

Introduction to Medical Terminology

Overview of INTRODUCTION TO MEDICAL TERMINOLOGY

Primary Medical Terms Primary terms enable you to prioritize terms in your study of medical

terminology. These are the words that are shown in boldface.

Word Parts Are the Key

An introduction to medical word parts and how they are used to create complex medical terms.

Word Roots The word parts that usually, but not always, indicate the part of the body involved.

Combining Form A combining form is a word root that has had a vowel, usually the

letter "o," added to the end.

Suffixes The word part attached at the end of a word that usually, but not

always, indicates the procedure, condition, disorder, or disease.

Prefixes The word part attached at the beginning of a word that usually, but not

always, indicates location, time, number, or status.

Determining Meanings on Known the Basis of Word Parts

Knowledge of word parts helps decipher medical terms.

Medical Dictionary Use Guidelines to make the use of a medical dictionary easier.

Pronunciation Use the easy-to-use "sounds-like" pronunciation system.

Spelling Is Always

Important

A one-letter spelling error can change the entire meaning of a term.

Singular and Plural Endings Unusual singular and plural endings used in medical terms.

Look-Alike, Sound-Alike Clarification of confusing terms and word parts that look or

Terms and Word Parts sound alike.

Using Abbreviations Caution is always important when using abbreviations.

Vocabulary Related to THE INTRODUCTION TO MEDICAL TERMINOLOGY

This	list contains essential word parts and medical		erythrocyte (eh-RITH-roh-sight)
terms for this chapter. These terms are pronounced in			fissure (FISH-ur)
the S	tudyWARE TM and Audio CDs that are available		fistula (FIS-tyou-lah)
for u	se with this text. These and the other important		gastralgia (gas-TRAL-jee-ah)
prim	ary terms are shown in boldface throughout the		gastritis (gas-TRY-tis)
chap	ter. Secondary terms, which appear in orange		gastroenteritis (gas-troh-en-ter-EYE-tis)
italic	s, clarify the meaning of primary terms.		gastrosis (gas-TROH-sis)
			hemorrhage (HEM-or-idj)
Wo	rd Parts		hepatomegaly (hep-ah-toh-MEG-ah-lee)
	1		hypertension (high-per-TEN-shun) hypotension (high-poh-TEN-shun)
	-algia pain, painful condition		infection (in-FECK-shun)
	dys- bad, difficult, or painful		inflammation (in-flah-MAY-shun)
	-ectomy surgical removal, cutting out		interstitial (in-ter-STISH-al)
	hyper- excessive, increased hypo- deficient, decreased		intramuscular (in-trah-MUS-kyou-lar)
	-itis inflammation		laceration (lass-er-AY-shun)
	-osis abnormal condition, disease		lesion (LEE-zhun)
	-ostomy the surgical creation of an artificial		malaise (mah-LAYZ)
	opening to the body surface		mycosis (my-KOH-sis)
	-otomy cutting, surgical incision		myelopathy (my-eh-LOP-ah-thee)
	-plasty surgical repair		myopathy (my-OP-ah-thee)
	-rrhage bleeding, abnormal excessive fluid		myorrhexis (my-oh-RECK-sis)
	discharge		natal (NAY-tal)
	-rrhaphy surgical suturing		neonatology (nee-oh-nay-TOL-oh-jee)
	-rrhea flow or discharge	/0 /	neurorrhaphy (new-ROR-ah-fee)
	-rrhexis rupture	/b \	otorhinolaryngology (oh-toh-rye-noh-lar-in-
	-sclerosis abnormal hardening		GOL-oh-jee)
Ш	-scielosis abnormal nardening		palpation (pal-PAY-shun)
Ma	dical Terms		palpitation (pal-pih-TAY-shun)
IVIE	dical Terris		pathology (pah-THOL-oh-jee)
	abdominocentesis (ab-dom-ih-noh-sen-TEE-		phalanges (fah-LAN-jeez)
	sis)		poliomyelitis (poh-lee-oh-my-eh-LYE-tis)
	acronym (ACK-roh-nim)		prognosis (prog-NOH-sis)
	acute		pyoderma (pye-oh-DER-mah)
	angiography (an-jee-OG-rah-fee)		pyrosis (pye-ROH-sis)
	appendectomy (ap-en-DECK-toh-mee)		remission
	arteriosclerosis (ar-tee-ree-oh-skleh-ROH-sis)		sign
	arthralgia (ar-THRAL-jee-ah)		supination (soo-pih-NAY-shun)
	colostomy (koh-LAHS-toh-mee)		suppuration (sup-you-RAY-shun)
	cyanosis (sigh-ah-NOH-sis)		supracostal (sue-prah-KOS-tal)
	dermatologist (der-mah-TOL-oh-jist)		symptom (SIMP-tum)
	diagnosis (dye-ag-NOH-sis)		syndrome (SIN-drohm)
	diarrhea (dye-ah-REE-ah)		tonsillitis (ton-sih-LYE-tis)
	edema (eh-DEE-mah)		trauma (TRAW-mah)
	endarterial (end-ar-TEE-ree-al)		triage (tree-AHZH)
	eponym (EP-oh-nim)		viral (VYE-ral)

LEARNING GOALS

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

- Identify the roles of the four types of word parts used in forming medical terms.
- **2.** Use your knowledge of word parts to analyze unfamiliar medical terms.
- **3.** Describe the steps in locating a term in a medical dictionary.
- **4.** Define the commonly used word roots, combining forms, suffixes, and prefixes introduced in this chapter.
- **5.** Use the "sounds-like" pronunciation system to correctly pronounce the primary terms introduced in this chapter.
- **6.** Recognize the importance of spelling medical terms correctly.
- **7.** State why caution is important when using abbreviations.
- **8.** Recognize, define, spell, and correctly pronounce the primary terms introduced in this chapter.

PRIMARY MEDICAL TERMS

In this book, you will be introduced to many medical terms; however, mastering them will be easier than you anticipate because this book has many features to make learning easier:

- **Primary terms** appear in boldface. Learning these terms should be your highest priority as only primary terms are used as correct answers in the Learning Exercises and tests.
- Secondary terms appear in orange italics. Some of these terms are the "also known as" names for conditions or procedures. Other secondary terms clarify words used in the definitions of primary terms.

WORD PARTS ARE THE KEY

Learning medical terminology is much easier once you understand how word parts work together to form medical terms (Figure 1.1). This book includes many aids to help you continue reinforcing your word-building skills.

- The types of word parts and the rules for their use are explained in this chapter. Learn these rules and follow them
- When a term is made up of recognizable word parts, these word parts and their meanings are included with the definition of that term. These word parts appear in magenta.

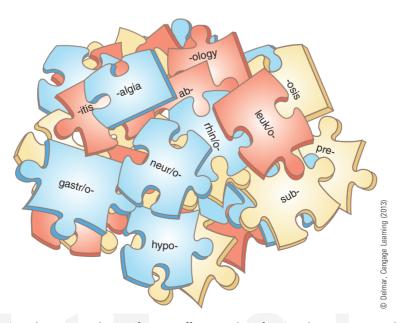


FIGURE 1.1 Word parts (word roots, combining forms, suffixes, and prefixes) make up most medical terms.

