

chapter 66

Drugs Used in Dermatologic Conditions

Objectives

AFTER STUDYING THIS CHAPTER, THE STUDENT WILL BE ABLE TO:

1. Review characteristics of skin structures that influence drug therapy of dermatologic disorders.
2. Discuss antimicrobial, anti-inflammatory, and selected miscellaneous drugs in relation to their use in dermatologic disorders.
3. Use correct techniques to administer dermatologic medications.
4. Teach clients, family members, or caregivers correct administration of dermatologic medications.
5. For clients with “open lesion” skin disorders, teach about the importance and techniques of preventing infection.
6. Practice and teach measures to protect the skin from the damaging effects of sun exposure.

Critical Thinking Scenario

Fifteen-year-old Shawn Kelly stops by to talk when you are working in the teen clinic. For the last 6 months, he has had a severe problem with acne and his face is currently spotted with pimples and pustules.

Reflect on:

- ▶ Why acne is so common during adolescence.
- ▶ The impact acne has on the psychosocial development of an adolescent.
- ▶ How you will structure your intervention to be most therapeutic.
- ▶ Appropriate teaching for Shawn related to his acne.

OVERVIEW

The skin, the largest body organ, is the interface between the internal and external environments. The skin is composed of the epidermis and dermis. Epidermal or epithelial cells begin in the basal layer of the epidermis and migrate outward, undergoing degenerative changes in each layer. The outer layer, called the *stratum corneum*, is composed of dead cells and keratin. The dead cells are constantly being shed (desquamated) and replaced by newer cells. Normally, approximately 1 month is required for cell formation, migration, and desquamation. When dead cells are discarded, keratin remains on the skin. Keratin is a tough protein substance that is insoluble in water, weak acids, and weak bases. Hair and nails, which are composed of keratin, are referred to as appendages of the skin.

Melanocytes are pigment-producing cells located at the junction of the epidermis and the dermis. These cells produce

yellow, brown, or black skin coloring in response to genetic influences, melanocyte-stimulating hormone released from the anterior pituitary gland, and exposure to ultraviolet (UV) light (eg, sunlight).

The dermis is composed of elastic and fibrous connective tissue. Dermal structures include blood vessels, lymphatic channels, nerves and nerve endings, sweat glands, sebaceous glands, and hair follicles. The dermis is supported underneath by subcutaneous tissue, which is composed primarily of fat cells.

The skin has numerous functions, most of which are protective, including the following:

- Serves as a physical barrier against loss of fluids and electrolytes and against entry of microorganisms, foreign bodies, and other potentially harmful substances
- Detects sensations of pain, pressure, touch, and temperature through sensory nerve endings
- Assists in regulating body temperature through production and elimination of sweat