

*Stanfield's*

# Essential Medical Terminology

FIFTH EDITION



Nanna Cross and Dana McWay

*Stanfield's*  
**Essential Medical  
Terminology**

FIFTH EDITION



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# Dedication

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The Fifth Edition of *Stanfield's Essential Medical Terminology* is dedicated to the authors of previous editions—Y. H. Hui and Peggy S. Stanfield—and to all students and practitioners in the health professions.

—Nanna Cross

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To my husband Patrick, my sons Conor, William, and Ryan, and daughter-in-law Michelle, whose support and love I treasure, and to my granddaughter Catalina for the pleasure she provides to my life.

—Dana McWay



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# Preface

The Fifth Edition of *Stanfield's Essential Medical Terminology* is a brief, user-friendly text designed to aid students in mastering the medical vocabulary and terms they will encounter in allied health, nursing, and medical careers. The terms have been selected on the basis of their utility, practical value, and application to the real world of the healthcare work environment.

The intended audience includes students in nursing, nursing assistants/aides, vocational/practical nurses, medical secretaries, medical technologists, medical librarians, medical assistants, physician's assistants, and other persons in the allied health and paramedical fields. This text is designed for use in one-semester or two-semester courses, as it provides students with the basic principles of medical terminology and teaches vocabulary by applying terms in practical examples.

It also offers a great deal of flexibility to instructors as well as students. Our recommendation is to progress through the table of contents as written. In any learning process, studying the information progressively provides sequence of thought and ensures that one does not overlook critical information.

The student, especially one studying independently of a formal class lecture, should read each chapter thoroughly and complete all exercises.

## ORGANIZATION

Our intention was to create a text that would serve the needs of both instructors and students. We strove to create a text that is concise and thorough, thematically unified, easy to read, beautifully illustrated, and fully supplemented with supporting material to assure mastery of the material. We hope that both instructors and students will find *Stanfield's Essential Medical Terminology* a satisfactory and rewarding experience in teaching and learning medical terminology.

The text is organized into five units:

- Unit I: Word Parts and Medical Terminology (Chapters 1–2)
- Unit II: Root Words, Medical Terminology, and Patient Care (Chapters 3–6)
- Unit III: Abbreviations (Chapters 7–8)
- Unit IV: Review (Chapter 9)
- Unit V: Medical Terminology and Body Systems (Chapters 10–20)

Every chapter is organized into two components:

- Materials to Be Learned
- Progress Check

Basically, we provide didactic content in digestible pieces via Materials to Be Learned and then provide students the opportunity to stop and test their comprehension with Progress Check. This creates a building-block approach to learning the content.

We also continue to include full color illustrations of the human anatomy detailing the major body systems, special senses, and skin. These figures provide an anatomic reference for all the medical terms in the text as well as reinforce anatomy and physiology knowledge.

## GENERAL GUIDELINES

So, we offer the following guidelines to both instructors and students:

1. Read the table of contents to determine the syllabus or match up the contents to a prepared syllabus.
2. After studying the basis of pronunciation, students may start with any of the remaining chapters in Units I–IV. Chapters 10–20 (Unit V), which discuss body systems, can be taught in any order.
3. For each chapter, the study procedure is simple. Read the Materials to Be Learned a few times and proceed with the Progress Check. Students may want to repeat or review chapter materials before taking a test.
4. Once a chapter is started, finish it before proceeding to the next one.
5. Complete each chapter from beginning to end. Do not begin randomly within a chapter.
6. When students begin Unit V, they will find that each chapter contains an overview of a body system. Each body system can be studied in more depth with an anatomy and physiology text.
7. We encourage students to develop their own methods of memorizing unfamiliar words. The interactive audio glossary is a helpful tool in learning the correct pronunciation. Word associations are useful. Flashcards are a useful adjunct to study. Studying in pairs also is helpful for most students.
8. Students should review completed materials as often as possible to refresh their memories.
9. Answers to all Progress Check exercises from all chapters are provided in Appendix A. Most instructors prefer that students do not look at the answers until they have completed the assigned exercise.

