Medical Terminology *Quick & Concise*

A PROGRAMMED LEARNING APPROACH

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A PROGRAMMED LEARNING APPROACH

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Dedicated to Gwen Canfield,
my Mom, my best friend

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PREFACE

Medical Terminology Quick & Concise: A Programmed Learning Approach provides an introduction to medical terminology. It is designed to give health professions students a basic working knowledge of the language of health care. The focus is on learning the most common medical term components, using these term components to build terms, and analyzing the use of these terms in health records. This text can be used for self-study or classroom instruction with the goal of serving as a basis for individual expansion.

UniqueApproach

There are three elements to this original approach: programmed learning, contextual organization, and level of conciseness.

1. **Programmed Learning.** This approach facilitates quick learning and application of information through a self-study system that helps students work easily through the book. It is a self-paced, self-administered form of instruction that is presented in logical sequence with repetition of concepts and positive reinforcement. (Learn more about the programmed approach in Getting Started: A Guide to Student Success, page xxiii.)
2. **Contextual Organization.** The first three chapters explain medical term basics, anatomic structures and terms of reference, and terms and abbreviations used in health records. The following chapters build on this foundational content in a purposeful way, covering symptomatic and diagnostic terms, diagnostic tests and procedures, and operative and therapeutic terms. In all chapters, content is presented *in context*—that is, terms are taught in the context of how they will actually be used in a health care setting. (This is in contrast to many other medical terminology texts, in which terms are taught by body system.) In addition, medical records and related exercises throughout the text help students apply learning to real medical situations.
3. **Concise Level.** *Medical Terminology Quick & Concise* provides the tools needed to successfully develop a working medical vocabulary but without a lot of unessential extras—just the facts. This makes it ideal for busy health professions students and educators.

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It's about People

Health care is not just about terms, tests, and procedures. It's about people, and students will eventually use their knowledge of medical terminology to evaluate and assist individuals who may be sick or injured. To help put a face on health care, the following cast of characters is introduced throughout the text:

Dr. SPAULDING

The fictitious Dr. Spaulding is a general practitioner. That is, she sees patients from young to old who have any type of medical complaint. Sometimes, Dr. Spaulding refers her patients to medical specialists for diagnostic tests and treatments that cannot be done in her office. Other times, she admits patients to the hospital for extended care.

PATIENTS

In each chapter, the Meet the Patient vignettes present one or two patients faced with a realistic illness or injury. Often, you will see their course of diagnosis and treatment progress in the form of medical records and Vital Statistics boxes.

HEALTH CARE PROFESSIONALS

Dr. Spaulding is only one of several types of health care professionals that students learn about in this text. To help students who are choosing their own health care career path, the Health Care Professionals boxes provide brief profiles of many different career choices.

Text Features

Unique and engaging features have been designed to assist students' comprehension and retention of information and to spark interest in students and educators alike.

OBJECTIVES

A quick and concise list of key topics is presented first in each chapter.

MEET THE PATIENT

This feature introduces patients in realistic situations in the health care setting. Many are linked to Vital Statistics information, medical records, and profiles of health care professionals.

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CORE TERM COMPONENTS

This section includes all of the term components featured in the chapter, with their meanings and cross references to corresponding flash card numbers (if applicable). Suffix tables are green, prefix tables are orange, and combining forms tables are purple. (Flash cards are color-coded accordingly.)

SELF-INSTRUCTION AND PROGRAMMED REVIEW SECTIONS

Here, suffixes, prefixes, and combining forms are introduced as term basics in Self-Instruction increments. Next, Programmed Review sections help students quickly take that information and build on it to form new medical terms. Students use the Reveal Card included with the text to hide the answers to the fill-in questions posed in the right column. As part of the programmed approach, students may move at their own pace, given the time allotted.

VITAL STATISTICS

These boxes highlight common diagnostic tests, diseases, or disorders and specific procedures or therapies and are often linked to the patients from the Meet the Patient vignettes and the medical records found in the chapter. This is an opportunity for students to expand on their basic knowledge in a meaningful way.

ON CLOSER INSPECTION

Even in a quick and concise learning environment, some terms or topics require a second look. These boxes give a bit more depth of content to aid in complete understanding.

Rx FOR SUCCESS

Enjoy these snippets that give tips and reminders, as well as specific pitfalls to avoid when analyzing terms.

PRONUNCIATION SUMMARY

Correct and clear pronunciation is critical for success as a health care professional. The key terms introduced in each chapter are listed in this section, each followed by its written pronunciation. Students are directed to listen to the audio pronunciation for each of these terms in the Audio Glossary on the text's online site.

EXAMINE YOUR UNDERSTANDING

There's nothing like practice exercises to test comprehension and reinforce newly acquired knowledge. Each chapter ends with a variety of exercises, including word analysis and definitions, matching, multiple choice, fill-in-the blank, word part combinations, and short answer. Answers to Examine Your Understanding questions appear at the end of each chapter.

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MEDICAL RECORD EXERCISES

Medical records provide real-world context and a chance to apply knowledge in a practical way. Brief and complete authentic medical records include terms that students have learned. Corresponding questions require students to stretch their thinking and use their new language. Answers to Medical Record Exercises appear at the end of each chapter.

FLASH CARDS

A starter set of flash cards covering the core prefixes, suffixes, and combining forms can be found at the back of the text, color coded to match the term components covered in the chapters.

