SECTION II
Medical Specialties

5 Dermatology
Integumentary System

Learning Objectives

Upon completion of this chapter, you will be able to:

5–1 Describe the medical specialty of dermatology.
5–2 Understand the functions of the skin.
5–3 Define dermatology-related combining forms, prefixes, and suffixes.
5–4 Identify the structures treated in dermatology.
5–5 Build dermatology medical terms from word parts.
5–6 Explain dermatology medical terms.
5–7 Use dermatology abbreviations.
A Brief Introduction to Dermatology

Dermatology is the branch of medicine concerned with the diagnosis and treatment of conditions involving the skin and its accessory structures, hair and nails. A dermatologist specializes in treating skin tumors, skin damaged by trauma and burns, skin infections, inflammatory skin conditions, and cosmetic disorders including hair loss, scars, and skin changes associated with aging. More about the practice of dermatology can be found at the website of the American Academy of Dermatology (www.aad.org).

Plastic surgery is another branch of medicine that treats conditions involving the integumentary system as well as conditions of the musculoskeletal system, head and face, hands, breasts, and external genitalia. Plastic surgeons perform both reconstructive and cosmetic procedures. Reconstructive surgery is performed to increase function and give a more typical appearance to damaged or missing body structures. The goal of cosmetic surgery is to enhance or reshape structures to improve their appearance. Visit the website of the American Society of Plastic Surgeons (www.plasticsurgery.org) for more detailed information.

The skin, or integument, is the largest organ in the body, weighing an average of 20 pounds. It serves several important functions.

- **Protection**—Skin is a continuous two-way barrier that prevents pathogens, such as bacteria, from invading the body and vital substances, such as water, from leaking out of the body.
- **Temperature regulation**—If the body is too hot, evaporation of sweat from sweat glands and dilation of blood vessels in the skin helps to cool the body; if it needs to conserve heat, blood vessels constrict to keep warm blood away from the skin surface; additionally, the fatty subcutaneous layer serves as insulation.
- **Sensation**—Skin contains many different sensory receptors that send information to the brain regarding the senses of touch, pressure, temperature, and pain.
- **Waste disposal**—Waste products, such as excess salt, are excreted from the body in very small amounts in the form of sweat.

Dermatology Combining Forms

The following list presents combining forms closely associated with the skin and used for building and defining dermatology terms.

<table>
<thead>
<tr>
<th>Combining Form</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>aden/o</td>
<td>gland</td>
</tr>
<tr>
<td>adip/o</td>
<td>fat</td>
</tr>
<tr>
<td>cutane/o</td>
<td>skin</td>
</tr>
<tr>
<td>derm/o</td>
<td>skin</td>
</tr>
<tr>
<td>dermat/o</td>
<td>skin</td>
</tr>
<tr>
<td>hidr/o</td>
<td>sweat</td>
</tr>
<tr>
<td>kerat/o</td>
<td>keratin, hard, hornlike</td>
</tr>
<tr>
<td>lip/o</td>
<td>fat</td>
</tr>
<tr>
<td>melan/o</td>
<td>melanin, black</td>
</tr>
<tr>
<td>onych/o</td>
<td>nail</td>
</tr>
<tr>
<td>py/o</td>
<td>pus</td>
</tr>
<tr>
<td>seb/o</td>
<td>sebum, oil</td>
</tr>
<tr>
<td>trich/o</td>
<td>hair</td>
</tr>
<tr>
<td>ungu/o</td>
<td>nail</td>
</tr>
<tr>
<td>bi/o</td>
<td>life</td>
</tr>
<tr>
<td>carcin/o</td>
<td>cancer</td>
</tr>
<tr>
<td>chem/o</td>
<td>chemical</td>
</tr>
<tr>
<td>cry/o</td>
<td>cold</td>
</tr>
<tr>
<td>erythr/o</td>
<td>red</td>
</tr>
<tr>
<td>ichthy/o</td>
<td>scaly</td>
</tr>
<tr>
<td>leuk/o</td>
<td>white</td>
</tr>
<tr>
<td>myc/o</td>
<td>fungus</td>
</tr>
<tr>
<td>necr/o</td>
<td>death</td>
</tr>
<tr>
<td>pedicul/o</td>
<td>lice</td>
</tr>
<tr>
<td>scler/o</td>
<td>hardening</td>
</tr>
<tr>
<td>vesic/o</td>
<td>bladder, sac</td>
</tr>
<tr>
<td>xanth/o</td>
<td>yellow</td>
</tr>
<tr>
<td>xer/o</td>
<td>dry</td>
</tr>
</tbody>
</table>

The following list presents combining forms that are not specific to the skin but are used for building and defining dermatology terms.
Suffix Review

These suffixes introduced in Chapter 2 are being reviewed in this chapter because they are used to build dermatology terms.