## KEY BOX FEATURES

**Clinical Notes:** Designed to assist the student in applying chapter lessons to real-world examples by showing how medical terms and abbreviations are used in patient health records.

### CLINICAL

### Note

#### OB DELIVERY NOTE

A 25-year-old **G1, P0** moving to P1 African American female with **IUP** at 36 6/7 weeks with **EDC** at 2 1/7 weeks. Patient presents with 80 percent effacement and 4 cm dilated. Pregnancy uncomplicated. Patient reported bloody show 48 hours prior to **PROM**.

*Labor:* PROM and moderate variable decels

*Delivery:* **NSVD**

*Infant:* Viable female **APGAR** 9 at 1 minute and 9 at 5 minutes

*Anesthesia:* Epidural

*Episiotomy:* Second-degree midline, no laceration

*Placenta:* Complete spontaneous

**EBL:** 300 cc

*Note:* Patient to post anesthesia recovery stable condition. Baby to well-baby nursery.

**Direction:** For the clinical note shown by a colored font, provide the definition and/or words for abbreviation.

**Confusing Medical Terminology:** Identify and differentiate between confusing medical terms. Many medical terms derive from Latin and Greek, among other European languages. Sometimes, two terms with different medical meaning may differ only in one letter in their spellings. Sometimes, two terms with different medical meanings may sound alike, though their spellings are completely different. Sometimes, two terms with the same medical meanings may be spelled entirely differently. Obviously, it is not possible to explain or list all such variations in a book of this size. Samples are provided in a special box, starting in Chapter 1.

**CONFUSING MEDICAL TERMINOLOGY**

**ox/i versus oxy-**

**ox/i** – oxygen, e.g., oximetry (ok-sim-i-tree) refers to the measuring of oxygen saturation of the blood by means of an oximeter

**oxy-** – sharp, quick, sour, rapid, e.g., oxyblepsia (ok-si-blef-see-uh) refers to the unusual acuity of vision

**Pharmacology and Medical Terminology:** Address the connection between drugs and medical terms. Most of us are familiar with terms such as ulcer, chemotherapy, and antibiotic treatments. This text does not have a chapter on pharmacology and medical terms. Instead, we have provided boxes in Chapters 11–20, which relate medical terminology to drugs and their targeted medical treatments. Although they are examples, they provide you with some perspectives about prescription and over-the-counter drugs. The ultimate objective is for you to learn some medical terms in pharmacology.

<b>PHARMACOLOGY AND MEDICAL TERMINOLOGY</b>			
<b>Drug Classification</b>	antiemetic (an-ti-e-met-ic)	antineoplastic (an-tih-nee-oh-plass-tik)	immunosuppressant (im-moo-noh-suh-press-ant)
<b>Function</b>	prevents nausea and vomiting associated with chemotherapy and radiation therapy	prevents the development, growth, or reproduction of cancerous cells	suppresses the body's natural immune response to an antigen, as in treatment for transplant patients
<b>Word Parts</b>	<b>anti</b> = against; <b>emesis</b> = vomiting; <b>tic</b> = pertaining to	<b>anti-</b> = against; <b>ne/o</b> = new; <b>plas/o</b> = formation; <b>-tic</b> = pertaining to	<b>immun/o</b> = immunity, <b>suppressant</b> = pertaining to lower, to control
<b>Active Ingredients (examples)</b>	chlorpromazine (Thorazine); dexamethasone (Baycadron)	fluorouracil (Acrucil); methotrexate (Rheumatrex Dose Pack)	cyclosporine (Sandimmune); azathioprine (Imuran)

**Allied Health Professions:** Explain types of professions available in the allied health field.

**ALLIED HEALTH PROFESSIONS**

**Respiratory Therapists and Respiratory Therapy Technicians**

The term *respiratory therapist* used here includes both respiratory therapists and respiratory therapy technicians. Respiratory care therapists work to evaluate, treat, and care for patients with breathing disorders. They work under the direction of a physician.