ARTWORK

Full-color medical illustrations and photographs bring the concepts presented in the textbook to life. Students not only learn, for example, what the term "dermatitis" means, but they also see what it looks like.

APPENDICES

Appendix A summarizes medical term components in two easy-to-reference lists: (*a*) term component to English definition and (*b*) English definition to term component. Appendix B provides a glossary of abbreviations and symbols. Appendix C is a listing of the 50 most frequently prescribed medications, including their therapeutic uses.

Additional Learning Resources

To access additional learning activities, visit this text's online site.

- **Audio Glossary** of key terms in the text and their pronunciations
- **Objectives** that appear at the start of each chapter
- An **Image Bank** of images that appear throughout the text

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Teaching Resources

Additional Instructor Resources are available for use with this text. For more information, contact your Jones & Bartlett Account Representative.

- *Test Bank*
- *PowerPoint slides,* with lecture notes, for each chapter
- *Lesson plans* for each chapter
- *Image bank*

A solid understanding of medical terminology provides an essential foundation for any career in health care. The *Medical Terminology Quick & Concise: A Programmed Learning Approach* product suite makes learning and teaching medical terminology a rewarding and exciting process.

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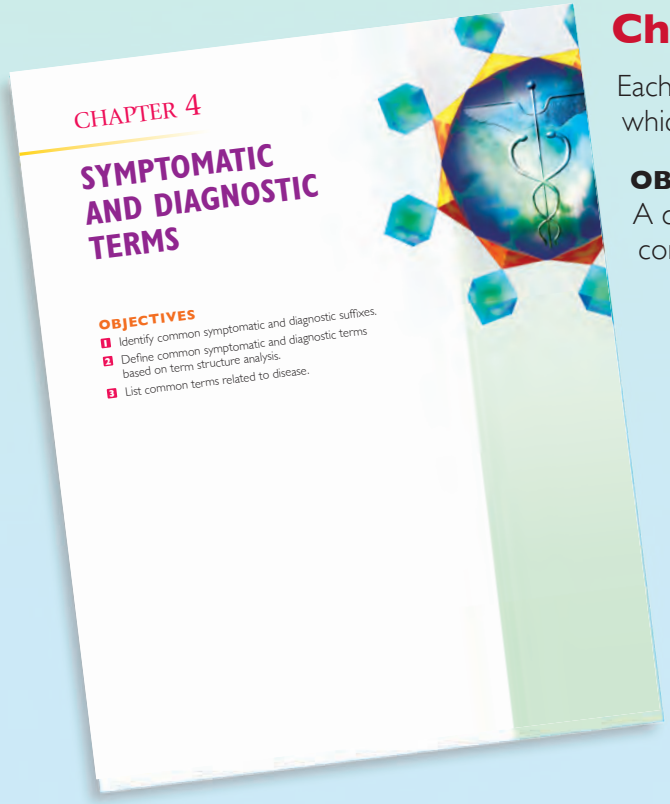
USER'S GUIDE

Medical Terminology Quick & Concise: A Programmed Learning Approach is your creative and interactive introduction to medical terminology. Using a programmed learning approach, contextual organization, and concise level, it will provide you with a basic working knowledge of the language of health care. Along the way, you'll encounter special features and tools that will help you navigate and understand the material presented. This User's Guide explains all of these features. In addition to reading "Getting Started: A Guide to Student Success" on page xxiii, use this guide to get the most out of each chapter, and then take your new language with you into your chosen health care profession!


CHAPTER 4

SYMPTOMATIC AND DIAGNOSTIC TERMS

OBJECTIVES

1. Identify common symptomatic and diagnostic suffixes.
2. Define common symptomatic and diagnostic terms based on term structure analysis.
3. List common terms related to disease.

Chapter Opening Elements

Each chapter begins with the following elements, which will help you get off to the right start:

OBJECTIVES

A quick and concise list of need-to-know content.

