her visit to say that the pain in her lower abdomen seemed to have increased. Also, she said that she had had some unusual bleeding from her vagina yesterday. She was told to come in and see Dr. Maurice Alvino, a gynecologist. He discussed her health history, examined her with a colposcope, and scheduled her for x-rays.

### Critical Thinking

54. Why did Dr. Alvino use a colposcope?
55. What are some of the specific areas he might want to view on an x-ray?

## DIAGNOSTIC, PROCEDURAL, AND LABORATORY TERMS EXERCISES

### Check Your Knowledge

Fill in the blanks.

56. Viewing of the cervix and vagina may be done with a \_\_\_\_\_.
57. Viewing of the uterus may be done with a \_\_\_\_\_.
58. Pap smears and mammograms are both \_\_\_\_\_ screening tests.
59. A pregnancy test can be performed on \_\_\_\_\_ or \_\_\_\_\_.
60. Presence of HCG indicates \_\_\_\_\_.

### Pathological Terms

Pregnancy is a normal process, with gestation taking about 40 weeks and ending in the birth of an infant. Some pregnancies are not in themselves normal and spontaneously end in **abortion**. Abortion is a controversial term in public discourse, but in medicine, it simply means the premature end of a pregnancy, whether spontaneously during a **miscarriage**, or surgically. There are several types of abortion, such as *habitual abortion*—three or more consecutive abortions; *spontaneous abortions*—those that appear to occur for no specific medical reason; and *missed abortion*, an abortion in which the fetus is dead in the womb and must be removed surgically.

### Complications of Pregnancy and Birth

Pregnancies can involve many complications. The initial pregnancy can implant abnormally outside the uterus as in an *ectopic pregnancy*, which requires surgery to remove the fetus because it will die due to lack of nourishment. A *tubal pregnancy* is implantation of the fertilized egg within the fallopian tube or partially within the tube and partially within the abdominal cavity or uterus, and also requires immediate surgical intervention to avoid rupture as the fertilized egg grows.

The placenta may break away from the uterine wall (**abruptio placentae**) and require immediate delivery of the infant. **Placenta previa** is a condition in which the placenta blocks the birth canal, and usually requires a caesarean delivery. Even though a pregnancy appears normal, a *stillbirth*, birth of a dead fetus, may occur. The typical pregnancy lasts from 37 to 40 weeks. An infant may be born *prematurely*, before 37 week's gestation. A toxic condition during pregnancy is called **preeclampsia**. Symptoms are sudden hypertension with proteinuria and/or edema. Left untreated, preeclampsia can lead to *eclampsia* or *toxemia*, which can be fatal. Routine prenatal care includes screening for the early warning signs of toxemia. Treatment is symptomatic and can halt progress of the condition. If symptoms persist, the fetus can be delivered early to prevent malignant hypertension and possible life-threatening complications. Routine care also screens for gestational diabetes. A urine test for glucose and GTT can reveal this condition.

One of the most dangerous conditions if untreated in pregnancy occurs when a mother has a different Rh factor from the father (blood types are discussed in Chapter 12). The fetus may then carry an Rh factor different from the mother's, in which case *Rh incompatibility* or *erythroblastosis fetalis*, a potentially dangerous fetal condition, may occur.

The Preeclampsia Foundation ([www.preeclampsia.org](http://www.preeclampsia.org)) gives helpful information about this disease of pregnancy.

Normal delivery of an infant is with a *cephalic presentation*, in which the head appears first, but a fetus may have to be delivered in *breech presentation*, in which the buttocks or feet appear first.

Fetal birth defects can occur in any of the body's systems. The heart can have serious congenital defects. The lungs may not develop properly. In the reproductive system, abnormalities such as *hypospadias*, a defect in which the urethra opens below its normal position, can occur. Other malformations, such as of the uterus or uterine tubes, may cause fertility problems later in life.

## Abnormalities in the Female Cycle

Menstrual abnormalities sometimes occur. **Amenorrhea**, the absence of menstruation, may result from a normal condition (pregnancy or menopause) or an abnormal condition (excessive dieting or extremely strenuous exercise). It may also occur for no apparent reason. **Dysmenorrhea** is painful cramping associated with menstruation. **Menorrhagia** is excessive menstrual bleeding. **Oligomenorrhea** is a scanty menstrual period. **Menometrorrhagia** is irregular and often excessive bleeding during or between menstrual periods. **Metro-rrhagia** is uterine bleeding between menstrual periods.

Other abnormal conditions in the female cycle also occur. **Anovulation** is the absence of ovulation. **Oligo-ovulation** is irregular ovulation. **Leukorrhea** is an abnormal vaginal discharge.

## Abnormalities and Infections in the Reproductive System

**Dyspareunia** is painful sexual intercourse, usually due to some condition, such as dryness, inflammation, or other disorder, in the female reproductive system.

The uterus normally sits forward over the bladder. Abnormal positioning of the uterus includes **anteflexion**, a bending forward. **Retroflexion** is a bending backward of the uterus so that it is angled, and **retroversion** is a backward turn of the uterus (sometimes called a *tipped uterus*) so that it faces toward the back.

Various inflammations and infections occur in the female reproductive system. **Cervicitis** is an inflammation of the cervix. **Mastitis** is a general term for inflammation of the breast, particularly during lactation. **Salpingitis** is an inflammation of the fallopian tubes. **Vaginitis** is an inflammation of the vagina. *Toxic shock syndrome* is a rare, severe infection that occurs in menstruating women and is usually associated with tampon use. *Pelvic inflammatory disease* (PID) is a bacterial infection anywhere in the female reproductive system.

Organs of the reproductive system may suffer from muscle weakness. A *prolapsed uterus* is a condition where the uterine muscles cause the cervix to protrude into the vaginal opening. Perineal muscles can be strengthened using **Kegel exercises**, alternately contracting and releasing the perineal muscles.

