

TABLE 11-8 HORMONES OF THE GONADS		
OVARIES HORMONES	TARGET ORGAN	PURPOSE
estrogen (estradiol, estrone, and estriol)	female sex organs, mammary glands	Development and maintenance of female sex organs and characteristics; development of mammary glands, sex drive
progesterone	uterus	Prepares the uterus for pregnancy
TESTES HORMONES	TARGET ORGAN	PURPOSE
testosterone	male sex organs	Development and maintenance of male sex organs and characteristics; penile erection

The Testes

The **testes** (combining forms for testes are: orch/o; orchi/o; orchid/o; test/o; didym/o) are oval-shaped structures housed and suspended in the **scrotum** (scrot/o), a sac that keeps sperm within the testes cooler than body temperature. The scrotum is located behind the penis and descends from the perineal region of the abdomen. It separates into two regions, each supporting one testis. Superior to each testis is an **epididymis** (**epi-** – above; **didym/** – testes). Minute coils from the epididymis ascend from the distal testis along the posterior aspect of the gland to become the **vas deferens** and then join blood vessels and nerves to form the **spermatic cord** (Figure 11-14). These spermatic cords allow the testis to swing relatively freely within the protection of the scrotum. Within the testes are approximately 250 wedge-shaped lobes of fibrous tissue. Coiled inside each lobe are tiny tube-like structures called **seminiferous tubules**, which provide the location of developing sperm, or **spermatozoa** (Figure 11-15). Functioning as an endocrine gland, testes produce the hormone testosterone, which is the substance responsible for developing the secondary male sex characteristics.

A Word About Testicular Cancer

Testicular cancer is most often discovered in the 20- to 40-year-old population, and has one of the highest cure rates. Men should be encouraged to perform a testicular self-exam (TSE) on a regular basis and report unusual findings or changes to their physician.

Did you know that men can have an artificial (non working) testis to replace one that was removed? Just like artificial breasts, they come in a variety of sizes



The Mammary Glands

Both males and females have breasts, but only females respond to the hormone **prolactin** (secreted by the anterior pituitary), which stimulates the mammary glands to produce milk following childbirth (Figure 11-16). Insulin (from the pancreas) and hormones from the adrenal cortex also have a role in milk production. Anatomically, breasts lie anterior to the pectoralis major on either side of the sternum. They have alveolar-like structures internally, with 15 to 20 glands leading to **lactiferous glands** and **lactiferous ducts**, which produce and deliver milk. Surrounding the **nipple** is the **areola**, which is a circular pigmented and elevated area. There are sebaceous glands in the areola secreting an oil to keep the skin resilient (Figure 11-17). Breasts vary in shape and size, as do areolas. Body fat, heredity, and age can all factor in to breast size. It is not uncommon for one to have breasts of different sizes, as the same is true for testes. During pregnancy, the areola darken in color. Infants' suckling motion stimulates **oxytocin**, which causes uterine contractions and promotes its return to normal size following childbirth. Both men and women can get breast cancer, and new or persistent lumps in the breast tissue should be investigated by a physician.