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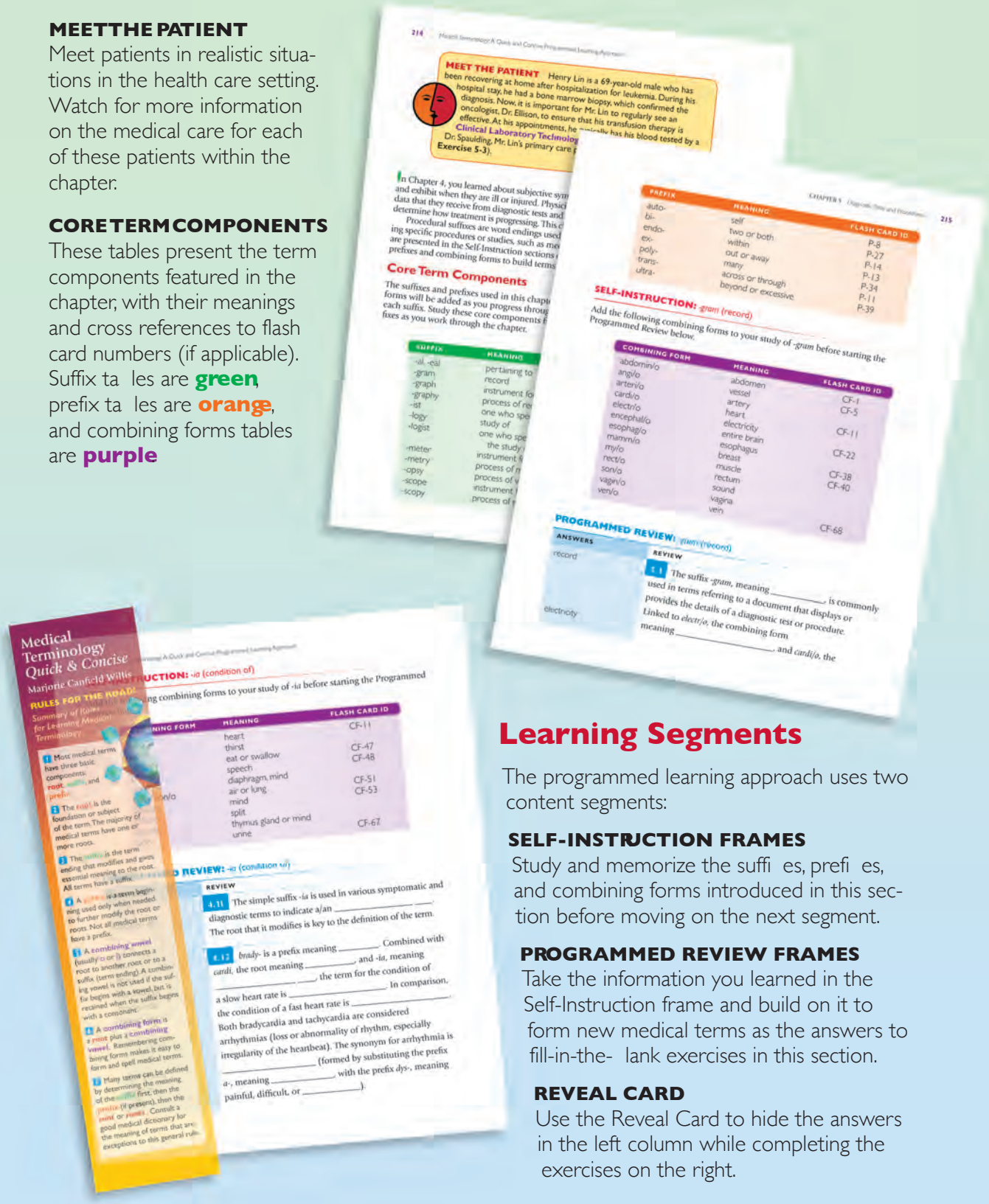
MEET THE PATIENT

Meet patients in realistic situations in the health care setting. Watch for more information on the medical care for each of these patients within the chapter.

CORE TERM COMPONENTS

These tables present the term components featured in the chapter, with their meanings and cross references to flash card numbers (if applicable). Suffix tables are **green**, prefix tables are **orange**, and combining forms tables are **purple**



Learning Segments

The programmed learning approach uses two content segments:

SELF-INSTRUCTION FRAMES

Study and memorize the suffixes, prefixes, and combining forms introduced in this section before moving on the next segment.

PROGRAMMED REVIEW FRAMES

Take the information you learned in the Self-Instruction frame and build on it to form new medical terms as the answers to fill-in-the-blank exercises in this section.

REVEAL CARD

Use the Reveal Card to hide the answers in the left column while completing the exercises on the right.

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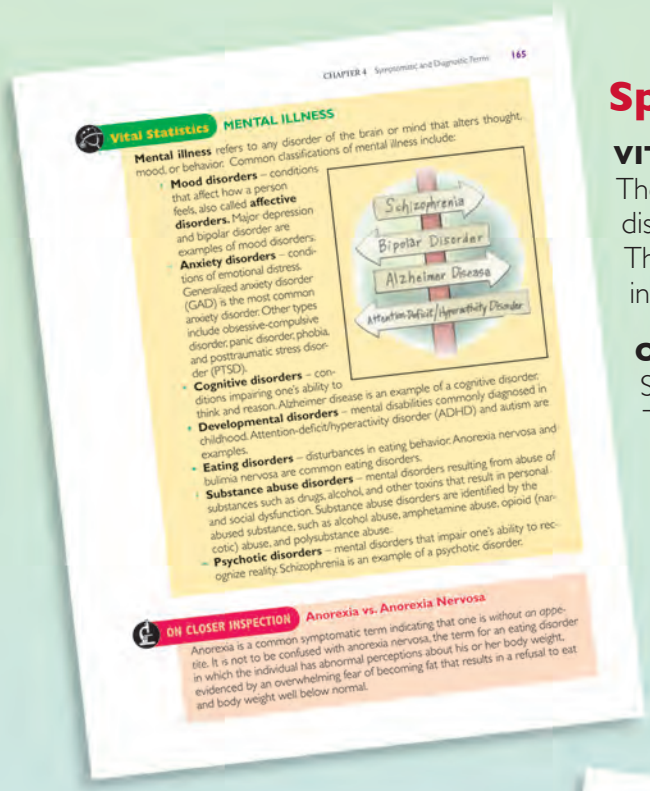
CHAPTER 4 Symptomatic and Diagnostic Terms 165

Vital Statistics MENTAL ILLNESS

Mental illness refers to any disorder of the brain or mind that alters thought, mood, or behavior. Common classifications of mental illness include:

- **Mood disorders** – conditions that affect how a person feels, also called **affective disorders.** Major depression and bipolar disorder are examples of mood disorders.
- **Anxiety disorders** – conditions of emotional distress. Generalized anxiety disorder (GAD) is the most common anxiety disorder. Other types include obsessive-compulsive disorder, panic disorder, phobia, and posttraumatic stress disorder (PTSD).
- **Cognitive disorders** – conditions impairing one's ability to think and reason. Alzheimer disease is an example of a cognitive disorder.
- **Developmental disorders** – mental disabilities commonly diagnosed in childhood. Attention-deficit/hyperactivity disorder (ADHD) and autism are examples.
- **Eating disorders** – disturbances in eating behavior. Anorexia nervosa and bulimia nervosa are common eating disorders.
- **Substance abuse disorders** – mental disorders resulting from abuse of substances such as drugs, alcohol, and other toxins that result in personal and social dysfunction. Substance abuse disorders are identified by the abused substance, such as alcohol abuse, amphetamine abuse, opioid (narcotic) abuse, and polysubstance abuse.
- **Psychotic disorders** – mental disorders that impair one's ability to recognize reality. Schizophrenia is an example of a psychotic disorder.

Schizophrenia
Bipolar Disorder
Alzheimer Disease
Attention-Deficit/Hyperactivity Disorder

ON CLOSER INSPECTION Anorexia vs. Anorexia Nervosa

Anorexia is a common symptomatic term indicating that one is without an appetite. It is not to be confused with anorexia nervosa, the term for an eating disorder in which the individual has abnormal perceptions about his or her body weight, evidenced by an overwhelming fear of becoming fat that results in a refusal to eat and body weight well below normal.

Special Features

VITAL STATISTICS

These boxes highlight common diagnostic tests, disorders, and specific procedures or the apies. They'll help you expand on your basic knowledge in a meaningful way.

ON CLOSER INSPECTION

Some terms or topics require a second look. These boxes give you a deeper understanding.

ARTWORK

Full-color medical illustrations and photographs bring the concepts to life and appeal to your visual sense.

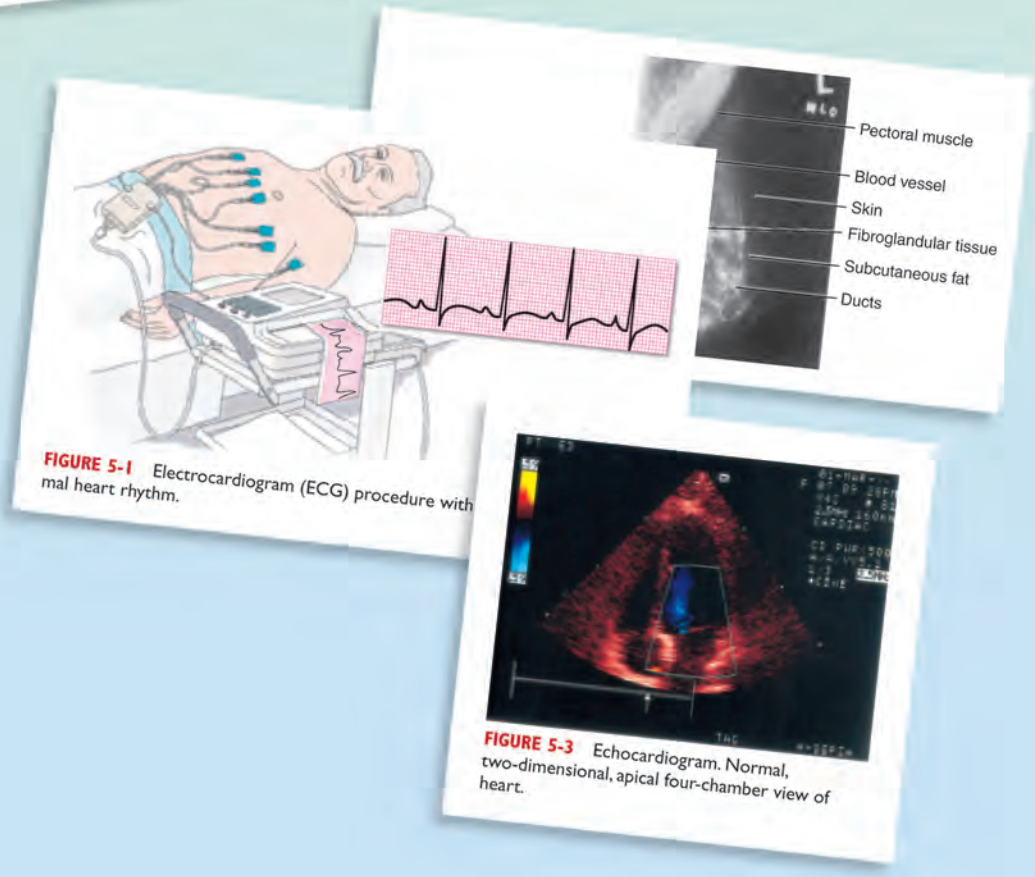

FIGURE 5-1 Electrocardiogram (ECG) procedure with
mal heart rhythm.

FIGURE 5-3 Echocardiogram. Normal, two-dimensional, apical four-chamber view of heart.

