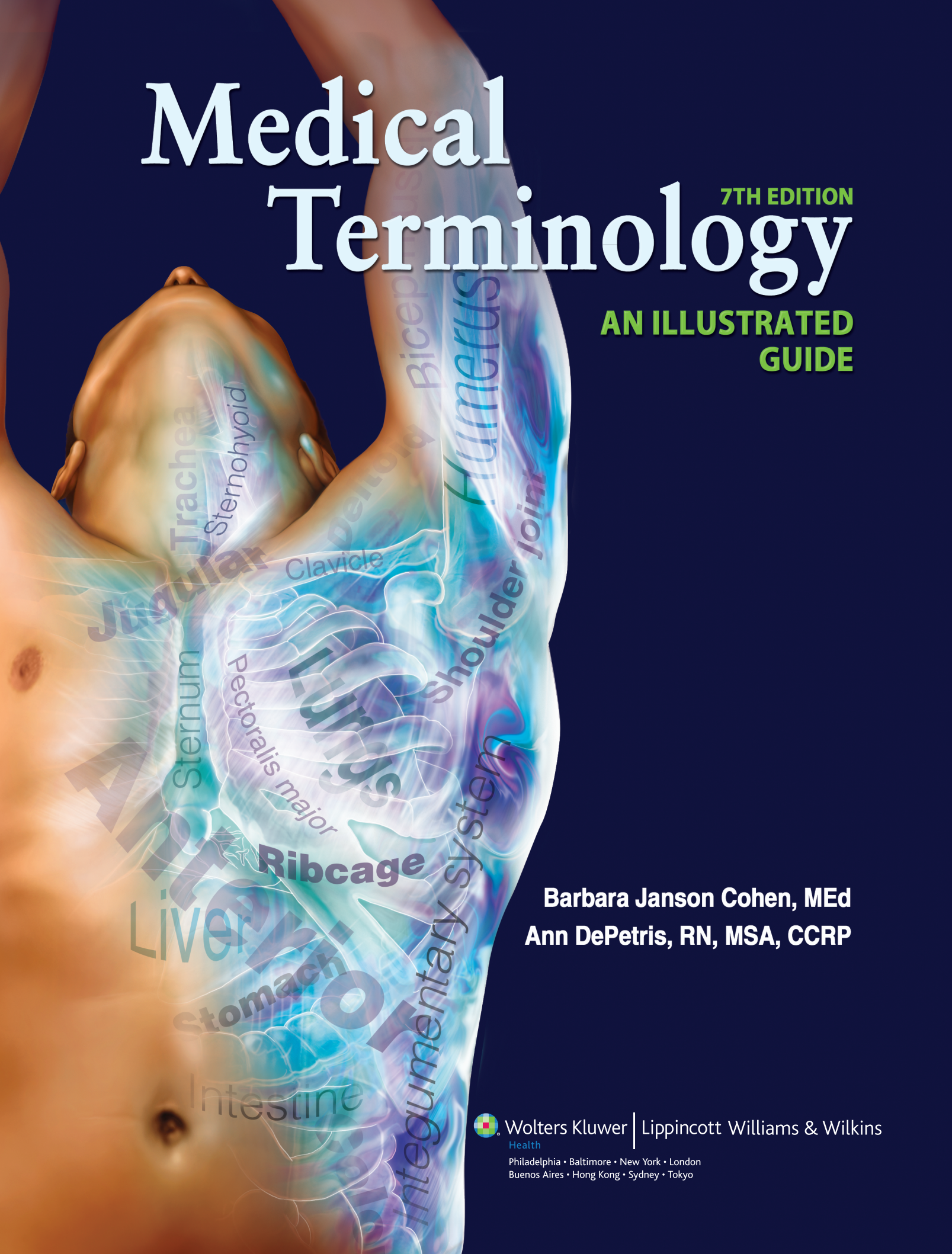


Medical Terminology

7TH EDITION

AN ILLUSTRATED
GUIDE



Barbara Janson Cohen, MEd
Ann DePetris, RN, MSA, CCRP



Wolters Kluwer | Lippincott Williams & Wilkins
Health

Philadelphia • Baltimore • New York • London
Buenos Aires • Hong Kong • Sydney • Tokyo

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7th Edition

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351 West Camden Street Two Commerce Square
Baltimore, MD 21201 2001 Market Street
Philadelphia, PA 19103

Printed in China

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Library of Congress Cataloging-in-Publication Data

Cohen, Barbara J.

Medical terminology : an illustrated guide / Barbara Janson Cohen, Ann DePetris. — 7th ed.

p. ; cm.

Includes index.

ISBN 978-1-4511-8756-4

I. DePetris, Ann. II. Title.

[DNLM: 1. Terminology as Topic. W 15]

610.1'4—dc23

2012037132

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Dedications

I am most grateful to Ann DePetris, a skilled and knowledgeable contributor to this text. Ann has shown a great commitment to the development of this revision, always willing to share the work and bringing her clinical expertise to the project. Thanks, Ann, for being a great and generous coworker. It's to you that I dedicate this edition of the book.

Barbara Cohen

To some very special people in my life—my husband Michael, son Paul, daughter Marie, and her husband Bobby. This wouldn't have been possible without all of your loving patience and unconditional support. And to Barbara Cohen—the uniqueness and high standards reflected in *Medical Terminology: An Illustrated Guide*, are the direct result of your unbelievable dedication and skills. You are a remarkable author and educator, and a true mentor. Barbara, it has been an honor and pleasure to work with you on this seventh edition. It's to all of you I dedicate my contributions to this edition.