- The Learning Exercises for each chapter include a "Challenge Word Building" section to help develop your skills in working with word parts.
- The Word Part Review follows Chapter 2. This section provides additional word part practice and enables you to evaluate your progress toward mastering the meaning of these word parts.

The Four Types of Word Parts

The four types of word parts used to create medical terms are: word roots, combining forms, suffixes, and prefixes. Guidelines for their use are shown in Table 1.1.

- A word root contains the basic meaning of the term.
 In medical terminology, this word part usually, but not always, indicates the involved body part. For example, the word root meaning stomach is gastr.
- 2. A combining form is a word root with a combining vowel added at the end. For example, the combining form meaning stomach is gastr/o. This form is used when a suffix beginning with a consonant is added. When a combining form appears alone, it is shown with a back slash (/) between the word root and the combining vowel.
- 3. A **suffix** usually, *but not always*, indicates the procedure, condition, disorder, or disease.
- A suffix always comes at the end of the word.
- You'll know a word part is a suffix when it is shown with a hyphen (-) preceding it. For example, the suffix -itis means inflammation.
- 4. A **prefix** usually, *but not always*, indicates location, time, number, or status.
- A prefix always comes at the beginning of a word.

TABLE 1.1

Word Part Guidelines

- A word root cannot stand alone. A suffix must always be added at the end of the word to complete the term.
- The rules for creating a combining form by adding a vowel apply when a suffix beginning with a consonant is added to a word root.
- When a prefix is added, it is always placed at the beginning of the word.

You'll know a word part is a prefix when it is shown followed by a hyphen (-). For example, hyper- means excessive or increased.

WORD ROOTS

Word roots act as the foundation for most medical terms. They usually, *but not always*, describe the part of the body that is involved (Figure 1.2). As shown in Table 1.2, some word roots indicate color.



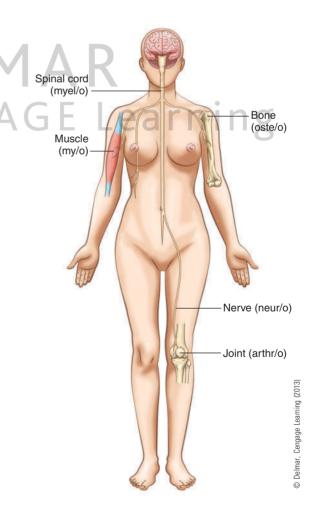


FIGURE 1.2 Word roots, shown here as combining forms, usually indicate the involved body part.

TABLE 1.2
Word Roots and Combining Forms Indicating Color

	cyan/o means blue	Cyanosis (sigh -ah- NOH -sis) is blue discoloration of the skin caused by a lack of adequate oxygen in the blood (cyan means blue, and -osis means abnormal condition or disease).
1000	erythr/o means red	An erythrocyte (eh- RITH -roh-sight) is a mature red blood cell (erythr/o means red, and -cyte means cell).
House	leuk/o means white	A leukocyte (LOO -koh-sight) is a white blood cell (leuk/o means white, and -cyte means cell).
	melan/o means black	Melanosis (mel -ah- NOH -sis) is any condition of unusual deposits of black pigment in body tissues or organs (melan means black, and -osis means abnormal condition or disease).
	poli/o means gray	Poliomyelitis (poh -lee-oh- my -eh- LYE -tis) is a viral infection of the gray matter of the spinal cord (poli/o means gray, myel means spinal cord, and -itis means inflammation).

Combining Forms Vowels

A combining form includes the vowel that has been added to the end of a word root. For example, <code>gastr/o</code> is the combining form of the word root for stomach. The letter "o" is the most commonly used combining vowel, and under certain conditions, this is added to make the resulting medical term easier to pronounce. The rules for the use of a combining vowel are:

- When two word roots are joined, a combining vowel is always added to the first word root. A combining vowel is used with the second word root *only if the suffix begins with a consonant*.
- For example, the term **gastroenteritis** combines two word roots with a suffix: when **gastr/o** (stomach) is joined with **enter/o** (small intestine), the combining vowel is used with **gastr/o**.
- The word root **enter** is joined to **-itis** *without a combining vowel* because this suffix begins with a vowel. **Gastroenteritis** (**gas**-troh-en-ter-**EYE**-tis) is an inflammation of the stomach and small intestine.

SUFFIXES

A suffix is *always* added at the end of a word to complete that term. In medical terminology, suffixes usually, *but not always*, indicate a procedure, condition, disorder, or disease.

A combining vowel is used when the suffix begins with a consonant. For example, when **neur/o** (nerve) is joined

with the suffix **-plasty** (surgical repair) or **-rrhaphy** (surgical suturing), the combining vowel "o" *is used* because **-plasty** and **-rrhaphy** both begin with a consonant.

- Neuroplasty (NEW-roh-plas-tee) is the surgical repair of a nerve.
- Neurorrhaphy (new-ROR-ah-fee) is suturing together the ends of a severed nerve.

A combining vowel is *not* used when the suffix begins with a consonant. For example, the word root **tonsill** means tonsils. The suffix that is added to complete the term tells what is happening to the tonsils (Figure 1.3).

- Tonsillitis (ton-sih-LYE-tis) is an inflammation of the tonsils (tonsill means tonsils, and -itis means inflammation).
- A tonsillectomy (ton-sih-LECK-toh-mee) is the surgical removal of the tonsils (tonsill means tonsils, and -ectomy means surgical removal).

Suffixes as Noun Endings

A *noun* is a word that is the name of a person, place, or thing. In medical terminology, some suffixes change the word root into a noun. For example, the **cranium** (**KRAY**-nee-um) is the portion of the skull that encloses the brain (**crani** means skull, and **-um** is a noun ending). Other suffixes complete the term by changing the word root into a noun. Suffixes that are commonly used as noun endings are shown in Table 1.3.

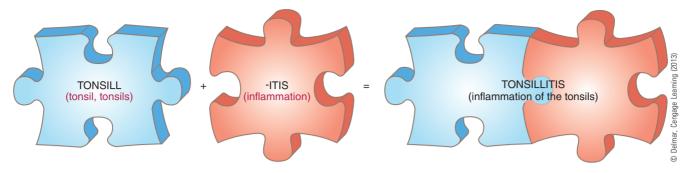


FIGURE 1.3 The term tonsillitis is created by adding the suffix -itis to the word root tonsill.

TABLE 1.3Suffixes as Noun Endings

i	-a	-um	-у	
	-е	-us		

Suffixes Meaning "Pertaining To"

An *adjective* is a word that defines or describes a thing. In medical terminology, many suffixes meaning "pertaining to" are used to change the meaning of the word root into an adjective. For example, the term **cardiac** (**KAR**-dee-ack) is an adjective that means pertaining to the heart (**cardi** means heart, and -ac means pertaining to). Commonly used suffixes meaning "pertaining to" are shown in Table 1.4.