Growths in the female reproductive system are benign or malignant and either one can cause pain, abnormal bleeding, infertility, and pregnancy complications. *Cervical polyps* usually start out benign, but can become malignant. If the accompanying bleeding is troublesome or if there is danger of their becoming malignant, polyps can be removed surgically. Cysts can form in any part of the female reproductive system. *Polycystic ovaries* are ovaries with many small cysts inside them. A *teratoma* is a type of germ cell tumor that is most often found in the ovaries. A benign teratoma of the ovary is known as a *dermoid cyst*.

A **condyloma** is a growth on the outside of the genitalia that may be a result of an infection by the human papilloma virus (HPV). An *ovarian cyst*

The Website [www.endometriosis.org](http://www.endometriosis.org) has information about the prevalence of endometriosis.

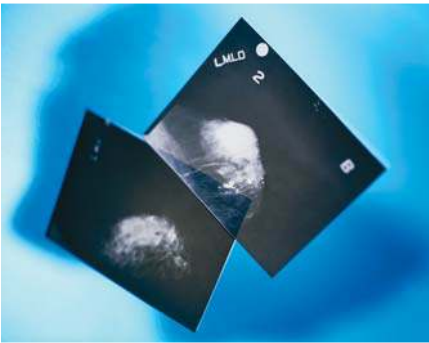


## MORE ABOUT . . .

### Diagnosing Breast Cancer

Breast cancer is often seen on a mammogram as an unusual growth. The next step is a biopsy to determine whether the growth is malignant or benign. Research is in progress on a number of fronts. Some so-called “breast cancer genes” have been identified. Women who have such a gene are many times more likely to develop breast cancer than those in the general population. However, few of the overall cases of breast cancer are of the inherited type. The best outcome results from the earliest possible diagnosis. Breast self-examination and mammography are used widely for early detection.

The National Breast Cancer Foundation ([www.nationalbreastcancer.org](http://www.nationalbreastcancer.org)) discusses the myths and truths about breast cancer.



**FIGURE 10-9** Healthy breast (left) and cancerous breast (right).

develops on or in the ovaries. **Fibroids** are common benign tumors found in the uterus. They may cause pain and bleeding. Some growths occur when normal tissue is found in abnormal areas; for example, **endometriosis** is an abnormal condition in which uterine lining tissue (endometrium) is found in the pelvis or on the abdominal wall. This results in the endometrial cells growing and shedding with each menstrual cycle, making the problem worse with each passing month. Any symptom that is new or unusual should be watched and checked with a health care provider.

Malignant growths found in the reproductive system can be fatal unless detected early. Cervical cancer is often detected early with Pap smears before having spread (**carcinoma in situ**). *Endometrial cancer* occurs in the endometrium of the uterus. *Ovarian cancer* is a potentially fatal cancer of the ovary; it is difficult to diagnose in its earliest stages and often spreads to other organs before it is detected. Figure 10-9 shows two mammograms—the one on the left is of a healthy breast and the one on the right is a cancerous breast.

Breast cancer can be found locally in one site without spreading (*carcinoma in situ*) or may require more extensive treatment if it has spread to the lymph nodes. Breast cancer may sometimes be related to overproduction of estrogen. An important chemical test for estrogen receptors (cells that bind to estrogen) indicates whether hormone therapy is an option for women in perimenopause or menopause.

### Sexually Transmitted Diseases

*Sexually transmitted diseases (STDs)* are diseases that are transmitted primarily through sexual contact. **Syphilis**, an infectious disease treatable with antibiotics; **gonorrhea**, a contagious infection of the genital mucous membrane; *Genital Herpes (HSV)*, a contagious and recurring infection with lesions on the genitalia; *human papilloma virus (HPV)*, a contagious infection that causes genital warts; **chlamydia**, a microorganism that causes several sexually transmitted diseases; and **HIV** (which leads to **AIDS**) are some common sexually transmitted diseases. HPV is sometimes associated with cervical cancer and is typically diagnosed by abnormal Pap test results. A new vaccine, *Giardisil*, is now available to protect women who have not been infected by HPV. *Trichomoniasis*, an infection, often in the vaginal tract, may also be transmitted through sexual contact.

The American Social Health Association ([www.ashastd.org](http://www.ashastd.org)) gives information about the ways to avoid STDs.

## VOCABULARY REVIEW

In the previous section, you learned terms related to pathology. Before going on to the exercises, review the terms below and refer to the previous section if you have any questions. Pronunciations are provided for certain terms. Sometimes information about where the word came from is included after the term. The etymologies (word histories) are for your information only. You do not need to memorize them.

| Term   | Definition   |
|--|--|
| <b>abortion</b> [ă-BÖR-shŭn]<br>From Latin <i>abortus</i> , abortion                         | Premature ending of a pregnancy.   |
| <b>abruptio placentae</b> [ăb-RŪP-shē-ō plă-SĒN-tē]<br>Latin, a breaking off of the placenta | Breaking away of the placenta from the uterine wall.   |
| <b>amenorrhea</b> [ă-mĕn-ō-RĒ-ă]<br>a-, without + meno-, menstruation + -rrhea, flow         | Lack of menstruation.  |
| <b>anovulation</b> [ăn-ōv-yū-LĀ-shŭn]<br>an-, without + ovulation                            | Lack of ovulation.   |
| <b>anteflexion</b> [ăn-tē-FLĒK-shŭn]<br>ante-, before + flexion, a bending                   | Bending forward, as of the uterus.   |
| <b>carcinoma in situ</b> [kăr-sĭ-NŌ-mă ĩn SĪ-tŭ]   | Localized malignancy that has not spread.  |
| <b>cervicitis</b> [sĕr-vĭ-SĪ-tĭs]<br>cervico-, cervix + -itis, inflammation                  | Inflammation of the cervix.  |
| <b>chlamydia</b> [klă-MĪD-ē-ă]<br>Greek <i>chlamys</i> , cloak                               | Sexually transmitted bacterial infection affecting various parts of the male or female reproductive systems; the bacterial agent itself. |
| <b>condyloma</b> [kŏn-dĭ-LŌ-mă] Greek <i>kondyloma</i> , knob                                | Growth on the external genitalia.  |
| <b>dysmenorrhea</b> [dĭs-mĕn-ōr-Ē-ă]<br>dys-, abnormal + meno- + -rrhea                      | Painful menstruation.  |
| <b>dyspareunia</b> [dĭs-pă-RŪ-nē-ă]<br>dys- + Greek <i>pareumos</i> , lying beside           | Painful sexual intercourse due to any of various conditions, such as cysts, infection, or dryness, in the vagina.                        |
| <b>endometriosis</b> [ĒN-dō-mē-trē-Ō-sĭs]<br>endometri(um) + -osis, condition                | Abnormal condition in which uterine wall tissue is found in the pelvis or on the abdominal wall.   |
| <b>fibroid</b> [FĪ-brŏyd]  | Benign tumor commonly found in the uterus.   |
| <b>gonorrhea</b> [gŏn-ō-RĒ-ă]<br>Greek <i>gonorrhŏia</i> , from <i>gone</i> , seed + -rrhea  | Sexually transmitted inflammation of the genital membranes.  |
| <b>Kegel</b> [KĒ-gĕl] <b>exercises</b><br>After A. H. Kegel, U. S. gynecologist              | Exercises to strengthen perineal muscles.  |
| <b>leukorrhea</b> [lŭ-kō-RĒ-ă] leuko-, white + -rrhea  | Abnormal vaginal discharge; usually whitish.   |
| <b>mastitis</b> [măs-TĪ-tĭs] mast-, breast + -itis   | Inflammation of the breast.  |
| <b>menometrorrhagia</b> [MĒN-ō-mĕ-trō-RĀ-jĕ-ă]<br>meno- + metro-, uterus + -rrhagia          | Irregular or excessive bleeding between or during menstruation.  |