Most respiratory therapists work with hospital patients in three distinct phases of care: diagnosis, treatment, and patient management. In the area of diagnosis, therapists test the capacity of the lungs and analyze the oxygen (O<sub>2</sub>) and carbon dioxide (CO<sub>2</sub>) concentrations and potential of hydrogen (blood pH), a measure of the acidity or alkalinity of the blood. To measure lung capacity, the therapist has the patient breathe into a tube connected to an instrument that measures the volume and flow of air during inhalation and exhalation. By comparing the reading with the norm for the patient's age, height, weight, and sex, the therapist can determine whether lung deficiencies exist.

To analyze O<sub>2</sub>, CO<sub>2</sub>, and pH levels, therapists need an arterial blood sample, for which they generally draw arterial blood. This procedure requires greater skill than is the case for routine tests, for which blood is drawn from a vein. Inserting a needle into a patient's artery and drawing blood must be done with great care; any slip can damage the artery and interrupt the flow of oxygen-rich blood to the tissues. Once the sample is drawn, it is placed in a gas analyzer, and the results are relayed to the physician.

---

**INQUIRY**

American Association for Respiratory Care: [www.aarc.org](http://www.aarc.org)  
 National Board for Respiratory Care: [www.nbrcc.org](http://www.nbrcc.org)

Data from Cross, Nanna, and McWay, Dana. *Stanfield's Introduction to the Health Professions*, 7th ed., Burlington, MA: Jones & Bartlett Learning, 2017.



**NEW! Box features describing medical conditions or treatments** in infants, children, or teens to illustrate examples across the life span.

**Box 18-1 What are Cochlear Implants and when are they Used?**

Imagine hearing sound for the first time! Activation of a cochlear implant after surgical placement is a joyful occasion for the patient, family, and the entire healthcare team.

A cochlear implant is an electronic device that restores partial hearing to those with severe to profound hearing loss. Unlike a hearing aid, the implant does not make sound louder or clearer. Instead, the device bypasses damaged parts of the auditory system and directly stimulates the nerve of hearing, allowing those who are profoundly deaf to receive sound. An implant does not restore normal hearing. Instead, it can give a deaf person a representation of sounds in the environment and the means to understand speech.

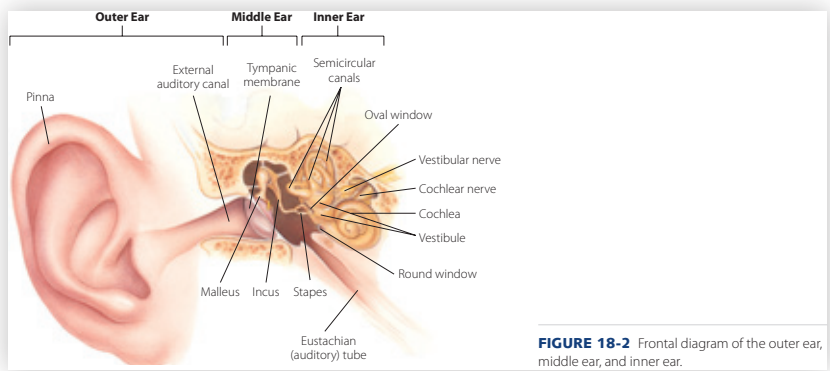
Most often, surgery can successfully treat problems with the outer and middle ear, including the eardrum. However, when there is nerve deafness from damaged hair cells, hearing aids are not beneficial and a cochlear implant is appropriate. Candidates for a cochlear implant are children or adults with profound deafness because of damage to the inner ear. For children who were deaf at birth, the goal is to place the cochlear implant by 18 months of age to allow for the development of language skills comparable to the child's peers. An artificial cochlear placed in a child or adult who became deaf after a hearing loss will require less speech therapy after a cochlear implant than a child who has been deaf from birth. An entire team of health professionals—the physician, audiologist, nurse, social worker and speech and language pathologist—supports the patient and family after cochlear implant surgery.

