Essentials of Medical Language 4th edition Allan Solutions Manual

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Chapter One Answer Key

Answers to Lesson Exercises

p. 3 Exercise A

1. suffix
2. combining vowel
3. prefix
4. combining form

p. 3 Exercise B

1. b
2. b
3. a

p. 5 Exercise A

1. pulmon/o -logy
   R/CF S
2. pulmon- -ary
   R S
3. respir- -ation
   R S
4. pneumon- ia
   R S

p. 5 Exercise B

1. pneumonitis pneumon- - itis inflammation of the lung
   R S
2. respiration - process of breathing
3. -logist specialist, one who studies

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p. 7 Exercise A

1. Pertaining to birth
2. peri / nat/ al

   P R S
3. post/ nat/ al

   P R S
4. pre/ nat/ al

   P R S

p. 7 Exercise B

1. d
2. b

p. 9 Exercise A

1. diagnosis (noun)
2. diagnose (verb)
3. diagnostic (adjective)
4. diagnoses (plural)

p. 9 Exercise B

1. Sentence 2: Dr. Bannerjee is unable to diagnose this patient until he receives the lab results.
2. Sentence 4: It is possible for this patient to have multiple diagnoses if there is more than one condition present.
3. Sentence 1: The primary diagnosis for this patient is myocardial ischemia.
4. Sentence 3: The diagnostic tests have been ordered for this patient first thing in the morning.

p. 11 Exercise A

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1. mucous
2. prostate
3. reflex
4. ilium

p. 11 Exercise B

1. diagnoses
2. axillae
3. septa
4. ganglia

p. 11 Exercise C

1. d
2. b

p. 13 Exercise A

1. vertebrae
2. neurology
3. infusion
4. hypotensive
5. intravenous
6. cervical

p. 13 Exercise B

1. A medical specialist who studies the urinary system is a urologist.
2. The term that means high blood pressure is hypertension, and the term that means low blood pressure is hypotension. The difference in these two terms is the prefix. Hyper- means excessive or above normal, and hypo- means deficient or below normal.
3. ureter

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4. blood

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CHAPTER 1—The Anatomy of Medical Terms
The Essential Elements of the Language of Medicine

Chapter 1 Teaching Overview

Before students begin learning new medical terms in the body systems and in the context of realistic health care scenarios, it is important that they develop skills that will help them analyze the various parts of the words to determine their meaning as a whole. Helping students learn how to deconstruct and construct medical terms not only provides a solid foundation for learning new terms but also gives beginning medical terminology students confidence in their ability to apply their learning to new situations. The better they grasp the concepts and skills in Chapter 1, the better they will do in all of the chapters that follow.

As with all lessons in this Lesson Planning Guide, you can and should modify this chapter's lessons to best meet the needs of *your* students, *your* schedule, and *your* curricula.

Teacher to Student:

- Color-coding prefixes, suffixes, and combining forms reinforces how the word parts combine to create meaning. Have students practice writing medical terms with colored markers, pencils, or crayons to emphasize the use of the word parts.
- Whenever you see a medical term used incorrectly in print, photocopy or print the error and bring it in to share with students. Discuss the cost and safety risks associated with misuse of medical terminology so that students truly understand the importance of precision when using medical language.
- Ask students to write a list of 15 medical terms they know—everyone knows some from TV shows, drug commercials, or personal experience. Have students read their lists and compare them; this activity gives students confidence that they already know some terms.
- Put the word "esophagogastroduodenoscopy" on the board. Most people will gasp when they see it, but it is very easy to deconstruct. Ask students what "esophago" sounds like (esophagus) and what "gastro" sounds like (gastric). Tell them "duodeno" means duodenum, the part where the stomach empties into the intestine. Then tell them what "scopy" means. Write the English equivalent word under each part of the term, then tell students the secret of deciphering medical terms is to start at the end and then go to the beginning of the term (making this term, "An examination with a scope of the esophagus, stomach, and duodenum"). Students are amazed that they can figure out such a long medical term so easily.

