

# Getting The Most Out Of Your Textbook

McGraw-Hill and the author of this book, Paula Bostwick, have invested their time, research, and talents to help you succeed in learning medical terminology. *Medical Terminology: A Programmed Approach* is designed to direct your study of medical terminology by guiding you through an organized approach to step-by-step learning.

Chapters 1 and 2 introduce the history and subject of medical terminology and how it is used in health care. Along with introducing many of the word parts that form medical terms, these chapters discuss how word parts are put together to form words.

## Building Medical Terms

Using word-building skills will increase your medical vocabulary. Many medical terms are built-up words formed from word roots, combining forms, prefixes, and suffixes. The following examples of word parts and how they are used will help you understand the basic word-building process.

A **word root** is the portion of a word that contains its basic meaning.

For example, the word root *cardi* means “heart.”

Some other examples of common medical word roots are:

*dent*, tooth

*gastr*, stomach

*laryng*, larynx

*rhin*, nose

*ven*, vein

**Combining forms** are the word root that can be connected to another word part. In some cases, a combining vowel is needed to connect word parts. For example, the word root *cardi* \_ the combining vowel *o* can form words that relate to the basic meaning “heart,” such as *cardiology*, the medical practice involved with studying, diagnosing, and treating disorders of the heart.

Some other examples of words form from combining forms are:

*dentalgia* : dent-, tooth + -algia, pain = toothache

*gastrodynia* : gastr-, stomach + combining vowel -o- + -dynia, pain = stomachache

*laryngoplasty* : laryng-, larynx + -o- + -plasty, plastic surgery = plastic surgery on the larynx

*rhinitis* : rhin-, nose + -itis, inflammation = nose inflammation or runny nose

## Learning by Body System

The overall arrangement of this text is by body system. Chapter 3 introduces the basic structure of the body as well as the systems of the body. Chapters 4 through 16 each cover a major body system. The format of each of the body system chapters is designed to guide you through steps that lead to a full understanding of each system of the body. Each body system chapter is divided into the following sections:

- A. Major Structure and Function Terms
- B. Word Building
- C. Diagnostic, Procedural and Laboratory Terms
- D. Pathological Terms
- E. Surgical Terms
- F. Pharmacological Terms

Each chapter contains learning sections that are followed by programmed reviews.

Major Terms Describing the Structure and Function of the Integumentary System 67

### Programmed Review

Provide the missing term or terms to complete the sentences below.

	Hair grows out of the epidermis to cover various parts of the body. Hair serves to cushion and protect the areas it covers.
<b>hair shaft</b> <b>hair root</b>	Hair has two parts. The _____ protrudes from the skin, and the _____ lies beneath the surface of the skin. The shaft is composed of outer layers of scaly cells filled with inner layers of soft and hard keratin.
<b>hair follicle</b> [FOL-i-kl]	Hair grows upward from the root through the _____ (tubular sacs that hold the hair fibers). The shape of the follicle determines the shape of the hair (straight, curly, wavy).
<b>melanocyte</b> [MEL-à-nò-st]	Hair color is determined by the presence of melanin, which is produced by the _____ in the epidermis. Gray hair occurs when melanocytes stop producing melanin.
<b>alopecia</b> [àl-ò-PE-shè-à]	Hair growth, thickness, and curliness are generally determined by heredity. In addition to heredity, baldness or _____ may result from disease, injury, or medical treatment (such as chemotherapy).
<b>nails</b>	A general term for removal of hair by the roots is <i>epilation</i> or <i>depilation</i> . Such removal may be the result of some kind of injury or it may be done voluntarily to remove unwanted hair.
<b>lunula</b> [LU-nù-là]	_____ are plates made of hard keratin that cover the dorsal surface of the distal bone of the fingers and toes. Nails serve as protective covering, help in the grasping of objects, and allow us to scratch.
<b>cuticle</b> [KYU-ti-kl]	Healthy nails appear pinkish because the translucent nail covers vascular tissue. At the base of most nails, a _____, or whitish half-moon, is an area where keratin and other cells have mixed with air.
	Nails are surrounded by a narrow band of epidermis called a _____, except at the top. The top portion grows above the level of the finger.