<table>
<thead>
<tr>
<th>Suffix</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>-al</td>
<td>pertaining to</td>
</tr>
<tr>
<td>-cle</td>
<td>small</td>
</tr>
<tr>
<td>-cyte</td>
<td>cell</td>
</tr>
<tr>
<td>-derma</td>
<td>skin condition</td>
</tr>
<tr>
<td>-ectomy</td>
<td>surgical removal</td>
</tr>
<tr>
<td>-genic</td>
<td>producing</td>
</tr>
<tr>
<td>-ia</td>
<td>condition</td>
</tr>
<tr>
<td>-iasis</td>
<td>abnormal condition</td>
</tr>
<tr>
<td>-ic</td>
<td>pertaining to</td>
</tr>
<tr>
<td>-itis</td>
<td>inflammation</td>
</tr>
<tr>
<td>-logist</td>
<td>one who studies</td>
</tr>
<tr>
<td>-logy</td>
<td>study of</td>
</tr>
<tr>
<td>-malacia</td>
<td>abnormal softening</td>
</tr>
<tr>
<td>-megaly</td>
<td>enlarged</td>
</tr>
<tr>
<td>-oid</td>
<td>resembling</td>
</tr>
<tr>
<td>-oma</td>
<td>tumor, mass</td>
</tr>
<tr>
<td>-opsy</td>
<td>view of</td>
</tr>
<tr>
<td>-ose</td>
<td>pertaining to</td>
</tr>
<tr>
<td>-osis</td>
<td>abnormal condition</td>
</tr>
<tr>
<td>-ous</td>
<td>pertaining to</td>
</tr>
<tr>
<td>-pathy</td>
<td>disease</td>
</tr>
<tr>
<td>-phagia</td>
<td>eating, swallowing</td>
</tr>
<tr>
<td>-plasty</td>
<td>surgical repair</td>
</tr>
<tr>
<td>-rrhea</td>
<td>discharge</td>
</tr>
<tr>
<td>-sclerosis</td>
<td>hardening</td>
</tr>
<tr>
<td>-tic</td>
<td>pertaining to</td>
</tr>
<tr>
<td>-tome</td>
<td>instrument to cut</td>
</tr>
</tbody>
</table>

Prefix Review

These prefixes introduced in Chapter 3 are being reviewed in this chapter because they are used to build dermatology terms.

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>an-</td>
<td>without</td>
</tr>
<tr>
<td>epi-</td>
<td>above</td>
</tr>
<tr>
<td>hyper-</td>
<td>excessive</td>
</tr>
<tr>
<td>hypo-</td>
<td>below, insufficient</td>
</tr>
<tr>
<td>intra-</td>
<td>within</td>
</tr>
<tr>
<td>pachy-</td>
<td>thick</td>
</tr>
<tr>
<td>per-</td>
<td>through</td>
</tr>
<tr>
<td>sub-</td>
<td>under</td>
</tr>
<tr>
<td>trans-</td>
<td>across</td>
</tr>
</tbody>
</table>

Structures Commonly Treated in Dermatology

Figure 5-1 Structures of the skin
Building Dermatology Terms

This section presents word parts most often used to build dermatology terms. Following the explanation of the term, you have the opportunity to begin building your medical vocabulary. Read the meaning of each term and then fill in the blanks to build a single medical term. Use the slashes to divide prefixes, word roots, combining vowels, and suffixes. To help you out, you will find a key to the word parts underneath the blanks: **wr** for word root, **p** for prefix, **cv** for combining vowel, and **s** for suffix. Remember that not every term will contain all of these word parts. As you gain experience, this process becomes easier. Answers can be found online at www.pearsonhighered.com/healthprofessionsresources.

1. **aden/o** – combining form meaning gland

Organ that secretes a substance; the two general types of glands in the body are **endocrine glands** and **exocrine glands**; endocrine glands, like the thyroid gland and pituitary gland, secrete directly into the bloodstream and are not part of the skin; exocrine glands, like **sweat glands** and **sebaceous glands**, located in the dermis layer of the skin, secrete into a duct

a. surgical removal of a gland

b. inflammation of a gland

c. tumor in a gland

d. disease of a gland

e. enlarged gland
2. **adip/o** – combining form meaning fat

Fat tissue makes up the subcutaneous layer; lies under the dermis layer of the skin to form a continuous layer of fat; serves as insulation, energy storage, and protective padding layer (see again Figure 5-1)

  a. pertaining to fat

  b. fat cell

  c. tumor made of fat

3. **cutane/o** – combining form meaning skin

Also called the **integument**; protective outer covering of the body; composed of two layers:

- **Epidermis**: outer layer; composed primarily of overlapping layers of flat, dead keratinized cells that form a protective barrier to keep out bacteria and other pathogens; deepest layer of epidermis is **basal layer**, composed of living cells that grow and divide to replace dead cells sloughed off from skin surface; lacks a blood supply, depends on dermis for nourishment; location of **melanocytes**

- **Dermis**: inner layer; strong, flexible connective tissue for strength; houses hair follicles, sweat glands, sebaceous glands, sensory receptors, and blood vessels

The **subcutaneous layer**, or **hypodermis**, is a layer of tissue underlying the dermis; not truly a layer of the skin, but closely associated with and assists in the functions of the skin; primarily composed of fat; insulates the body, provides protective padding, and stores energy (see also Figure 5-1)
a. pertaining to the skin

b. pertaining to under the skin

c. pertaining to through the skin

4. **-derma – suffix meaning skin condition**

   Used with combining forms or prefixes to describe how skin looks or feels

   a. scaly skin condition
   b. hard skin condition
   c. yellow skin condition
   d. dry skin condition
   e. thick skin condition
   f. red skin condition
   g. pus skin condition
   h. white skin condition

5. **derm/o – combining form meaning skin**

   a. pertaining to the skin
   b. pertaining to above the skin
   c. pertaining to within the skin
   d. pertaining to below the skin
   e. pertaining to across the skin

6. **dermat/o – combining form meaning skin**

   a. skin inflammation
   b. study of the skin
   c. one who studies the skin
   d. abnormal condition of the skin
e. surgical repair of the skin
f. abnormal skin fungus condition
g. disease of the skin
h. hardened skin condition

7. hidr/o – combining form meaning sweat
Secreted by sweat glands; primary function is to cool skin by evaporation; also contains small amount of waste products such as sodium chloride, urea, and ammonia; sweat glands are tightly coiled structures located in the dermis; sweat is carried to skin surface by sweat duct (see also Figure 5-1)

Figure 5-5 Sweat gland (Designua/Shutterstock)

a. abnormal condition of sweating
b. abnormal condition with lack of sweating
c. sweat gland inflammation
d. abnormal condition of excessive sweating

8. kerat/o – combining form meaning keratin, hard, hornlike
This hard protein is found in hair, nails, and the dead, flattened cells in the epidermis; may become overgrown, resulting in a thick, hornlike layer of skin

a. hornlike skin condition
b. hornlike abnormal condition
c. producing keratin
9. **lip/o** – combining form meaning fat

   a. surgical removal of fat

   b. resembling fat

   c. fat tumor

   d. fat cell

10. **melan/o** – combining form meaning melanin, black

    Black pigment found in **melanocytes** that gives skin and hair its color; the more melanin present, the darker the hair or skin; melanocytes are found in the epidermis layer of the skin and provide protection against damage from ultraviolet (UV) ray exposure (see again Figure 5-4)

    a. black tumor

    b. black cell

    c. pertaining to (being) black

11. **onych/o** – combining form meaning nail

    Flat plates of keratin, called the **nail body**, that cover the ends of fingers and toes; connected to tissue underneath by **nail bed**; grows longer from **nail root** located at base of nail and covered by **cuticle**; light-colored half-moon area at base of nail is **lunula**; exposed edge that is trimmed to shorten nail is called the **free edge** (see also Figure 5-2)

    **Figure 5-6** Nail of big toe with fungal Infection

    *(Australis Photography/Shutterstock)*

    a. surgical removal of a nail

    b. inflammation of a nail

    c. abnormal softening of a nail

    d. abnormal nail fungus condition

    e. nail eating (biting)

    f. condition of excessive nail (growth)
12. **py/o** – combining form meaning pus

Semisolid fluid associated with certain bacterial infections; consists of tissue fluid, dead bacteria, debris from damaged cells, and dead white blood cells

   a. producing pus

   b. discharge of pus

13. **seb/o** – combining form meaning oil, sebum

Oily secretion of sebaceous glands; released directly into a hair follicle and serves to lubricate skin to keep it soft and prevent it from cracking (see again Figure 5-3)

   a. discharge of oil

14. **trich/o** – combining form meaning hair

Shaft of keratinized cells growing up through the layers of skin; a hair shaft grows longer from hair root and extends toward skin surface within a hair follicle; sebaceous glands secrete sebum directly into the hair follicle; a slender slip of smooth muscle, the arrector pili, attaches to the hair follicle and causes the hair shaft to stand up when it contracts (goose bumps) (see also Figure 5-3)

   ![Hair structure](Designua/Shutterstock)

   a. abnormal hair fungus condition

   b. hair eating (chewing/biting)

15. **ungu/o** – combining form meaning nail

   a. pertaining to a nail

   b. pertaining to under a nail
## Dermatology Vocabulary

The dermatology terms presented in this section include eponyms, modern English words, and those that contain Latin or Greek word parts but are not constructed solely from these word parts. When you recognize word parts within a term, they will give you a hint about the word’s meaning. In these instances, look for the word parts to follow the term.