Source: National Institutes of Deafness and Other Communication Disorders. National Institutes of Health. *Cochlear Implants*. <https://www.nidcd.nih.gov/health/cochlear-implants>

**Full Color Illustrations and Photographs for Clinical Disorders:** There is an old adage “A picture is worth a thousand words.” We believe it is true, so we have included in this edition new full color illustrations and photographs showing common clinical disorders and their assorted medical terms to enhance your understanding and identification of diseases and how they may be treated.



**FIGURE 17-13** (A) Advanced joint deformities caused by rheumatoid arthritis. (B) Radiograph illustrating destruction of articular surfaces and anterior dislocation of the base of index finger as a result of joint instability. Courtesy of Leonard V. Crowley, MD, Century College.



**FIGURE 18-2** Frontal diagram of the outer ear, middle ear, and inner ear.

# What Is New and Improved in the Fifth Edition?

As we move forward in the advancing fields of medicine and health practices, we find an increasing need to make changes and add new material. We received many valuable suggestions and comments from reviewers and have included constructive input where appropriate. We hope that the resulting changes will continue to improve the contents of *Stanfield's Essential Medical Terminology, Fifth Edition*, and facilitate learning medical terminology.

**NEW! Clinical Notes added!** These notes support understanding of what health records look like and what content is contained within them. Clinical Notes can be found in each chapter, immediately before the Progress Check section.

**REVISED! Addresses Roles of Medical and Health Professions!** Explanations of the roles of various medical and health professions are provided throughout the text. A listing of Allied Health Professionals can be found in Chapter 1, with further explanation of the definitions and pronunciations of these professions in Chapter 6. A separate enclosure highlighting an Allied Health Profession is featured at the beginning of Chapters 10–20. This highlighted feature describes in detail the work performed by the Allied Health Professional selected as the focus of the chapter. These explanations support the concept of core competencies for interprofessional education as identified by the Interprofessional Educational Collaborative (IPEC) in its 2016 Update to Core Competencies for Interprofessional Collaborative Practice.<sup>1</sup>

**REVISED! Attention to Latin and Greek Origins!** Attention is given to the Latin and Greek backgrounds of the medical terms students are to learn. Chapter 1 provides an explanation why so many terms derive from the Latin and Greek languages. Chapters 11–20 include tables that explain the Latin or Greek origin of medical terms used in diagnosing and treating diseases or disorders of a specific medical system.

**REVISED! Chapter 1** is substantially revised to address the reasons to learn medical terminology, why correct pronunciation of medical terms is important, and the need to understand eponyms, homonyms, and synonyms.

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<sup>1</sup> Interprofessional Education Collaborative (2016). Core competencies for interprofessional collaborative practice: 2016 Update. Washington DC: Interprofessional Educational Collaborative.

# The Learning and Teaching Package

We have compiled a strong package to support both the instructor and the student.

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**Instructor's Manual:** The instructor's manual provides a spectrum of information—clinical case histories, practice tests, and student activities. It serves two important purposes—providing a wide selection of teaching materials and a reduction in class preparation time. For example, by using clinical case histories to supplement a complex topic in the classroom, the instructor can usually elicit enthusiastic participation and enliven classroom presentations.

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**Printable Study Sheets:** Use these printable study sheets to enhance retention.

**Audio Glossary:** Search for key words and terms and hear their correct pronunciations.

**Flash Cards:** Use these helpful flashcards to review key terms.



# Acknowledgments

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We also extend our appreciation to the many students and their instructors for their continued use of *Stanfield's Essentials of Medical Terminology* through its first four editions. We have tried to provide you with the updates and new information that you have asked for. We hope our mutual relationships continue with this Fifth Edition and beyond.

In addition, we would like to extend a special thank you to our Ancillary Author Amy Veit, RHIA. She is an Instructor for Health Information Management at the Center for Nursing and Allied Health Sciences, Saint Charles Community College, in Dardenne Prairie, Missouri.



