

**KEY TERMS**

Androgen	Hormone replacement therapy (HRT)	Sexually transmitted disease (STD)
Benign prostatic hypertrophy (BPH)	Interstitial cell-stimulating hormone (ICSH)	Tocolytic
Enuresis	Luteinizing hormone (LH)	
Estrogen	Progesterin	
Follicle-stimulating hormone (FSH)		

## ■ HORMONES OF THE REPRODUCTIVE SYSTEM

Several hormones, known as gonadotropic hormones, and their interactions are responsible for optimal functioning of the testes and ovaries. These hormones are secreted by the pituitary gland and include **follicle-stimulating hormone (FSH)**, **luteinizing hormone (LH)**, and **interstitial cell-stimulating hormone (ICSH)**. These hormones are responsible for the production of the female hormones estrogen and progesterin and the male hormone androgen (testosterone). Testosterone, estrogen, and progesterone are hormones that promote the health, growth, and function of the reproductive system. The testes in the male (testicles) produce testosterone (Fig. 20-1A). The ovaries in the female secrete female sex hormones (estrogen and progesterone) (Fig. 20-1B).

As discussed in Chapter 15, FSH regulates sperm and egg production. LH triggers the release of the egg in women and promotes secretion of estrogen and progesterone. In men, LH is called ICSH and regulates testosterone production. Table 20-1 summarizes the reproductive hormones.

## ■ MEDICATIONS FOR DISORDERS RELATED TO FEMALE HORMONES

If the hormone levels are either too high or too low in women, fertility can be affected. Too little progesterone will not sustain a pregnancy, and too much FSH or LH may lead to multiple births. The classifications of medications used include contraceptives such as medroxyprogesterone (Provera), used to prevent pregnancy and stabilize menstrual cycles, and hormone replacement medications such as testosterone (AndroGel) or estrogen (Premarin), used when a normally occurring hormone is lacking as a result of disease or the aging process (see the Master the Essentials table for a more comprehensive list of medications used in treatment of reproductive health and illness).

### Contraceptive Medications

Some of the most common drugs used for contraception are based on hormones that a woman naturally produces. When administered as a drug, they prevent pregnancy by overriding the body's own mechanism to make **estrogens** and **progestins** (the two main hormones secreted by the ovaries). The body, while receiving hormones from an outside source regularly, stops producing its own estrogens and progestins. Contraceptives contain such low doses of the hormones that they usually inhibit the body's ability to conceive by inhibiting ovulation (release of an egg from the ovary), inhibiting fertilization (joining of the egg and sperm to form an embryo), preventing implantation (embedding of the embryo into the uterine wall), or preventing growth of the fetus.

One of the most common forms of birth control is the "pill." It is available in formulations that provide differing amounts of estrogen and progesterin during the menstrual cycle. Monophasic pills, such as ethinyl estradiol and norgestrel (Cryselle 28, Lo/Ovral 28, Ogestrel-28) or ethinyl estradiol and norethindrone (Aranelle, Modicon, Ortho-Novum), deliver a constant amount of hormone during the first 21 days of the cycle. Biphasic birth control pills, such as ethinyl estradiol and norethindrone (Jenest-28) and ethinyl estradiol and desogestrel (Apri, Desogen, Mircette, Ortho-Cept), contain a constant dose of estrogen but two different doses of progesterin in the monthly cycle dosage. This allows