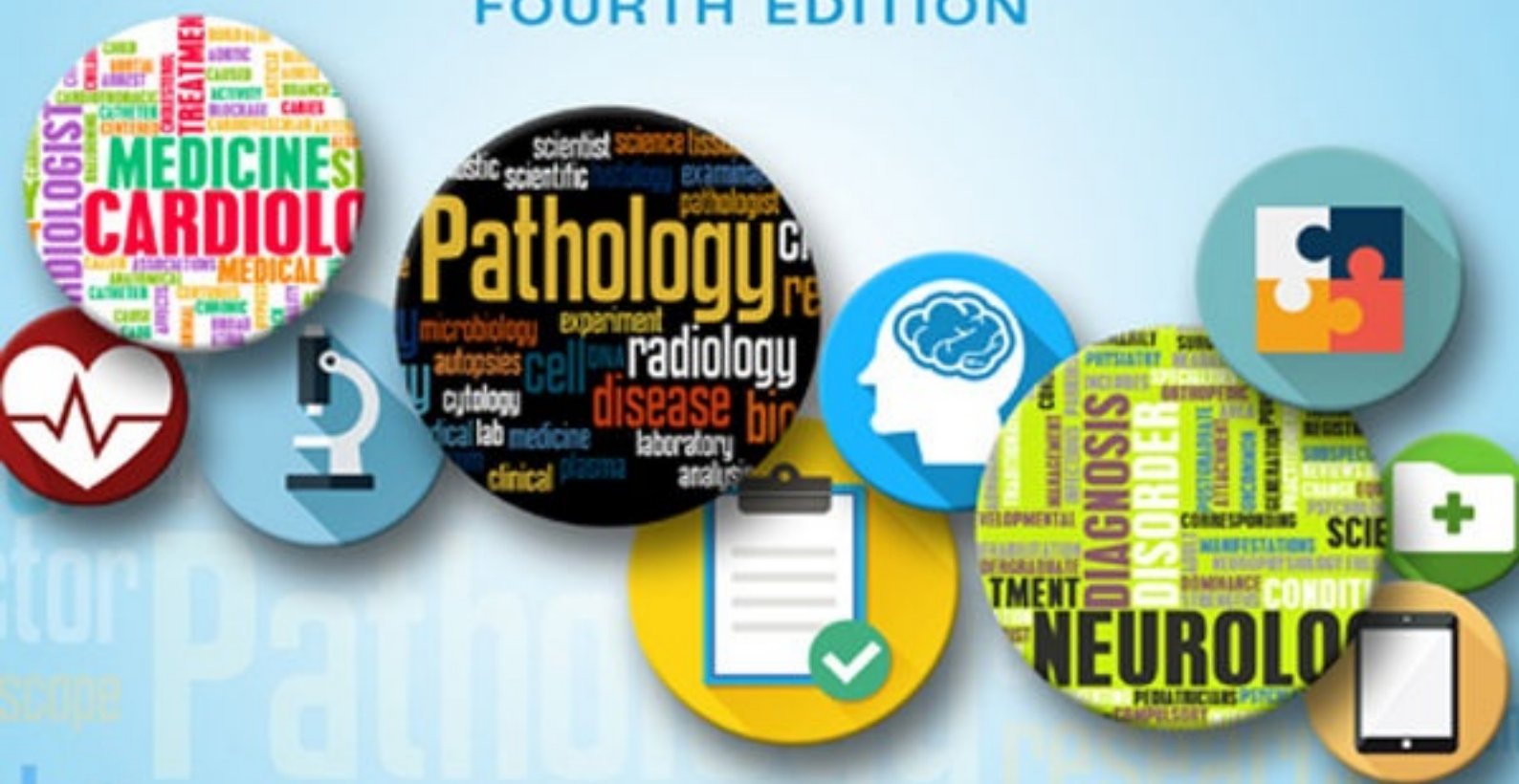


A SHORT COURSE IN

Medical Terminology

FOURTH EDITION



JUDI L. NATH
KELSEY P. LINDSLEY

Wolters Kluwer



A Short Course in
**MEDICAL
TERMINOLOGY**

FOURTH
EDITION

Judi L. Nath, PhD

Professor
Lourdes University

Kelsey P. Lindsley, RPh, PharmD

Pharmacist, Preceptor
Clinical Practitioner

 Wolters Kluwer

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*This book is dedicated
to my students and colleagues
at Lourdes University,
who continue to provide inspiration
and support. Thank you!*

-JUDI L. NATH

*This book is dedicated to my parents,
who have always loved and supported me
and who accepted dishwashing
in exchange for rent
while I was working on this book.*

-KELSEY P. LINDSLEY



New to This Edition

This new edition builds on the foundation established in the previous three editions. The reader will find the writing style of this edition easy to follow, with special focus given to ensuring that each page is user friendly and accessible to all levels of learning. As educators, we wanted to be sure that students found the content manageable, interesting, and understandable.