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More Special Features

RX FOR SUCCESS

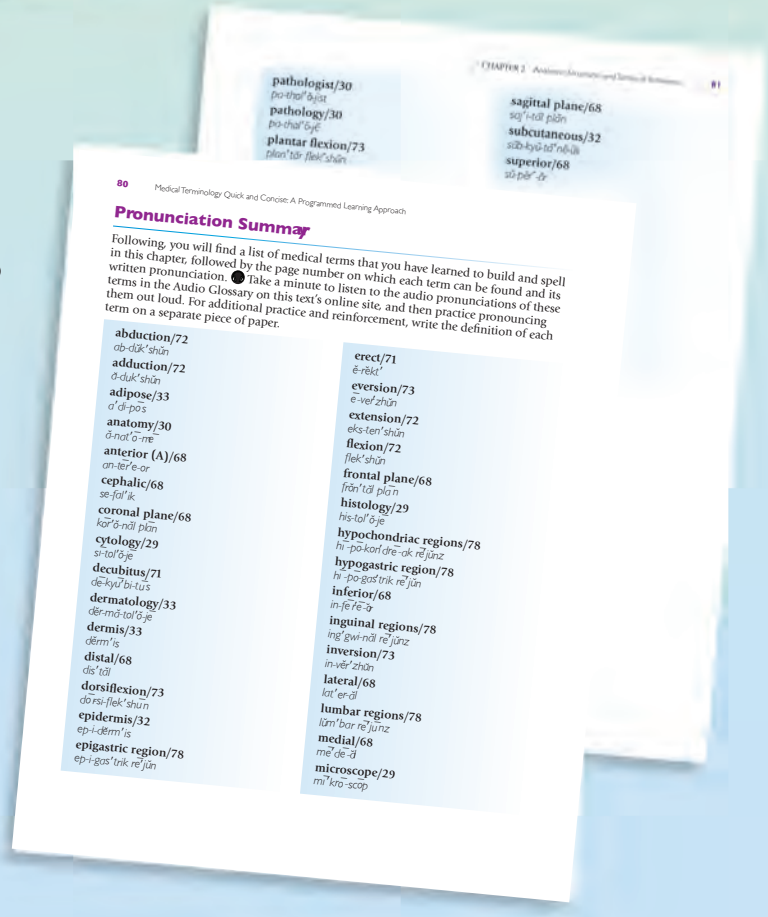
Enjoy these snippets that give tips, reminders, and pitfalls to avoid when analyzing terms.

MEET THE HEALTH CARE PROFESSIONALS

These profiles of different career choices will show you how different health care professionals work together and give you a glimpse of several health care professional opportunities.

PRONUNCIATION SUMMARY

Correct and clear pronunciation is important! The key terms from each chapter are listed in this section with their written pronunciations. Listen to and repeat the audio pronunciation for each of these terms in the Audio Glossary on the text's online site.



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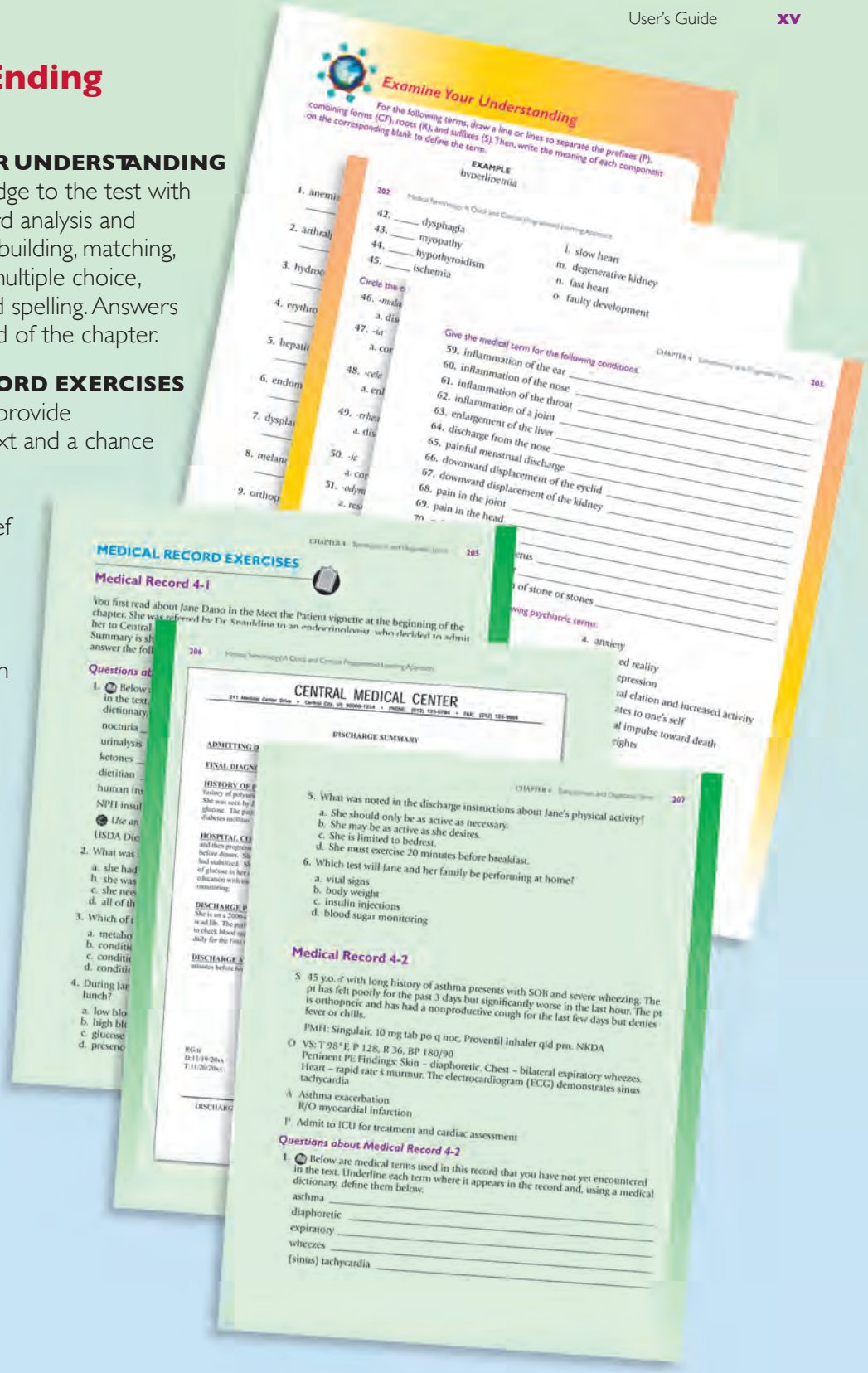
Chapter-Ending Features