Chapter 1: Learning Outcomes

Students will demonstrate the following learning outcomes upon successful completion of the lessons in this chapter:

LO 1.1	Select the roots, combining vowels, and combining forms of medical terms.
LO 1.2	Demonstrate the importance of suffixes and prefixes in forming medical terms.
LO 1.3	Construct (build) medical terms from separate elements.
LO 1.4	Deconstruct (break down) medical terms into their elements.
LO 1.5	Use correctly the plurals of medical terms.
LO 1.6	Articulate the correct pronunciations of medical terms.

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LO 1.7 Demonstrate precision and accuracy in documentation and other written and verbal communication of medical terms.

Note: These lessons are designed with ultimate flexibility in mind. When customizing the lessons for your own class, always choose activities that are most relevant to *your* curriculum, *your* students, and *your* teaching goals—especially if you do not have time to implement all of the provided activities in your class period.

Instructor Lesson Plan: Chapter 1, Lesson 1.1

Lesson 1.1: The Construction of Medical Words

Lesson 1.1 Learning Objectives

Total Time: 50 Minutes

Your teaching goal for this lesson is to help your students accomplish these learning objectives:

1.1.1 Build and construct medical terms using their elements.
1.1.2 Select and identify the meaning of essential medical term roots.
1.1.3 Define the elements combining vowel and combining form.
1.1.4 Identify the combining vowel and combining form of essential medical terms.
1.1.5 Define the elements suffix and prefix.
1.1.6 Select and identify the meaning of the suffixes and prefixes of essential medical terms.

Prepare Your Materials:

- **Dry erase board** (or chalkboard, butcher's block paper, etc.)
- **Lesson 1.1 PowerPoint® presentation**—Found on **Connect**® in the Library under Instructor Resources (http://connect.mheducation.com)
- **Lesson 1.1 student note-taking handout**—Create by selecting the "Handouts" option when printing the PowerPoint**®** presentation; select "3 slides per page" to print slides with blank lines to the right where students can take notes
- **Lesson 1.1 Word Parts Handout**—Found on **Connect**® in the Library under Instructor Resources (http://connect.mheducation.com) and on pages IM-1-5–6 of this chapter
- Pronunciations of medical terms are found in the audio glossary in **Connect®** (http://connect.mheducation.com)

Lesson 1.1 Activities & Instructions

Warm-up & Introduction—10 Minutes

Learning Outcomes—LO 1.1, 1.2, 1.4, 1.7
Materials—Dry erase board

Activity Description—Introduction to the concept of combining forms, prefixes, and suffixes

Step 1: Write the following words on the board: brontosaur, brachiosaurus, tyrannosaurus, stegosaurus,

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and sauropod.

Step 2: Ask students what type of words these are (e.g., what type of things these words name; response should be "dinosaurs").

Step 3: Ask students how they know that these are types of dinosaurs. If they have trouble explaining how they know, ask them what each word has in common ("saur"). Tell students that "saur" is the root of all of those words. The root word "saur" means "lizard."

Step 4: Now, write the following words on the board: maxisaurus, minisaurus, aquasaurus, nonsaurus, and octosaurus.

Step 5: Tell students that these are just nonsense words, but ask them to try to predict the meaning of each word. Suggestions:

- Semisaurus = half-size dinosaur
- Minisaurus = small dinosaur
- Aquasaurus = dinosaur of the water
- Nonsaurus = something that is not a dinosaur
- Octosaurus = dinosaur with eight of something (arms, legs, head)

Step 6: Have students "think aloud" to explain how they came up with their predicted meanings. Suggested response: "semi" means half, "mini" means small, etc. Point out that these word parts tacked onto the beginning of "saurus" are called prefixes, and discuss how they can totally change the meaning of the root word. Explain that suffixes are word parts like prefixes but they are added to the ends of words to change meaning. Ask students to look back at the word "sauropod" from the beginning of this activity. "Sauropod" is a word that actually means "reptile foot" (saur/o = lizard; pod = foot). It is used to describe large dinosaurs with long necks and tails and elephant-like limbs.

Step 7: Help students see that by knowing the *root word* and/or the *prefixes* and *suffixes*, they are well on their way to understanding words that have additional parts added to them.