APPROACH AND CONTENT ORGANIZATION

This section outlines the global changes that were made throughout the entire textbook as well as the chapter-by-chapter changes. We begin with those changes across the chapters.

Global Changes

- The narrative has been modernized to make the text more user-friendly and approachable for students.
- The chapter headings have been standardized to appear in a consistent order so material is presented utilizing a consistent style.
- The topics in the study table were also standardized so that the order follows a predictable sequence.
- Study Tables may contain terms that are not in the narrative; however, all bold-faced terms in the narrative are found in the Study Tables. The book would become unwieldy with text if the terms in the tables were also in the narrative. We have selected the most relevant terms for inclusion in the tables.
- The end-of-chapter exercises have been standardized, so that from chapter-to-chapter exercises are presented in the same order.
- Chapter 15 The Special Senses of Sight and Hearing has been moved to appear directly after Chapter 7 The Nervous System. This order

makes sense from a functional perspective and matches other current anatomy and physiology books. Rearranging the topics in this manner also allows the book to be used in tandem with an anatomy and physiology course.

- All terminology has been updated per current medical usage. *Stedman's Medical Dictionary*, *Terminologia Anatomica*, *Terminologia Histologica*, *Terminologia Embryologica*, and leading medical journals were used to standardize the medical terms, so that they are current and match terms used in common practice.
- Pronunciations match *Stedman's Medical Dictionary*. Although *Stedman's Medical Dictionary* uses a diacritic format whereby signs and symbols are used with letters to indicate pronunciations, the pronunciations given in this book are those used for oral communication so we used phonetic pronunciations.
- Appendixes A through E have been updated so the information is the most current, nationally recognized.
- The artwork has been updated and revised extensively to be accurate and contemporary. We also improved the text–art integration to enhance the student learning experience.
- Citations from image captions have been removed, so that the reader is not distracted from the image and its learning opportunity.
- Unnecessarily long table titles were shortened to make table titles easier for students to read and understand.
- More photos were added for realism and interest.
- The phrase “word elements” was changed to “word parts” to avoid ambiguities when some word parts served double functions, as in sometimes a word part was a root and a prefix. This change also enabled consistency.
- Quick Checks were updated to provide benchmarks within the chapter for students to assess retention of information.
- Sidebar Information was updated with interesting facts. It is also designed so that it is a “pointable feature” and there is at least one per chapter.
- Material from Crossword Puzzles and Chapter Quizzes has been folded into the End-of-Chapter Exercises.

Revised Table of Contents

- Chapter 1 Analyzing Medical Terms
- Chapter 2 Common Prefixes and Suffixes
- Chapter 3 Organization of the Body
- Chapter 4 The Integumentary System
- Chapter 5 The Skeletal System
- Chapter 6 The Muscular System
- Chapter 7 The Nervous System
- Chapter 8 The Special Sense of Sight and Hearing
- Chapter 9 The Endocrine System
- Chapter 10 The Cardiovascular System
- Chapter 11 The Lymphatic System and Immunity
- Chapter 12 The Respiratory System
- Chapter 13 The Digestive System
- Chapter 14 The Urinary System
- Chapter 15 The Reproductive System

Basic Chapter Outline Template

1. Learning Outcomes (changed from learning objectives)
2. Introduction
3. Word Parts Related to the XXX System
4. Structure and Function
5. Quick Check (at least one per chapter)
6. Disorders Related to the XXX System
7. Diagnostic Tests, Treatments, and Surgical Procedures
8. Practice and Practitioners
9. The XXX System Abbreviation Table
10. Sidebar (at least one per chapter)
11. The XXX System Study Table (alphabetized within subheadings)

- Structure and Function
 - Disorders
 - Diagnostic Tests, Treatments, and Surgical Procedures
 - Practice and Practitioners
12. End-of-Chapter Exercises—not all exercises may be present, but the order of exercises is maintained
- Exercise X-X Labeling
 - Exercise X-X Word Parts
 - Exercise X-X Word Building
 - Exercise X-X Matching
 - Exercise X-X Multiple Choice
 - Exercise X-X Fill in the Blank
 - Exercise X-X Abbreviations
 - Exercise X-X Spelling
 - Exercise X-X Case Study

Chapter-by-Chapter Changes

Chapter 1 Analyzing Medical Terms

- New Art: Figure 1-1
- New Word Parts: non-
- New Terms: etymology and language sense
- Deleted Word Part: cleric
- Added new Quick Check

Chapter 2 Common Prefixes and Suffixes

- Changed chapter title from Common Suffixes and Prefixes to Common Prefixes and Suffixes and changed the order of presentation in the chapter so that prefixes are introduced before suffixes and to match the new chapter title
- New Word Parts: a-, an-, anti-, -cele, -cyte, de-, dis-, -eal, -edema, -emesis, -emia, -ism, -lith, -lysis, -oid, -opsy, -pathy, -phobia, -plasia, -poesis, -rrhea, -sclerosis, -stasis, -stenosis, -stomy, tic, and-tome