| Term   | Definition  |
|--|---|
| <b>menorrhagia</b> [mĕn-ō-RĀ-jē-ă] meno- + -rrhagia  | Excessive menstrual bleeding.                           |
| <b>metrorrhagia</b> [mĕ-trō-RĀ-jē-ă] metro- + -rrhagia   | Uterine bleeding between menstrual periods.             |
| <b>miscarriage</b> [mĭs-KĀR-ăj]  | Spontaneous, premature ending of a pregnancy.           |
| <b>oligomenorrhea</b> [ÖL-ĭ-gō-mĕn-ō-RĒ-ă]<br>oligo-, scanty + meno- + -rhea                                 | Scanty menstrual period.                                |
| <b>oligo-ovulation</b> [ÖL-ĭ-gō-ÖV-ū-LĀ-shŭn]<br>oligo- + ovulation  | Irregular ovulation.                                    |
| <b>placenta previa</b> [plă-SĔN-tă PRĒ-vē-ă]<br>placenta + Latin <i>prae</i> , before + <i>via</i> , the way | Placement of the placenta so it blocks the birth canal. |
| <b>preeclampsia</b> [prē-ĕ-KLĀMP-sē-ă]<br>pre-, before + eclampsia, convulsion                               | Toxic infection during pregnancy.                       |
| <b>retroflexion</b> [rĕ-trō-FLĔK-shŭn]<br>retro-, toward the back + flexion, a bending                       | Bending backward of the uterus.                         |
| <b>retroversion</b> [rĕ-trō-VĔR-zhŭn]<br>retro- + version, a change of position                              | Backward turn of the uterus.                            |
| <b>salpingitis</b> [săl-pĭn-JĪ-tĭs] salping-, fallopian tube + -itis   | Inflammation of the fallopian tubes.                    |
| <b>syphilis</b> [SĪF-ĭ-lĭs]  | Sexually transmitted infection.                         |
| <b>vaginitis</b> [vāj-ĭ-NĪ-tĭs] vagin-, vagina + -itis   | Inflammation of the vagina.                             |

## PATHOLOGICAL TERMS EXERCISES

### Check Your Knowledge

Fill in the blanks.

- If an ovum is not fertilized, \_\_\_\_\_ usually occurs within two weeks.
- Amenorrhea can result from two normal conditions: \_\_\_\_\_ and \_\_\_\_\_.
- Painful menstruation is called \_\_\_\_\_.
- Toxic shock syndrome is a rare infection that usually occurs during \_\_\_\_\_.
- Pap smears test for \_\_\_\_\_ cancer.
- Benign tumors found in the uterus are \_\_\_\_\_.
- Perineal muscles can be strengthened using \_\_\_\_\_ exercises.
- Chlamydia is an agent that can cause a \_\_\_\_\_ disease.
- An abortion is the premature ending of a \_\_\_\_\_, whether spontaneously or by choice.
- Scanty menstruation is \_\_\_\_\_.
- A toxic infection during pregnancy is \_\_\_\_\_.
- AIDS is caused by \_\_\_\_\_, a virus.
- A localized cancer is called a \_\_\_\_\_.

74. Uterine bleeding other than that associated with menstruation is called \_\_\_\_\_.
75. Delivery of the buttocks or feet first is known as a \_\_\_\_\_.
76. Premature birth occurs before \_\_\_\_\_ weeks of gestation.

## CASE STUDY

### Finding the Cause

Sarah Messer recovered from menorrhagia and persistent ovarian pain, and was able to return to work after two days off. Six months later, however, Sarah experienced heavy bleeding and painful cramps after missing one menstrual period. She did not think she was pregnant, but Dr. Alvino had her HCG level checked and it showed that she was indeed pregnant. Sarah's bleeding turned out to be an early miscarriage. Dr. Alvino prescribed medication for the pain, and again told Sarah to take two days off from work, during which the bleeding should stop. If not, she was to call him.

Dr. Alvino talked to Sarah about the benefits of birth control. He particularly thought that condoms would be appropriate for now, while Sarah remains sexually active with more than one partner.

### Critical Thinking

77. What diseases might Sarah contract if she does not use condoms?
78. Does the birth control pill protect you from sexually transmitted diseases?

