

Getting the Most Out of Your Textbook

McGraw-Hill and the authors of this book, Nina Thierer and Lisa Breitbard, have invested their time, research, and talents to help you succeed as well. The goal is to make learning easier for you.

Here's How:

Throughout the pages of *Essentials of Medical Terminology* you'll find an organized learning system. Follow it throughout your course and you will become a proficient “speaker” of the language of health care.

A Journey Through *Essentials of Medical Terminology*

Forming Medical Terms

The first three chapters of the book introduce the way that most medical terms are formed. Most medical terms are built from word parts, often derived from Latin and Greek terms. These three chapters introduce many of the major word parts used in the formation of medical terms.

Chapter 1 gives the major combining forms used in medical terminology except for the combining forms that are more specific to each body part. Those combining forms are learned in each chapter that covers a different body system.

Chapter 2 provides the majority of general prefixes and suffixes that are used to form medical terms. Learning these prefixes and suffixes will enable you to break apart built-up terms that you are not familiar with and understand their meanings by knowing the meaning of the parts.

Chapter 3 introduces you to the body systems you will be studying throughout this book. It also covers the most commonly used body system word parts, which are then repeated in the individual body system chapters. This concentrated repetition is designed to reinforce the body system approach to medical word building.

Using the Systematic Learning Approach

Chapters 4 through 16 are the body system chapters. The format of these chapters is designed to acquaint you with an overview of each body system, including coverage of its basic anatomy and physiology. At the same time, each chapter teaches the specific terms and word parts used in the medical terminology. Each body system chapter is presented in the following format:

- | | |
|---|--|
| A. Objectives | D. Diagnostic, Procedural, and Laboratory Terms |
| B. Structure and Function | E. Pathological Terms |
| C. Combining Forms and Abbreviations | F. Surgical Terms |

F. The Surgical Terms section provides an overview of common surgical procedures performed for each body system.

G. The Terminology in Action are an additional opportunity for critical thinking.

H. Using the Internet offers you an opportunity to gather information from a medical Web site and familiarize yourself with medical offerings on the Internet.

I. The Chapter Review gives a complete listing of key terms, combining forms, and abbreviations learned in the chapter.

J. Answers to Chapter Exercises allow self-study and instant feedback so you can determine how well you learned the material.

73. The most common cardiovascular disease is _____ for heart disease.
 74. Smoking, poor diet, and lack of exercise are _____ for heart disease.
 75. A heart attack is also called a(n) _____.

Surgical Terms

Cardiovascular surgery usually involves opening up or repairing blood vessels or tubes, removal, repair, or replacement of diseased portions of blood vessels or tubes of blood areas. The goal of most cardiovascular surgery is to improve blood flow, thereby allowing proper oxygenation and nourishment of all the cells of the body. Many types of heart surgery are now minimally invasive procedures. Most heart operations require opening up the chest to access the heart. However, devices such as lasers, robotic devices, and miniature surgical instruments now allow surgeons to perform certain procedures through a "keyhole," a small opening in the chest.

A balloon catheter is used in **balloon catheter dilation** (also called **percutaneous transluminal coronary angioplasty** or **PTCA**) to open the passageway inside a blood vessel so that blood can flow freely (see Figure 6-13). A **balloon valvuloplasty** involves the use of a balloon catheter to open narrowed cardiac valve openings. Similarly, **angioplasty** or **coronary angioplasty** is the _____.

TERMINOLOGY IN ACTION

Shown below is a medical chart entry in SOAP format for a 61-year-old male. What is his diagnosis and what are some ways it could be treated in addition to the prescribed medication?

Patient Name: Donald Arelio March 25, 2000

S: Mr. Arelio is a 61-year-old male who has a problem with myocardial infarction. His history of heart disease. He has been hospitalized approximately once a year for a couple of months after followed by a period of no recurrences for several weeks. The bleeding often starts at rest and sometimes upon exertion. He has been able to stop them with pressure up until the last week. He has no other bleeding problems and is not currently taking any medication.

O: BP 180/70; pulse 80; height 68"; weight 235 lb; no active bleeding at this time, but there is a small clot over the anterior midportion.