EXAMINE YOUR UNDERSTANDING

Put your knowledge to the test with exercises on word analysis and definitions term building, matching, fill-in-the- lank, multiple choice, short answer, and spelling. Answers appear at the end of the chapter.

MEDICAL RECORD EXERCISES

Medical records provide real-world context and a chance to apply your knowledge in a practical way. Brief and complete actual medical records include terms that you have learned, with corresponding questions that require you to stretch and use your new language. Answers also appear at the end of each chapter.



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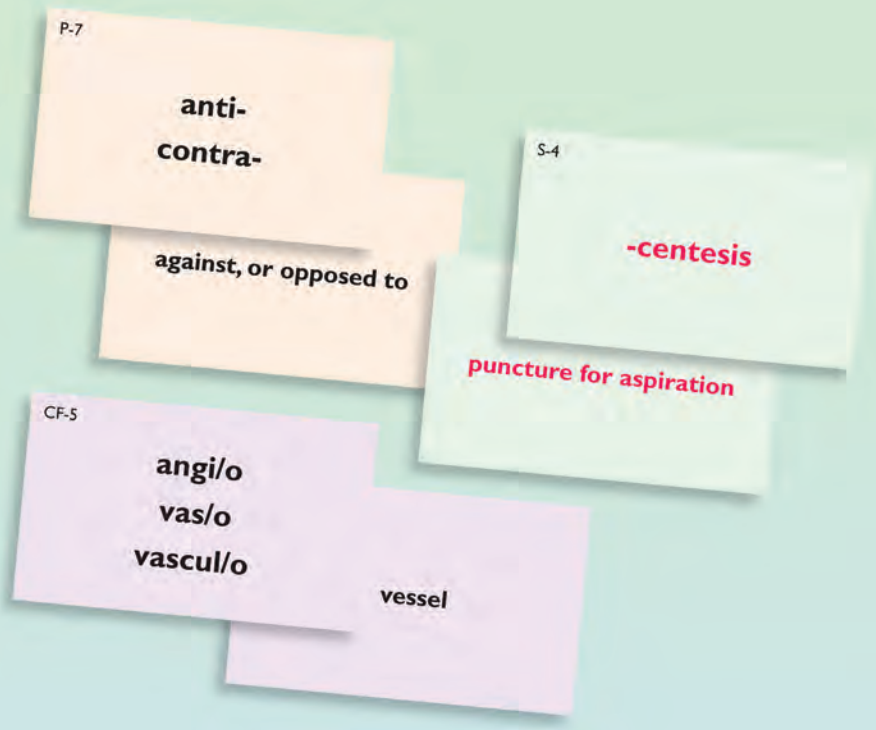
Other Learning Tools

FLASH CARDS

A set of color-coded flash cards can be found at the back of the text to match the prefi es, suffi es, and a select number of combining forms covered in the chapters.



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There is only one word that accurately describes my experience writing this text: It was the *best*!

I have been so fortunate to work with the most competent professionals in medical publishing. It started with the opportunity to work with John Goucher, my Acquisitions Editor, and Tom Lochhaas, the Developmental Editor from my first writing experience. They guided me through the early development of this text, and I credit Tom for inspiring its unique approach. They are the best at what they do.

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Looking back, this project was destined to be the best from the beginning. We had the benefit of the best reviewers, who offered comments and suggestions that were well thought out and helpful. In addition, several contributors wrote and verified the content related to specific health care professions, and several others supplied photos. After editorial development, the designers, artists, copyeditors, and compositors worked tirelessly behind the scenes, and Robin Gardenhire, Loreen MacNichol, Michael Covone, and Patricia O'Brien-Giglia came onboard to assist with development of content for the electronic student and instructor resources.

You are all the best, and I thank you most sincerely!

M.C.W.