<table>
<thead>
<tr>
<th>TERM</th>
<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>abrasion</td>
<td>Skin injury that scrapes away surface of the skin</td>
</tr>
<tr>
<td>abscess</td>
<td>A collection of pus in the skin</td>
</tr>
<tr>
<td>acne</td>
<td>Inflammation of sebaceous glands and hair follicles; results in pustules and papules; most commonly seen in teenagers</td>
</tr>
<tr>
<td>acne rosacea</td>
<td>Chronic form of acne seen in adults; red rash, tiny pimples, and broken blood vessels primarily on cheeks and nose</td>
</tr>
<tr>
<td>alopecia</td>
<td>Absence or loss of hair, especially of head</td>
</tr>
<tr>
<td>basal cell carcinoma (BCC)</td>
<td>Skin cancer in basal cell layer of epidermis; very common cancer caused by sun exposure but rarely metastasizes or spreads</td>
</tr>
<tr>
<td>biopsy (BX, bx)</td>
<td>Surgical procedure to remove a piece of tissue by needle, knife, punch, or brush to examine under a microscope in order to make a diagnosis</td>
</tr>
<tr>
<td>boil</td>
<td>Bacterial infection of a hair follicle; also called a furuncle</td>
</tr>
<tr>
<td>burn, first-degree (1st degree)</td>
<td>Mild burn that damages epidermis only; results in erythema but no blisters; generally, there is no scarring; also called superficial burn (see Figure 5–10)</td>
</tr>
<tr>
<td>burn, second-degree (2nd degree)</td>
<td>Burn damage that extends through the epidermis and into the dermis, causing blisters to form; scarring may occur; also called partial-thickness burn (see again Figure 5-10)</td>
</tr>
<tr>
<td>burn, third-degree (3rd degree)</td>
<td>Burn damage to the full thickness of skin and into underlying tissues; infection and fluid loss are major concerns; usually requires skin grafts to cover burned areas; scarring will occur; also called full-thickness burn (see again Figure 5-10)</td>
</tr>
</tbody>
</table>

**Figure 5-8** Red rash and broken blood vessels of acne rosacea (Lipowski Milan/Shutterstock)

**Figure 5-9** Basal cell carcinoma (Centers for Disease Control and Prevention)

**TERMINOLOGY TIDBIT** The term *alopecia* comes from the Greek word *alopekia*, meaning “fox mange,” a condition that causes hair to fall out.
<table>
<thead>
<tr>
<th>TERM</th>
<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>cauterization</td>
<td>Intentional destruction of tissue by a caustic chemical, electric current, laser, or freezing</td>
</tr>
<tr>
<td>cellulitis</td>
<td>Inflammation of connective tissue cells of skin</td>
</tr>
<tr>
<td>chemabrasion</td>
<td>Removal of superficial layers of skin using chemicals; also called a chemical peel</td>
</tr>
<tr>
<td>chem/o</td>
<td>= chemical</td>
</tr>
<tr>
<td>cicatrix</td>
<td>A scar</td>
</tr>
<tr>
<td>contusion</td>
<td>Blunt trauma to skin that results in bruising but no break in the skin</td>
</tr>
<tr>
<td>cryosurgery</td>
<td>Using extreme cold to freeze and destroy tissue</td>
</tr>
<tr>
<td>cry/o</td>
<td>= cold</td>
</tr>
<tr>
<td>culture and sensitivity (C&amp;S)</td>
<td>Laboratory test that grows a colony of bacteria removed from an infected area in order to identify the specific type of bacteria and then determine its sensitivity to a variety of antibiotics</td>
</tr>
<tr>
<td>cyst</td>
<td>Fluid-filled sac under the skin</td>
</tr>
<tr>
<td>debridement</td>
<td>Removal of foreign material and dead or damaged tissue from a wound</td>
</tr>
<tr>
<td>decubitus ulcer</td>
<td>Open sore caused by pressure over bony prominences obstructing blood flow; can appear in bedridden patients who lie in one position too long and can be difficult to heal; commonly called a bedsore or a pressure sore</td>
</tr>
<tr>
<td>dermabrasi reon</td>
<td>Scraping of skin with rotating wire brushes or sandpaper; used to remove acne scars</td>
</tr>
<tr>
<td>derm/o</td>
<td>= skin</td>
</tr>
<tr>
<td>dermata me</td>
<td>Instrument that cuts out a small section of skin or a thin slice of skin to be used for a graft</td>
</tr>
<tr>
<td>derm/a -tome</td>
<td>= skin -tome = instrument to cut</td>
</tr>
</tbody>
</table>