- Added new Quick Check

Chapter 3 Organization of the Body

- Changed chapter title from The Body's Organization to Organization of the Body
- New Art: Figures 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, and 3-7
- New Word Parts: gastr/o and thorac/o
- New Terms: abdominal cavity, anatomy, caudal, cephalad, cervix, coccyx, coronal plane, cranial, lumbus, pelvic cavity, physiology, sacrum, thorax, and ventral
- Deleted Terms: anatomical terms of location, dorsal cavity, and midsagittal
- Added new Quick Check

Chapter 4 The Integumentary System

- New Art: Figures 4-1, 4-6, and 4-10
- New Word Parts: adipo- and -oma
- New Terms: arrector pili muscles, benign, bulla, carcinoma, decubitus ulcers, edema, erythematous, fissure, hypodermis, integumentary system, malignant, plaque, pruritic, prurigo, and wheal

Chapter 5 The Skeletal System

- New Art: Figures 5-1, 5-2, 5-8, 5-9, 5-10, 5-11, 5-12, 5-13, 5-14, and new images for Table 5-3
- New Terms: appendicular skeleton, axial skeleton, carpal bones, closed fracture, compound fracture, compact bone, cranial suture, cranium, epiphyseal plate, hip bone, joint, kinesiologists, lateral malleolus, ligaments, tendons, medial malleolus, neoplasms, occupational therapists, open fracture, osseous tissue, physical therapists, simple fracture, spongy bone, sternum, synovial fluid, synovial joint, tarsal bones, thoracic cage, and vertebral column
- New Abbreviations: MRI and NSAID
- Deleted Abbreviations: CTS and LE
- Deleted Terms: chondrodynia and dactylomegaly
- Deleted Word Parts: cheir/o and -desis

Chapter 6 The Muscular System

- Deleted Table 6-2 because it is in Chapter 5
- Reorganized comparative art in Figure 6-1
- Added new Sidebar on dysphagia and dysphasia
- New Art: Figures 6-2 and 6-5
- New Abbreviations: ALS, FX, MD, NSAID, and PT
- Deleted Abbreviations: CTD, DMD, and DTR
- New Terms: agonist, Duchenne dystrophy, dysphagia, fascicle, muscle fibers, paresis, skeletal muscle, and striated muscle
- Deleted Terms: myoparesis, tenalgia, tenontoplasty, tendoplasty, and tenoplasty

Chapter 7 The Nervous System

- New Art: Figures 7-1, 7-3, 7-5, 7-6, 7-8, and Labeling Exercise 7-1
- New Abbreviations: AD, CSF, CT, DM, MRI, and PD
- Deleted Abbreviations: IQ, OBS, PERRLA, SAD, and TENS
- New Terms: demyelination, lesion, seizure, sympathetic nervous system, and parasympathetic nervous system
- Term Changes: changed brain stem to brainstem per *Terminologia Anatomica*, changed petit mal seizure to absence seizure
- Added a new sidebar on the difference between psychiatrist and psychologist
- Deleted Terms: subsystems

Chapter 8 The Special Senses of Sight and Hearing

- New Art: Figures 8-2, 8-3, 8-4, 8-8, 8-9, and Labeling Exercise 8-1
- New Abbreviations: EOM, LASIK, and O.D.
- Deleted Abbreviations: ASL, dB, ECCE, ERG, ICCE, and PVD
- New Terms: auditory tube, cones, external acoustic meatus, deaf, extra-ocular muscles, eyebrows, eyelashes, eyelids, lacrimal ducts, lacrimal fluid, lacrimal glands, lacrimal sac, laser-assisted in situ keratomileusis (LASIK), lateral angle of eye, medial angle of eye, orbit, refraction, rods, and scleral buckle

- Term Changes: inner canthus changed to medial angle of the eye, outer canthus changed to lateral angle of the eye, outer ear changed to external ear, inner ear changed to internal ear, external auditory canal changed to external acoustic meatus, and eustachian tube changed to auditory tube per *Terminologia Anatomica*
- Deleted Word Parts: dacryocyst/o, irit/o, and phak/o

Chapter 9 The Endocrine System

- New Art: Figure 9-1, 9-3, 9-4, 9-5, 9-6, 9-7, and Labeling Exercise 9-1
- New Abbreviations: T₃, T₄, CT, PTH, and GTT
- Deleted Abbreviations: BS, IDDM, and NIDDM
- New Terms: corticosteroids, fasting blood sugar (FBS), goiter, exophthalmos, hypothalamus, pineal gland, glands, polydipsia, polyuria, and thyroid-stimulating hormone (TSH)