## Surgical Terms

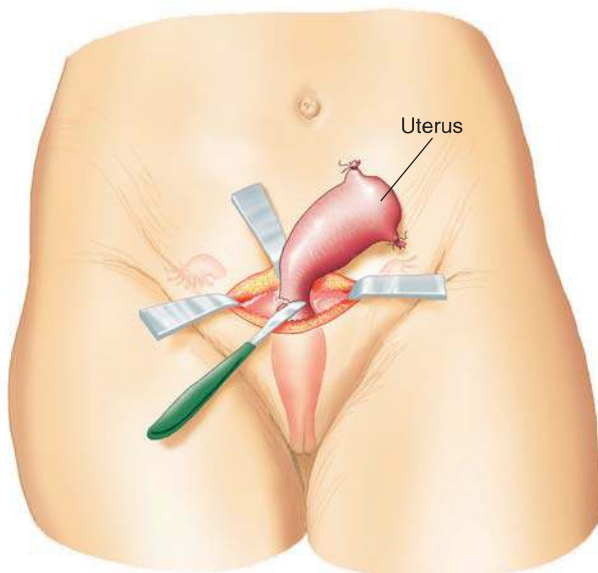
Surgery of the female reproductive system is performed for a variety of reasons. During pregnancy, it may be necessary to terminate a pregnancy prematurely (*abortion*), to remove a fetus through an abdominal incision (*caesarean birth*), to open and scrape the lining of the uterus (*dilation and curettage [D & C]*), or to puncture the amniotic sac to obtain a sample of the fluid for examination (**amniocentesis**). In **culdocentesis**, a sample of fluid from the base of the pelvic cavity may show if an ectopic pregnancy has ruptured. An ectopic pregnancy can be removed through a *salpingotomy*, an incision into one of the fallopian tubes.

Surgery may also be performed as a form of birth control. *Tubal ligation*, a method of female sterilization, blocks the fallopian tubes by cutting or tying and, therefore, blocking the passage of ova. It is usually performed using a *laparoscope*, a thin tube inserted through a woman's navel during **laparoscopy**.

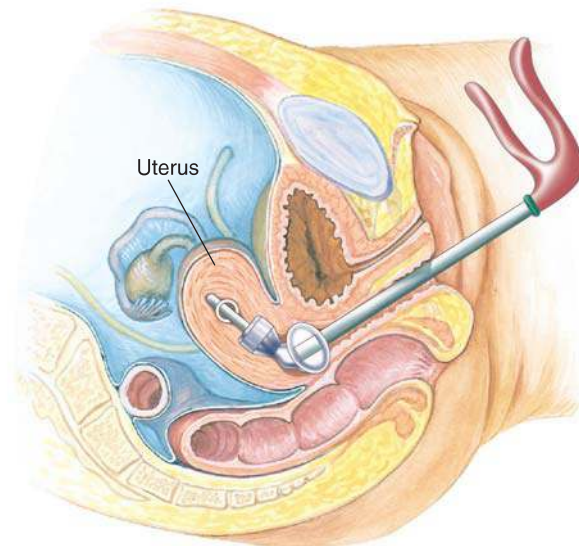
**Cryosurgery** and **cauterization** are two methods of destroying tissue (such as polyps), using cold temperatures in the former and burning in the latter. A Loop Electrosurgical Excision Procedure (LEEP) is the removal of precancerous tissue from around the cervix with a wirelike instrument.

Parts of the female reproductive system may have to be removed, usually because of the presence of cancer or benign growths that cause pain or excessive bleeding. A biopsy is usually performed first to determine the spread of cancer. A **conization** is the removal of a cone-shaped section of the cervix for examination. Breast cancer may be diagnosed by **aspiration**, a type of biopsy in which fluid is withdrawn through a needle by suction. A **hysterectomy** is removal of the uterus that may be done through the





Abdominal hysterectomy



Vaginal hysterectomy

**FIGURE 10-10** Hysterectomies can be performed abdominally or vaginally. A surgical instrument is inserted through the cervix in a vaginal hysterectomy.

abdomen (*abdominal hysterectomy*) or through the vagina (*vaginal hysterectomy*). Figure 10-10 shows the two types of hysterectomies. New procedures such as *laparoscopic hysterectomies* are reducing recovery time.

A **myomectomy** is the removal of fibroid tumors. An **oophorectomy** is the removal of an ovary. An *ovarian cystectomy* is the removal of an ovarian cyst. A **salpingectomy** is the removal of a fallopian tube. A *salpingo-oophorectomy* is the removal of one ovary and one fallopian tube. A *bilateral salpingo-oophorectomy* is the removal of both ovaries and both fallopian tubes. A **salpingotomy** is an incision into the fallopian tubes (usually to remove blockages).

Breast cancer may be treated surgically. A **lumpectomy** is the removal of the tumor itself along with surrounding tissue. During a **mastectomy**, a breast is removed, which may mean the breast and underlying muscle as in a simple mastectomy; the breast, underlying muscles, and the lymph nodes, as in a *radical mastectomy*; or removal of the breast and lymph nodes, as in a *modified radical mastectomy*.

Breast surgery may include plastic surgery after mastectomy (**mammoplasty**) or reduction of the size of the breast (*reduction mammoplasty*). Some women have pendulous breast tissue raised (**mastopexy**) or have small breasts augmented by surgical insertion of implants (*augmentation mammoplasty*).

## VOCABULARY REVIEW

In the previous section, you learned terms relating to surgery. Before going on to the exercises, review the terms below and refer to the previous section if you have any questions. Pronunciations are provided for certain terms. Sometimes information about where the word came from is included after the term. These etymologies (word histories) are for your information only. You do not need to memorize them.