A: 1. Hypertension
 2. Recurrent epistaxis

P: Patient was given Procardia sublingually with blood pressure dropping to 140/70. Patient was instructed in treatment of myocardial infarction. Schedule for a recheck of blood pressure in 2 days. If myocardial infarction, he may need a referral.

USING THE INTERNET

If you search the World Wide Web for the American Heart Association (<http://www.aha.org>), you will find many discussions of all aspects of heart disease.

Use the Internet to find and list at least three inherited (genetic) risk factors and at least three acquired risk factors for heart disease.

List at least three things you can do personally to prevent heart disease.

What are three heart attack warning signs listed on the American Heart Association's Web site?

Special Features

Each chapter contains some special features that reinforce learning, provide additional information, or expose you to realistic situations that you may encounter in your chosen allied health profession.

A. Case Studies throughout the text provide you with realistic health care situations. The case studies shows you how terminology and abbreviations are used in a realistic context.

B. Critical Thinking following the case studies and in some other special sections, you are asked critical thinking questions. Critical thinking skills are essential to the development of your decision-making skills as a future allied health care professional.

C. More About boxes throughout the book provide some medical information that would not normally appear within a medical terminology text.

Case Study

The Long-Term Treatment

As part of Mr. Davino's long-term rehabilitation, medication has been prescribed, as shown on the prescription forms given to him upon his release.

Critical Thinking

103. For what condition is Mr. Davino's medication in prescription form (a) most likely being prescribed?

104. Prescription form (b) prescribes a medication for what other condition?

Controlling High Blood Pressure

High blood pressure is a dangerous condition with virtually no symptoms felt by the patient. At almost every doctor visit, blood pressure is measured, usually with a sphygmomanometer. Blood pressure measurements are characterized as normal, low, or high, but there is disagreement as to the ranges of normal. The generally regarded normal blood pressure for an adult is 120/80. High blood pressure is sometimes the result of lifestyle factors. Overeating leading to overweight, smoking, lack of exercise, and stress are lifestyle factors that affect blood pressure. For high systolic pressures, most doctors recommend lifestyle changes along with medication.

The American Heart Association (www.heart.org) categorizes blood pressure as follows:

Blood Pressure Category	Systolic (mm Hg)	and	Diastolic (mm Hg)
Normal	less than 120	and	less than 80
Prehypertension (considered hypertension in some high-risk cases)	120-139	or	80-89
High	140-159	or	90-99
Stage 1	160-179	or	100-109
Stage 2	180 or higher	or	110 or higher

*Your doctor should evaluate unusually low readings.

some of the abnormalities that may show up on ECGs. A Holter monitor is a portable type of electrocardiogram instrument that performs an electrocardiogram over a 24-hour period.

Various diagnostic procedures can be performed by producing some type of image. Taking x-rays after a dye has been injected is called **angiocardiology** (x-ray of the heart and its large blood vessels), **angiography** (x-ray of the heart's large blood vessels), **arteriography** (x-ray of a specific artery), **aortography** (x-ray of the aorta), or **venography** or **phlebography** (x-ray of a specific vein). The tests are called an **angiocardiogram**, **angiogram**, **arteriogram**, or **venogram** or **phlebogram**. A **ventriculogram** is an x-ray showing the ventricles. **Ventriculograms** measure stroke volume (SV), the amount of blood going out of a ventricle in one contraction; **cardiac output** (CO), the amount of blood ejected from a ventricle every minute; and the **ejection fraction**, the percentage of volume of the contents of the left ventricle ejected with each contraction. Another x-ray test, **digital subtraction angiography** (DSA), requires two angiograms with different contrast material to compare the results of the two tests in a computer.

Ultrasound tests, or **ultrasonography** or **sonography**, produce images by measuring the echoes of sound waves against various structures. **Doppler ultrasound** measures blood flow in certain blood vessels. **Echocardiography** records sound waves to show the structure and movement of the heart. The test itself is called an **echocardiogram**. Figure 6-10 shows an echocardiogram.