TABLE 1.4Suffixes Meaning "Pertaining To"

MINI	-ac	-eal	-ior
Ē	-al	-ical	-ory
Ē	-an	-ial	-ous
	-ar	-ic	-tic
Ī	-ary	-ine	

Suffixes Meaning "Abnormal Condition"

In medical terminology, many suffixes, such as **-osis**, mean "abnormal condition or disease." For example, **gastrosis** (gas**-TROH**-sis) means any disease of the stomach

(gastr means stomach, and -osis means abnormal condition or disease). Commonly used suffixes meaning "abnormal condition or disease" are shown in Table 1.5.

TABLE 1.5Suffixes Meaning "Abnormal Condition"

Milita	-ago	-iasis	-osis	
	-esis	-ion		
	-ia	-ism		

Suffixes Related to Pathology

Pathology (pah-**THOL**-oh-jee) is the study of all aspects of diseases (**path** means disease, and **-ology** means study of). Suffixes related to pathology describe specific disease conditions.

- -algia means pain and suffering. Gastralgia (gas-TRAL-jee-ah), also known as a *stomachache*, means pain in the stomach (gastr means stomach, and -algia means pain).
- -dynia also means pain. Gastrodynia (gas-troh-DIN-ee-ah) also means pain in the stomach (gastr/o means stomach, and -dynia means pain). Although -dynia has the same meaning as -algia, it is not used as commonly. (Figure 1.4.)
- -itis means inflammation. Gastritis (gas-TRY-tis) is an inflammation of the stomach (gastr means stomach, and -itis means inflammation).
- -megaly means enlargement. Hepatomegaly (hep-ahtoh-MEG-ah-lee) is abnormal enlargement of the liver (hepat/o means liver, and -megaly means enlargement).
- -malacia means abnormal softening. Arteriomalacia (ar-tee-ree-oh-mah-LAY-shee-ah) is the abnormal



FIGURE 1.4 Gastrodynia and gastralgia are both terms meaning stomach pain.

softening of the walls of an artery or arteries (arteri/o means artery, and -malacia means abnormal softening). Notice that -malacia is the opposite of -sclerosis.

- -necrosis means tissue death. Arterionecrosis (ar-tee-ree-oh-neh-KROH-sis) is the tissue death of an artery or arteries (arteri/o means artery, and -necrosis means tissue death).
- -sclerosis means abnormal hardening. Arteriosclerosis (ar-tee-ree-oh-skleh-ROH-sis) is the abnormal hardening of the walls of an artery or arteries (arteri/o means artery, and -sclerosis means abnormal hardening). Notice that -sclerosis is the opposite of -malacia.
- -stenosis means abnormal narrowing. Arteriostenosis (ar-tee-ree-oh-steh-NOH-sis) is the abnormal narrowing of an artery or arteries (arteri/o means artery, and -stenosis means abnormal narrowing).

Suffixes Related to Procedures

Some suffixes identify the procedure that is performed on the body part identified by the word root.

- -centesis is a surgical puncture to remove fluid for diagnostic purposes or to remove excess fluid. Abdominocentesis (ab-dom-ih-noh-sen-TEE-sis) is the surgical puncture of the abdominal cavity to remove fluid (abdomin/o means abdomen, and -centesis means a surgical puncture to remove fluid).
- -graphy means the process of producing a picture or record. Angiography (an-jee-OG-rah-fee) is the process of producing a radiographic (x-ray) study of blood vessels after the injection of a contrast medium to make these blood vessels visible (angi/o means blood vessel, and -graphy means the process of recording).
- -gram means a picture or record. An angiogram (AN-jee-oh-gram) is the resulting film that is produced by angiography (angi/o means blood vessel, and -gram means a picture or record).
- -plasty means surgical repair. Myoplasty (MY-ohplas-tee) is the surgical repair of a muscle (my/o means muscle, and -plasty means surgical repair).
- -scopy means visual examination. Arthroscopy (ar-THROS-koh-pee) is the visual examination of the internal structure of a joint (arthr/o means joint, and -scopy means visual examination).

The "Double R" Suffixes

Suffixes beginning with two *rs*, often referred to as the "double Rs," can be particularly confusing. They are grouped together here to help you understand the word parts and to remember the differences.

- -rrhage and -rrhagia mean bleeding; however, they are most often used to describe sudden, severe bleeding. A hemorrhage (HEM-or-idj) is the loss of a large amount of blood in a short time (hem/o means blood, and -rrhage means abnormal excessive fluid discharge). This term also means to bleed.
- -rrhaphy means surgical suturing to close a wound and includes the use of sutures, staples, or surgical glue. Myorrhaphy (my-OR-ah-fee) is the surgical suturing of a muscle wound (my/o means muscle, and -rrhaphy means surgical suturing).
- -rrhea means flow or discharge and refers to the flow of most body fluids. Diarrhea (dye-ah-REE-ah) is the frequent flow of loose or watery stools (dia- means through, and -rrhea means flow or discharge).
- -rrhexis means rupture. Myorrhexis (my-oh-RECK-sis) is the rupture of a muscle (my/o means muscle, and -rrhexis means rupture).

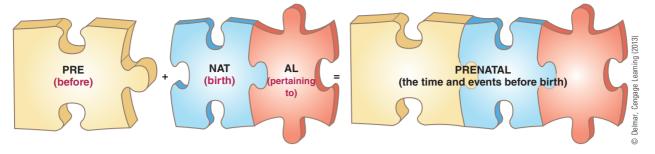


FIGURE 1.5 The term prenatal is created by joining the suffix -al to the word root nat and then adding the prefix pre-

PREFIXES

A prefix is added to the beginning of a word to influence the meaning of that term. Prefixes usually, *but not always*, indicate location, time, or number. See Table 1.6 for a list of prefixes describing direction, quantity, size, and amount. The term **natal** (**NAY**-tal) means pertaining to birth (**nat** means birth, and **-al** means pertaining to). The following examples show how prefixes change the meaning of this term (Figures 1.5–1.8).

- **Prenatal** (pre-NAY-tal) means the time and events before birth (**pre** means before, **nat** means birth, and **-al** means pertaining to).
- Perinatal (pehr-ih-NAY-tal) refers to the time and events surrounding birth (peri- means surrounding, nat means birth, and -al means pertaining to). This is the time just before, during, and just after birth.
- Postnatal (pohst-NAY-tal) refers to the time and events after birth (post- means after, nat means birth, and -al means pertaining to).

TABLE 1.6 Prefixes Describing Direction, Quantity, Size, and Amount

ab- away from, negative, absent	ad- toward, to, in the direction of
dextr/o right side	sinistr/o left side
ex- out of, outside, away from	in- in, into, not, without
macro- large, abnormal size, or long	micr/o, micro- small
mega-, megal/o large, great	olig/o scanty, few
pre- before	post- after, behind



FIGURE 1.6 The *prenatal* development of a fetus (baby).