Chapter 10 The Cardiovascular System

- New Art: Figures 10-5, 10-6, and 10-7
- Deleted Abbreviations: CP, ICU, Rh⁺, and Rh⁻
- New Terms: apex, atrioventricular valves, coronary artery disease, embolus, heartbeat, pulmonary circuit, and systemic circuit
- Deleted Terms: arteritis, cardiodynia, cardiomalacia, pericardial sac, and phagocyte

Chapter 11 The Lymphatic System and Immunity

- New Art: Figures 11-1, 11-2, 11-3, 11-4, and Labeling Exercise 11-1
- New Abbreviations: EBV
- Deleted Abbreviations: CBC, HLA, and RIA
- Deleted Figure: former Figure 10-1
- New Terms: allergy, autoimmune disease, elephantiasis, immunization, lymph node, lymphography, pathogen, systemic lupus erythematosus, vaccination, and vaccine

Chapter 12 The Respiratory System

- Changed The Nose heading to The Nose, Nasal Cavity, and Paranasal Sinuses; changed The Pharynx heading to The Pharynx and Tonsils; added new section on The Diaphragm

- Added new Sidebar on the common cold viruses
- New Word Part: adeno-
- New Art: Figures 12-1, 12-3, 12-4, 12-6, 12-7, 12-8, 12-9, and Labeling Exercise 12-1
- New Abbreviations: BP, c/o, F, ICU, P, T and A, URI, VC, and WBC
- Deleted Abbreviations: T&A changed to T and A
- Deleted Figure: former Figure 11-4
- New Table 12-2 Pulmonary Volumes and Capacities
- New Terms: cyanosis, lungs, nasal cavity, nasal septum, nose, paranasal sinuses, tonsils, and ventilation

Chapter 13 The Digestive System

- New Art: Figures 13-1, 13-2, 13-3, 13-5, and Labeling Exercise 13-1
- Changed common bile duct to bile duct per *Terminologia Anatomica*
- New Abbreviations: NG and UGIS
- Deleted Abbreviations: GB, GBS NGT, and UGI
- New Terms: absorption, bile duct, digestion, elimination, esophagogastroduodenoscopy, irritable bowel syndrome, and lower esophageal sphincter
- Deleted Terms: common bile duct and fundus

Chapter 14 The Urinary System

- New Art: Figures 14-1, 14-3, and Labeling Exercise 14-1
- Changed perirenal fat to perinephric fat or pararenal fat body per *Terminologia Anatomica*
- Added information on the nephron, glomerulus, and glomerular filtration rate
- New Abbreviations: ARF and CRF
- Deleted Abbreviations: BPH and PSA
- New Terms: antibiotic, calyx, kidney transplant, micturition, nephropexy, renal corpuscle, renal cortex, renal medulla, renal pelvis, and renal tubule

Chapter 15 The Reproductive System

- New Art: Figures 15-1, 15-4, 15-6, 15-7, and Labeling Exercise 15-1
- New Sidebar on meiosis and mitosis
- Changed amniotic sac to amnion per *Terminologia Anatomica*
- Changed spermatozoon and spermatozoa to sperm per *Terminologia Histologica*
- New Abbreviations: A, C-section, EDC, EDD, G, HIV, P, Pap smear, STD, and STI
- Deleted Abbreviations: DUF, HRT, HSG, IUD, PMS, TAH, and VD
- New Terms: abortus, amnion, amniotic fluid, amniotic sac, clitoris, glans, foreskin, fundus, labium majus, labium minus, umbilical cord, urologist, and vulva

OTHER RESOURCES

Online ancillary materials complement the text and provide additional support for student learning.

Student Resources:

- Question Bank, with a variety of exercise types to reinforce chapter material
- Educational Games, such as crossword puzzles, hangman, and word-building challenges
- Audio Glossary
- Flash Cards, including Flash Card Generator
- Chapter Quizzes
- Final Exam

Instructor Resources:

- PowerPoint slides and Lesson Plans include useful information to facilitate presentation of material by instructors.
- Test Generator, with more than 500 questions to test students' knowledge of terms, their meanings, and abbreviations.
- Handouts include additional puzzles and games for additional student practice.



Author's Preface

Welcome to the field of medical terminology. This workbook-textbook is written to teach the language of medicine in an engaging and meaningful way. It is written to represent the real world so that you can move seamlessly from the classroom to actual practice. The approach is based on research that demonstrates how students learn best. To that end, we used a three-pronged approach: (1) immersion—the terms are presented in context; (2) chunking—the material is given in manageable units; and (3) practice—exercises that allow you to check your knowledge. Learning word parts is also an essential component of learning the terms. If you learn the tables of word parts, you will be well on your way to knowing medical terms you have never encountered, because you can figure out the terms by breaking them into their component word parts. This will be quite useful, because not every word you will encounter in your careers is found in this book, but you will be equipped with the knowledge to understand their meaning. We also encourage you to pay special attention to the analysis sections in the Study Tables, as these provide interesting, foundational information for forming medical terms.