**Figure 5-10** Illustration comparing the depth of the three types of burns (Alia Medical Media/Shutterstock)

**TERMINOLOGY TIDBIT** The term *contusion* comes from the Latin word *contusion*, meaning “to bruise or crush.”

**TERMINOLOGY TIDBIT** The term *decubitus* comes from the Latin word *decumbo*, meaning “lying down,” which leads to the use of the term for a bedsore or pressure sore.

**TERMINOLOGY TIDBIT** Note that the combining vowel in this instance is /a/ rather than the much more common /o/.
<table>
<thead>
<tr>
<th>TERM</th>
<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>ecchymosis</td>
<td>&quot;Black-and-blue&quot; skin bruise caused by blood collecting under skin after trauma</td>
</tr>
<tr>
<td>ecchymosis</td>
<td>-osis = abnormal condition</td>
</tr>
<tr>
<td>eczema</td>
<td>Skin condition of unknown cause; symptoms include redness, vesicles, itching, and crusting</td>
</tr>
<tr>
<td>erythema</td>
<td>erythr/o = red</td>
</tr>
<tr>
<td>fissure</td>
<td>Cracklike break in skin</td>
</tr>
<tr>
<td>gangrene</td>
<td>Tissue necrosis caused by loss of blood supply</td>
</tr>
<tr>
<td>herpes simplex</td>
<td>Infection by herpes simplex virus (HSV) causing painful blisters around lips and nose; commonly called fever blisters</td>
</tr>
<tr>
<td>herpes zoster</td>
<td>Viral infection of a nerve root that causes the appearance of very painful blisters along the path of a nerve; commonly called shingles</td>
</tr>
<tr>
<td>impetigo</td>
<td>Inflammatory skin disease with pustules that rupture and become crusted</td>
</tr>
</tbody>
</table>

**TERMINOLOGY TIDBIT** The term *gangrene* comes from the Greek word *gangraine*, meaning "an eating sore," which describes how this condition progresses by growing deeper and wider.
<table>
<thead>
<tr>
<th>TERM</th>
<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>keloid</td>
<td>An excessively raised and thickened scar</td>
</tr>
<tr>
<td></td>
<td><strong>Figure 5-15</strong> Keloid on shoulder (WEERACHAT/Shutterstock)</td>
</tr>
<tr>
<td>laceration</td>
<td>Jagged-edged skin wound caused by tearing of the skin; does not mean a skin cut</td>
</tr>
<tr>
<td>laser surgery</td>
<td>Removal of skin lesions and birthmarks using laser beam</td>
</tr>
<tr>
<td>lesion</td>
<td>General term that indicates the presence of some type of tissue abnormality, wound, or injury</td>
</tr>
<tr>
<td>macule</td>
<td>Flat, discolored spot on the skin surface; example is a freckle or birthmark</td>
</tr>
<tr>
<td>malignant melanoma</td>
<td>Aggressive form of skin cancer that originates in a melanocyte; prone to metastasize or spread</td>
</tr>
<tr>
<td></td>
<td><strong>Figure 5-16</strong> Malignant melanoma (Australis Photography/Shutterstock)</td>
</tr>
<tr>
<td>necrosis</td>
<td>Area of tissue death</td>
</tr>
<tr>
<td></td>
<td><strong>Figure 5-17</strong> Necrosis (Myibean/Shutterstock)</td>
</tr>
<tr>
<td>nevus</td>
<td>Pigmented skin blemish, birthmark, or mole</td>
</tr>
<tr>
<td>nodule</td>
<td>Solid, raised clump of skin cells</td>
</tr>
<tr>
<td>onychia</td>
<td>Inflamed nail bed</td>
</tr>
<tr>
<td></td>
<td><strong>Figure 5-18</strong> The common head louse (D. Kucharski K. Kucharska/Shutterstock)</td>
</tr>
<tr>
<td>papule</td>
<td>Small, solid, raised lesion on surface of the skin</td>
</tr>
<tr>
<td>pediculosis</td>
<td>Lice infestation; eggs laid by lice are called nits and cling tightly to hair</td>
</tr>
<tr>
<td></td>
<td><strong>Figure 5-16</strong> Malignant melanoma (Australis Photography/Shutterstock)</td>
</tr>
</tbody>
</table>