FIGURE 1.7 A *perinatal* event of the umbilical cord being cut immediately after the baby is born.



FIGURE 1.8 A joyful *postnatal* moment as the parents bond with their new baby.

TABLE 1.7

Contrasting Prefixes

ab- means away from. ad- means toward or in the direction of. Abnormal means not normal or away from normal. **Addiction** means drawn toward or a strong dependence on a drug or substance. dys- means bad, difficult, or painful. eu- means good, normal, well, or easy. Dysfunctional means an organ or body part that is not Eupnea means easy or normal breathing. working properly. hyper- means excessive or increased. hypo- means deficient or decreased. **Hypertension** is higher-than-normal blood pressure. Hypotension is lower-than-normal blood pressure. inter- means between or among. intra- means within or inside. Interstitial means between, but not within, the parts Intramuscular means within the muscle. of a tissue. sub- means under, less, or below. super-, supra- mean above or excessive. Subcostal means below a rib or ribs. Supracostal means above or outside the ribs.

Contrasting and Confusing Prefixes

Some prefixes are confusing because they are similar in spelling, but opposite in meaning. The more common prefixes of this type are summarized in Table 1.7.



Watch an animation on **How Word Parts Work Together** in the StudyWARETM.

DETERMINING MEANINGS ON THE BASIS OF WORD PARTS

Knowing the meaning of the word parts often makes it possible to figure out the definition of an unfamiliar medical term.

Taking Terms Apart

To determine a word's meaning by looking at the component pieces, you must first separate it into word parts.

Always start at the end of the word, with the suffix, and work toward the beginning.

- As you separate the word parts, identify the meaning of each. Identifying the meaning of each part should give you a definition of the term.
- Because some word parts have more than one meaning, it also is necessary to determine the context in which the term is being used. As used here, *context* means to determine which body system this term is referring to.
- If you have any doubt, use your medical dictionary to double-check your definition.
- Be aware that not all medical terms are made up of word parts.

An Example to Take Apart

Look at the term **otorhinolaryngology** (**oh**-toh-**rye**-noh-**lar**-in-**GOL**-oh-jee) as shown in Figure 1.9. It is made up of two combining forms, a word root, and a suffix. This is how it looks when the word parts have been separated by working from the end to the beginning.

- The suffix -ology means the study of.
- The word root **laryng** means larynx or throat. The combining vowel *is not used* here, because the word root is joining a suffix that begins with a vowel.
- The combining form **rhin/o** means nose. The combining vowel *is used* here because the word root **rhin** is joining another word root.

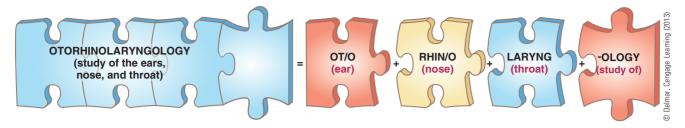


FIGURE 1.9 To determine the meaning of a medical term, the word parts are separated working from the end of the word toward the beginning.

- The combining form ot/o means ear. The combining vowel is used here because the word root ot is joining another word root.
- Together they form *otorhinolaryngology*, which is the study of the ears, nose, and throat (ot/o means ear, rhin/o means nose, laryng means throat, and -ology means study of). Note: Laryng/o also means larynx and is discussed in Chapter 7.
- Because this is such a long term, this specialty is frequently referred to as *ENT* (ears, nose, and throat).
- A shortened version of this term is **otolaryngology** (**oh**-toh-**lar**-in-**GOL**-oh-jee), which is the study of the ears and larynx or throat (**ot/o** means ears, **laryng** means larynx, and **-ology** means study of).



Watch the **Combining Word Roots** animation in the StudyWARETM.

Guessing at Meanings

When you are able to guess at the meaning of a term on the basis of its word parts, you must always double-check for accuracy because some terms have more than one meaning. For example, look at the term **lithotomy** (lih-**THOT**-oh-mee):

- On the basis of word parts, a **lithotomy** is a surgical incision for the removal of a stone (**lith** means stone, and **-otomy** means a surgical incision). This meaning is discussed further in Chapter 9.
- However, **lithotomy** is also the name of an examination position in which the patient is lying on her back with her feet and legs raised and supported in stirrups. The term is used to describe this position because in the early days, this was the

- preferred position for lithotomy surgery. This term is discussed further in Chapter 15.
- This type of possible confusion is one of the many reasons why a medical dictionary is an important medical terminology tool.

MEDICAL DICTIONARY USE

Learning to use a medical dictionary and other resources to find the definition of a term is an important part of mastering the correct use of medical terms. The following tips for dictionary use apply whether you are working with a traditional book-form dictionary or with electronic dictionary software, websites, or applications on your computer or handheld device.

If You Know How to Spell the Word

When starting to work with an unfamiliar print dictionary, spend a few minutes reviewing its user guide, table of contents, and appendices. The time you spend reviewing now will be saved later when you are looking up unfamiliar terms.

- On the basis of the first letter of the word, start in the appropriate section of the dictionary. Look at the top of the page for clues. The top left word is the first term on the page. The top right word is the last term on that page.
- Next, look alphabetically for words that start with the first and second letters of the word you are researching. Continue looking through each letter until you find the term you are looking for.
- When you think you have found it, check the spelling very carefully, letter by letter, working from left to right. Terms with similar spellings have very different meanings.
- When you find the term, carefully check all of the definitions.

If You Do Not Know How to Spell the Word

Listen carefully to the term, and write it down. If you cannot find the word on the basis of your spelling, start looking for alternative spellings based on the beginning sound as shown in Table 1.8. Note: All of these examples are in this textbook. However, you could practice looking them up in the dictionary!

Look Under Categories

Most print dictionaries use categories such as *Diseases* and *Syndromes* to group disorders with these terms in their titles. For example:

- Venereal disease would be found under Disease, venereal.
- Fetal alcohol syndrome would be found under Syndrome, fetal alcohol.
- When you come across such a term and cannot find it listed by the first word, the next step is to look under the appropriate category.

Multiple-Word Terms

When you are looking for a term that includes more than one word, begin your search with the last term. If you do not find it there, move forward to the next word. ■ For example, *congestive heart failure* is sometimes listed under *heart failure*, *congestive*. This term is discussed in Chapter 5.

Searching for Definitions on the Internet

Internet search engines are valuable resources in finding definitions and details about medical conditions and terms; however, it is important that you rely on a site, such as the National Institutes of Health (NIH) website (http://www.nih.gov), which is known to be a reputable information source.

- For better results, an Internet search should include visits to at least two reputable sites. If there is a major difference in the definitions, go on to a third site. Sometimes a search engine will recommend a site that is not appropriate but appears because it paid to be listed.
- Beware of suggested search terms. If you do not spell a term correctly, a website may guess what you were searching for. Make sure to double-check that the term you are defining is the intended term.

The same caution applies to medical dictionary applications on handheld devices. Make sure that the application comes from a reputable source, and always double-check that this definition is for the term that you intended to look up.