While learning medical terminology, you will also learn some basic anatomy (body structures), physiology (body functions), and pathology (body diseases). Because medical terms describe the human body in health and in disease, attaining an elementary understanding of these topics will help you retain a working memory of medical language.

Learning medical terms can be easy if you approach the subject from a proper perspective. Begin by telling yourself that medical terms do not make up a separate language. Medical terms are simply words that you can add to your vocabulary. As with all words, medical words are meant to convey information.

As you enter a medical profession, you will be communicating with other medical professionals and with patients. Therefore, your job will include

choosing words and sentence structures that convey accurate information and reflect a professional attitude. That is to say, both your communication skills and your attitude toward patients are very important. As you are about to discover, learning medical terminology can be easy at times and challenging at others. However, if you use the textbook and its ancillaries to their fullest, you will be well on your way to mastering medical terminology.

Judi L. Nath, Ph.D.

Professor
Lourdes University
Sylvania, Ohio

Kelsey P. Lindsley, R.Ph., Pharm.D.

Pharmacist, Preceptor
Clinical Practitioner
Port Clinton, Ohio



User's Guide

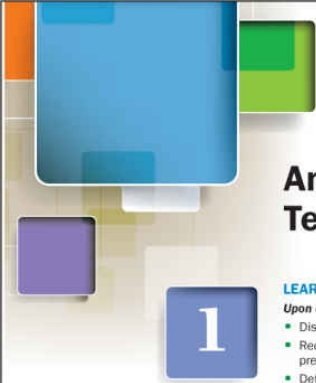
LEARNING OUTCOMES

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

- Recognize prefixes.
- Recognize suffixes.
- Define all of the prefixes and suffixes presented in this chapter.
- Analyze and define new terms introduced in this chapter.
- Pronounce, define, and spell each term introduced in this chapter.

A Short Course in Medical Terminology, Fourth Edition, was developed to provide an easy, efficient, and effective way to learn medical terminology. This User's Guide introduces the features of the book that help the learning experience.

A **logical organization** guides students through the basics of medical terminology, word parts, and word analysis.



Analyzing Medical Terms

LEARNING OUTCOMES
Upon completion of this chapter, you should be able to:


- Discuss the purpose of medical terminology.
- Recognize each of the four word parts of medical terms: prefixes, roots, suffixes, and combining forms.
- Define the commonly used prefixes, roots, and suffixes introduced in this chapter.
- Divide medical terms into word parts.
- Understand how word parts are put together to make medical terms.
- Recognize the importance of proper spelling, pronunciation, and use of medical terms.

INTRODUCTION

There are many ways and various books to help you learn medical terminology. This book is intended for a short course in medical terminology and focuses on medical terms, their definitions, and brief exercises to help you quickly gauge your understanding. That means this book can be worked through in as little as 8 weeks. Our goal is to give you all the basics you will need to be successful in your career, while allowing you to have a little fun learning. Every word in the medical field is not found in this book, but all the Latin and Greek word parts are found here. These word parts can be combined to make thousands of medical terms, and understanding the basic word parts is the first step toward understanding complete words. While it is possible to memorize the definitions of individual medical words, understanding just the parts that make up the medical word is easier and faster than learning every word because there are fewer word parts than complete words. In fact, approached the right way, medical terminology may be the easiest subject in your program. Learning it takes a bit of thought and an open mind; but it need not involve sweating or ripping out your hair in frustration.

Why is medical terminology important? Can't medical professionals just use simple words like "gut" and "cut"? Unfortunately, these aren't always specific enough. Gut can refer to the stomach, small intestine, large intestine, or any part of your digestive system. If you have pain in one of these areas, you would want to be able to easily identify a single area and have all medical professionals recognize that specific area. The term "cut" could mean just an incision, or in other cases it could mean cutting off a body part. For example, "She cut her hand" indicates an incision, but "Cut the hand distal to the wrist" could mean an amputation. Luckily medical terminology allows us to specifically identify places in the body and even what type of cut it is with words (see Figure 1-1).

1



Common Prefixes and Suffixes

LEARNING OUTCOMES
Upon completion of this chapter, you should be able to:

- Recognize prefixes.
- Recognize suffixes.
- Define all of the prefixes and suffixes presented in this chapter.
- Analyze and define new terms introduced in this chapter.
- Pronounce, define, and spell each term introduced in this chapter.

INTRODUCTION

Chapter 1 presented the four word parts used in medical terminology: prefixes, roots, suffixes, and combining forms. This chapter focuses on prefixes and suffixes.

