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**Medical Terminology for Health Professions,
Seventh Edition**

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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 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.
Basic Medical Terms	Terms used to describe disease conditions.
Look-Alike, Sound-Alike Terms and Word Parts	Clarification of confusing terms and word parts that look or 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 terms for this chapter. These terms are pronounced in the StudyWARE™ and Audio CDs that are available for use with this text. These and the other important **primary terms** are shown in boldface throughout the chapter. *Secondary terms*, which appear in orange italics, clarify the meaning of primary terms.

Word Parts

- algia** pain, painful condition
- dys-** bad, difficult, or painful
- ectomy** surgical removal, cutting out
- hyper-** excessive, increased
- hypo-** deficient, decreased
- itis** inflammation
- osis** abnormal condition, disease
- ostomy** the surgical creation of an artificial opening to the body surface
- otomy** cutting, surgical incision
- plasty** surgical repair
- rrhage** bleeding, abnormal excessive fluid discharge
- rrhaphy** surgical suturing
- rrhea** flow or discharge
- rrhexis** rupture
- sclerosis** abnormal hardening

Medical Terms

- abdominocentesis** (ab-dom-ih-noh-sen-TEE-sis)
- acronym** (ACK-roh-nim)
- acute**
- angiography** (an-jee-OG-rah-fee)
- appendectomy** (ap-en-DECK-toh-mee)
- arteriosclerosis** (ar-tee-ree-oh-skleh-ROH-sis)
- arthralgia** (ar-THRAL-jee-ah)
- colostomy** (koh-LAHS-toh-mee)
- cyanosis** (sigh-ah-NOH-sis)
- dermatologist** (der-mah-TOL-oh-jist)
- diagnosis** (dye-ag-NOH-sis)
- diarrhea** (dye-ah-REE-ah)
- edema** (eh-DEE-mah)
- endarterial** (end-ar-TEE-ree-al)
- eponym** (EP-oh-nim)
- erythrocyte** (eh-RITH-roh-sight)
- fissure** (FISH-ur)
- fistula** (FIS-tyou-lah)
- gastralgia** (gas-TRAL-jee-ah)
- gastritis** (gas-TRY-tis)
- gastroenteritis** (gas-troh-en-ter-EYE-tis)
- gastrosis** (gas-TROH-sis)
- hemorrhage** (HEM-or-idj)
- hepatomegaly** (hep-ah-toh-MEG-ah-lee)
- hypertension** (high-per-TEN-shun)
- hypotension** (high-poh-TEN-shun)
- infection** (in-FECK-shun)
- inflammation** (in-flah-MAY-shun)
- interstitial** (in-ter-STISH-al)
- intramuscular** (in-trah-MUS-kyou-lar)
- laceration** (lass-er-AY-shun)
- lesion** (LEE-zhun)
- malaise** (mah-LAYZ)
- mycosis** (my-KOH-sis)
- myelopathy** (my-eh-LOP-ah-thee)
- myopathy** (my-OP-ah-thee)
- myorrhexis** (my-oh-RECK-sis)
- natal** (NAY-tal)
- neonatology** (nee-oh-nay-TOL-oh-jee)
- neurorrhaphy** (new-ROR-ah-fee)
- otorhinolaryngology** (oh-toh-rye-noh-lar-in-GOL-oh-jee)
- palpation** (pal-PAY-shun)
- palpitation** (pal-pih-TAY-shun)
- pathology** (pah-THOL-oh-jee)
- phalanges** (fah-LAN-jeez)
- poliomyelitis** (poh-lee-oh-my-eh-LYE-tis)
- prognosis** (prog-NOH-sis)
- pyoderma** (pye-oh-DER-mah)
- pyrosis** (pye-ROH-sis)
- remission**
- sign**
- supination** (soo-pih-NAY-shun)
- suppuration** (sup-you-RAY-shun)
- supracostal** (sue-prah-KOS-tal)
- symptom** (SIMP-tum)
- syndrome** (SIN-droh-m)
- tonsillitis** (ton-sih-LYE-tis)
- trauma** (TRAW-mah)
- triage** (tree-AHZH)
- viral** (VYE-ral)