# Reviewers

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We sincerely thank our reviewers who offered many valuable suggestions. Your comments were very helpful, and we incorporated as many of them into this edition as allocated page space would permit.

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UNIT



# Medical Terminology







# CHAPTER

# 1

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## Word Pronunciations

### LESSON ONE: MATERIALS TO BE LEARNED

Part 1: Introduction  
Part 2: Pronunciation

### LESSON TWO: PROGRESS CHECK

Fill In  
True or False

### OBJECTIVES

After completing this chapter and the exercises, the student should be able to:

1. Identify how learning medical terminology is valuable to healthcare professionals.
2. Recall the reasons why many medical terminologies derive from the Latin and Greek languages.
3. Summarize the value of learning correct pronunciation of medical terms.
4. Provide examples of specific rules for pronunciation of medical terms.

### LESSON ONE

### Materials to Be Learned

### PART 1: INTRODUCTION

A time once existed when the doctor, nurse, and an aide or two was all that were involved in caring for a patient. Not much interaction occurred beyond this grouping unless the physician called for a conference with selected individuals. Healthcare facilities today are run by teams of medical personnel, including doctors, nurses, aides, pharmacists, laboratory personnel, health information managers, technicians, dietary personnel, and social service workers. All have important roles to play in patient care and recovery. For the team approach to function properly, these teams need to speak a common language: medical terminology.

Medical terminology is the language of the healthcare industry, including those involved in the delivery of direct patient care and those who support the healthcare industry but do not provide direct patient care. Becoming fluent in this language serves as the basic foundation for practicing any health care-related career. Medical terminology offers those who learn it a standard of correctness or acceptability of words used across the full range of healthcare professions.

This concept of a standard approach makes possible a shared understanding of the same words. This shared understanding offers other benefits as well, including:

1. Improved communication between and among healthcare professionals.
2. Improved interaction between humans and the technology used in health care such as electronic health records.
3. Ease in performing clinical proceedings.
4. Improved efficiency in the delivery of clinical care.
5. Faster and more accurate documentation of healthcare conditions and treatments.
6. Improved comprehension of reports and medical literature.
7. A uniform language that can be used across countries to describe the same idea, condition, or instrument.
8. Increased trust among healthcare professionals due to the use of fundamental medical terms with a shared understanding.

While medical terminology has been influenced by many languages, the majority of terms used are derived from Greek and Latin. Examples of medical terms and the languages from which they derive are seen in **Table 1-1**. Most of the terms commonly used to describe the clinical observation and treatment of patients derive from Greek, while those terms used to describe anatomy derive most often from Latin. The reasons for these derivations are historical. Ancient Greece produced medical scientists whose names are not only known today (Hippocrates and Galen), but also whose theories formulated much of the knowledge of medicine until the middle of the 18th century. When Greek influence declined across the ancient world, many Greeks migrated to Rome where the Latin language predominated. As part of this migration, they brought with them the language they used to describe medicine. For most of the following centuries, many medical textbooks were written in Latin but included Greek words that described medical terms. One such textbook, authored by Andreas Vesalius in 1543, described human anatomy and was used for centuries until the middle of the 18th century. Combined together, these influences informed past individuals of their knowledge of medical science. As new ideas, conditions, or instruments were developed, those individuals built upon these terms to form many of the compound words that we know in medical terminology today.

**TABLE 1-1** Examples of Medical Terms and Their Language of Origin

Language of Origin	Medical Terms
French	Massage Passage Plaque Pipette
Greek	Cardiology Gastritis Nephropathia
Italian	Belladonna Influenza Varicella
Latin	Cor Ren Ventriculus

Because of the way medical terminology developed over time, some terms have more than one word root. For example, one word root for the term kidney is *nephr* from the Greek language, while a second word root for kidney is *ren* from the Latin language. Similarly, the term *ped* sometimes means child as in pediatrician, while other times it means foot as in pedestrian. This is because the term *pediatr* refers to child and arose from Greek sources, while the term *pedestri* means foot in Latin. More information about word roots can be found in Chapter 2, Word Parts and Word Building Rules.