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TABLE OF CONTENTS

PREFACE, vi

USER'S GUIDE, xi

ACKNOWLEDGMENTS, xvii

REVIEWERS AND CONTRIBUTORS, xviii

GETTING STARTED: A GUIDE TO STUDENT SUCCESS, xxiii

CHAPTER 1 MEDICAL TERMINOLOGY BASICS, 1

CHAPTER 2 ANATOMIC STRUCTURES AND TERMS OF REFERENCE, 25

CHAPTER 3 HEALTH CARE RECORDS, 93

CHAPTER 4 SYMPTOMATIC AND DIAGNOSTIC TERMS, 147

CHAPTER 5 DIAGNOSTIC TESTS AND PROCEDURES, 213

CHAPTER 6 OPERATIVE AND THERAPEUTIC TERMS, 269

APPENDIX A GLOSSARY OF PREFIXES, SUFFIXES, AND COMBINING FORMS, 335

APPENDIX B ABBREVIATIONS AND SYMBOLS, 347

APPENDIX C COMMONLY PRESCRIBED DRUGS, 353

FIGURE CREDITS, 357

INDEX, 361

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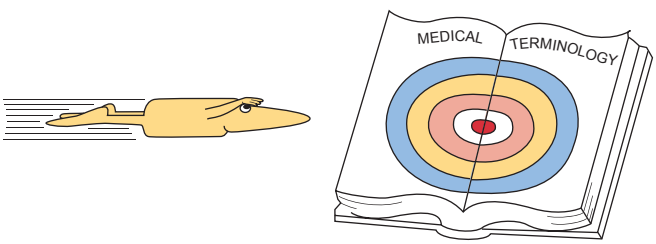
GETTING STARTED: A GUIDE TO STUDENT SUCCESS

To reach the goal of learning the language of health care, you will need a solid plan for completion. Follow the study path that this text and/or your instructor provides, and work the necessary study time into your personal schedule.



Using Flash Cards

Recognizing their important role in memorization, flash cards for prefixes, suffixes, and a select number of combining forms introduced in this text are provided at the back of the text. Each card is numbered and color coded according to division: **prefixes** are printed on **orange cards**, **combining forms** on **purple cards**, and **suffixes** on **green cards**. The term component is printed on the front of the card, with its meaning on the back. Remove these cards and stack them according to their type (prefix, suffix, or combining form) and in numbered sequence so that you can access them quickly and easily when studying and completing the programmed review sections within the chapters. Since all the cards are color-coded and in numerical order, it is possible to study the cards for one type of term component and then quickly reorder as needed to retrieve a card for review within a chapter.

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ORGANIZING YOUR FLASH CARDS

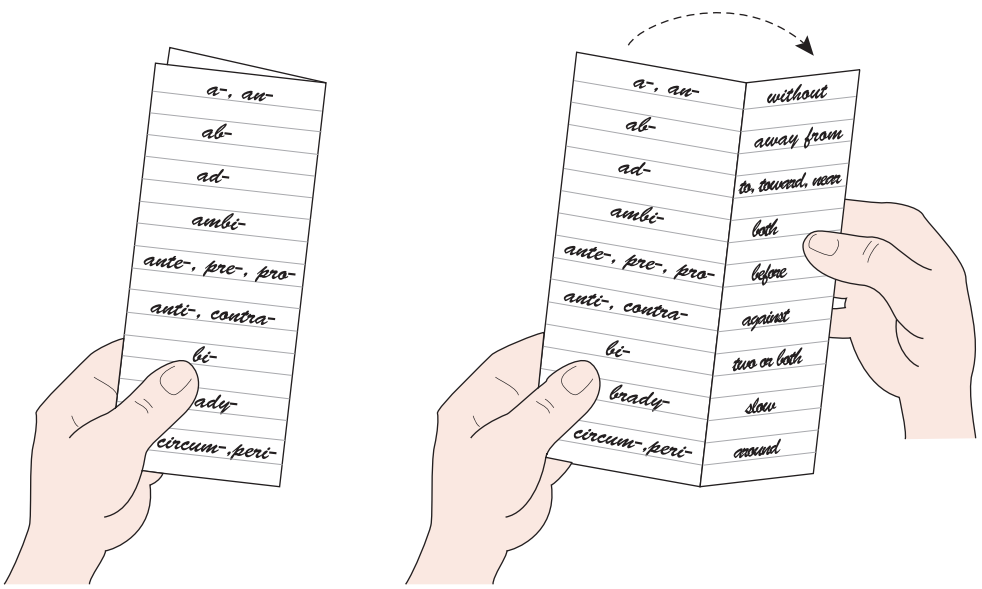
Choose from the following ideas for organizing your flash cards:

- After separating cards by type and ordering by number, punch a hole in the top of each flash card. Loop the cards through a key chain or ring holder to make a "rotary file." This method keeps groups of cards together and prevents them from becoming lost or scattered.
- Regroup the cards as term components are identified for study in each chapter, and make your own cards for those components for which cards have not been supplied.
- Organize each type of term component into categories. For example, you can organize the prefix cards into components related to position or direction, components related to quantity or measurement, components related to time, and so forth.

MAKING ADDITIONAL FLASH CARDS

Flash cards are provided for most of the key term components in this text. For those components that do not have a preprinted card, you can produce one very simply using 3″ × 5″ cards. You'll see that the act of creating your cards will give you an added "memory boost."

You may also extend the use of flash cards to include abbreviations, symbols, and additional terms and definitions found in the text, such as terms related to medical records, body planes and positions, diseases, diagnostic imaging, lab tests, and drug classifications.



Frugal flash ca ds.

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If you are interested in conserving paper and creating inexpensive flash cards, consider additional reinforcement by making "frugal flash cards":

1. Divide a piece of 8 ½" × 11" lined paper in half lengthwise by folding it down the center, creating two columns.
2. Write the term component, symbol, or medical term on the first line of the first column and its definition on the **same** line in the second column.
3. Skip down a line, and then write the next term component, symbol, or medical term with its definition on the **same** line in the second column. Continue listing any desired series of terms with corresponding definitions on the paper in this fashion until you reach the bottom of the paper.
4. Fold the paper at the lengthwise crease, dividing the columns so that the word component, symbol, or term is listed on one side of the paper, and the definition appears on the same line on the other side of the paper. This allows you to flip from one side to the other, "flashing" and reinforcing the meanings of the terms with the corresponding definitions.
5. Use the other side of the paper in the same way.