LEARNING GOALS

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

1. 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

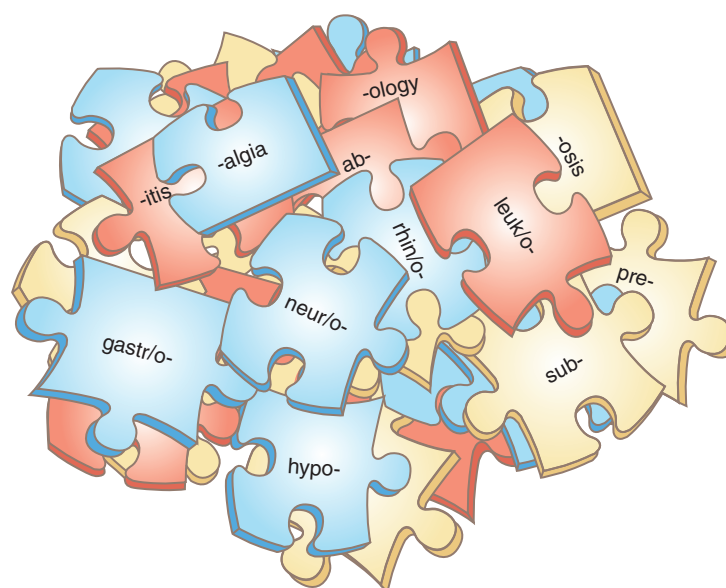
In this book, you will be introduced to many medical terms; however, mastering them will be easier than you anticipate because this book has many features to make learning easier:

- **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**.



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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.

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.

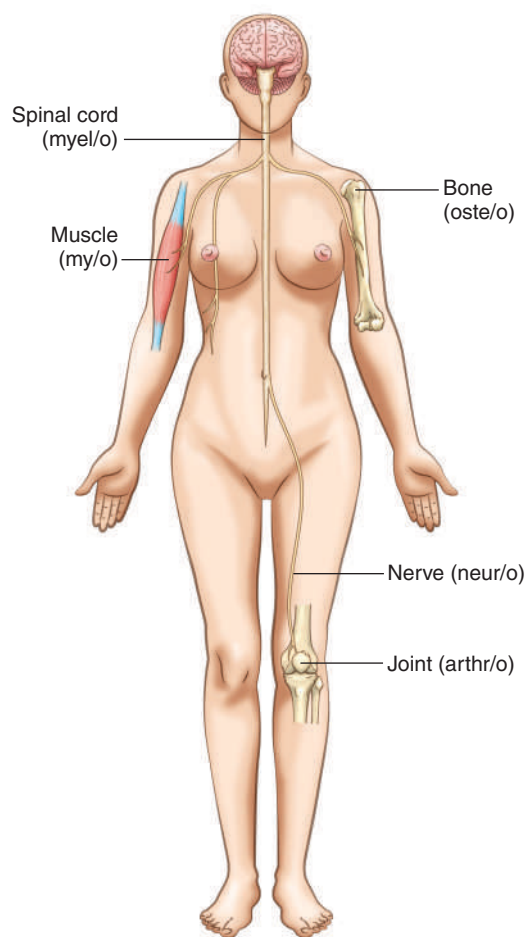
- You'll know a word part is a prefix when it is shown followed by a hyphen (-). For example, **hyper-** means excessive or increased.

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.

StudyWARE CONNECTION

Play an interactive game labeling word parts on your StudyWARE™.



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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).
erythr/o means red	An erythrocyte (eh- RITH -roh-sight) is a mature red blood cell (erythr/o means red, and -cyte means cell).
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, **gastr/o** 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.

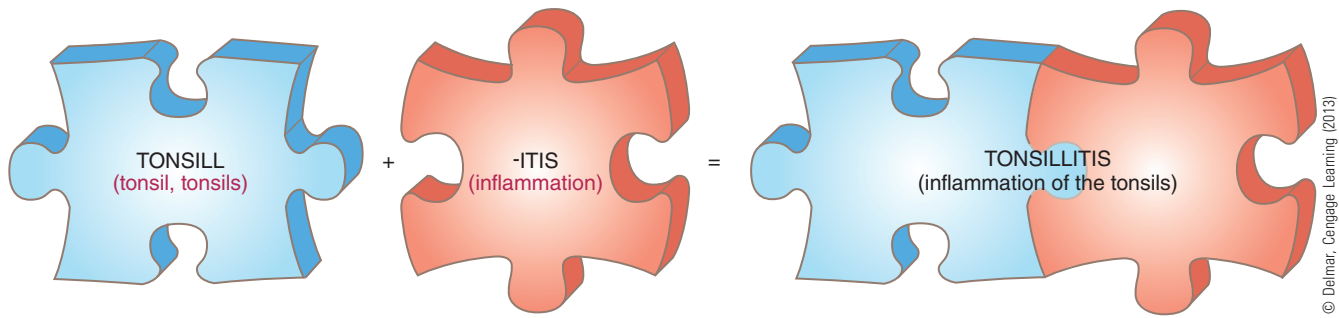
- **Neuroplasty** (**NEW**-roh-plas-tee) is the surgical repair of a nerve.
- **Neurorrhaphy** (new-**ROR**-ah-fee) is suturing together the ends of a severed nerve.

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.