In Chapter 1, we learned that a prefix is a word part that comes at the beginning of a word. Note that the word *prefix* itself contains a prefix, *pre-*. The second part of the word *prefix* is "fix," which gives us a perfect definition of prefix: something affixed (attached) to the front of or before (*pre-*) something else. Most of the prefixes occurring in medical terms are also found in everyday English, though we have all used many of the prefixes contained in this chapter, we may have done so without realizing that they are prefixes. For example, when we are admitted to an anteroom, we may stop to think that the prefix *ante-* means "before," and that an *anteroom* is so called because it is a room we enter before entering another room.

We also learned in Chapter 1 that a suffix is the part that comes at the end of a word. The word *fix* comes from the Latin word *suffixum*, which may be translated as "to fasten to the end of." Although the suffix is located last in a medical term, it often comes first in its definition. For example, *pendicitis* means "inflammation (-itis) of the appendix." Therefore, the suffix, *-itis*, provides us with the first word of the defining phrase. The term *gastrectomy* is another example. It is defined as "removal of the stomach." The definition begins with the meaning of the suffix, *-ectomy*, which means "removal of."

WORD ROOTS INTRODUCED IN THIS CHAPTER

Table 2-1 lists common word roots with their meanings to get you started on your task of learning hundreds of medical terms. You may wish to memorize the roots given in the table now, because there are just a few. Or if you prefer, just give them a quick glance now and, as you go through the chapter, refer back to this table whenever you run across a term with a root you do not recognize.

9

Chapters 1 and 2 introduce the basics of word building and set the foundation for learning terms.

Chapters 3–15 offer an overview of each body system and introduce terms that identify the structure and function of that system along with terms that name system disorders, diagnostic tests, treatments, surgical procedures, practice, and practitioners.

Each chapter opens with a statement of **learning outcomes**. These are measurable educational aims and objectives that indicate what you should be able to do after completing the chapter.

An introduction and a tabular presentation of **Word Parts** related to a specific body system are presented next.

TABLE 3-1  **WORD PARTS RELATED TO BODY ORGANIZATION**

Word Part	Meaning
anter/o	front, anterior
cerv/o	neck
chondr/o	cartilage
cyt/o, -cyte	cell
dors/o	back
gastr/o	stomach, abdomen
inguin/o	groin
my/o	muscle
myel/o	spinal cord
neur/o	nerve, neuron
poster/o	posterior, back
proxim/o	near
super/o	superior
thorac/o	chest (thorax)
trans-	across

Word Parts Exercises offer you an opportunity to quickly review the word parts before moving on to new material.