Ann DePetris

Preface

Knowledge of medical terminology is fundamental to a wide variety of health care fields. This book is designed to satisfy the basic learning requirements needed to practice in any health career setting. In the course of your training and future careers, you will need to learn thousands of new terms. The job might be overwhelming if not for learning the skills of dividing the words into their component parts. These roots, suffixes, and prefixes appear over and over in different terms but retain the same meanings. Knowing these meanings will help you define and remember a host of words. This process is like using a set of building blocks to assemble different structures. Using a more scientific example, it's like using the four bases in DNA to code for all the amino acids needed to make proteins.

After the introductory sections, each chapter begins with an illustrated overview of a specific body system with definitions of the key terms related to that system. Tables of word parts and exercises on using them follow. Turning to the abnormal, a section on diseases and treatments is included, followed by definitions of relevant key terms. The section of supplementary terms includes words and phrases that are “good to know” if time allows or if someone is particularly interested in that specialty. The sequence of the systems chapters differs slightly from that found in

traditional anatomy and physiology books. The organization emphasizes their clinical importance, starting with the cardiovascular, respiratory, and digestive systems and continuing with systems treated in more specialized fields, such as the urinary, reproductive, and musculoskeletal systems. The chapters can be taken out of order once the introductory units are completed.

We have tried to make this book easy to use and full of reinforcing drills. We have also included many phonetic pronunciations so you can recognize technical terms when they are spoken and can comfortably use them yourself. The online student learning resources offer many additional activities and an audio glossary. Each chapter opens with a short case study. Some of the words and abbreviations in these studies will be unfamiliar at the start, but return to the opening study after you have completed the chapter, and hopefully, it should make more sense.

You are probably at the beginning of a long journey to gain accomplishment in your chosen field. We hope that this book will aid you in that endeavor and provide a basis on which to build your career.

Barbara Cohen and Ann DePetris

Acknowledgments

In our constant quest to improve the quality of *Medical Terminology: An Illustrated Guide*, we rely on the advice and talents of many people. First, we want to acknowledge the observant instructors and students who take the time to suggest improvements in the text. Also we thank the reviewers, who make many valuable suggestions for revisions. The clinicians who contributed current information in their respective fields include: Margaret O. Burr, BS, RVT, RDMS; Michael DePetris, R. Ph.; Paul DePetris, BS; Mary Green, PA-C; Nancy Gurzick, RDH, BS, MA; Marie Howard, PT, DPT; Robert Howard, DO; Bonnie L. Lehman BSN, MS, CNM; Christine Licari, RD; Pamela Morgan, OTR/L;

Christina Olkowski, MT (ASCP); Donna Robertson, RNC, MSA; Anne Tobin, RN, MSN, ACNP; and Terese A. Trost MA, RT. The information they shared will help guide students through various career paths. Thanks to you all.

As always, we are grateful to the dedicated staff of Lippincott Williams & Wilkins; especially for this edition, Staci Wolfson, Product Manager, who worked on every aspect of the book and its ancillaries; and David Troy, Executive Editor, who oversaw this project from start to finish.

Barbara Cohen
Ann DePetris

User's Guide

Medical Terminology: An Illustrated Guide, 7th edition, was created and developed to help you master the language of medicine. The tools and features in the text will help you work through the material presented. Please take a few moments to look through this User's Guide, which will introduce you to the features that will enhance your learning experience.

Chapter Contents, Objectives, and Pretests

Chapter Opening Case Studies and Objectives help you identify learning goals and familiarize yourself with the materials covered in the chapter. **Chapter Pretests** quiz students on previous knowledge at the beginning of each chapter. Students should take each Chapter Pretest before starting the chapter and again after completing the chapter in order to measure progress.

CHAPTER 15

The Female Reproductive System; Pregnancy and Birth

Case Study
A.Y.'s Cesarean Section

Chief complaint:
A.Y. is a 29-year-old gravida 2, para 1, at 39 weeks' gestation. Her first pregnancy resulted in a cesarean section. She had had an uneventful pregnancy with good health, moderate weight gain, good fetal heart sounds, and no signs or symptoms of pregnancy-induced hypertension. A.Y. went to the hospital when she realized she was going into labor.

Examination:
A.Y. had been in active labor for several hours, fully effaced and dilated, yet unable to progress. Her obstetric care ordered an x-ray pelvimetry test that revealed CPD (cephalopelvic disproportion) with the fetus in the right occiput posterior position. Changes in fetal heart rate indicated fetal distress. A.Y. was transported to the OR for an emergency C-section under spinal anesthesia.

Clinical course:
After being placed in the supine position, A.Y. had a urethral catheter inserted, and her abdomen was prepped with antimicrobial solution. After dipping a transverse suprapubic incision was made. Dissection was continued through the muscle layers to the uterus, with care not to nick the bladder. The uterus was incised through the lower segment, 2 cm from the bladder. The fetal head was gently elevated through the incision while the assistant put gentle pressure on the fundus. The baby's mouth and nose were suctioned with a bulb syringe, and the umbilical cord was clamped and cut. The baby was handed off to an attending pediatrician and OB nurse and placed in a radiant warmer bed. The Apgar score was 9/9. The placenta was gently delivered from the uterus, and the scrub nurse checked for three vessels and filled two sterile test tubes with cord blood for lab analysis. A.Y. was given an injection of Pitocin to stimulate uterine contraction. The uterus and abdomen were closed, and A.Y. was transported to the PACU (postanesthesia care unit).

