

Parasites

Scabies is a parasitic infection caused by human itch mites that burrow into the skin and lay their eggs. This condition usually occurs in the webbing of the fingers and toes as well as the neck, axillae, and groin. Lice, which cause pediculosis (infestation of head, body, or pubic lice), live in hair and feed on blood. Scabicides and pediculicides are used to treat itch mite and lice infestations, respectively. These drugs are applied directly to the area of infestation.

Lice lay eggs called **nits**. After applying a pediculicide, the hair where the nits live should be combed with a special fine-toothed comb and the site inspected for at least 1 week to be sure all the nits are dead. Because bedding and clothing may hold eggs, they must be thoroughly cleaned daily for 1 week. Pediculicides are neurotoxins and may cause neurological side effects; therefore, they should be used only as prescribed.

Viruses

Viruses are the smallest of microorganisms, and because they depend on a host cell for survival, eradicating them can be difficult without killing the host cell. Some examples of viruses that affect the skin are the human papillomavirus (HPV), herpes simplex virus type 1 (HSV-1), and herpes simplex virus type 2 (HSV-2). HPV causes venereal warts and most of the cervical cancer in women, and it can become problematic and difficult to eliminate. Warts on the genitals are called condylomas; otherwise, warts are called verrucae. HPV can lie dormant in the system and flare up if it is not completely treated. The goal of wart treatment is to destroy affected skin superficially at the site of growth. Cryosurgery with liquid nitrogen or topical products containing salicylic acid may be necessary to remove persistent or prolific warts.

HSV-1 typically causes cold sores, or fever blisters, on the mouth and lips. HSV-2 is a sexually transmitted virus and usually affects the genital mucosa. Both HSV-1 and HSV-2 are treated with oral antivirals. Herpes zoster, or shingles, is a reactivation of the varicella-zoster virus that causes chickenpox. This is also treated with oral antiviral medications, which are covered in Chapter 17, Immunological System Medications.

Fungi

Fungal infections that affect the integumentary system include tinea and candidiasis. In tinea infections, dermatophytes invade keratin and can infect the hair, nails, and skin. Topical antifungals, such as

Drug Spotlight 11-1 *Silvadene (silver sulfadiazine topical)*

Classification	Antimicrobial
Availability	Topical cream, prescription
Indications	Used to treat or prevent serious infections on areas of the skin with second- or third-degree burns
Dosage/Implementation	Burn area should be covered with Silvadene at all times. Should be applied once or twice a day to 1/16 of an inch thickness. Depending on doctor's orders, the burns may be cleaned and debrided prior to application.
Action	Kills bacteria by breaking down the cell membrane and cell wall.
Adverse Reactions/Side Effects	Skin irritations (including rash, blistering, peeling or discoloration of skin or mucous membranes) or upset stomach.
Contraindications/Precautions	Hypersensitivity to silver sulfadiazine. Do not use if pregnant patient is approaching or at term, or on newborn infants younger than 2 months of age.