| Term  | Meaning   |
|---|---|
| <b>amniocentesis</b> [ĂM-nē-ō-sēn-TĒ-sīs]<br>amnio-, amnion + -centesis, puncture                     | Removal of a sample of amniotic fluid through a needle injected in the amniotic sac.  |
| <b>aspiration</b> [ās-pī-RĀ-shŭn]<br>Latin <i>aspiratio</i> , breath                                  | Biopsy in which fluid is withdrawn through a needle by suction.   |
| <b>cauterization</b> [kāw-tēr-ī-ZĀ-shŭn]<br>From Greek <i>kauterion</i> , a branding iron             | Removal or destruction of tissue using chemicals or devices such as laser-guided equipment.   |
| <b>conization</b> [kō-nī-ZĀ-shŭn]   | Removal of a cone-shaped section of the cervix for examination.   |
| <b>cryosurgery</b> [krī-ō-SĔR-jēr-ē]<br>cryo-, cold + surgery   | Removal or destruction of tissue using cold temperatures.   |
| <b>culdocentesis</b> [KŬL-dō-sēn-TĒ-sīs]<br>French <i>cul-de-sac</i> , bottom of the sack + -centesis | Taking of a fluid sample from the base of the pelvic cavity to see if an ectopic pregnancy has ruptured.                            |
| <b>hysterectomy</b> [hīs-tēr-ĔK-tō-mē]<br>hyster-, uterus + -ectomy, removal                          | Removal of the uterus.  |
| <b>laparoscopy</b> [lāp-ă-RŌS-kō-pē]<br>laparo-, loins + -scopy, a viewing                            | Use of a lighted tubular instrument inserted through a woman's navel to perform a tubal ligation or to examine the fallopian tubes. |
| <b>lumpectomy</b> [lŭm-PĔK-tō-mē]<br>lump + -ectomy   | Removal of a breast tumor.  |
| <b>mammoplasty</b> [MĂM-ō-plās-tē]<br>mammo-, breast + -plasty, repair                                | Plastic surgery to reconstruct the breast, particularly after a mastectomy.   |
| <b>mastectomy</b> [mās-TĔK-tō-mē]<br>mast-, breast + -ectomy  | Removal of a breast.  |
| <b>mastopexy</b> [MĂS-tō-pĕk-sē]<br>masto-, breast + -pexy, an attaching                              | Surgical procedure to attach sagging breasts in a more normal position.   |
| <b>myomectomy</b> [mī-ō-MĔK-tō-mē]<br>myoma, benign tumor + -ectomy                                   | Removal of fibroids from the uterus.  |
| <b>oophorectomy</b> [ō-ōf-ōr-ĔK-tō-mē]<br>oophor-, ovary + -ectomy                                    | Removal of an ovary.  |
| <b>salpingectomy</b> [sāl-pīn-JĔK-tō-mē]<br>salping-, fallopian tube + -ectomy                        | Removal of a fallopian tube.  |
| <b>salpingotomy</b> [sāl-pīng-GŎT-ō-mē]<br>salpingo- + -tomy, a cutting                               | Incision into the fallopian tubes.  |

## CASE STUDY

### Treating the Problem

Jane Smits learned in her next exam that she now has some cysts on her left ovary. Her right ovary had been removed earlier because of cysts. Jane wants to have a child and expresses her concern to Dr. Alvino.

### Critical Thinking

79. Jane had a surgery in which one ovary and one fallopian tube were removed. What is the medical term for this surgery?
80. Jane wants to have children. How might her current condition present a problem?

## SURGICAL TERMS EXERCISES

### Know the Parts

Refer to Figure 10-1 is on p. 325. In the following list, write the name of the part(s) to be removed or altered in the surgery indicated.

81. salpingectomy \_\_\_\_\_

82. hysterectomy \_\_\_\_\_

83. bilateral salpingo-oophorectomy \_\_\_\_\_

84. tubal ligation \_\_\_\_\_

## Pharmacological Terms

Various forms of birth control are pharmacological agents. Spermicides destroy sperm in the vagina; **birth control pills** (or oral contraceptives, OCPs), hormonal, patches, vaginal rings, and **implants** control the flow of hormones to block ovulation; and **abortifacients** or **morning-after pills** (or emergency contraception) prevent implantation of an ovum. **Hormone replacement therapy (HRT)** is used during and after menopause to alleviate symptoms, such as hot flashes. **Oxytocin**, another hormone, is used to induce labor. A **tocolytic agent** stops labor contractions. Table 10-2 lists common pharmacological agents used for the female reproductive system.

**TABLE 10-2** Some Common Medications Used in Providing Birth Control and in Treating Disorders of the Female Reproductive System

| Drug Class  | Purpose                                 | Generic   | Trade Name                               |
|---|---|---|--|
| abortifacient emergency contraception or morning-after pill | to prevent implantation of an ovum      | mifepristone  | Mifeprex                                 |
| hormone replacement therapy (HRT)                           | to normalize hormone levels in the body | raloxifene<br>alendronate<br>estrogen<br>estrogen/progestin | Evista<br>Fosamax<br>Premarin<br>Prempro |
| hormones related to birth                                   | to induce labor<br>to stop labor        | oxytocin<br>tocolytic                                       | Pitocin<br>various                       |

## VOCABULARY REVIEW

In the previous section, you learned terms related to pharmacology. Before going on to the exercises, review the terms below and refer to the previous section if you have any questions. Pronunciations are provided for certain terms. Sometimes information about where the word came from is included after the term. The etymologies (word histories) are for your information only. You do not need to memorize them.

| Agent  | Purpose  |
|--|--|
| <b>abortifacient</b> [ă-bŏr-tĭ-FĀ-shĕnt]<br>Latin <i>abortus</i> , abortion + <i>faceo</i> , to make   | Medication to prevent implantation of an ovum.   |
| <b>birth control pills or implants</b>   | Medication that controls the flow of hormones to block ovulation.                              |
| <b>hormone replacement therapy (HRT)</b>   | Treatment with hormones when the body stops or decreases the production of hormones by itself. |
| <b>morning-after pill</b>  | See abortifacient.   |
| <b>oxytocin</b> [ŏk-sē-TŌ-sĭn]<br>Greek <i>okytokos</i> , quick birth                                  | Hormone given to induce labor.   |
| <b>tocolytic</b> [tō-kō-LĪT-ĭk] <b>agent</b><br>Greek <i>tokos</i> , birth + <i>-lytic</i> , loosening | Hormone given to stop labor.   |

## CASE STUDY

### Removing a Malignancy

Jane Smits, who had several check-ups over the next few months, eventually required a hysterectomy. Some abnormal cells on her latest Pap smear turned out to be malignant. The cancer was contained, so her prognosis for recovery is excellent.