Learning Objectives

- 1 Describe the female reproductive tract, and give the function of each part. *p372*
- 2 Describe the structure and function of the mammary glands. *p374*
- 3 Outline the events in the menstrual cycle. *p374*
- 4 List four types of contraception with examples of each. *p379*
- 5 Describe seven disorders of the female reproductive system. *p382*
- 6 Outline the major events that occur in the first two months after fertilization. *p389*
- 7 Describe the structure and function of the placenta. *p389*
- 8 Describe two adaptations in fetal circulation and cite their purposes. *p391*
- 9 Describe the three stages of childbirth. *p391*
- 10 List the hormonal and nervous controls over lactation. *p393*
- 11 Identify and use roots pertaining to the female reproductive system, pregnancy, and birth. *pp378, 394*
- 12 Describe six disorders of pregnancy and birth. *p395*
- 13 Define two types of congenital disorders and give examples each. *p397*
- 14 Interpret abbreviations used in referring to reproduction. *pp389, 404*
- 15 Analyze the medical terms in several case studies concerning the female reproductive system, pregnancy, and birth. *pp370, 411*

Detailed Illustrations

Illustrations: Detailed, full-color drawings and photographs illuminate the chapters. These include clinical photographs and tissue micrographs. The many figures amplify and clarify the text and are particularly helpful for visual learners.

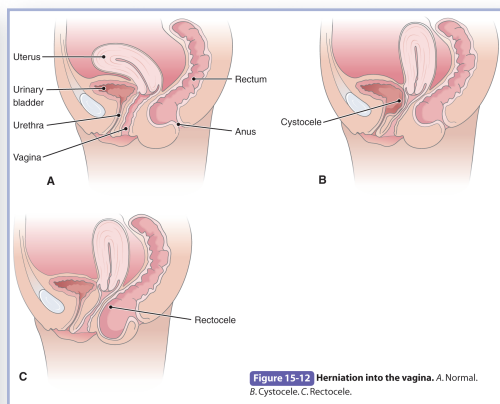
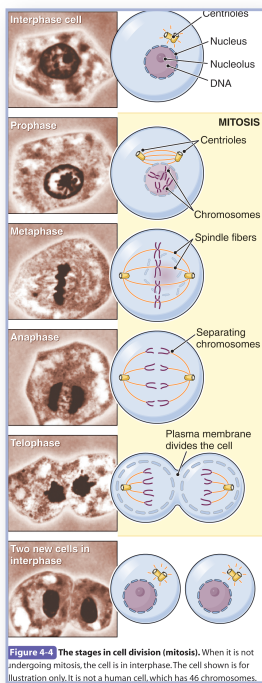


Figure 15-12 Herniation into the vagina. A. Normal. B. Cystocele. C. Rectocele.

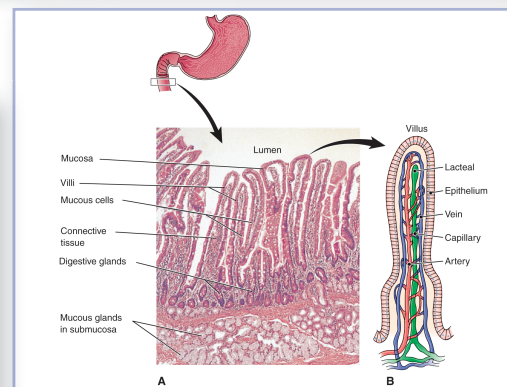


Figure 12-4 Intestinal villi. A. Microscopic view of the small intestine's lining showing villi and glands that secrete mucus and digestive juices. The lumen is the central opening. B. An intestinal villus. Each villus has blood vessels and a lacteal (lymphatic capillary) for nutrient absorption.

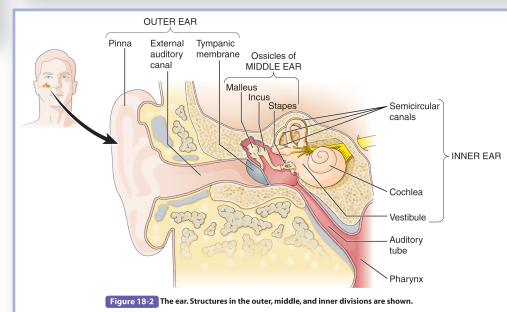


Figure 18-2 The ear. Structures in the outer, middle, and inner divisions are shown.

Feature Boxes


FEATURE BOXES CALL OUT IMPORTANT INFORMATION

Focus on Words boxes provide historical or other interesting information on select terms within a chapter.

Clinical Perspectives boxes focus on body processing as well as techniques used in clinical settings.

Health Professions boxes focus on a variety of health careers, showing how the knowledge of medical terminology is applied in real-world careers.

For Your Reference boxes provide supplemental information for terms within a chapter.


Box 2-1  *Focus on Words*

Meaningful Suffixes

Suffixes sometimes take on a color of their own as they are added to different words. The suffix *-thon* is taken from the name of the Greek town Marathon, from which news of a battle victory was carried by a long-distance runner. It has been attached to various words to mean a contest of great endurance. We have bike-a-thons, dance-a-thons, telethons, and even major charity fundraisers called thon-a-thons.

The adjective ending *-ish* is used, as in *boyish* or *childish*, to suggest traces of certain characteristics. People tack it onto words to indicate that they are estimates, not right on target, as in *forty-ish* or *blue-ish*. A vague time for a lunch appointment could be *noon-ish*.