### Glands

The table below defines some of the major terms related to the structure and function of glands associated with the integumentary system. [Note: *Endocrine glands* will be discussed in a separate chapter.] Figure 4-5 shows glands in the skin.

<b>apocrine</b> [AP-ò-krin] glands	Glands that appear during and after puberty and secrete sweat, as from the armpits.
<b>eccrine</b> [ÈK-rin] glands	Sweat glands that occur all over the body, except where the apocrine glands occur.
<b>exocrine</b> [ÈK-sò-krin] glands	Glands that secrete through ducts toward the outside of the body.
<b>diaphoresis</b> [DI-à-rò-RE-sis]	Excretion of fluid by the sweat glands; sweating.
<b>pore</b>	Opening or hole, particularly in the skin.

## Using the Programmed Review

Attached to the cover of this text is an answer strip. Remove it before you begin using this text. Each time you come to a programmed review, cover the left-hand column with the answer strip. As you proceed through the review, attempt to fill in each blank before moving the answer strip down. Then, move the strip down just far enough to see the answer. If you are correct, move on the next blank. If you are not correct, reread the material in the copy above and make a flash card for the word you missed. Studying the flash cards at the end of each section will help you learn all the key terms in the chapter.

## Word Building

The word-building sections introduce the important word parts used to build terms for a particular body system. Each of these sections is followed by word-building exercises to help you increase your medical vocabulary.

Word Building in the Integumentary System 69

### Word Building in the Integumentary System

The combining forms that relate specifically to the integumentary system include:

Combining Form	Meaning	Example
adip(o)	fatty	<i>adiposis</i> [ad-i-PŌ-sis], excessive accumulation of body fat
dermat(o)	skin	<i>dermatitis</i> [dĕr-mā-TĪ-tis], inflammation of the skin
derm(o), -derm, -derma	skin	<i>dermabrasion</i> [dĕr-mā-BRĀ-shŭn], surgical procedure to remove acne scars and marks, using an abrasive product to remove part of the skin
hidr(o)	sweat, sweat glands	<i>hidrosis</i> [hi-DRO-sis], production and excretion of sweat
ichthy(o)	fish, scaly	<i>ichthyosis</i> [ik-thĕ-O-sis], congenital skin disorder characterized by dry and peeling

## Diagnostic, Procedural, and Laboratory Terms

### Diagnostic, Procedural, and Laboratory Terms

The table below defines some of the major diagnostic, procedural, and laboratory terms related to the integumentary system. Figure 4-6 shows a positive Mantoux test.

<b>dermatology</b> [dĕr-mā-TŌL-ŏ-jĕ] dermato-, skin + -logy, study	Medical specialty that deals with the study of the skin.
<b>exudate</b> [ĒKS-yū-dāt]	Any fluid excreted out of tissue, especially fluid excreted out of an injury to the skin.
<b>intra-dermal</b> [ĪN-trā-DĒR-māl] <b>test</b> intra-, within + derm(o)-, skin	Test that injects antigen or protein between layers of skin.
<b>Mantoux</b> [mān-TŪ] <b>test</b>	Main test for tuberculosis in which a small dose of tuberculin is injected intradermally with a syringe.
<b>patch test</b>	Test for allergic sensitivity in which a small dose of antigen is applied to the skin on a small piece of gauze.
<b>PPD</b>	Purified protein derivative of tuberculin used in Mantoux test.
<b>Schick</b> [shik] <b>test</b>	Test for diphtheria.

The diagnostic, procedural, and laboratory terms explain the major diagnostic tests and procedures related to each body system.

## Pathological Terms

The most common pathological terms are described in this section.

Pathological Terms 75

**Critical Thinking**

35. What does a negative reaction to a scratch test indicate?

36. If the patient avoids the allergens that gave the most positive reactions, what is likely to happen to the rash?

### Pathological Terms

The table below presents terms associated with skin lesions. Figure 4-7 on page 78 shows various types of lesions.