**TERMINOLOGY TIDBIT** The term *lesion* comes from the Latin word *laedere*, meaning “to injure.”
<table>
<thead>
<tr>
<th>TERM</th>
<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>petechiae</td>
<td>Flat, pinpoint, purplish spots from bleeding under the skin</td>
</tr>
<tr>
<td>pruritus</td>
<td>Severe itching</td>
</tr>
<tr>
<td>psoriasis</td>
<td>Chronic inflammatory condition consisting of crusty papules forming patches with circular borders</td>
</tr>
<tr>
<td>pruritus</td>
<td>Severe itching</td>
</tr>
<tr>
<td>purpura</td>
<td>Purplish-red bruises usually occurring in people with thin, easily damaged skin</td>
</tr>
<tr>
<td>pustule</td>
<td>Raised spot on the skin containing pus</td>
</tr>
<tr>
<td>scabies</td>
<td>Infestation by a microscopic mite (not the mites that normally live on the skin surface) that burrows into the dermis layer; causes inflammation, vesicles, and intense itching along mite's path</td>
</tr>
<tr>
<td>skin graft  (SG)</td>
<td>Transfer of the skin from a normal area to cover another site; used to treat burn victims and after some surgical procedures</td>
</tr>
<tr>
<td>squamous cell carcinoma (SCC)</td>
<td>Skin cancer that begins in the epidermis but may grow into deeper tissue; does not generally metastasize to other areas of the body</td>
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<tr>
<td>tinea</td>
<td>Fungal skin disease resulting in itching, scaling lesions</td>
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Images:
- Figure 5-19 Psoriasis (Hriana/Shutterstock)
- Figure 5-20 Purpura (Christian Delbert/Shutterstock)
- Figure 5-21 Inflammation along path of burrowing mite (Jaroslav Moravcik/Shutterstock)
- Figure 5-22 Squamous cell carcinoma (National Cancer Institute)
- Figure 5-23 Fungal infection on a foot (athlete's foot) (Justyle/Shutterstock)
TERMINOLOGY TIDBIT  The term *urticaria* comes from the Latin word *urtica*, meaning “nettle.”

### Dermatology Abbreviations

The following list presents common dermatology abbreviations.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>BCC</td>
<td>basal cell carcinoma</td>
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<tr>
<td>BX, bx</td>
<td>biopsy</td>
</tr>
<tr>
<td>C&amp;S</td>
<td>culture and sensitivity</td>
</tr>
<tr>
<td>decub</td>
<td>decubitus ulcer</td>
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<tr>
<td>Derm, derm</td>
<td>dermatology</td>
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<tr>
<td>HSV</td>
<td>herpes simplex virus</td>
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<tr>
<td>I&amp;D</td>
<td>incision and drainage</td>
</tr>
<tr>
<td>ID</td>
<td>intradermal</td>
</tr>
<tr>
<td>MM</td>
<td>malignant melanoma</td>
</tr>
<tr>
<td>SCC</td>
<td>squamous cell carcinoma</td>
</tr>
<tr>
<td>SG</td>
<td>skin graft</td>
</tr>
<tr>
<td>STSG</td>
<td>split-thickness skin graft</td>
</tr>
<tr>
<td>SubQ, subcut</td>
<td>subcutaneous</td>
</tr>
<tr>
<td>ung</td>
<td>ointment</td>
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Practice & Review

CASE STUDY

History of Present Illness
A 71-year-old male was referred to a dermatologist for evaluation of right-foot ulcers that had not healed for three years. The ulcers first began as a tender, reddened pustule on the lateral aspect of the right foot. The first ulcer appeared three months later and was quickly followed by the development of two additional ulcers. The lesions have not improved with treatment with oral antibiotics, topical anti-inflammatory cream, or whirlpool regimen.

Past Medical History
Patient was diagnosed with thromboangiitis obliterans eight years ago. He had a vascular bypass for the right lower leg five years ago and for the left lower leg two years ago. He tests negative for diabetes mellitus.

Family and Social History
Patient is a retired night watchman. He is active and engages in extensive landscaping of his yard for a hobby. He smoked two packs of cigarettes per week beginning in his teenage years but stopped smoking at the time thromboangiitis obliterans was diagnosed. He denies alcohol or illicit drug use. He has been married for 49 years and has three married children. His mother died at age 75 following complications of type II diabetes mellitus necessitating bilateral below-the-knee amputations. His father is still alive at age 93 and in reasonable health for his age. He has no siblings.

Physical Examination
There are three ulcers on the lateral aspect of the right foot and ankle. Each measures approximately 3 × 4 cm. The ulcers are covered by necrotic tissue, and there are copious amounts of pus drainage from each. Erythema is noted in the skin around the edge of each ulcer.