In science and medicine, the ending *-tech* is used to imply high technology, as in the company name Genentech, and *-pure* may be added to inspire confidence, as in the naming of the Multi-Pure water filter. The ending *-mate* suggests helping, as in *helpmate*, defined in the dictionary as a helpful companion, more specifically, a wife, or sometimes, a husband. The medical device HeartMate is a pump used to assist a damaged heart.

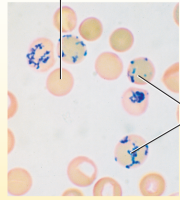
Box 10-6  *Clinical Perspectives*

Use of Reticulocytes in Diagnosis


As erythrocytes mature in the red bone marrow, they go through a series of stages in which they lose their nuclei and most other organelles, maximizing the space available for hemoglobin. In one of the last stages of development, small numbers of ribosomes and some rough endoplasmic reticulum remain in the cell and appear as a network, or reticulum, when stained. Cells at this stage are called *reticulocytes*. Reticulocytes leave the red bone marrow and enter the bloodstream, where they become fully mature erythrocytes in about 24 to 48 hours. The average number of red cells maturing through the reticulocyte stage at any given time is about 1 to 2 percent. Changes in these numbers can be used in diagnosing certain blood disorders.

When erythrocytes are lost or destroyed, as from chronic bleeding or some form of hemolytic anemia, red cell production is "stepped up" to compensate for the loss. Greater numbers of reticulocytes are then released into the blood before reaching full maturity, and counts increase to above normal. On the other hand, a decrease in the number of circulating reticulocytes suggests a problem with red cell production, as in cases of deficiency anemias or suppression of bone marrow activity.

Mature erythrocyte



Reticulocytes

Box 13-3  *Health Professions*

Hemodialysis Technician

A hemodialysis technician, also called a renal technician or a nephrology technician, specializes in the safe and effective delivery of renal dialysis therapy to patients suffering from kidney failure. Before treatment begins, the technician prepares the dialysis solutions and ensures that the dialysis machine is clean, sterile, and in proper working order. The technician measures and records the patient's weight, temperature, and vital signs, inserts a catheter into the patient's arm, and connects the dialysis machine to it. During dialysis, the technician monitors the patient for adverse reactions and guards against any equipment malfunction. After the treatment is completed, the technician again measures and records the patient's weight, temperature, and vital signs. To perform these duties, hemodialysis technicians need thorough scientific and clinical training. Most technicians in the United States receive their training from a college or technical school, and many states require that the technician be certified.

Hemodialysis technicians work in a variety of settings, such as hospitals, clinics, and patients' homes. As populations age, the incidence of kidney disease is expected to rise, as will the need for hemodialysis. For more information about this career, contact the National Association of Nephrology Technicians at www.dialysistech.net.

Box 21-2  *For Your Reference*

Types of Skin Lesions

LESION	DESCRIPTION
bull <i>BUL-a</i>	raised, fluid-filled lesion larger than a vesicle (plural: bullae)
fissure <i>FISH-ur</i>	crack or break in the skin
macule <i>MAK-ul</i>	flat, colored spot
nodule <i>NOD-ul</i>	solid, raised lesion larger than a papule; often indicative of systemic disease
papule <i>PAP-ul</i>	small, circular, raised lesion at the surface of the skin
plaque <i>plak</i>	superficial, flat, or slightly raised differentiated patch more than 1 cm in diameter
pustule <i>PUS-tul</i>	raised lesion containing pus; often in a hair follicle or sweat pore
ulcer <i>UL-ser</i>	lesion resulting from destruction of the skin and perhaps subcutaneous tissue
vesicle <i>VES-i-kal</i>	small, fluid-filled, raised lesion; a blister or bleb
wheel <i>wel</i>	smooth, rounded, slightly raised area often associated with itching; seen in urticaria (hives), such as that resulting from allergy

Word Part Tables

DETAILED TABLES

Present roots, prefixes, and suffixes covered in each chapter in an easy-to-reference format (with examples of their use in medical terminology).

Word Part Knowledge aids in the learning and understanding of common terminology.

Table 19-1 Roots for Bones and Joints			
Root	Meaning	Example	Definition of Example
oste/o	bone	osteopenia os-tē-ō-PĒ-nē-ā	deficiency of bone tissue
myel/o	bone marrow; also, spinal cord	myeloid MI-e-loyd	pertaining to or resembling bone marrow
chondr/o	cartilage	chondroblast KON-drō-blast	a cartilage-forming cell
arthr/o	joint	arthrosis ar-THRŌ-sis	joint; condition affecting a joint
synov/i	synovial fluid, joint, or membrane	asynovia a-sin-Ō-vē-ā	lack of synovial fluid
burs/o	bursa	peribursal per-i-BER-sal	around a bursa

Exercises

Exercises are designed to test your knowledge before you move to the next learning topic that follows each table.

EXERCISE 19-1

Fill in the blanks:

- Osteolysis (*os-tē-OL-i-sis*) is destruction of _____.
- Myelogenous (*mī-e-LOJ-e-nus*) means originating in _____.
- Arthrodesis (*ar-THROD-e-sis*) is fusion of a(n) _____.
- A chondroma (*kon-DRŌ-ma*) is a tumor of _____.
- A bursolith (*BUR-sŏ-lith*) is a stone in a(n) _____.

Define the following words:

- osteoid (*OS-tē-oyd*) _____
- myelopoiesis (*mī-e-lŏ-poy-Ē-sis*) _____
- chondromalacia (*kon-drŏ-ma-LĀ-shĕ-ā*) _____
- arthrocentesis (*ar-thrŏ-sen-TE-sis*) _____
- bursitis (*bur-SI-tis*) _____
- synovial (*sī-NŌ-vē-ā*) _____

Write words for the following definitions:

- inflammation of bone and bone marrow _____
- a bone-forming cell _____

Term Tables

Key Terms include the most commonly used terms.