Sometimes, medical terms can be confusing. For example, two terms with different medical meaning may differ only in one letter of their spellings. Sometimes, two terms with different medical meanings may sound alike even though their spellings are completely different. Sometimes, two terms with the same medical meaning may be spelled entirely differently. While it is not possible to explain or list all such variations in a textbook of this size, some examples are provided in all the chapters in special boxes.

This confusion is often the result of using eponyms, homonyms, and synonyms. *Eponyms* are proper names given to a body part, disease, instrument, procedure, or technique based on the name of the person who discovered or perfected it. Some healthcare professionals find it easier to say the eponym rather than say the body part, disease, instrument, procedure, or technique. The problem with eponyms is that the word or phrase by itself does not clearly describe or otherwise provide useful information about the body part, disease, instrument, procedure, or technique that is the subject of discussion. The current trend is to move away from eponyms to terms that more fully describe what is being discussed. Until such time eponyms are eliminated, it will remain important for healthcare professionals to know about them. Some examples are included in **Table 1-2**.

*Homonyms* are words with the same or nearly the same sound but different meanings. As mentioned earlier, homonyms pose the danger of creating misunderstandings, causing potential risks in delivering patient care. Some examples are included in **Table 1-3**.

*Synonyms* are words that have the same or nearly the same meaning as another word but are spelled differently. They are considered alternate words with the same meaning. Some examples are included in **Table 1-4**.

The best way to learn medical terminology is to become familiar with the structure and the most commonly used components. This science-based vocabulary follows a



## CONFUSING MEDICAL TERMINOLOGY

### ileum versus ilium

**ileum** – last portion of small intestine, from jejunum to cecum, e.g., a part of the small intestine is the ileum (il-e-um)

**ilium** – one of the bones of each half of the pelvis, e.g., the ilium (il-i-um) is part of the pelvic arch

**TABLE 1-2** Medical Eponyms

Eponyms	Meaning
Adam's apple	laryngeal prominence in the neck
Bell's palsy	form of facial paralysis
Down's syndrome	a genetic birth defect causing mental retardation, a characteristic facial appearance, and multiple malformations
Grave's disease	goiter of the thyroid
Hansen's disease	leprosy
Heimlich maneuver	abdominal thrust to clear an airway obstructed by a foreign object
Parkinson's disease	degenerative disorder of the motor system
Tommy John surgery	reconstruction of the ulnar collateral ligament

**TABLE 1-3** Medical Homonyms

Homonym with Meaning	Homonym with Meaning
Anuresis – lack of urine; inability to urinate	Enuresis – bed-wetting
Aural – pertaining to hearing	Oral – pertaining to the mouth
Ensure – to make certain of	Insure – to provide protection, often in a monetary sense
Galactorrhea – abnormal flow of breast milk	Galacturia – milk-like appearance to the urine
Malleolus – rounded lateral projections of bone at the ankle	Malleus – outermost of the three small bones of the ear
Osteal – pertaining to a bone	Ostial – pertaining to an opening
Pancreas – a body part	Pancrease – a naturally occurring enzyme
Prostate – a body gland	Prostrate – laying prone

**TABLE 1-4** Medical Synonyms

Synonyms	Meaning
Hypodermic, subcutaneous	under the skin
Morto, necro, thanto	death
Myocardial infarction, cardiac infarction, coronary thrombosis	heart attack
Thoracentesis, thoracocentesis, pleurocentesis	surgical puncture and drainage of the thoracic cavity

systematic methodology, with each term containing two or three components that can be broken down into parts. This systematic methodology forms the basis for the remaining chapters of this textbook and is used in the everyday world of healthcare professionals, including the ones listed at the end of this chapter.