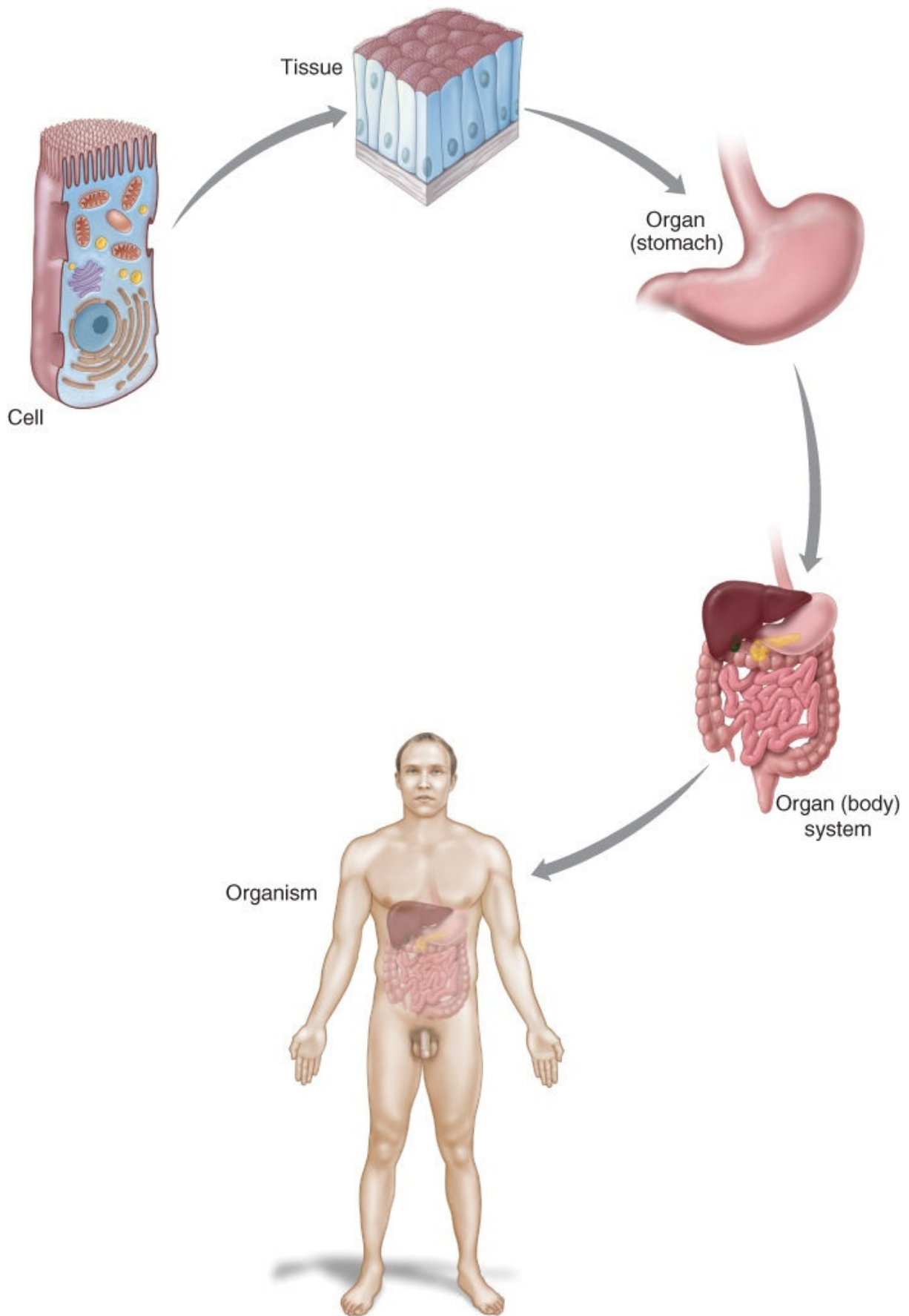
Word Parts Exercise 

After studying [Table 3-1](#), write the meaning of each of the word parts.

WORD PART	MEANING
1. trans-	1. _____
2. dors/o	2. _____
3. proxim/o	3. _____
4. chondr/o	4. _____
5. anter/o	5. _____
6. my/o	6. _____
7. super/o	7. _____
8. cerv/o	8. _____
9. inguin/o	9. _____
10. myel/o	10. _____

Structure and Function sections with **full-color illustrations** help you learn

basic anatomy and physiology using tight text–art integration.



Quick Checks exercises help reinforce your knowledge of term parts before

studying disorders related to the body systems.




Quick Check

Fill in the **Suffix**, and write the resulting word in the **Term** column. The word that appears in boldface type in the **Meaning** column is a clue.

PREFIX	ROOT	SUFFIX	TERM	MEANING
sub-	cutane/o	_____	_____	adjective meaning “below the skin”
no prefix	melan/o	_____	_____	a pigment-producing cell
no prefix	seb/o	_____	_____	adjective referring to sebum, which may be described as an oil or fat

All body system chapters include an **Abbreviations Table**, which lists common abbreviations and their meanings used in the chapter.

Abbreviation Table  THE INTEGUMENTARY SYSTEM	
ABBREVIATION	MEANING
BSA	body surface area
I&D	incision and drainage
SLE	systemic lupus erythematosus
UV	ultraviolet

Sidebars appear throughout to highlight interesting facts about medical terms and words in general.

Doesn't topical mean “relating to a particular topic,” such as a topic in the news? Occasionally, the meaning of an English word changes when a segment of the population begins using it to mean something other than its traditional meaning. The word *topical* is such a word. However, its “medical” meaning most likely came first, given that its medical use dates back to the 17th century. Still, dictionaries include the notation *medical* alongside it, probably because English speakers may do a mental double take when encountering its medical use for the first time. Medical terms that fall into this category are identified throughout this book so that, as a medical professional, you will be aware of the possible confusion their use may cause, especially among patients.

All body system chapters include a **Study Table** summarizing terms for reinforcement of the material in an easy-to-reference format. Some terms in the table are not found in the running narrative, but are important to include, or the terms are used in the end-of-chapter case study.