Terminology	Key Terms
Normal Structure and Function	
agranulocyte <i>Ā-gran-ū-lŏ-st</i>	A white blood cell that does not have visible granules in its cytoplasm. Agranulocytes include lymphocytes and monocytes (see Box 10-3)
albumin <i>al-BŪ-min</i>	A simple protein found in blood plasma
antibody <i>AN-ti-bod-ē</i>	A protein produced in response to and interacting specifically with an antigen
antigen <i>AN-ti-jen</i>	A substance that induces the formation of an antibody
B cell	A lymphocyte that matures in lymphoid tissue and is active in producing antibodies; B lymphocyte (<i>LIM-fŏ-st</i>)
band cell	An immature neutrophil with a nucleus in the shape of a band; also called a stab cell. Band cell counts are used to trace infections and other diseases (see Fig. 10-4)
basophil <i>BA-sŏ-fil</i>	A granular leukocyte that stains strongly with basic dyes; active in allergic reactions
blood <i>blud</i>	The fluid that circulates in the cardiovascular system (roots: hem/o, hemat/o)
coagulation <i>kŏ-ag-ū-LĀ-shun</i>	Blood clotting
cross-matching	Testing the compatibility of donor and recipient blood in preparation for a transfusion. Donor red cells are mixed with recipient serum to look for an immunologic reaction. Similar tests are done on tissues before transplantation
electrolyte <i>e-LEK-trŏ-lit</i>	A substance that separates into charged particles (ions) in solution; a salt. Term also applied to ions in body fluids
eosinophil <i>e-ŏ-SIN-ŏ-fil</i>	A granular leukocyte that stains strongly with acidic dyes; active in allergic reactions and defense against parasites

Supplementary Terms list more specialized terms.

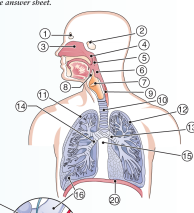
Terminology Supplementary Terms	
Normal Structure and Function	
agglutination <i>a-gla-ti-NĀ-shun</i>	The clumping of cells or particles in the presence of specific antibodies
bilirubin <i>bil-i-RŪ-bin</i>	A pigment derived from the breakdown of hemoglobin. It is eliminated by the liver in bile
complement <i>COM-ple-ment</i>	A group of plasma enzymes that interacts with antibodies
corpuscle <i>KOR-pus-l</i>	A small mass or body. A blood corpuscle is a blood cell
hemopoietic stem cell <i>hē-mō-poy-E-tik</i>	A primitive bone marrow cell that gives rise to all varieties of blood cells
heparin <i>HEP-a-rin</i>	A substance found throughout the body that inhibits blood coagulation; an anticoagulant
plasmin <i>PLAZ-min</i>	An enzyme that dissolves clots; also called <i>fibrinolysin</i>
thrombin <i>THROM-bin</i>	The enzyme derived from prothrombin that converts fibrinogen to fibrin
Symptoms and Conditions	
agranulocytosis <i>ā-gran-ū-lō-si-TO-sis</i>	A condition involving a decrease in the number of granulocytes in the blood; also called <i>granulocytopenia</i>
erythrocytosis <i>e-ritb-ro-si-TO-sis</i>	Increase in the number of red cells in the blood; may be normal, such as to compensate for life at high altitudes, or abnormal, such as in cases of pulmonary or cardiac disease
Fanconi syndrome <i>fan-KŌ-nē</i>	Congenital aplastic anemia that appears between birth and 10 years of age; may be hereditary or caused by damage before birth, as by a virus
graft versus host reaction (GVHR)	An immunologic reaction of transplanted lymphocytes against tissues of the host; a common complication of bone marrow transplantation
hairy cell leukemia	A form of leukemia in which cells have filaments, making them look "hairy"
hematoma <i>hē-ma-TŌ-ma</i>	A localized collection of blood, usually clotted, caused by a break in a blood vessel

Abbreviations are listed for common terms.

Terminology Abbreviations			
Ab	Antibody	ITP	Idiopathic thrombocytopenic purpura
Ag	Antigen, also silver	lytes	Electrolytes
AIDS	Acquired immunodeficiency syndrome	MCH	Mean corpuscular hemoglobin
ALL	Acute lymphoblastic (lymphocytic) leukemia	MCHC	Mean corpuscular hemoglobin concentration
AML	Acute myeloblastic (myelogenous) leukemia	mcl	Microliter
APTT	Activated partial thromboplastin time	mcm	Micrometer
BT	Bleeding time	MCV	Mean corpuscular volume
CBC	Complete blood count	MDS	Myelodysplastic syndrome
CGL	Chronic granulocytic leukemia	mEq	Milliequivalent
CLL	Chronic lymphocytic leukemia	NHL	Non-Hodgkin lymphoma
CML	Chronic myelogenous leukemia	PCV	Packed cell volume
crit	Hematocrit	pH	Scale for measuring hydrogen ion concentration (acidity or alkalinity)
DIC	Disseminated intravascular coagulation	Ph	Philadelphia chromosome
Diff	Differential count	PMN	Polymorphonuclear (neutrophil)
EBV	Epstein-Barr virus	poly	Neutrophil
ELISA	Enzyme-linked immunosorbent assay	polymorph	Neutrophil
EPO, EP	Erythropoietin	PT	Prothrombin time; pro time
ESR	Erythrocyte sedimentation rate	PTT	Partial thromboplastin time
FFP	Fresh frozen plasma	RBC	Red blood cell; red blood (cell) count
Hb, Hgb	Hemoglobin	seg	Neutrophil
Hct, Ht	Hematocrit	SLE	Systemic lupus erythematosus
HDN	Hemolytic disease of the newborn	T(C)T	Thrombin (clotting) time
HIV	Human immunodeficiency virus	TTP	Thrombotic thrombocytopenic purpura
IF	Intrinsic factor	vWF	von Willebrand factor
Ig	Immunoglobulin	WBC	White blood cell; white blood (cell) count

Chapter Review Exercises

Chapter Review Exercises are designed to test your knowledge of the chapter material and appear at the end of each chapter.