### Critical Thinking

85. Jane, 30 years old at the time of her hysterectomy, was given estrogen and progesterone following her surgery. What is this treatment called?
86. Is it necessary for Jane and her husband to use birth control?

## PHARMACOLOGICAL TERMS EXERCISES

### Check Your Knowledge

Circle T for true or F for false.

87. An abortifacient is a birth control medication. T F
88. Hormone replacement therapy is generally used around menopause. T F
89. It is never appropriate to induce labor. T F
90. Birth control pills are used to control hormones. T F
91. Tocolytic agents stop labor. T F

### CHALLENGE SECTION

Dr. Maya Lundgren, an obstetrician at the HMO, examined Elisa Mayaguez, who is 26 years old. Dr. Lundgren entered the following notes on Elisa's record.

Patient is 26 years old, gravida II, para I, who was seen in the office today with symptoms of preterm labor at 30-weeks' gestation.

Patient reports an uncomplicated prenatal course until two weeks ago. Patient stated that she had some break-through bleeding, which seemed to improve following bed rest. Patient reports mild, regular contractions starting yesterday but diminishing today. Patient reports only mild "twinges" today. No cramping or back pain. She had preterm labor with her first pregnancy. Her first child was born at 32-weeks' gestation.

Physical exam was essentially normal. BP 130/80, P 100. HEENT: PERZLA. Lungs were clear to auscultation. Pelvic exam consistent with gestational dates. Cervix is dilated 2 cm. No edema noted. Her membranes are intact. Fetal heart tones 150s with increases noted to 170s. Baby active.

Patient was placed on strict bed rest. She was prescribed oral terbutaline to suppress labor. Patient to return to office in one week.

## Critical Thinking

92. The patient's first child was born at 32-weeks' gestation. What is the period of normal gestation? Was her first child born preterm or postterm?
93. The patient is gravida II, para I. What does this mean?

## TERMINOLOGY IN ACTION

The following are chart notes for a routine gynecological exam:

Patient: Marina Telly

March 30, 2XXX

S: Marina is a 47-year-old, gravida 4, para 4-0-0-4, being seen for an annual gynecological exam. She has had amenorrhea for 3 years and has a lot of trouble with hot flashes. She was placed on estrogen 4 months ago but that made her very sick. She has otherwise been well.

Gyn. History: Menses began at age 14 with PMS as a teenager. She has had 2 C-sections: 1 for eclampsia and 1 for cephalopelvic disproportion.

O: Breasts are pendulous with no discernible masses. Abdomen is soft; no organs or masses noted. Pelvic exam shows external genitalia are normal. Vagina and cervix show mild atrophic changes. Uterus is in midposition and feels normal in size. Stool is guaiac negative. Pap smear is done. Mammogram results sent in about two weeks ago are normal.

A: Annual gynecological examination.

P: Patient is undecided about trying another HRT treatment. I gave her all appropriate literature and she will let me know if she wants to try a different hormone. I am scheduling a bone density study.

From the chart, how many children does Marina have? How regular are her periods? What is likely causing her discomfort?

## USING THE INTERNET

Go to the Centers for Disease Control site for Women's Health Risks (<http://www.cdc.gov/health/womensmenu.htm>) and write a paragraph on the latest news in breast and cervical cancer prevention.

# CHAPTER REVIEW

The material that follows is to help you review all the material in this chapter.

## Understanding Word Parts

For each of the following terms, write the definition and the meaning of each word part.

- |                          |                         |
|--------------------------|-------------------------|
| 94. mammogram _____      | 99. metritis _____      |
| 95. dysmenorrhea _____   | 100. prenatal _____     |
| 96. neonatologist _____  | 101. salpingitis _____  |
| 97. amniocentesis _____  | 102. uteroplasty _____  |
| 98. oligomenorrhea _____ | 103. hysterectomy _____ |

## Understanding Female Reproductive Terms

Complete each of the following terms.

104. breast reconstruction: mamma\_\_\_\_\_
105. vaginal infection: \_\_\_\_\_itis
106. first pregnancy: primi\_\_\_\_\_
107. cervical inflammation: \_\_\_\_\_itis
108. inflammation of the peritoneum: \_\_\_\_\_itis
109. ovarian hernia: ovari\_\_\_\_\_
110. female reproductive system specialist: \_\_\_\_\_logist
111. uterine hemorrhage: metro\_\_\_\_\_
112. instrument for uterine examination: hystero\_\_\_\_\_
113. time just preceding menopause: \_\_\_\_\_menopause

## DEFINITIONS

Define the following terms and combining forms. Review the chapter before starting. Make sure you know how to pronounce each term as you define it. The blue words in brackets are references to the Spanish glossary available online at [www.mhhe.com/medterm3e](http://www.mhhe.com/medterm3e).

### WORD

- |  |  |  |
|--|--|--|
| 114. abortion [ă-BŎR-shŭn]<br>{aborto}                     | 118. amenorrhea<br>[ă-mĕn-ō-RĒ-ă]{amenorrea}               | 123. anovulation [ăn-ŏv-yŭ-<br>LĂ-shŭn]                |
| 115. abortifacient [ă-bŏr-tĭ-<br>FĂ-shĕnt]{abortifaciente} | 119. amni(o)   | 124. antelexion [ăn-tĕ-<br>FLĚK-shŭn]<br>{anteflaxiŏn} |
| 116. abruptio placentae<br>[ăb-RŪP-shĕ-ō plă-SĔN-tĕ]       | 120. amniocentesis [ĂM-nĕ-ō-<br>sĕn-TĒ-sĭs]{amniocentesis} | 125. areola [ă-RĒ-ō-lă]{areola}                        |
| 117. afterbirth<br>[ĂF-tĕr-bĕrth]{secundina}               | 121. amnion [ĂM-nĕ-ŏn]{amnios}                             | 126. aspiration [ăs-pĭ-RĂ-shŭn]<br>{aspiraciŏn}        |
|  | 122. amniotic [ăm-nĕ-ŎT-ĭk]<br>fluid {amniŏtico}           |  |