Diagnostic Tests
C&S of drainage from each ulcer revealed staphylococcus bacterial infections that were found to be resistant to penicillin and sensitive to vancomycin, which is available only in IV form. Fungal scrapings were negative.

Diagnosis
Gangrene ulcers right lower leg.

Plan of Treatment
1. Admit to hospital for IV antibiotic therapy, whirlpool, and surgical debridement of ulcers
2. Schedule patient for skin graft in the future when infection has cleared up and if lower leg circulation is sufficient to support healing of grafts
CRITICAL THINKING QUESTIONS
Answer the following questions regarding this case study. Do not just copy words out of the case study but translate all medical terms. In order to answer some of these questions, you may need to look up information in another chapter of this text, in a medical dictionary, or online. Answers can be found online at www.pearsonhighered.com/healthprofessionsresources.

1. How would you describe the way the ulcers first appeared before they were actual ulcers?

2. How would you describe the treatments that have not healed the ulcers?

3. What medical condition does this patient not have that his mother did have?

4. Which of the following regarding the ulcers is NOT true?
   a. edges of ulcers are blue in color
   b. no fungi are present
   c. ulcers are covered by dead tissue
   d. a lot of pus is present

5. Explain a C&S. What does it mean that the bacteria are resistant to penicillin and sensitive to vancomycin?

6. The ulcers are infected by staphylococcus bacteria. Go to www.mayoclinic.org; type “staph infections” in the search box; and write a brief description about where this bacterium is found. How does it cause serious infections?

7. This patient has ulcers that are caused by gangrene. What is the root cause of gangrene?

8. How would you explain each of the treatments planned when this patient is admitted to the hospital?
Sound It Out

The following are some of the key terms from this chapter written as their phonetic spelling. Sound out each term and write it in the blank. Pronunciations for all terms are included in the MyLab Medical Terminology package that accompanies this text. (Visit www.pearson.com/mylab/medical-terminology for more information.)

1. ah-BRAY-zhun
2. ad ih-POH-mah
3. SIST
4. an high-DROH-sis
5. BYE-op-see
6. sell-yoo-LYE-tis
7. UL-ser
8. AB-sess
9. DER-mah-tohm
10. FISH-er
11. on ih-koh-FAY-je-ah
12. GANG-green
13. high-poh-DER-mik
14. VES-ih-kl
15. lih-POH-mah
16. NOD-jool
17. MAK-yool
18. neh-KROH-sis
19. PAP-yool
20. soh-RYE-ah-sis
21. der-mah-TALL-oh-jee
22. seb-oh-REE-ah
23. sub-kyoo-TAY-nee-us
24. TIN-ee-ah
25. UNG-gwal

Transcription Practice

Each of the following sentences is written in common English. Underline any words or phrases that can be replaced by a medical term. Then rewrite the entire sentence using medical terms. Answers can be found online at www.pearsonhighered.com/healthprofessionsresources.

1. The specialist in treating skin conditions removed a sample of skin with a knife and examined it under a microscope to determine if the patient has a pigmented congenital skin blemish rather than aggressive skin cancer beginning in a melanocyte.

2. A laboratory test that grows a colony of bacteria to identify the type was performed to determine how best to treat the infected open sore.

(continued on next page)
3. The patient had a very large hair follicle with a bacterial infection surrounded by a large area of inflamed connective tissue skin cells around it.

4. Ms. Marks was lucky; when she tripped off the curb, she received only skin trauma that scraped away a layer of skin and blunt trauma to the skin resulting in bruises.

5. Mr. Brown's chronic exposure to toxins at work had left him with dry skin, scaly skin, and thick skin.

6. After years of nail biting, the patient developed a soft nail condition and an abnormal fungus nail condition that required surgical removal of the nail.

7. To repair the areas of full-thickness burns, a transfer of skin from a normal area to cover another site was necessary.

8. Mr. Strong was concerned that the lump he could feel under his skin was a gland tumor, but it turned out to be only a fat tumor and was removed with a surgical removal of the fat.

9. The surgeon who uses surgery to improve the appearance of damaged skin helped Mr. Marsh decide whether to have abrasion using chemicals or abrasion using a rotating wire brush for his face-lift.

10. New medical students often have difficulty telling the difference between a flat discolored spot, a raised solid lesion, and a fluid-filled sac under the skin.
Labeling Exercise
Write the name of each structure on the numbered line. Also use this space to write the combining form where appropriate.