<p style="font-size: small;">272 Part III Body Systems</p> <h2 style="color: green; margin: 0;">Chapter Review</h2> <h3 style="margin: 0;">Labeling Exercise</h3> <p style="font-size: x-small; color: green;">THE RESPIRATORY SYSTEM</p> <p style="font-size: x-small;">Write the name of each numbered part on the corresponding line of the answer sheet.</p> <table style="font-size: x-small; width: 100%;"> <tr> <td>Alveolar duct</td> <td>Left lung</td> </tr> <tr> <td>Alveoli</td> <td>Mediastinum</td> </tr> <tr> <td>Capillaries</td> <td>Nasal cavity</td> </tr> <tr> <td>Diaphragm</td> <td>Nasopharynx</td> </tr> <tr> <td>Epiglottis</td> <td>Oropharynx</td> </tr> <tr> <td>Esophagus</td> <td>Right bronchus</td> </tr> <tr> <td>Frontal sinus</td> <td>Right lung</td> </tr> <tr> <td>Laryngopharynx</td> <td>Sphenoidal sinus</td> </tr> <tr> <td>Larynx and vocal cords</td> <td>Terminal bronchiole</td> </tr> <tr> <td>Left bronchus</td> <td>Trachea</td> </tr> </table>  <ol style="list-style-type: none"> 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ 12. _____ 13. _____ 14. _____ 15. _____ 16. _____ 17. _____ 18. _____ 19. _____ 20. _____ 	Alveolar duct	Left lung	Alveoli	Mediastinum	Capillaries	Nasal cavity	Diaphragm	Nasopharynx	Epiglottis	Oropharynx	Esophagus	Right bronchus	Frontal sinus	Right lung	Laryngopharynx	Sphenoidal sinus	Larynx and vocal cords	Terminal bronchiole	Left bronchus	Trachea	<p style="font-size: small; text-align: right;">Chapter 11 The Respiratory System 273</p> <h2 style="color: blue; margin: 0;">Terminology</h2> <p style="font-size: x-small; color: green;">MATCHING</p> <p style="font-size: x-small;">Match the following terms and write the appropriate letter to the left of each number:</p> <table style="font-size: x-small; width: 100%;"> <tr> <td>_____ 1. compliance</td> <td>a. accidental inhalation of foreign material into the lungs</td> </tr> <tr> <td>_____ 2. surfactant</td> <td>b. space between the lungs</td> </tr> <tr> <td>_____ 3. sputum</td> <td>c. substance that reduces surface tension</td> </tr> <tr> <td>_____ 4. aspiration</td> <td>d. a measure of how easily the lungs expand</td> </tr> <tr> <td>_____ 5. mediastinum</td> <td>e. expectoration</td> </tr> <tr> <td>_____ 6. atelectasis</td> <td>a. pulmonary disease with destruction of alveoli</td> </tr> <tr> <td>_____ 7. emphysema</td> <td>b. increased carbon dioxide in the blood</td> </tr> <tr> <td>_____ 8. hypercapnia</td> <td>c. decreased rate and depth of breathing</td> </tr> <tr> <td>_____ 9. hypoxia</td> <td>d. whooping cough</td> </tr> <tr> <td>_____ 10. pertussis</td> <td>e. incomplete expansion of lung tissue</td> </tr> <tr> <td>_____ 11. CF</td> <td>a. virus that causes respiratory disease in young children</td> </tr> <tr> <td>_____ 12. RSV</td> <td>b. tuberculosis vaccine</td> </tr> <tr> <td>_____ 13. PCP</td> <td>c. hereditary disease that affects respiration</td> </tr> <tr> <td>_____ 14. DTaP</td> <td>d. pneumonia seen in compromised patients</td> </tr> <tr> <td>_____ 15. BCG</td> <td>e. childhood vaccine</td> </tr> </table> <p style="font-size: x-small;">Supplementary Terms</p> <table style="font-size: x-small; width: 100%;"> <tr> <td>_____ 16. stridor</td> <td>a. suffocation</td> </tr> <tr> <td>_____ 17. lullum</td> <td>b. nosebleed</td> </tr> <tr> <td>_____ 18. asphyxia</td> <td>c. anatomic depression in an organ</td> </tr> <tr> <td>_____ 19. epistaxis</td> <td>d. harsh, high-pitched respiratory sound</td> </tr> <tr> <td>_____ 20. expectorant</td> <td>e. agent that helps remove bronchial secretions</td> </tr> <tr> <td>_____ 21. coryza</td> <td>a. irregular respiration seen in terminally ill patients</td> </tr> <tr> <td>_____ 22. Cheyne-Stokes</td> <td>b. device used to measure air flow</td> </tr> <tr> <td>_____ 23. rales</td> <td>c. acute rhinitis</td> </tr> <tr> <td>_____ 24. pneumotachometer</td> <td>d. pertaining to an upright position</td> </tr> <tr> <td>_____ 25. orthopnea</td> <td>e. abnormal chest sounds</td> </tr> </table> <p style="font-size: x-small; color: green;">FILL IN THE BLANKS</p> <ol style="list-style-type: none"> 26. The turbinate bones contain receptors for the sense of _____. 27. The gas produced in the tissues and exhaled in respiration is _____. 28. The phrenic nerve activates the _____. 29. The double membrane that covers the lungs and lines the thoracic cavity is the _____. 30. The small air sacs in the lungs through which gases are exchanged between the atmosphere and the blood are the _____. 31. The trachea divides into a right and a left primary _____. 32. A pneumotropic virus is one that invades the _____. 33. The term <i>acid-fast bacillus</i> (AFB) is commonly applied to the organism that causes _____. 	_____ 1. compliance	a. accidental inhalation of foreign material into the lungs	_____ 2. surfactant	b. space between the lungs	_____ 3. sputum	c. substance that reduces surface tension	_____ 4. aspiration	d. a measure of how easily the lungs expand	_____ 5. mediastinum	e. expectoration	_____ 6. atelectasis	a. pulmonary disease with destruction of alveoli	_____ 7. emphysema	b. increased carbon dioxide in the blood	_____ 8. hypercapnia	c. decreased rate and depth of breathing	_____ 9. hypoxia	d. whooping cough	_____ 10. pertussis	e. incomplete expansion of lung tissue	_____ 11. CF	a. virus that causes respiratory disease in young children	_____ 12. RSV	b. tuberculosis vaccine	_____ 13. PCP	c. hereditary disease that affects respiration	_____ 14. DTaP	d. pneumonia seen in compromised patients	_____ 15. 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Case Studies and Case Study Questions