TABLE 1.8Guidelines to Looking Up the Spelling of Unfamiliar Terms

THE STREET	If it sounds like	It may begin with	Example
	F	F	flatus (FLAY-tus) [see Chapter 8]
		PH	phlegm (FLEM) [see Chapter 7]
	J	G	gingivitis (jin-jih-VYE-tis) [see Chapter 8]
		J	jaundice (JAWN-dis) [see Chapter 8]
	K	С	crepitus (KREP-ih-tus) [see Chapter 3]
		СН	cholera (KOL-er-ah) [see Chapter 8]
		K	kyphosis (kye-FOH-sis) [see Chapter 3]
		QU	quadriplegia (kwad-rih-PLEE-jee-ah) [see Chapter 4]
	S	С	cytology (sigh-TOL-oh-jee) [see Chapter 2]
		PS	psychologist (sigh-KOL-oh-jist) [see Chapter 10]
		S	serum (SEER-um) [see Chapter 5]
	z	X	xeroderma (zee-roh-DER-mah) [see Chapter 12]
		Z	zygote (ZYE-goht) [see Chapter 14]

PRONUNCIATION

A medical term is easier to understand and remember when you know how to pronounce it properly. To help you master the pronunciation of new terms, a commonly accepted pronunciation of that word appears in parentheses next to the term. Audio for the terms on the vocabulary list is available in the student StudyWARETM.

The sounds-like pronunciation system is used in this textbook. Here the word is respelled using normal English letters to create sounds that are familiar. To pronounce a new word, just say it as it is spelled in the parentheses.

- The part of the word that receives the primary (most) emphasis when you say it is shown in uppercase boldface letters. For example, **edema** (eh-**DEE**-mah) is swelling caused by an abnormal accumulation of fluid in cells, tissues, or cavities of the body.
- A part of the word that receives secondary (less) emphasis when you say it is shown in boldface lowercase letters. For example, **appendicitis** (ah-**pen**-dih-**SIGH**-tis) means an inflammation of the appendix (**appendic** means appendix, and -itis means inflammation).

A Word of Caution

Frequently, there is more than one correct way to pronounce a medical term.

- The pronunciation of many medical terms is based on their Greek, Latin, or other foreign origin. However, there is a trend toward pronouncing terms as they would sound in English.
- The result is more than one "correct" pronunciation for a term. The text shows the most commonly accepted pronunciation.
- If your instructor prefers an alternative pronunciation, follow the instructions you are given.

SPELLING IS ALWAYS IMPORTANT

Accuracy in spelling medical terms is extremely important!

- Changing just one or two letters can completely change the meaning of a word—and this difference literally could be a matter of life or death for the patient.
- The section "Look-Alike, Sound-Alike Terms and Word Parts" later in this chapter will help you become aware of some terms and word parts that are frequently confused.

■ The spelling shown in this text is commonly accepted in the U.S. You may encounter alternative spellings used in England, Australia, and Canada.

SINGULAR AND PLURAL ENDINGS

Many medical terms have Greek or Latin origins. As a result of these different origins, there are unusual rules for changing a singular word into a plural form. In addition, English endings have been adopted for some commonly used terms.

- Table 1.9 provides guidelines to help you better understand how these plurals are formed.
- Also, throughout the text, when a term with an unusual singular or plural form is introduced, both forms are included. For example, the **phalanges** (fah-LAN-jeez) are the bones of the fingers and toes (singular, *phalanx*) (Figure 1.10).

BASIC MEDICAL TERMS TO DESCRIBE DISEASES

Some of the medical terms that are used to describe diseases and disease conditions can easily be confusing. Some of the more common terms of this type are described in Table 1.10. You will find that studying the groups of three as they are shown in the table makes it easier to master these terms.

LOOK-ALIKE, SOUND-ALIKE TERMS AND WORD PARTS

This section highlights some frequently used terms and word parts that are confusing because they look and sound alike. However, their meanings are very different. It is important that you pay close attention to these terms and word parts as you encounter them in the text.

arteri/o, ather/o, and arthr/o

- arteri/o means artery. Endarterial (end-ar-TEE-ree-al) means pertaining to the interior or lining of an artery (end- means within, arteri means artery, and -al means pertaining to).
- **ather/o** means plaque or fatty substance. An **atheroma** (**ath**-er-**OH**-mah) is a fatty deposit within the wall

TABLE 1.9 Guidelines to Unusual Plural Forms

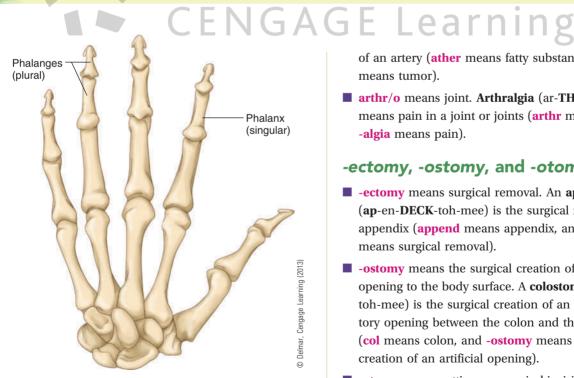


FIGURE 1.10 Singular and plural endings. A phalanx is one finger or toe bone. Phalanges are more than one finger or toe bones.

of an artery (ather means fatty substance, and -oma means tumor).

arthr/o means joint. Arthralgia (ar-THRAL-jee-ah) means pain in a joint or joints (arthr means joint, and -algia means pain).

-ectomy, -ostomy, and -otomy

- **-ectomy** means surgical removal. An **appendectomy** (ap-en-DECK-toh-mee) is the surgical removal of the appendix (append means appendix, and -ectomy means surgical removal).
- -ostomy means the surgical creation of an artificial opening to the body surface. A colostomy (koh-LAHStoh-mee) is the surgical creation of an artificial excretory opening between the colon and the body surface (col means colon, and -ostomy means the surgical creation of an artificial opening).
- -otomy means cutting or a surgical incision. A colotomy (koh-LOT-oh-mee) is a surgical incision into the colon (col means colon, and -otomy means a surgical incision).

TABLE 1.10

Basic Medical Terms to Describe Disease Conditions

A **sign** is objective evidence of disease such as a fever. *Objective* means the sign can be evaluated or measured by the patient or others.

A **symptom** (**SIMP**-tum) is subjective evidence of a disease, such as pain or a headache. *Subjective* means that it can be evaluated or measured only by the patient.

A **syndrome** (**SIN**-drohm) is a set of the signs and symptoms that occur together as part of a specific disease process.

A diagnosis (dye-ag-NOH-sis) (DX) is the identification of a disease (plural, diagnoses). To diagnose is the process of reaching a diagnosis.

A differential diagnosis (D/DX), also known as a *rule out* (R/O) is an attempt to determine which one of several diseases can be causing the signs and symptoms that are present.

A **prognosis** (prog-**NOH**-sis) is a prediction of the probable course and outcome of a disorder (plural, *prognoses*).