Build Medical Terms
The suffix -derma means skin condition. Use it to write a term that means:

1. dry skin condition
2. red skin condition
3. pus skin condition
4. hard skin condition
5. thick skin condition

The combining form hidr/o means sweat. Use it to write a term that means:

6. abnormal condition of excessive sweat
7. abnormal condition of lack of sweat

The combining form melan/o means black. Use it to write a term that means:

8. black cell
9. black tumor

(continued on next page)
The combining form dermat/o means skin. Use it to write a term that means:

10. skin disease
11. surgical repair of skin
12. study of skin

The combining form onych/o means nail. Use it to write a term that means:

13. abnormal softening of nail
14. abnormal condition of nail fungus
15. surgical removal of nail

Spelling
Some of the following terms are misspelled. Identify the incorrect terms and spell them correctly in the blank provided.

1. empetigo
2. urticaria
3. wheel
4. psoriasis
5. fissure
6. tenia
7. peteckiae
8. gangreen
9. cauterization
10. necrowsis

Fill in the Blank
Fill in the blank to complete each of the following sentences.

1. A(n) _____________ is a cracklike break in the skin whereas a(n) _______________ is a jagged-edged skin wound.
2. Infection by the ________________ virus causes painful blisters around the lips.
3. Ms. Branch had her acne scars removed with _________________.
4. A diagnosis of ________________ burn was made when the physician noted that the full thickness of skin was burned away.
5. A freckle is an example of a(n) _________________.

Chapter 5
6. The severe area of necrosis required ________________ to remove the dead and damaged tissue.

7. A(n) ________________ is a typical black-and-blue bruise from trauma.

8. The physician performed a(n) ________________ to obtain a sample of the infected tissue to examine under a microscope.

9. A raised skin lesion that is solid is a(n) ________________, but if it contains pus, it is a(n) ________________.

10. Unfortunately, the bedridden patient developed a(n) ________________ from being in one position too long.

**Abbreviation Matching**

Match each abbreviation with its meaning.

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A. procedure to treat burn victims
B. type of skin cancer that rarely spreads
C. means pertaining to within the skin
D. virus that causes fever blisters
E. biopsy
F. ointment
G. commonly called a bedsore
H. means under the skin
I. type of skin cancer that is prone to spread
J. lab test that identifies bacteria

**Medical Term Analysis**

Examine each of the following terms. Begin by dividing each into its word parts and writing them in the indicated blanks (P = prefix; WR = word root; CF = combining form; S = suffix). Follow with the definition of each word part and then finally the meaning of the full term.

1. **adenomegaly**
   
   CF __________________________
   
   means __________________________
   
   S __________________________
   
   means __________________________
   
   Term meaning: __________________________

2. **adipocyte**
   
   CF __________________________
   
   means __________________________
   
   S __________________________
   
   means __________________________
   
   Term meaning: __________________________

(continued on next page)
3. melanoma

**WR**
means
**S**
means
Term meaning: __________

---

4. hypodermic

**P**
means
**WR**
means
**S**
means
Term meaning: __________

---

5. keratogenic

**CF**
means
**S**
means
Term meaning: __________

---

6. lipectomy

**WR**
means
**S**
means
Term meaning: __________

---

7. pyorrhea

**CF**
means
**S**
means
Term meaning: __________

---

8. erythroderma

**CF**
means
**S**
means
Term meaning: __________
9. trichomycosis

**CF**

means

**WR**

means

**S**

means

Term meaning:

10. subcutaneous

**P**

means

**WR**

means

**S**

means

Term meaning:

---

**Multiple Choice**

1. Which one of the following choices is NOT located in the dermis layer?
   a. hair follicles  b. sebaceous glands  c. melanocytes  d. sensory receptors

2. The color of hair and skin comes from ____________________.
   a. keratin  b. sebum  c. fat  d. melanin

3. Pus is a semisolid fluid made up entirely by dead bacteria.
   a. True  b. False

4. Sweat glands are exocrine glands.
   a. True  b. False

5. Nails grow longer from the ____________________.
   a. nail bed  b. lunula  c. nail root  d. free edge

6. Keratin is a hard protein found in hair and nails.
   a. True  b. False

7. The subcutaneous layer is made up primarily of ____________________.
   a. muscle  b. skin  c. connective tissue  d. fat

8. Hair extends toward the skin surface within the ____________________.
   a. hair follicle  b. hair shaft  c. hair root  d. arrector pili

9. The primary function of sweat is to get rid of waste products.
   a. True  b. False

10. Which layer of skin is composed of overlapping layers of dead, flat cells?
    a. dermis  b. subcutaneous layer  c. epidermis  d. hypodermis
Visual Identification Challenge
Match each term from the Word Bank to the correct illustration of the skin lesion.

WORD BANK: ulcer fissure macule cyst pustule vesicle

1. ____________________
2. ____________________
3. ____________________
4. ____________________
5. ____________________
6. ____________________