## WORD

127. Bartholin's [BÄR-thō-lēnz]  
gland
128. birth control pills or implants
129. body {**cuerpo**}
130. carcinoma in situ [kär-sī-NŌ-  
mä in SĪ-tū]
131. cauterization [kăw-tēr-ĭ-ZĀ-  
shŭn]  
{**cauterización**}
132. cervic(o)
133. cervicitis [sēr-vĭ-SĪ-tĭs]
134. cervix [SĒR-vĭks] {**cervix**}
135. chlamydia [klă-MĪD-ē-ă]  
{**clamidia**}
136. chorion [KŌ-rē-ŏn]  
{**corion**}
137. climacteric [klĭ-MĀK-  
tēr-ĭk, klĭ-măk-TĒR-ĭk]  
{**climaterio**}
138. clitoris  
[KLĪT-ō-rĭs] {**clitoris**}
139. coitus [KŌ-ĭ-tūs] {**coito**}
140. colp(o)
141. colposcopy [kōl-PŌS-kō-pē]
142. condom  
[KŌN-dŏm] {**condón**}
143. condyloma [kŏn-dĭ-LŌ-mă]  
{**condiloma**}
144. conization  
[kō-nĭ-ZĀ-shŭn]  
{**conización**}
145. contraception [kŏn-tră-  
SĒP-shŭn]  
{**anticoncepción**}
146. copulation  
[kŏp-yū-LĀ-shŭn]  
{**copulación**}
147. corpus luteum [KŌR-pūs  
LŪ-tē-ŭm]
148. cryosurgery  
[krĭ-ō-SĒR-jēr-ē]  
{**criocirugía**}
149. culdocentesis [KŪL-dō-sēn-  
tē-sĭs]
150. culdoscopy [kŭl-DŌS-kō-pē]
151. diaphragm [DĪ-ă-frăm]  
{**diafragma**}
152. dysmenorrhea [dĭs-mēn-  
ōr-Ē-ă] {**dismenorrea**}
153. dyspareunia [dĭs-pă-RŪ-nē-ă]  
{**dispareunia**}
154. endometriosis [ĒN-dō-mē-  
trē-Ō-sĭs] {**endometriosis**}
155. endometrium [ĒN-dō-MĒ-  
trē-ŭm] {**endometrio**}
156. episi(o)
157. estrogen [ĒS-trō-jēn]  
{**estrógeno**}
158. fallopian [fă-LŌ-pē-ăn] tube
159. fibroid [FĪ-brŏyd] {**fibroide**}
160. fimbriae [FĪM-brē-ē]  
{**fimbrias**}
161. follicle-stimulating hormone  
(FSH)
162. foreskin [FŌR-skĭn] {**prepucio**}
163. fundus [FŮN-dŭs] {**fondo**}
164. galact(o)
165. gamete [GĂM-ēt] {**gameto**}
166. gestation [jēs-TĀ-shŭn]  
{**gestación**}
167. gonad [GŌ-năd] {**gónada**}
168. gonorrhea [gŏn-ō-RĒ-ă]  
{**gonorrea**}
169. graafian follicle [gră-FĒ-ăn  
FŌL-ĭ-kl]
170. gravida [GRĂV-ĭ-dă] {**grávida**}
171. gynec(o)
172. gynecologist [gĭ-nē-KŌL-  
ō-jĭst] {**ginecólogo**}
173. hormone [HŌR-mŏn]  
{**hormona**}
174. hormone replacement therapy  
(HRT)
175. hymen [HĪ-mēn] {**himen**}
176. hyster(o)
177. hysterectomy [hĭs-tēr-ĒK-  
tō-mē] {**histerectomía**}
178. hysterosalpingography  
[HĪS-tēr-ō-săl-  
pĭng-GŌG-ră-fē]  
{**histerosalpingografía**}
179. hysteroscopy [hĭs-tēr-ŌS-  
kō-pē] {**histeroscopia**}
180. intrauterine [ĪN-tră-YŪ-  
tēr-ĭn] device (IUD)
181. introitus [ĭn-TRŌ-ĭ-tŭs]  
{**introito**}
182. isthmus [ĪS-mŭs] {**istmo**}
183. Kegel [KĒ-gēl] exercises
184. labia majora [LĀ-bē-ă  
mă-JŌR-ă]
185. labia minora [mĭ-NŌR-ă]
186. lact(o), lacti
187. lactiferous [lăk-TĪF-ēr-ŭs]  
{**lactífero**}
188. laparoscopy [lăp-ă-RŌS-  
kō-pē] {**laparoscopia**}
189. leukorrhea [lŭ-kō-RĒ-ă]  
{**leucorrea**}
190. lumpectomy [lŭm-PĚK-tō-mē]  
{**nodulectomía**}
191. luteinizing [LŪ-tē-ĭn-Ī-zĭng]  
hormone (LH)
192. mamm(o)
193. mammary [MĂM-ă-rē]  
glands