Study Table**THE INTEGUMENTARY SYSTEM**

TERM AND PRONUNCIATION	ANALYSIS	MEANING
Structure and Function		
adipose tissue (AD-ih-pohs TISH-yoo)	from the Latin word <i>adeps</i> (fat)	fatty tissue
arrector pili muscles (uh-REK-tor PYE-lye MUS-elz)	from the Latin meaning “that which raises” + <i>pilus</i> (hair) + <i>musculus</i> (muscle)	bundles of smooth muscle fibers attached to hair follicles that cause the hairs to stand on end causing characteristic “goose bumps”
avascular (ay-VAS-kyuh-lahr)	<i>a-</i> (without); from the Latin word <i>vasculum</i> (small vessel)	without blood vessels
corium (KO-ree-uhm)	Latin for skin	synonym for dermis
cutaneous (cue-TAYN-ee-uhs)	from the Latin word <i>cutis</i> (skin)	adjective referring to the skin
cuticle (CUE-tih-kuhl)	from the Latin word <i>cutis</i> (skin)	the thin band of tissue that seals the nail to the skin
dermis (DUR-mis)	from the Greek word <i>derma</i> (skin)	inner layer of skin
epidermis (ep-ih-DUR-mis)	<i>epi-</i> (upon); <i>dermis</i> (skin)	outer layer of the skin
free edge (FREE EJ)	from German <i>frei</i> (free)	distal region at which the nail ends
hair follicles (HAIR FAWL-ik-uhlz)	from the Latin word <i>folliculus</i> (a small sac)	small sacs in the skin from which hair grows
hypodermis (high-poh-DER-mis)	from the Greek word <i>hypo</i> (under); <i>dermis</i> (skin)	layer immediately beneath the epidermis; also called the subcutaneous layer
integumentary system (in-teg-yoo-MEN-tuh-ree SIS-tem)	from the Latin word <i>integumentum</i> (a covering)	the membrane covering the body, including the epidermis, dermis, hair, nails, and glands
keratin (KERR-uh-tin)	from the Greek word <i>keras</i> (horn)	protein that forms hair, nails, and the tough outer layer of skin

End-of- Chapter Exercises and a **Case Study** close out each chapter to maximize learning. Exercises include figure labeling, word building, matching, multiple choice, fill-in-the-blank, short answer, true/false, and spelling. The Case Study provides real world application of medical terms and gives you an opportunity to interact with the chapter material as you would in a clinical setting.

END-OF-CHAPTER EXERCISES

EXERCISE 1-1



DEFINING TERMS

Combine the suffix *-logy* with the proper root to indicate the following medical specialties:

1. Specialty dealing with heart disease _____
2. Specialty that deals with the problems of aging and diseases in the elderly _____
3. Specialty dealing with blood diseases _____
4. Specialty dealing with skin ailments _____
5. Specialty dealing with nervous system disorders _____
6. Specialty dealing with mental disorders _____

EXERCISE 1-2



ANALYZING TERMS

Analyze the following terms by putting the roots and suffixes in the appropriate columns. Then, write a definition for each term.

TERM	ROOT	SUFFIX	DEFINITION
1. neuropathy	_____	_____	_____
2. psychology	_____	_____	_____
3. pathogenic	_____	_____	_____
4. neuralgia	_____	_____	_____
5. systemic	_____	_____	_____
6. psychiatrist	_____	_____	_____
7. pediatrician	_____	_____	_____
8. iatrogenic	_____	_____	_____
9. cardialgia	_____	_____	_____
10. neuritis	_____	_____	_____

EXERCISE 10-9**CASE STUDY**

Read the case and answer the questions that follow.

BRIEF HISTORY: The patient is a 56-year-old male who had been complaining of recurrent chest pain when performing mild activities at home. The chest pain subsides when he lies down. He also has experienced shortness of breath (SOB) when carrying in the groceries and climbing up one set of stairs. He has a history of high BP.

EMERGENCY ROOM VISIT: The patient arrives at the emergency room with angina pectoris that is relieved by rest, a BP of 180/110 mm Hg, and SOB. An EKG is performed, which indicates that the patient is having atrial arrhythmias and an MI. He is given aspirin and started on antiarrhythmics, diuretics, vasodilators, and oxygen. He is admitted to the CCU for observation and treatment.

DIAGNOSIS: Hypertension, an MI, and atrial fibrillation.

1. Define angina pectoris. _____
2. What does the acronym SOB stand for? _____
3. What is hypertension? _____
4. What is an EKG? _____
5. What type of pharmacologic intervention is used with this patient? Define each drug classification. _____
6. What is an MI? What are the two roots in myocardial, and what do they mean?

7. Define atrial fibrillation. _____



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Rhonda Anderson

Instructor

Phlebotomy

Greenville Technical College

Greenville, South Carolina

Marianne Demsky

Instructor

Human Resources

Johns Hopkins Hospital

Baltimore, Maryland

Patricia Ketcham

Director of Nursing Laboratories

School of Nursing

Oakland University

Rochester, Michigan

Amie Mayhall

Instructor

Medical Office Careers

Olney Central College

Olney, Illinois

Ashita Patel

Instructor

Medical Assisting

Wake Technical Community College

Raleigh, North Carolina

Lona Sandon

Assistant Professor

Clinical Nutrition

UT Southwestern Medical Center

Dallas, Texas

Karen K. Smith

Assistant Professor

Health Information Management Program

University of Arkansas for Medical Sciences, College of Health Professions

Little Rock, Arkansas

Jonette Talbott RN, MSN, NP-C

Professor and Program Director

Practical Nursing

Southside VA Community College

Alberta, Virginia

Margaret Tiemann

Instructor—Retired

Health Information Technology

St. Charles Community College

Cottleville, Missouri

Rafael Tolentino

Chief Academic Officer

Nursing & Health Allied
Homestead Schools, Inc.
Torrance, California



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