## PART 2: PRONUNCIATION

Among the most essential points in learning medical terminology is to determine the correct pronunciation of a given word. Knowing how to articulate the sound of the word, what syllable to stress, and the melody or pitch to use makes pronunciation not only easier for those who say the words but also for those with whom the speaker interacts. Misspelled or mispronounced words may signal a wrong meaning to the listener, making it extremely important that rules for spelling and pronunciation are followed. Correctly pronouncing medical terms supports the common understanding among healthcare professionals, described earlier in this chapter.

The pronunciation of each medical term is governed by specific rules. Pronunciation is indicated by a simple phonetic respelling of the term and the use of *diacritical markings*, which are marks added to a letter that help signal how the letter should be

pronounced. The following rules illustrate the simple phonetic respelling and the diacritical markings of terms:

1. The primary accent is indicated by an underlining, e.g., cerebellum (ser-e-bel-um).
2. The secondary accent is indicated by ( ' ), e.g., ser ' -e-bel-um.
3. When an unmarked vowel ends a syllable, it is long, e.g., immune (i-mun ' ).
4. When a syllable ends with a consonant, its unmarked vowel is short, e.g., cranial (kra-ne-al).

For ease of interpretation, the phonetic spellings used in this text have no other diacritical markings. However, the following basic rules apply to all pronunciation and are listed here for ease of interpretation of medical terms.

An unmarked vowel ending a syllable is *long*: It is indicated by a macron ( ¯ ):

- a** urease (u-re-ās); abate (ah-bāt)
- e** electroscope (e-lek-tro-scōp); lead (lēd)
- i** askaracide (as-kar-i-sid); bile (bīl)
- o** ohms (ōmz); ionophere (i-on-o-phēr); hormone (hor-mōn)
- u** union (ūn-ion); ampule (am-pūl)
- oo** oophoron (oo-fōr-on)

A short vowel that *is* the syllable or that *ends* the syllable is indicated by a breve ( ˘ ):

- a** apophysis (ā-pof-i-sis)
- e** edema (ē-dēm-ah); effusion (ē-fūs-ion)
- i** immunity (ī-mūn-ī-te ' ); oxidation (oks ' -sī-dā-shun)
- o** otic (ō-tic); official (ō-fīsh-al)
- u** avoirdupois (av-er-dū-poiz)
- oo** book (book)



## ALLIED HEALTH PROFESSIONS

- *Communication impairment professionals*: Speech-language pathologists, audiologists
- *Dentistry*: Dentists, dental hygienists, dental assistants, dental laboratory technicians
- *Dietetics*: Dietitians, nutritionists, dietetic technicians, dietetic assistants
- *Emergency medical services*: Emergency medical technicians and paramedics
- *Health Information Personnel*: Health information administrators, health information technicians, medical transcriptionists, medical librarians
- *Imaging modalities*: Radiologic technologists and technicians, radiation therapists
- *Managers and counselors*: Health services managers, genetic counselors
- *Medicine*: Cardiovascular technologists and technicians, nuclear medicine technologists, surgical technologists, medical assistants
- *Mental health professionals*: Psychologists, substance abuse and behavioral disorder counselors
- *Nursing*: Registered nurses, advanced practice registered nurses, licensed practical nurses, licensed vocational nurses
- *Occupational therapy*: Occupational therapists, occupational therapy assistants and aides
- *Optometry*: Dispensing opticians, ophthalmic laboratory technicians
- *Pharmacy*: Pharmacists, pharmacy technicians, pharmacy aides
- *Physical therapy*: Physical therapists, physical therapist assistants and aides
- *Respiratory care practitioners*: Respiratory therapists, respiratory therapy technicians
- *Veterinary medicine*: Veterinary technologists and technicians, animal care and service workers
- *Miscellaneous technologists and technicians*: Clinical laboratory (medical) technologists and technicians; medical, dental, and ophthalmic laboratory technicians; nursing, ophthalmic, personal care, psychiatric, and home health aides, medical assistants

Data from Cross N, McWay D. *Standfield's Introduction to the Health Professions*, 7th ed. Burlington, MA: Jones & Bartlett; 2017.