An **acute** condition has a rapid onset, a severe course, and a relatively short duration.

A **chronic** condition is of long duration. Although such diseases can be controlled, they are rarely cured. A **remission** is the temporary, partial, or complete disappearance of the symptoms of a disease without having achieved a cure.

A disease is a condition in which one or more body parts are not functioning normally. Some diseases are named for their signs and symptoms. For example, chronic fatigue syndrome (CFS) is a persistent overwhelming fatigue of unknown origin (see Chapter 4).

An **eponym** (**EP**-oh-nim) is a disease, structure, operation, or procedure named for the person who discovered or described it first. For example, *Alzheimer's disease* is named for German neurologist Alois Alzheimer (see Chapter 10).

An acronym (ACK-roh-nim) is a word formed from the initial letter of the major parts of a compound term. For example, the acronym laser stands for light amplification by stimulated emission of radiation (see Chapter 12).

Fissure and Fistula

- A **fissure** (**FISH**-ur) is a groove or crack-like sore of the skin (see Chapter 12). This term also describes normal folds in the contours of the brain.
- A **fistula** (**FIS**-tyou-lah) is an abnormal passage, usually between two internal organs or leading from an organ to the surface of the body. A fistula may be due to surgery, injury, or the draining of an abscess.

Ileum and Ilium

- The **ileum** (**ILL**-ee-um) is the last and longest portion of the small intestine. *Memory aid: ileum* is spelled with an *e* as in *intestine*.
- The **ilium** (**ILL**-ee-um) is part of the hip bone. *Memory aid: ilium* is spelled with an **i** as in *hip*. (Figure 1.11)

Infection and Inflammation

- Although the suffix -itis means inflammation, it also is commonly used to indicate infection.
- An **infection** (in-**FECK**-shun) is the invasion of the body by a pathogenic (disease-producing) organism. The infection can remain localized (near the point of entry) or can be systemic (affecting the entire body). Signs and symptoms of infection include malaise, chills and fever, redness, heat and swelling, or exudate from a wound.
- Malaise (mah-LAYZ) is a feeling of general discomfort or uneasiness that is often the first indication of an infection or other disease.
- An **exudate** (**ECKS**-you-dayt) is fluid, such as pus, that leaks out of an infected wound.

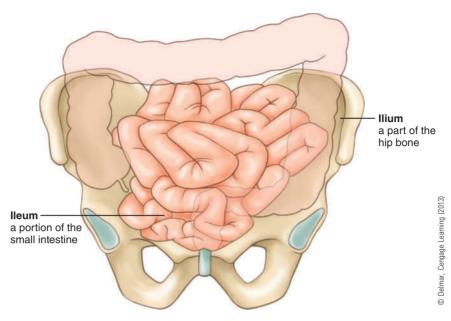


FIGURE 1.11 There is only one letter difference between ileum and ilium, but they are very different parts of the body.

■ Inflammation (in-flah-MAY-shun) is a localized response to an injury or to the destruction of tissues. The key indicators of inflammation are (1) erythema (redness), (2) hyperthermia (heat), (3) edema (swelling), and (4) pain. These are caused by extra blood flowing into the area as part of the healing process.

Laceration and Lesion

- A laceration (lass-er-AY-shun) is a torn or jagged wound or an accidental cut wound.
- A **lesion** (LEE-zhun) is a pathologic change of the tissues due to disease or injury.

Mucous and Mucus

- The adjective **mucous** (**MYOU**-kus) describes the specialized membranes that line the body cavities.
- The noun **mucus** (**MYOU**-kus) is the name of the fluid secreted by these mucous membranes.

myc/o, myel/o, and my/o

■ myc/o means fungus. Mycosis (my-KOH-sis) describes any abnormal condition or disease caused by a fungus (myc means fungus, and -osis means abnormal condition or disease).

- myel/o means bone marrow *or* spinal cord. The term myelopathy (my-eh-LOP-ah-thee) describes any pathologic change or disease in the spinal cord (myel/o means spinal cord or bone marrow, and -pathy means disease).
- my/o means muscle. The term myopathy (my-OP-ah-thee) describes any pathologic change or disease of muscle tissue (my/o means muscle, and -pathy means disease).

-ologist and -ology

- -ologist means specialist. A dermatologist (der-mah-TOL-oh-jist) is a physician who specializes in diagnosing and treating disorders of the skin (dermat means skin, and -ologist means specialist).
- -ology means the study of. Neonatology (nee-oh-nay-TOL-oh-jee) is the study of disorders of the newborn (neo- means new, nat means birth, and -ology means study of).

Palpation and Palpitation

- Palpation (pal-PAY-shun) is an examination technique in which the examiner's hands are used to feel the texture, size, consistency, and location of certain body parts.
- Palpitation (pal-pih-TAY-shun) is a pounding or racing heart.





FIGURE 1.12 Triage describes the process through which emergency personnel arriving on an accident scene identify which of the injured require care first and where they can be treated most effectively.

pyel/o, py/o, and pyr/o

- pyel/o means renal pelvis, which is part of the kidney.
 Pyelitis (pye-eh-LYE-tis) is an inflammation of the renal pelvis (pyel means renal pelvis, and -itis means inflammation).
- py/o means pus. Pyoderma (pye-oh-DER-mah) is any acute, inflammatory, pus-forming bacterial skin infection such as impetigo (py/o means pus, and -derma means skin).
- pyr/o means fever or fire. Pyrosis (pye-ROH-sis), also known as *heartburn*, is discomfort due to the regurgitation of stomach acid upward into the esophagus (pyr means fever or fire, and -osis means abnormal condition or disease).

Supination and Suppuration

- Supination (soo-pih-NAY-shun) is the act of rotating the arm so that the palm of the hand is forward or upward.
- **Suppuration** (**sup**-you-**RAY**-shun) is the formation or discharge of pus.

Triage and Trauma

- Triage (tree-AHZH) is the medical screening of patients to determine their relative priority of need and the proper place of treatment. (Figure 1.12)
- Trauma (TRAW-mah) means wound or injury. These are the types of injuries that might occur in an accident, shooting, natural disaster, or fire.

Viral and Virile

- **Viral** (**VYE**-ral) means pertaining to a virus (**vir** means virus or poison, and **-al** means pertaining to).
- Virile (VIR-ill) means having the nature, properties, or qualities of an adult male.

USING ABBREVIATIONS

Abbreviations are frequently used as a shorthand way to record long and complex medical terms; Appendix B contains an alphabetized list of many of the more commonly used medical abbreviations.

- Abbreviations can also lead to confusion and errors! Therefore, it is important that you be very careful when using or interpreting an abbreviation.
- For example, the abbreviation *BE* means both "below elbow" (as in amputation) and "barium enema." Just imagine what a difference a mix-up here would make for the patient!
- Most clinical agencies have policies for accepted abbreviations. It is important to follow this list for the facility where you are working.
- If there is any question in your mind about which abbreviation to use, always follow this rule: When in doubt, spell it out.