Using Programmed Learning Segments

The key to success with programmed learning is taking the time to review the term components listed in the Self-Instruction sections before starting the Programmed Learning segments. Each term component that has a preprinted flash card is identified by type (prefix, suffix, or combining form) and number. Locate and use them for additional reinforcement.

Remove the Reveal Card from the text. Place the card over the left column of the page to hide the correct responses to the questions in the learning material in the right column. Slide the card down the page to reveal the answer only after you've written your response in the fill-in space on the right. Note: Use a pencil so that you can erase any incorrect responses and replace them with the correct ones. Go over all of the correct responses with a highlighter pen for additional reinforcement.

The nice thing about programmed learning is that you can move at your own pace given the time allotted. Between study periods, use the reveal card as a bookmark.

Tips for Learning and Studying

Although you may already have ideas about how you learn and study most effectively, consider the following study tips to enhance your routine.

USING YOUR SENSES

An effective memory depends on intricate processes that recall mental images of sights, sounds, feelings, tastes, and smells. For this reason, try to include as many of your senses as possible in the process of reinforcing learning.

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SEE IT	Employ your visual (seeing) sense by making and/or repeatedly reviewing your flash cards.
SAY IT	Pronounce each component out loud three times as you read the text and when using the flash cards to reinforce your auditory (hearing) sense.
WRITE IT	Make use of your kinesthetic (feeling) sense by writing and rewriting responses to programmed review sections and then highlighting the correct answers. Add to the preprinted term component flash cards and those that you have created by writing a term example on the back of each, under the definition. Draw lines to separate the components in each term for reinforcement. When making your own flash cards, use pleasant-colored paper and ink.

SNATCHING MOMENTS

Like most students, you probably have a busy life! Carry your paper flash cards with you at all times. During most days, there will be times when you can snatch a moment to flash your cards and reinforce what you have learned. You will actually feel less stress when waiting in a line or a waiting room for an appointment when you know that you are making good use of those moments for study time.

MNEMONICS CAN HELP

Named for the goddess of memory in Greek mythology, a mnemonic (pronounced *nē-mon'ik*) is any device for aiding memory. Mnemonic techniques link words and facts with clues for their recall using the stimuli of images, sounds, smell, touch, etc. Consider the following applications:

- Make up rhymes or stories that help to differentiate between meanings. For example: *peri-*, the prefix meaning around, is often confused with *para-*, the prefix meaning along side of. Use the two components in a sentence to compare their meanings, such as: "I sat 'para' (**alongside of**) Sarah on the merry-'peri'-go-**around**." Often the most absurd associations can help you to remember. It doesn't matter if they don't make sense to anyone but you!
- Make up songs and rhythms to help remember facts. Take a song you are familiar with, such as "Row, row, row, your boat…" and insert words with definitions that are in tune with the song.
- Draw pictures depicting term components for reinforcement.

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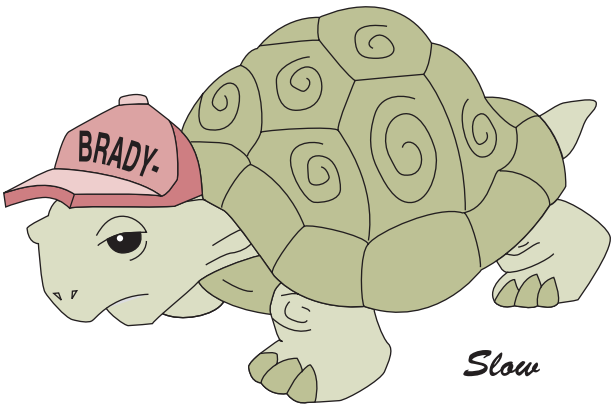

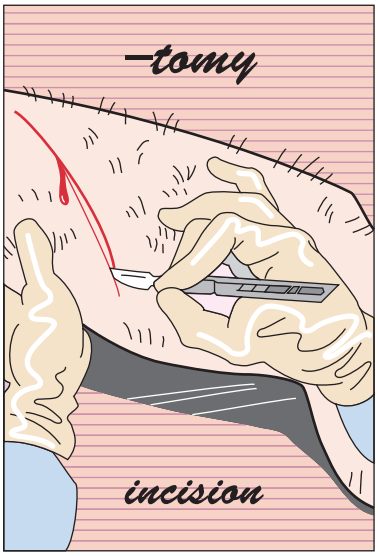

MEMORY DRILL

As you work through each chapter, give yourself a memory drill by listing term components, symbols, and medical terms on one side of a piece of paper and then filling in the definitions from memory. Correct your paper by writing out the correct answer over the incorrect one in red ink. Make a list of the incorrectly defined components on a separate piece of paper and repeat the drill. Repeat this process until you have identified a list of the ones most often defined incorrectly, and then spend additional time on those troublesome terms.

Additional Resources

Take advantage of the many fun and interactive learning activities provided on this text's online site. You'll find a variety of resources to help you remember medical terminology and to reinforce what you've learned in the text, including:

- **Audio Glossary** of key terms in the text and their pronunciations
- **Objectives** that appear at the start of each chapter
- An **Image Bank** of images that appear throughout the text

Ready, Set, Go!

Everything is laid out for you to proceed with your study, starting with Chapter 1 on the following page. Be creative and enjoy the learning process!

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