<b>lesion</b> [LE-zhŭn]	Wound, damage, or injury to the skin.
<b>vascular lesion</b> [VĀS-kyū-lār]	Lesion in a blood vessel that shows through the skin.
<b>macule</b> [MĀK-yūl]	Small, flat, noticeably colored spot on the skin.
<b>patch</b>	Small area of skin differing in color from the surrounding area; plaque.
<b>papule</b> [PĀP-yūl]	Small, solid elevation on the skin.
<b>plaque</b> [plāk]	See patch.
<b>nodule</b> [NŌD-yūl]	Small knob of tissue.
<b>polyp</b> [PŌL-ŭp]	Bulging mass of tissue that projects outward from the skin surface.
<b>pediculated polyp</b> [pĕ-DĪK-yūl]	Polyp that projects upward from a slender stalk.

## Surgical Terms

**W3** **Internet Exercise**

Go to the Skin Cancer Foundation website ([www.skincancer.org](http://www.skincancer.org)) and read the "Basal Cell Carcinoma . . ." page.

61. Who is at greatest risk to develop basal cell carcinoma? Then read about squamous cell carcinoma and melanoma.

**Surgical Terms**

The table below includes terms associated with surgery of the integumentary system.

<b>plastic surgery</b>	Repair or reconstruction (as of the skin) by means of surgery.
<b>skin graft</b>	Placement of fresh skin over a damaged area.
<b>autograft</b> [AW-tō-grāft] auto-, self + graft	Skin graft using skin from one's own body.
<b>allograft</b> [AL-ō-grāft] allo-, other + graft	See homograft.
<b>homograft</b> [HO-mō-grāft] homo-, alike + graft	Skin graft using donor skin from one person to another; allograft.
<b>heterograft</b> [HĒT-ēr-ō-grāft] hetero-, other + graft	Skin graft using donor skin from one species to another; xenograft.
<b>xenograft</b> [ZEN-ō-grāft] xeno-, foreign + graft	See heterograft.
<b>cryosurgery</b> [KRĪ-ō-SĒR-jēr-ē] cryo-, cold + surgery	Surgery that removes tissue by freezing it with liquid nitrogen.
<b>dermabrasion</b> [dĕr-mā-BRĀ-zhūn] derm-, skin + abrasion	Removal of wrinkles, scars, tattoos, and other marks by scraping with brushes or emery papers.

Surgical procedures associated with each body system are covered in this section.

## Pharmacological Terms

The most common agents and treatments are provided in this section.

**Pharmacological Terms**

The table below includes terms associated with the medications used to treat disorders of the integumentary system.

<b>antihistamine</b> [AN-tē-HĪS-tā-mĕn] anti-, against + histamine	Agent that controls allergic reactions by blocking the effectiveness of histamines in the body.
<b>antibiotic</b> [AN-tē-bi-ŌT-ik] anti- + Greek <i>biosis</i> , life	Agent that kills or slows the growth of microorganisms.
<b>antiseptic</b> [AN-ti-SĒP-tik]	Agent that kills or slows the growth of microorganisms.
<b>antibacterial</b> [AN-tē-bāk-TER-ē-əl] anti- + bacteria	Agent that kills or slows the growth of bacteria.

## Special Features

In addition to the sections mentioned above, each chapter contains special features to enhance the learning process and to inform you about health issues related to each body system.

**Case Study**

**Testing for Allergic Reactions**

Several days ago, Dr. Lin had given a series of scratch tests to a teenager who had allergic skin rashes. The doctor had noted all the places where redness or swelling appeared within ten minutes.

He had also noted the negative reactions, where no changes appeared within thirty minutes. There were also some mild, inconclusive reactions. Dr. Lin reviewed the results of the tests. He asked Madeline, his medical assistant, to send a report to the patient and to set up a phone appointment to discuss the results. Madeline thought the results looked interesting. She didn't know that people could be allergic to so many things at once. However, Madeline knows she cannot discuss this patient's case with anyone not allowed to see that specific medical record.

Case studies examine a realistic situation in health care and test your knowledge.

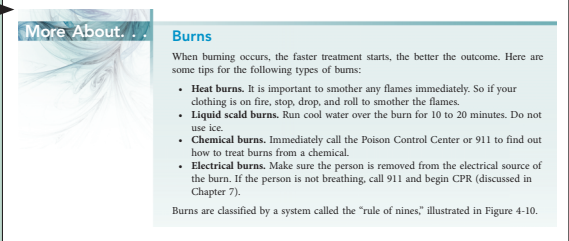
Internet exercises direct you to sites on the Internet that provide additional information. These sections also give you valuable practice in using the Web to find information.