TABLE 1.11Examples of Abbreviations Not to Be Used

İ	Abbreviation	Potential Problem
	MS	can mean either morphine sulfate or magnesium sulfate
	QD and QOD	mean daily and every other day, sometimes mistaken for each other
	U	means unit, sometimes mistaken for 0 or 4

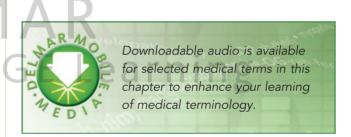
Some abbreviations should never be used (as decided by the *Joint Commission*, an organization founded in 1910 to standardize medical practices). See Table 1.11 for examples. The Joint Commission's latest standards are available at http://www.jointcommission. org. Many medical facilities have their own suggested "do not use" abbreviation list.

StudyWARE CONNECTION

For more practice and to test your mastery of this material, go to the StudyWARE™ to play interactive games and complete the quiz for this chapter.

Workbook Practice

Go to your workbook, and complete the exercises for this chapter.





LEARNING EXERCISES

MATCHING WORD PARTS 1

Write the correct answer in the middle column.

	Definition	Correct Answer	Possible Answers
1.1.	bad, difficult, painful		-algia
1.2.	excessive, increased		dys-
1.3.	enlargement		-ectomy
1.4.	pain, suffering		-megaly
1.5.	surgical removal		hyper-

MATCHING WORD PARTS 2

Write the correct answer in the middle column. GAGE Learning

	Definition	Correct Answer	Possible Answers
1.6.	abnormal condition or disease		hypo-
1.7.	abnormal softening		-itis
1.8.	deficient, decreased		-malacia
1.9.	inflammation		-necrosis
1.10.	tissue death		-osis

MATCHING WORD PARTS 3

Write the correct answer in the middle column.

Definition		Correct Answer	Possible Answers	
1.11.	bleeding, bursting forth		ostomy	

1.12.	surgical creation of an artificial opening to the body surface	-otomy
1.13.	surgical incision	 -plasty
1.14.	surgical repair	 -rrhage
1.15.	surgical suturing	 -rrhaphy

MATCHING WORD PARTS 4

Write the correct answer in the middle column.

	Definition	Correct Answer	Possible Answers
1.16.	visual examination		-rrhea
1.17.	rupture		-rrhexis
1.18.	abnormal narrowing		-sclerosis
1.19.	abnormal hardening	DELMAR	-scopy
1.20.	flow or discharge	PLLITAN	-stenosis
DEE	NITIONS	CENGAGE Lea	rning

Select the correct answer, and write it on the line provided.

1.21.	The term	describes any pathologic change or disease in the spinal cord.			
	myelopathy	myopathy	pyelitis	pyrosis	
1.22.	The medical term for hig	gher-than-normal blood p	pressure is		
	hepatomegaly	hypertension	hypotension	supination	
1.23.	The term means pertaining to birth.				
	natal	perinatal	postnatal	prenatal	
1.24.	Pain is classified as a		_		
	diagnosis	sign	symptom	syndrome	
1.25.	In the term myopathy, the	ne suffix -pathy means		.	
	abnormal condition	disease	inflammation	swelling	

MATCHING TERMS AND DEFINITIONS 1

Write the correct answer in the middle column.

	Definition	Correct Answer	Possible Answers
1.26.	white blood cell		acute
1.27.	prediction of the probable course and outcome of a disorder		edema
1.28.	swelling caused by an ab- normal accumulation of fluid in cells, tissues, or cavities of the body		leukocyte
1.29.	rapid onset		prognosis
1.30.	turning the palm of the hand upward		supination

MATCHING TERMS AND DEFINITIONS 2

Write the correct answer in the middle column.

	Definition CEI	GAGE Lear	Possible Answers
1.31.	examination procedure		laceration
1.32.	fluid, such as pus, that leaks out of an infected wound		lesion
1.33.	pathologic tissue change		palpitation
1.34.	pounding heart		palpation
1.35.	torn or jagged wound, or an accidental cut wound		exudate

WHICH WORD?

Select the correct answer, and write it on the line provided.

- 1.36. The medical term ______ describes an inflammation of the stomach.

 gastritis gastrosis
- 1.37. The formation of pus is called _____

supination

suppuration

gastralgia

gastrosis

pyoderma

myorrhexis

1.47. a set of signs and symptoms

1.48. rupture of a muscle

1.50. any acute, inflammatory,

pus-forming bacterial skin

1.49. stomach pain

infection

1.38.	The term meaning wound or injury is				
	trauma	triage			
1.39.	The term	means pertaining to a virus.			
	viral	virile			
1.40.	A/an	is the surgical removal of the appendix.			
	appendectomy	appendicitis			
SPE	LLING COUNTS				
Find t	he misspelled word in each sent	ence. Then write that word, spelled correctly,	on the line provided.		
1.41.	A disease named for the perso	n who discovered it is known as an			
	enaponym				
1.42.	A localized response to injury or tissue destruction is called inflimmation.				
1.43.	A fisure of the skin is a groove or crack-like sore of the skin.				
1.44.	The medical term meaning suturing together the ends of a severed nerve is neurorraphy.				
1.45.	The medical term meaning inflammation of the tonsils is tonsilitis.				
MA	MATCHING TERMS				
Write	Write the correct answer in the middle column.				
	Definition	Correct Answer	Possible Answers		
1.46.	abnormal condition or disease of the stomach		syndrome		

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TERM SELECTION

Select	Select the correct answer, and write it on the line provided.				
1.51.	. The abnormal hardening of the walls of an artery or arteries is called				
	arteriosclerosis	arteriostenosis	arthrostenosis	atherosclerosis	
1.52.	A fever is considered to	be a			
	prognosis	sign	symptom	syndrome	
1.53.	An inflammation of the	stomach and small intes	tine is known as		
	gastralgia	gastroenteritis	gastritis	gastrosis	
1.54.	The term meaning pain	in a joint or joints is			
	arthralgia	arthritis	arthrocentesis	atherosclerosis	
1.55.	A	is a physician wh	o specializes in diagnosi	ing and treating diseases and dis-	
	orders of the skin.				
	dermatologist	dermatology	neurologist	neurology	
SEN [®]	TENCE COMPLETION				
Write	the correct term on the lin	ne provided.	AGE Le	arning	
1.56.	Lower-than-normal blood pressure is called				
1.57.	The process of recording a radiographic study of the blood vessels after the injection of a contrast				
	medium is known as				
1.58.	The term meaning above or outside the ribs is				
1.59.	A/An diagnosis is also known as a rule out.				
1.60.	A/An	is an abnorma	al passage, usually betw	een two internal organs or lead-	
	ing from an organ to the surface of the body.				
TRUE/FALSE					
If the statement is true, write True on the line. If the statement is false, write False on the line.					
1.61.	An erythrocyte is commonly known as a red blood cell.				
1.62.		Arteriomalacia is ab	onormal hardening of bl	ood vessels of the walls of an	
	artery or arteries.				