**CLINICAL**  
*Note*
**Introduction: Physician Progress Note**

**S:** Forty-seven-year-old Caucasian female with complaint of numbness on the right side of face. No other right-sided weakness. Symptoms began 48 hours previous to this visit for assessment. Patient has no other complaints at this time

**O:** Upon physical examination; **HEENT:** negative except for slight facial droop on the right side; **NEURO:** **WNL** other than facial droop; **NECK:** supple without masses or **adenopathy**; **CHEST:** negative; **CARDIO:** negative; **BP:** 100/70; **ABDOMINAL:** negative; **PELVIC:** deferred

**A:** Probable **Bell's Palsy R/O TIA/CVA**

**P:** **CT** with contrast to rule out TIA/CVA

**Direction:** For the portions of the clinical note shown by a colored font, provide the definition and/or words for abbreviation.

**LESSON TWO**
**Progress Check**
**FILL IN**

Fill in the blanks to make a complete, accurate sentence:

- Most medical terms are derived from the \_\_\_\_\_ and \_\_\_\_\_ languages.
- A \_\_\_\_\_ refers to two or more words that have the same or nearly the same meaning as another word but are spelled differently.
- A \_\_\_\_\_ refers to words with the same or nearly the same sound but different meanings.
- A \_\_\_\_\_ refers to proper names given to a body part, disease, instrument, procedure, or technique based on the name of the person who discovered or perfected it.
- A \_\_\_\_\_ signals how a word should be pronounced.
- Knowing what \_\_\_\_\_ to stress aids in pronouncing words correctly.

**TRUE OR FALSE**

Check T for statements that are true and F for statements that are false.

- T**  **F**  **1.** Medical terminology serves as a common basis among healthcare careers.
- T**  **F**  **2.** Healthcare professionals work independently and not as part of a team.
- T**  **F**  **3.** One cannot learn medical terminology by breaking a word into component parts.
- T**  **F**  **4.** Learning the correct pronunciation of a word is not critical to the study of medical terminology.
- T**  **F**  **5.** Correctly pronouncing medical terms supports a common understanding among healthcare professionals.

# CHAPTER

# 2

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## Word Parts and Word Building Rules

### LESSON ONE: MATERIALS TO BE LEARNED

Parts of a Medical Term  
Listing of Word Parts  
Prefixes, Word Roots with Combining Forms, and Suffixes

### LESSON TWO: PROGRESS CHECK PART A

Fill In  
Matching  
Spelling and Definition  
Defining Medical Word Elements  
Building Medical Words

### LESSON TWO: PROGRESS CHECK PART B

Matching  
Spelling and Definition  
Building Medical Words  
Defining Medical Terms

### OBJECTIVES

After completing this chapter and the exercises, the student should be able to:

1. List the basic parts of a medical term.
2. Define the terms *word root*, *combining vowel*, *combining form*, *prefix*, and *suffix*.
3. State the rules for building medical terms.
4. Divide medical words into their component parts.
5. Build medical words using combining forms, prefixes, and suffixes.
6. Use multiple word roots in a compound word.

### LESSON ONE

### Materials to Be Learned

### PARTS OF A MEDICAL TERM

Words have power. The words we speak and the words we write provide the opportunity to do much good in the world. If we do not understand these words fully, we risk creating misinterpretations or even causing harm to a patient. For these reasons, it is important to learn how medical terms are comprised. Doing so allows one to learn how these terms are used in science and patient care. An illustration of the many terms used in health care is seen in **Figure 2-1**.

Often, medical terms will describe an underlying disease or disorder. A *disease* involves an external influence such as a bacterium, virus, or mutation that overpowers the body's defenses. A *disorder* is a disruption within a body system. While sometimes used interchangeably, there is a difference between the two terms. Other times, medical terms will describe a sign or a symptom. A *sign* is an objective indication of an illness, for example,