

Medications are also used to treat infections of the female reproductive tract. Some infections are caused by **sexually transmitted diseases (STDs)** such as syphilis. Among the more popular drugs for vaginal infections are the following: antibacterials such as metronidazole (Flagyl), used orally or by the IV route to treat trichomonas infections; antivirals such as acyclovir (Zovirax), used orally and intravenously to treat herpes infections; and antifungals such as miconazole (Monistat), used topically or orally to treat vaginal yeast infections (see Chapter 17 for a review of immune system medications such as antibacterials, antivirals, and antifungals).

■ MEDICATIONS FOR MALE REPRODUCTIVE DISORDERS

Androgens are male sex hormones that promote maturation of the male sexual organs and male sexual characteristics. Men who have low androgen levels may need testosterone to increase their masculine traits. Testosterone can also be used to lower estrogen levels in women with breast cancer, just as estrogen is used to lower testosterone levels in men who have prostate cancer.

Erectile dysfunction, or impotence, is a fairly common disorder, frequently related to atherosclerosis, diabetes, stroke, and hypertension. This disorder may also have psychological roots, such as guilt, fatigue, depression, and fear of failure to perform adequately.

Erectile dysfunction drugs such as phosphodiesterase type 5 inhibitors usually work by dilating the arteries leading to the penis and constricting the veins and thereby holding the blood in the penis and sustaining an erection. If erectile dysfunction is associated with physiological decline, it is vitally important that the patient give a complete history to the prescriber. Medications such as sildenafil (Revatio, Viagra), vardenafil (Levitra, Staxyn), and tadalafil (Adcirca, Cialis) can be dangerous for patients with a history of cardiovascular disease, stroke, and sickle cell anemia or eye problems. Sildenafil, vardenafil, and tadalafil are taken orally approximately 30 minutes to 1 hour before sexual activity and no more often than one dose per day. Cialis may also be prescribed to be taken orally on a daily basis to provide more flexibility in sexual readiness.

Another medication for erectile dysfunction is alprostadil (Caverject, Edex), which is either injected into the penis or inserted as a urethral pellet. This medication begins to work within 5 to 20 minutes and lasts approximately 1 hour. It should be administered no more than once a day and three times a week. The most common side effects are minor and include mild pain at the site of administration.



CRITICAL THINKING

Why may erectile dysfunction drugs affect the entire cardiovascular system and not just the penis?

Reduced libido can occur in both men and women as a result of either emotional or physiological changes, such as depression, or the physical changes of aging, which include gaining or losing weight and the development of wrinkled and sagging skin, thus leading to a general feeling of decreased attractiveness. Many medications decrease libido in men and women. Among them are Benadryl, Aldactone, Aldomet, Catapres, Chlor-Trimeton, Valium, alcohol, Zantac, Tagamet, Dopar, and Inderal. Amphetamines increase libido.

A variety of drugs can be used to treat male infertility, including human chorionic gonadotropin (hCG), a substance naturally present in pregnant women. When hCG is administered as an injection in a male patient, it increases testosterone levels, which, in turn, increases sperm production.

■ THE URINARY SYSTEM

The urinary system's main functions are filtration of the blood and removal of the waste products that the kidneys have filtered out as unnecessary or dangerous (Fig. 20-3). This system consists of the kidneys, ureters, bladder, and urethra. The kidneys act as the filters for our blood. The ureters transfer the filtered waste products in water to the bladder, where they are stored until removal from the body