**W3** **Internet Exercise**

Go to the American Lung Association website ([www.lungusa.org](http://www.lungusa.org)) and locate the "Tuberculosis Skin Test Fact Sheet."

34. What are the TB symptoms requiring immediate medical attention? \_\_\_\_\_

The More About feature gives detailed information about some aspect of a body system.



**More About...**

### Burns

When burning occurs, the faster treatment starts, the better the outcome. Here are some tips for the following types of burns:

- **Heat burns.** It is important to smother any flames immediately. So if your clothing is on fire, stop, drop, and roll to smother the flames.
- **Liquid scald burns.** Run cool water over the burn for 10 to 20 minutes. Do not use ice.
- **Chemical burns.** Immediately call the Poison Control Center or 911 to find out how to treat burns from a chemical.
- **Electrical burns.** Make sure the person is removed from the electrical source of the burn. If the person is not breathing, call 911 and begin CPR (discussed in Chapter 7).

Burns are classified by a system called the "rule of nines," illustrated in Figure 4-10.

Illustrations and exercises throughout each chapter round out the learning experience.

## Making Flashcards

Medical terminology involves memorization. Flashcards are an effective memorization tool. You can make flashcards using heavy paper or index cards, or you can make them online. On the front of a card put a word part that you missed in an exercise or one that you find particularly difficult. On the reverse side of the card, put the meaning and two or three examples of words in which that part appears. You can collect these cards as a group or by separate body systems. Either way, use them repeatedly to test yourself.

## Additional Resources

In addition to the textbook, McGraw-Hill offers the following study resources to enhance your learning of medical terminology.

- An interactive student CD-ROM is bound in this text. The next section gives instructions for using the CD-ROM.
- A set of English audio CDs. The two English audio CDs bound with this text are organized by chapter sections. You can use these to test your ability to spell and pronounce key medical terms.
- An Online Learning Center (OLC) website. The website ([www.mhhe.com/med-termprogrammed](http://www.mhhe.com/med-termprogrammed)) includes an information center with general information about the medical terminology program. It also includes an instructor's assets such as resources for classroom testing and management. For you, the student, it includes major checkpoints from the text along with additional learning activities. These additional activities will reinforce what you learned in the text and what you practiced on the student CD-ROM.
- A Spanish-English audio CD. This CD, available for purchase, allows you to listen to the Spanish terms listed in the appropriate body system chapters. If you want to read the definitions in Spanish, refer to Appendix E of this text.

## Using the CD-ROM

The *Medical Terminology: A Programmed Approach Student CD-ROM* is an interactive tutorial designed to complement the student textbook. In it you will find key terms, flashcards, drag and drop word building and labeling exercises, and games (such as *Hangman* and *That's Epidemic*) that are designed to challenge you.

## System Requirements

To run this product, your computer must meet the following minimum specifications;

- Pentium II or higher processor
- Microsoft Windows 2000 or XP
- 64 MB of RAM or higher (128 required for Windows XP)
- 800x600 or higher desktop display
- 24-bit or higher desktop color
- Internet Explorer 5.5 or higher
- Windows Media Player 7.1 or higher

## Installation

The installation and setup program checks your computer to make sure it meets the minimum requirements.

To run the installation program:

1. Insert the CD-ROM into your CD-ROM drive.
2. The auto-run program should start automatically and ask you if you would like to install the program. Follow the instructions on the screen.
3. If you have already installed the program, auto-run will ask you if you want to run the program.

## The Help Section

Once you have installed the software, you are strongly encouraged to read and review the Help section of this software. The Help section explains in detail all of the features and activities. It will also discuss frequently asked questions and offer troubleshooting tips. To access Help, click on the Help button found on the top right of your computer screen.

## Software Support

If you are experiencing difficulties with this product, please visit the McGraw-Hill Higher Education Support website at [www.mhhe.com/support](http://www.mhhe.com/support).