Radioactive substances that are injected into the patient can provide information in a **cardiac scan**, a test that measures movement of areas of the heart, or in nuclear medicine imaging. **Positron emission tomography** (PET) scans are one form of nuclear imaging. A PET scan of the heart reveals images of the heart's blood flow and its cellular metabolism. Another form of

Electrocardiograms
The electrocardiogram can have twelve leads, which are placed at specific points on the patient's body to monitor electrical activity of the heart. Six of the leads go on the arms and legs and six of the leads go at specific points on the chest. The chest leads are marked with specific codes. For example, V₁ goes in the fourth intercostal space to the right of the sternum. Each lead traces the electrical activity from a different angle.

The Web site www.heartsite.com has a search term called tests. Click on **echocardiogram** and any other test listed to learn more details about these tests.

D. Internet References appear in many places in the margin of the text. These references direct you to the Internet to learn more about the material being studied and to familiarize yourself with using the Internet to enhance your knowledge—something that will be helpful to you both personally and professionally throughout your life. Although all Web sites have been checked, some Web sites become inactive. In such cases, if the Web site does not work, use a search engine on your computer to find another source. Simply insert a related word and go to some suggested sites to find more information.

Warning: Using the Internet can be helpful but it may also be harmful. Some people are posting false and even damaging or misleading medical information on the Internet. Check the source of the site to make sure it is a trustworthy medical resource. Avoid advertisements, clubs, and articles written by anyone asking for a donation. Use common sense—if it sounds too good to be true, it usually is false. Also, if someone is trying to sell you something, beware of buying medical items on the Internet without sound medical advice. Never substitute the advice of someone you don't know on the Internet for the advice you can get from a medical professional.

Specialized Chapter

Chapter 17 Terms in Pharmacology

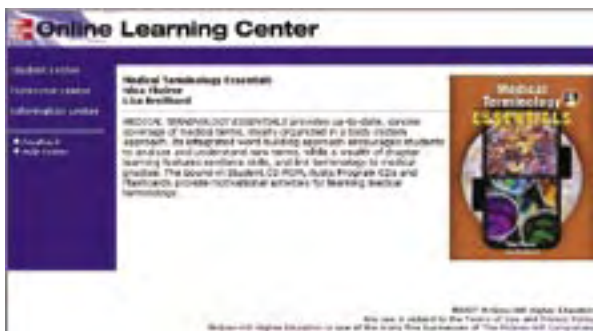
Additional Study Resources

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

- An interactive student CD-ROM. The next section gives instructions for using the CD-ROM.
- A set of English audio CDs. The two English audio CDs (available for purchase) are organized by chapter sections. You can use these to test your ability to spell and pronounce all key terms in the book.
- An Online Learning Center (OLC) Web site. The Web site (www.mhhe.com/medtermessentials) includes an Information Center with general information about the medical terminology program. It includes an instructor's side with 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. To use this audio CD effectively, listen to the Spanish words while you look at the selected Spanish terms in the appropriate body system chapter. If you want to read the definition in Spanish, refer to on the Web site (www.mhhe.com/medtermessentials).

USING THE CD-ROM

The Essentials of Medical Terminology 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 98 Second Edition, Millennium Edition (ME), 2000, or XP (Windows XP recommended)
 - 64 MB of RAM or higher (128 required for Windows XP)
 - 800x600 or higher desktop display
 - 16-bit or higher desktop color (24-bit or 32-bit highly recommended)
- Internet Explorer 5.5 or higher required (6.0 or higher recommended)
- Windows Media Player 7.1 or higher required (9.0 or higher recommended)

Installation

The installation and setup program checks your computer to make sure it meets the minimum specifications to run the Essentials of Medical Terminology Student CD-ROM.

To run the installation program:

1. Insert the CD-ROM into your CD-ROM drive.
2. The “AutoRun” program should start automatically, asking you if you would like to install the program.
 - If you have already installed the program, AutoRun will ask if you want to run the program instead.
 - If AutoRun does not start automatically, you will need to follow these steps:
 1. Click the Windows Start menu and go to Run.
 2. In the Run: box, type D:\autorun.exe (where D is the letter of your CD-ROM drive).
 3. Click OK.
4. To run the program after it is installed, go to the Windows Start menu, point your mouse to Programs (or All Programs), point your mouse to Medical Terminology, and click the icon for Medical Terminology.

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 will explain 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 Web site at <http://www.mhhe.com/support>.