Case Studies and **Case Study Questions** in every chapter present terminology in the context of a medical report. These are an excellent review tool as they test your cumulative knowledge of medical terminology, and put terminology into a real-world context.

<h2 style="color: purple; margin: 0;">Additional Case Studies</h2> <p style="font-size: x-small; color: purple;">Case Study 18-1: Audiology Report</p> <p style="font-size: x-small;">S.R., a 55-YO man, reported decreased hearing sensitivity in his left ear for the past three years. In addition to hearing loss, he was experiencing tinnitus and aural fullness. Pure-tone test results revealed normal hearing sensitivity for the right ear and a moderate sensorineural hearing loss in the left ear. Speech thresholds were appropriate for the degree of hearing loss noted. Word recognition was excellent for the right ear and poor for the left ear when the signal was present at a suprathreshold level. Tympanograms were characterized by normal shape, amplitude, and peak pressure points bilaterally. The contralateral acoustic reflex was normal for the right ear but absent for the left ear at the frequencies tested (500 to 4,000 Hz). The ipsilateral acoustic reflex was present with the probe in the right ear and absent with the probe in the left ear. Brainstem auditory evoked potentials (BAEPs) were within normal range for the right ear. No repeatable response was observed from the left ear. A subsequent MRI showed a 1-cm acoustic neuroma.</p> <p style="font-size: x-small; color: purple;">Case Study 18-2: Phacoemulsification with Intraocular Lens Implant</p> <p style="font-size: x-small;">W.S., a 68-YO woman, was scheduled for surgery for a cataract and relief from "floaters," which she had noticed in her visual field since her surgery for a retinal detachment the previous year. She reported to the ambulatory surgery center an hour before her scheduled procedure. Before transfer to the operating room, she spoke with her ophthalmologist and reviewed the surgical plan. Her right eye was identified as the operative eye, and it was marked with a "yes" and the surgeon's initials on the lid. She was given anesthetic drops in the right eye and an intravenous bolus of 2.0 mg of midazolam (Versed).</p> <p style="font-size: x-small;">In the OR, W.S. and her operative eye were again identified by the surgeon, anesthesiologist, and nurses. After anesthesia and akinesia were achieved, the eye area was prepped and draped in sterile sheets. An operating microscope with video system was positioned over her eye. A 5-0 silk suture was placed through the superior rectus muscle to retract the eye. A lid speculum was placed to open the eye. A minimal conjunctival peritomy was performed, and hemostasis was achieved with wet-field cautery. The anterior chamber was entered at the 10:30 o'clock position. A capsulotomy was performed after Healon was placed in the anterior chamber. Phacoemulsification was carried out without difficulty. The remaining cortex was removed by irrigation and aspiration.</p> <p style="font-size: x-small;">An intraocular lens (IOL) was placed into the posterior chamber. Miochol was injected to achieve pupillary miosis, and the wound was closed with one 10-0 suture. Subconjunctival Celestone and Garamycin were injected. The lid speculum and retraction suture were removed. After application of Eserine and Bacitracin ointments, the eye was patched, and a shield was applied. W.S. left the OR in good condition and was discharged to home four hours later.</p> <p style="font-size: x-small; color: purple;">Case Study Questions</p> <p style="font-size: x-small;">Multiple choice. Select the best answer and write the letter of your choice to the left of each number.</p> <ol style="list-style-type: none"> _____ 1. The study of hearing is termed: <ol style="list-style-type: none"> a. acoustiology b. radio frequency c. light spectrum d. otology e. audiology _____ 2. Sensorineural hearing loss may result from: <ol style="list-style-type: none"> a. damage to the second cranial nerve b. otitis media c. otosclerosis d. damage to the eighth cranial nerve e. stapedectomy _____ 3. The term that means "on the same side" is: <ol style="list-style-type: none"> a. contralateral b. bilateral c. distal d. ventral e. ipsilateral _____ 4. Another name for an acoustic neuroma is: <ol style="list-style-type: none"> a. macular degeneration b. acoustic neurilemmoma c. auditory otosclerosis d. eighth cranial labyrinthitis e. acoustic glaucoma _____ 5. Ultrasound destruction and aspiration of the lens is called: <ol style="list-style-type: none"> a. cataractomy b. phacoemulsification c. stapelctomy d. radial keratotomy e. refraction _____ 6. The term <i>akinesia</i> means: <ol style="list-style-type: none"> a. movement b. lack of sensation c. washing d. lack of movement e. incision 	<p style="font-size: small;">512 Part III Body Systems</p> <p>Write terms from the case studies with the following meanings:</p> <ol style="list-style-type: none"> 7. record obtained by tympanometry _____ 8. pertaining to or perceived by the ear _____ 9. above a minimum level _____ 10. pertaining to sound or hearing _____ 11. perception of sounds, such as ringing or tinkling in the ear _____ 12. physician who specializes in conditions of the eye _____ 13. generic drug name for Versed _____ 14. within the eye _____ 15. abnormal contraction of the pupil _____ 16. below the conjunctiva _____ <p>Abbreviations. Define the following abbreviations:</p> <ol style="list-style-type: none"> 17. Hz _____ 18. BAEP _____ 19. IOL _____
--	--