Lecture/Discussion—20 Minutes

Learning Objectives—LO 1.1, 1.2, 1.4, 1.7
Materials—Lesson 1.1 PowerPoint® presentation, Lesson 1.1 student note-taking handouts

Activity Description—Lecture/Discussion

Reference the Speaker Notes for each slide to assist you in discussing the talking points. You can view or print "Notes Pages" to use during the lecture for easy reference (in PowerPoint®, select "View," then "Notes Page").

Active Learning & Practice—15 Minutes

Learning Outcomes—LO 1.1, 1.2, 1.4, 1.7
Materials—Lesson 1.1 Word Parts Handout

Activity Description—Practice using roots and combining vowels, prefixes, and suffixes

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Step 1: Distribute the Lesson 1.1 Word Parts Handout.

Step 2: Read the instructions with students and have them complete the handout alone, in pairs, or in small groups.

Step 3: Aloud (to practice pronunciation) and as a group, go over the answers, explaining any items that were difficult or misunderstood by students.

Review—10 Minutes

Learning Outcomes—LO 1.1, 1.2, 1.4, 1.7
Materials—Lesson 1.1 exercises (in textbook)

Activity Description—Review

Step 1: Go through the Lesson 1.1 exercises from the textbook aloud as a group; explain or clarify anything that is difficult for students.

Step 2: Reinforce correct pronunciation of each term as students read the exercises aloud.

Homework Assignment

Ask students to do the following:

- Read Lesson 1.2 in the textbook.
- Bring in five medical terms of their choice; label the root(s), combining vowel(s), prefix(es), and/or suffix(es) found in each. Be prepared to explain the meaning of each word part and to define the term as a whole.

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WORD PARTS HANDOUT: Chapter 1, Lesson 1.1
Lesson 1.1 – The Construction of Medical Words

Essentials of Medical Language 4e, Allan & Basco

Directions: For each medical term listed below, put boxes around the ROOT WORDS and underline the COMBINING VOWEL. Use Appendix A of the textbook or a medical dictionary to look up the meaning of the roots, and write the word's definition on the line below each word.

1. A R T H R O S C O P I C
Meaning: _____

2. C A R D I O V A S C U L A R
Meaning: _____

3. O N C O L O G I S T
Meaning: _____

4. T H E R M O M E T E R
Meaning: _____

5. P S Y C H O L O G I S T
Meaning: _____

Directions: For each medical term listed below, put a box around the SUFFIX and underline the PREFIX. Use a medical dictionary to look up the meaning of the complete term, and then predict the meaning of the suffix and prefix based on this definition.

6. B I L A T E R A L
Meaning: _____
Suffix Meaning: _____
Prefix Meaning: _____

7. H Y P E R T E N S I O N
Meaning: _____
Suffix Meaning: _____
Prefix Meaning: _____

8. E N D O C A R D I T I S
Meaning: _____
Suffix Meaning: _____
Prefix Meaning: _____

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WORD PARTS HANDOUT ANSWERS: Chapter 1, Lesson 1.1
Lesson 1.1 – The Construction of Medical Words – ANSWER KEY

Essentials of Medical Language 4e, Allan & Basco

Directions: For each medical term listed below, put boxes around the ROOT WORDS and underline the COMBINING VOWEL. Use Appendix A of the textbook or a medical dictionary to look up the meaning of the roots, and write the word's definition on the line below each word.

1. ARTHROSCOPIC

Meaning: Of or pertaining to the examination of the interior of a joint using a type of endoscope inserted through a small incision

2. CARDIOVASCULAR

Meaning: Of or relating to the heart and the blood vessels

3. ONCOLOGIST

Meaning: A physician specializing in the branch of medicine concerned with the diagnosis, treatment, and prevention of tumors and cancer

4. THERMOMETER

Meaning: An instrument for measuring temperature

5. PSYCHOLOGIST

Meaning: A specialist trained to perform research, testing, and therapy relating to mental processes and behavior

Directions: For each medical term listed below, put a box around the SUFFIX and underline the PREFIX. Use a medical dictionary to look up the meaning of the complete term, and then predict the meaning of the suffix and prefix based on this definition.