1.63.		. A colostomy is the surgical creation of an artificial opening between the
	colon and the body surface.	
1.64.		. Malaise is often the first symptom of inflammation.
1.65.		An infection is the invasion of the body by a disease-producing organism.
WOF	RD SURGERY	
	-	ent word parts. Write these word parts, in sequence, on the lines provided. ndicate a combining vowel. (You may not need all of the lines provided.)
1.66.	Otorhinolaryngology is the	study of the ears, nose, and throat.
1.67.	The term mycosis means an	ny abnormal condition or disease caused by a fungus.
1.68.	Poliomyelitis is a viral infec	tion of the gray matter of the spinal cord.
1.69.	Neonatology is the study of	
1.70.	The term endarterial means	ENGAGE Learning of an artery.
CLIN	IICAL CONDITIONS	
Write	the correct answer on the line	provided.
1.71.	Miguel required a/an	injection. This term means that the medication was
	placed directly within the m	uscle.
1.72.	Mrs. Tillson underwent	to remove excess fluid from her abdomen.
1.73.	The term <i>laser</i> is a/an	. This means that it is a word formed from the initial
	letters of the major parts of	a compound term.
1.74.	In an accident, Felipe Vallad	lares broke several bones in his fingers. The medical term for these injuries is
	fractured	

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hepatitis

hepatomegaly

nephromegaly

nephritis

1.75.	In case of a major disaster Cheng Lee, who is a trained paramedic, helps perform				
		This is the screening	ng of patients to determi	ine their relative priority of need	
	and the proper place of	treatment.			
1.76.	Gina's physician ordered	d laboratory tests that we	ould enable him to estab	olish a differential	
		to identify the caus	e of her signs and symp	toms.	
1.77.	Jennifer plans to go to g	raduate school so she ca	an specialize in	This	
	specialty is concerned w	rith the study of all aspec	cts of diseases.		
1.78.	John Randolph's cancer	went into	Althoug	h this is not a cure, his	
	symptoms disappeared	and he felt much better.			
1.79.	Mr. Jankowski describes	that uncomfortable feel	ing as heartburn. The m	edical term for this condition	
	is	<u>.</u>			
1.80.	Phyllis was having great	fun traveling until she a	ate some contaminated f	ood and developed	
	She felt miserable and needed to stay in her hotel because of the				
	frequent flow of loose of	r watery stools.	1AR		
WHI	CH IS THE CORREC	CT MEDICAL TER	M?GE Le	arning	
Select	the correct answer, and v	vrite it on the line provid	led.		
1.81.	The term	describes	the surgical repair of a	nerve.	
	neuralgia	neurorrhaphy	neurology	neuroplasty	
1.82.	The term	means lo	ss of a large amount of l	blood in a short time.	
	diarrhea	hemorrhage	hepatorrhagia	otorrhagia	
1.83.	The term	means th	e tissue death of an arte	ry or arteries.	
	arteriomalacia	arterionecrosis	arteriosclerosis	arteriostenosis	
1.84.	The term	means be	etween, but not within, t	he parts of a tissue.	
	interstitial	intrastitial	intermuscular	intramuscular	
1.85.	The term	means er	llargement of the liver.		

CHALLENGE WORD BUILDING

These terms are *not* found in this chapter; however, they are made up of the following familiar word parts. If you need help in creating the term, refer to your medical dictionary.

-algia = pain and suffering neo- = new**arteri/o** = artery -itis = inflammation $\frac{\text{arthr}}{\text{o}} = \text{joint}$ cardi/o = heart -ologist = specialist nat/o = birth**-otomy** = a surgical incision neur/o = nerve**-rrhea** = flow or discharge rhin/o = nose**-scopy** = visual examination A medical specialist concerned with the diagnosis and treatment of heart disease is a/ 1.86. The term meaning a runny nose is _ 1.87. The term meaning the inflammation of a joint or joints is _ 1.88. A medical specialist in disorders of the newborn is a/an. 1.89. The term meaning a surgical incision into a nerve is a/an 1.90. 1.91. The term meaning inflammation of the heart is _ 1.92. The term meaning pain in the nose is _ 1.93. The term meaning pain in a nerve or nerves is ___ 1.94. The term meaning a surgical incision into the heart is a/an _____ The term meaning an inflammation of the nose is ___ 1.95.

LABELING EXERCISES

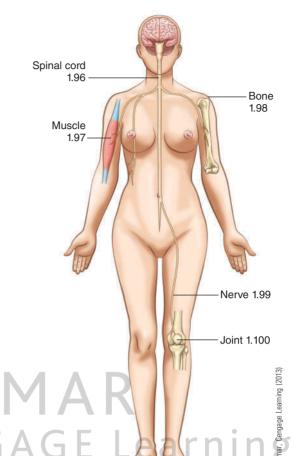
1.96. The combining form meaning spinal cord is

1.97. The combining form meaning muscle is

1.98. The combining form meaning bone is

1.99. The combining form meaning nerve is

1.100. The combining form meaning joint is



THE HUMAN TOUCH

Critical Thinking Exercise

The following story and questions are designed to stimulate critical thinking through class discussion or as a brief essay response. There are no right or wrong answers to these questions.

Baylie Hutchins sits at her kitchen table, highlighter in hand, with her medical terminology book opened to the first chapter. Her 2-year-old son, Mathias, plays with a box of animal crackers in his high chair, some even finding his mouth. "Arteri/o, ather/o, and arthr/o," she mutters, lips moving to shape unfamiliar sounds. "They're too much alike, and they mean totally different things." Mathias sneezes loudly, and spots of animal cracker rain on the page, punctuating her frustration.

"Great job, Thias," she says wiping the text with her finger. "I planned on using the highlighter to mark with, not your lunch." Mathias giggles and peeks through the tunnel made by one small hand.

"Mucous and mucus," she reads aloud, each sounding the same. Then she remembers her teacher's tip for remembering the difference, "The long word is the membrane, and the short one is the secretion."

Mathias picks up an animal cracker and excitedly shouts, "Tiger, Mommy! Tiger!" "That's right, Thias. Good job!"

Turning back to the page she stares at the red word parts -rrhagia, -rrhaphy, -rrhea, and -rrhexis. Stumbling over the pronunciations, Baylie closes her eyes and tries to silence the voices in her head. "You can't do anything right," her ex-husband says. "Couldn't finish if your life depended on it," her mother's voice snaps.

Baylie keeps at it, "Rhin/o means nose," as she highlights those three words, "and a rhinoceros has a big horn on his nose."

"Rhino!" Matthias shouts, holding up an animal cracker. Baylie laughs. We both have new things to learn, she realizes. And we can do it!

Suggested Discussion Topics

- **1.** Baylie needs to learn medical terminology because she wants a career in the medical field. What study habits would help Baylie accomplish this task?
- **2.** A support group could help empower Baylie to accomplish her goals. What people would you suggest for this group and why?
- **3.** How can this textbook and other resource materials help her, and you, learn medical terminology?
- **4.** Discuss strategies that the instructor could use and has already used to help Baylie improve her terminology skills.

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