Flashcard Starter Set

More than 100 flashcards are included at the back of the text. Add to this collection with your own cards as you work through the text (please be sure to see the Student Resources section for information on creating your own set of flashcards using the Flashcard Generator).

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4. Print and read your own personal learning styles report to better understand how to study most effectively and efficiently.

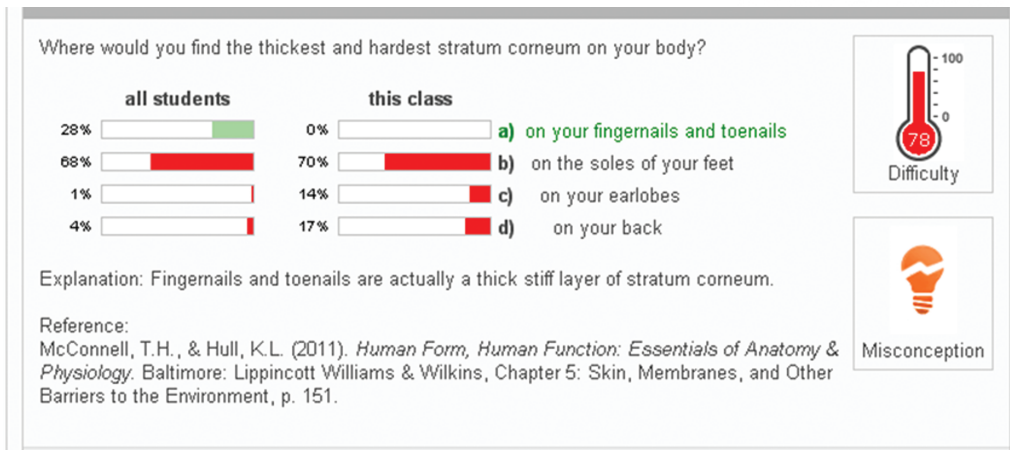
Once you know your own personal learning style, access thePoint.lww.com/Cohen7e on *thePoint*—the companion Web site for *Medical Terminology: An Illustrated Guide, 7th Edition*, which will allow you to search and sort PASSport to Success® activities by learning style to choose the most effective way for you to learn the material. Resources and activities available to students include the following:

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- Listen & Label and Look & Label
- Word Building
- Zooming In
- Pronounce It
- Spell It
- Sound It
- Hangman
- Crossword Puzzles
- Quiz Show
- Concentration
- Case Studies and Case Study Questions
- Dictionary and Audio Glossary application
- Flashcards and Flashcard Generator applications
- Animations
- Audio Drills (which allow for chapter audio files to be downloaded as MP3 files)
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PrepU: An Integrated Adaptive Learning Solution

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PrepU uses repetitive and adaptive quizzing to build mastery of medical terminology concepts, helping students to learn more while giving instructors the data they need to monitor each student's progress, strengths, and weaknesses. The hundreds of questions in PrepU offer students the chance to drill themselves on medical terminology and support their review and retention of the information they've learned. Each question not only provides an explanation for the correct answer, but also references the text page for the student to review the source material. PrepU for *Medical Terminology* challenges students with questions and activities that coincide with the materials they've learned in the text and gives students a proven tool to learn medical terminology more effectively. For instructors, PrepU provides tools to identify areas and topics of student misconception; instructors can use these rich course data to assess students' learning and better target their in-class activities and discussions, while collecting data that are useful for accreditation.

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Class Performance

The Class Performance section shows information on your class's Mastery Levels. The graph on the left shows the average ML reached relative to the total number of questions answered so you can see overall progression. The histogram to the right shows the number of students at each overall ML.

Mastery Level vs. # of Questions Answered

Mastery Level Histogram

Strengths & Weaknesses

The Strengths & Weaknesses section shows the top three chapters in which students are doing well, and the three chapters in which your students are struggling the most.

Strong chapters:

Chapter	Mastery	1	2	3	4	5	6	7	8
Chapter 55: Assessment of Integumentary Function	Class Mastery Level: 6.1	[Progress bar showing high mastery]							

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