6. BILATERAL

Meaning: Occurring on both (or two) sides

Suffix Meaning: Pertaining to

Prefix Meaning: Double, twice

7. HYPERTENSION

Meaning: Condition of high blood pressure

Suffix Meaning: Condition

Prefix Meaning: Excessive

8. ENDOCARDITIS

Meaning: Inflammation of the lining of the heart

Suffix Meaning: Inflammation

Prefix Meaning: Within, inner

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Instructor Lesson Plan: Chapter 1, Lesson 1.2

Lesson 1.2: Word Deconstruction, Plurals, Pronunciation, and Precision

Lesson 1.2 Learning Objectives

Total Time: 50 Minutes

Your teaching goal for this lesson is to help your students accomplish these learning objectives:

1.2.1 Break down or deconstruct a medical term into its elements.
1.2.2 Use word analysis to help ensure the precise use of medical terms.
1.2.3 Use the word elements to analyze and determine the meaning of the term.
1.2.4 Apply the correct pronunciation to medical terms.

Prepare Your Materials:

- **Dry erase board** (or chalkboard, butcher's block paper, etc.)
- **Lesson 1.2 Nonsense Words Handout**—Found on **Connect**® in the Library under Instructor Resources (http://connect.mheducation.com) and on pages IM-1-10–11 of this chapter
- **Lesson 1.2 PowerPoint® presentation**—Found on **Connect**® in the Library under Instructor Resources (http://connect.mheducation.com)
- **Lesson 1.2 student note-taking handout**—Create by selecting the "Handouts" option when printing the PowerPoint® presentation; select "3 slides per page" to print slides with blank lines to the right where students can take notes
- **Examples of printed patient education materials**—Check to see if area physicians or medical facilities will provide a few of these that you can show to students
- Pronunciations of medical terms are found in the audio glossary in **Connect®** (http://connect.mheducation.com)

Lesson 1.2 Activities & Instructions

Warm-up & Review—10 Minutes

Learning Outcomes—LO 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7
Materials—Dry erase board

Activity Description—Review of roots and combining vowels, prefixes, and suffixes

Step 1: Write the following word on the board: ANTICOAGULANT.

Step 2: Ask students to identify the root word, suffix, and prefix.

Step 3: Ask students to pronounce this term.

Step 4: Now, have students take turns sharing some of the 5 medical terms they brought in (this was their homework assignment from Lesson 1.1); discuss the word parts and the meanings of the terms.

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Introduction—10 Minutes

Learning Outcomes—LO 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7
Materials—Dry erase board, Lesson 1.2 Nonsense Words Handout on pages IM-1-10–11

Activity Description—Preview of today's lesson on word deconstruction and precision

Step 1: Point out to students that what they just did with the word "anticoagulant," as well as with the terms they brought to class, was to *deconstruct* it into its elements. Explain that the deconstruction and analysis of words is a way they can figure out the meaning of new medical terms that they encounter.

Step 2: Tell students that if they have a solid understanding of word elements, they will be successful at learning new medical terms throughout their career—and this is necessary due to the advances in technology that occur practically every day in the medical field.

Step 3: Distribute the Lesson 1.2 Nonsense Words Handout. Explain that these words were made up to describe common, everyday occurrences. As students are looking at the list, ask them to guess how people came up with these words. (Suggested response: people used common roots, suffixes, and prefixes in new combinations to create the words.)

Step 4: Have students work together to determine the meaning of the other nonsense words on the page; then ask them to create some new nonsense words of their own using common prefixes and suffixes. You may want to put a list of common prefixes and suffixes on the board to help students get started. These can be found in Appendix A of the textbook.

Step 5: When finished with the activity, once again reinforce the connection between understanding word elements and being able to deconstruct and analyze new words to determine their meaning.