## WORD

194. mammography [mä-MÖG-rä-fē] {mamografía}
195. mammoplasty [MÄM-ō-pläs-tē] {mamoplastia}
196. mast(o)
197. mastectomy [mäS-TĚK-tō-mē] {mastectomía}
198. mastitis [mäS-TĪ-tis] {mastitis}
199. mastopexy [MÄS-tō-pĕk-sē]
200. men(o)
201. menarche [mē-NÄR-kē] {menarca}
202. menometrorrhagia [MĚN-ō-mē-trō-RÄ-jē-ä] {menometrorragia}
203. menopause [MĚN-ō-pāwz] {menopausia}
204. menorrhagia [mĕn-ō-RÄ-jē-ä] {menorrhagia}
205. menstruation [mĕn-strū-Ä-shŭn] {menstruación}
206. metr(o)
207. metrorrhagia [mē-trō-RÄ-jē-ä] {metrorragia}
208. miscarriage [mīs-KÄR-äj] {aborto espontáneo}
209. mons pubis [mōnz pyū-BĪS]
200. morning-after pill
211. myomectomy [mī-ō-MĚK-tō-mē] {miomectomía}
212. myometrium [MĪ-ō-MĚ-trē-ŭm] {miometrio}
213. nipple [NĪP-l] {pezón}
214. obstetrician [ōb-stē-TRĪSH-ŭn] {obstetra}
215. oligomenorrhea [ÖL-ĭ-gō-mĕn-ō-RĚ-ä] {oligomenorrea}
216. oligo-ovulation [ÖL-ĭ-gō-ÖV-ŭ-LÄ-shŭn]
217. oo
218. oocyte [Ö-ō-sīt] {oocito}
219. oophor(o)
220. oophorectomy [ō-ōf-ōr-ĚK-tō-mē] {ooforectomía}
221. ov(i), ov(o)
222. ovari(o)
223. ovary [Ö-vä-rē] {ovario}
224. ovulation [ÖV-yū-LÄ-shŭn] {ovulación}
225. ovum (pl. ova) [Ö-vŭm (Ö-vä)] {óvulo}
226. oxytocin [ök-sē-TÖ-sĭn]
227. Papanicolaou [pä-pä-NĚ-kō-lŭ] (Pap) smear
228. para [PÄ-rä]
229. parturition [pär-tŭr-ĪSH-ŭn] {parturición}
230. pelvimetry [pĕl-VĪM-ē-trē]
231. perimenopause [pĕr-ĭ-MĚN-ō-pāws]
232. perimetrium [pĕr-ĭ-MĚ-trē-ŭm] {perimetrio}
233. perine(o)
234. perineum [PĚR-ĭ-NĚ-ŭm]
235. placenta [plä-SĚN-tä] {placenta}
236. placenta previa [plä-SĚN-tä PRĚ-vē-ä]
237. preeclampsia [prē-ē-KLÄMP-sē-ä]
238. progesterone [prō-JĚS-tēr-ōn] {progesterona}
239. puberty [PYŪ-bēr-tē] {pubertad}
240. retroflexion [rē-trō-FLĚK-shŭn] {retroflexión}
241. retroversion [rē-trō-VĚR-zhŭn] {retroversión}
242. salping(o)
243. salpingectomy [säL-pĭn-JĚK-tō-mē]
244. salpingitis [säL-pĭn-JĪ-tis] {salpingitis}
245. salpingotomy [säL-pĭng-GÖT-ō-mē]
246. sinus [SĪ-nŭs] {seno}
247. spermicide [SPĚR-mĭ-sĭd] {espermicida}
248. sponge {esponja}
249. syphilis [SĪF-ĭ-lis] {sífilis}
250. tocolytic [tō-kō-LĪT-ĭk] agent
251. umbilical [ŭm-BĪL-ĭ-käl] cord
252. uter(o)
253. uterine [YŪ-tēr-ĭn] tube
254. uterus [YŪ-tēr-ŭs] {útero}
255. vagin(o)
256. vagina [vä-JĪ-nä] {vagina}
257. vaginitis [väj-ĭ-NĪ-tis] {vaginitis}
258. vulv(o)
259. vulva [VŮL-vä] {vulva}

## Abbreviations

Write the full meaning of each abbreviation.

### ABBREVIATION

|                     |             |                |
|---------------------|-------------|----------------|
| 260. AB             | 273. ERT    | 286. OB        |
| 261. AFP            | 274. FHT    | 287. OCP       |
| 262. AH             | 275. FSH    | 288. P         |
| 263. CIS            | 276. G      | 289. Pap smear |
| 264. CS             | 277. gyn    | 290. PID       |
| 265. C-section      | 278. HCG    | 291. PMP       |
| 266. C <sub>x</sub> | 279. HRT    | 292. PMS       |
| 267. D & C          | 280. HSG    | 293. primip    |
| 268. DES            | 281. HSO    | 294. TAH-BSO   |
| 269. DUB            | 282. IUD    | 295. TSS       |
| 270. ECC            | 283. LH     | 296. UC        |
| 271. EDC            | 284. LMP    |                |
| 272. EMB            | 285. multip |                |

Name \_\_\_\_\_ Date \_\_\_\_\_

## Chapter 10: Word- Building (20 questions— 1 pts. each)

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Using the following combining forms, complete the word that best fits the definition of each word relating to the female reproductive system listed below. Combining forms may be used more than once.

|           |          |           |            |
|-----------|----------|-----------|------------|
| amni(o)   | gynec(o) | metr(o)   | salping(o) |
| cervic(o) | lact(o)  | oo        | vagin(o)   |
| colp(o)   | lacti    | oophor(o) | vulv(o)    |
| episi(o)  | mamm(o)  | ov(i)     |            |
| galact(o) | men(o)   | perine(o) |            |

1. Surgical construction of a vagina: \_\_\_\_\_ poiesis
2. Suppression of menstruation: \_\_\_\_\_ schesis
3. Imaging of the breast: \_\_\_\_\_ graphy
4. Narrowing of the vulva: \_\_\_\_\_ stenosis
5. Perineal hernia: \_\_\_\_\_ cele
6. Egg-shaped: \_\_\_\_\_ form
7. Tubal pregnancy: \_\_\_\_\_ cyesis
8. Relating to the cervix and bladder: \_\_\_\_\_ vesical
9. Fungal vaginal infection: \_\_\_\_\_ mycosis
10. Incision into the vulva: \_\_\_\_\_ tomy
11. Inflammation of the vulva: \_\_\_\_\_ itis
12. Uterine discharge: \_\_\_\_\_ rrhea
13. Study and treatment of the female reproductive system: \_\_\_\_\_ logy
14. Vaginal pain: \_\_\_\_\_ dynia
15. Immature ovum: \_\_\_\_\_ cyte
16. White nipple discharge: \_\_\_\_\_ rrhea
17. Ovarian hemorrhage: \_\_\_\_\_ rhagia
18. Inflammation of the uterus and fallopian tubes: \_\_\_\_\_ salpingitis
19. First signs of menses: \_\_\_\_\_ phania
20. Aspiration of fluid from the amniotic sac: \_\_\_\_\_ centesis