Lecture/Discussion—20 Minutes

Learning Outcomes—LO 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7
Materials—Lesson 1.2 PowerPoint® presentation, Lesson 1.2 student note-taking handouts

Activity Description—Lecture/Discussion

Reference the Speaker Notes for each slide to assist you in discussing the talking points. You can view or print "Notes Pages" to use during the lecture for easy reference (in PowerPoint®, select "View," then "Notes Page").

Active Learning & Practice—10 Minutes

Learning Outcomes—LO 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7
Materials—Textbook

Activity Description—Practice deconstructing unfamiliar medical terms

Step 1: In pairs, in small groups, or as individuals, have students flip through their textbook and skim the case reports.

Step 2: Each student or group should make a list of 5 medical terms that are unfamiliar.

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Step 3: Have students break down, or deconstruct, each of the 5 medical terms into its elements. They can use the Word Analysis and Definition Tables in the book as a reference. Be prepared to assist students with this task since it will be new to them.

Step 4: Have students look up the meanings of each root, prefix, and suffix that they have identified and use these meanings to define the term in their own words (again, the Word Analysis and Definition Tables will be helpful).

Step 5: When finished, have each student or group share what they learned with the class. Encourage students to discuss what they found difficult and how they went about deconstructing the terms. This "thinking aloud" can help reinforce effective strategies for all students. Chime in as needed to offer suggestions and corrections. Also discuss the consequences of misinterpreting the meaning of medical terms and the importance of accuracy and precision.

Review—10 Minutes

Learning Outcomes—LO 1.1, LO 1.2, LO 1.3, LO 1.4, LO 1.5, LO 1.6, LO 1.7
Materials—Lesson 1.2 exercises (in textbook)

Activity Description—Review

Step 1: As a whole class, go through the Lesson 1.2 exercises aloud.

Step 2: As students are reading the answers aloud, pay attention to their pronunciation and reinforce correct pronunciation through www.mcgrawhillconnect.com. Once again, encourage students to discuss the strategies they used to deconstruct the terms and construct meaning from their parts.

Homework Assignment

Ask students to do the following:

- Complete the Chapter 1 review exercises as assigned in Connect.

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NONSENSE WORDS HANDOUT: Chapter 1, Lesson 1.2
Lesson 1.2 – Word Analysis and Deconstruction

Essentials of Medical Language 4e, Allan & Basco

Directions: Look at each of the nonsense words below and try to predict the meaning based on the roots, suffixes, and prefixes used in each. The first two have been done for you. Then, for items 6–10, invent your own nonsense words using various roots, suffixes, and prefixes.

Ex	**carbonicles**	***The tiny drops of soda and fizz that fly into the air above your glass after pouring the soda***
Ex	**banaectomy**	***The removal of the bruises on a banana with a knife***
1.	**eastroturf**	
2.	**elevertigo**	
3.	**flopcorn**	
4.	**napjerk**	
5.	**phonesia**	
6.		
7.		
8.		
9.		
10.		

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NONSENSE WORDS HANDOUT ANSWERS: Chapter 1, Lesson 1.2
Lesson 1.2 – Word Analysis and Deconstruction – ANSWER KEY

Essentials of Medical Language 4e, Allan & Basco

Directions: Look at each of the nonsense words below and try to predict the meaning based on the roots, suffixes, and prefixes used in each. The first two have been done for you. Then, for items 6–10, invent your own nonsense words using various roots, suffixes, and prefixes.

Ex	**carbonicles**	***The tiny drops of soda and fizz that fly into the air above your glass after pouring the soda***
Ex	**banaectomy**	***The removal of the bruises on a banana with a knife***
1.	**eastroturf**	The artificial grass found in Easter baskets
2.	**elevertigo**	The sensation one experiences when an elevator stops moving or starts moving too suddenly
3.	**flopcorn**	The unpopped popcorn kernels found at the bottom of the cooker (or microwave bag) after cooking
4.	**napjerk**	The sudden convulsion of a part of the body that happens just as one is about to doze off; often occurs when watching TV or riding in (but hopefully not driving) a car
5.	**phonesia**	The condition of dialing a phone number and then promptly forgetting whom you were calling just as they answer
6.		
7.		
8.		
9.		
10.		

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