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

TABLE 1.3
Suffixes as Noun Endings

-a	-um	-y
-e	-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 1.4
Suffixes Meaning “Pertaining To”

-ac	-eal	-ior
-al	-ical	-ory
-an	-ial	-ous
-ar	-ic	-tic
-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 1.5
Suffixes Meaning “Abnormal Condition”

-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-ah-toh-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



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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

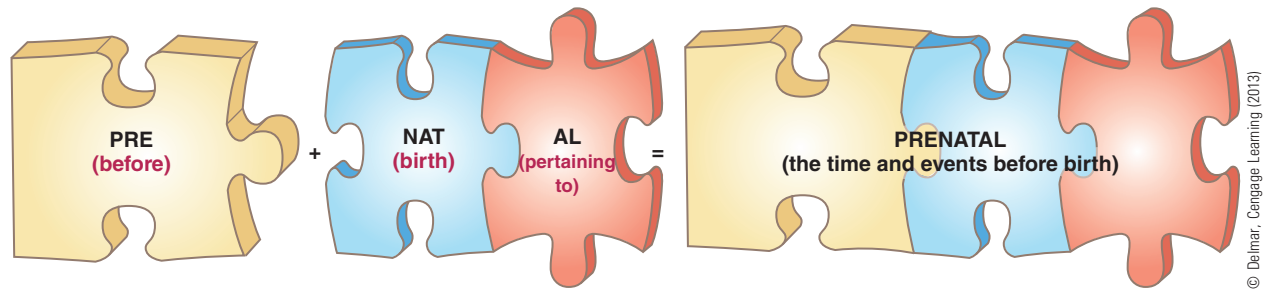
Some suffixes identify the procedure that is performed on the body part identified by the word root.

- **-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-oh-**plas**-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).



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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



iStockphoto/Chris Downie

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



Josef Szasz-Fabian/www.Shutterstock.com

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



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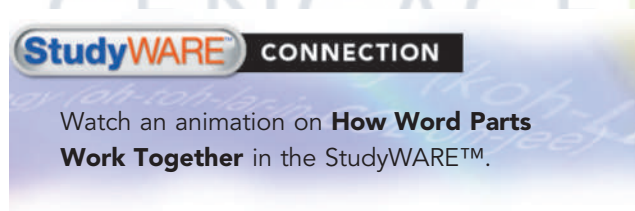
FIGURE 1.8 A joyful *postnatal* moment as the parents bond with their new baby.

TABLE 1.7
Contrasting Prefixes

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

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.



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.

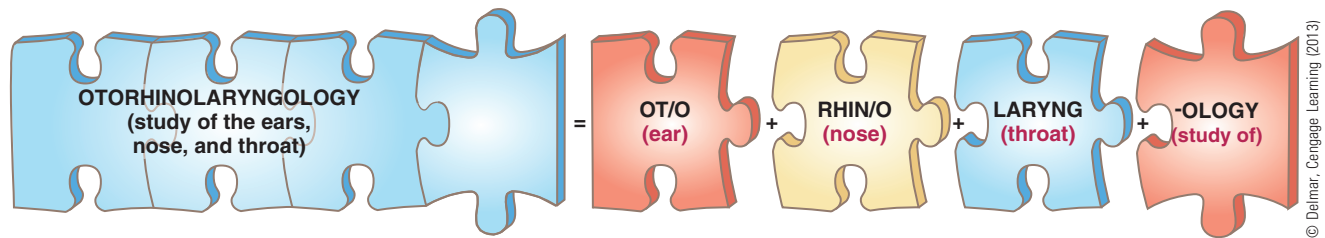


FIGURE 1.9 To determine the meaning of a medical term, the word parts are separated working from the end of the word toward the beginning.

- 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).

StudyWARE CONNECTION

Watch the **Combining Word Roots** animation in the StudyWARE™.

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.

TABLE 1.8

Guidelines to Looking Up the Spelling of Unfamiliar Terms

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	C	crepitus (KREP-ih-tus) [see Chapter 3]
	CH	cholera (KOL-er-ah) [see Chapter 8]
	K	kyphosis (kye-FOH-sis) [see Chapter 3]
	QU	quadriplegia (kwad-rih-PLÉE-jee-ah) [see Chapter 4]
S	C	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]

- 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.

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 StudyWARE™.

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, **app**endicitis (ah-**pen**-dih-**SIGH**-tis) means an inflammation of the appendix (**app**endic 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

Guideline	Singular	Plural
If the singular term ends in the suffix -a , the plural is usually formed by changing the ending to -ae .	bursa vertebra	bursae vertebrae
If the singular term ends in the suffix -ex or -ix , the plural is usually formed by changing these endings to -ices .	appendix index	appendices indices
If the singular term ends in the suffix -is , the plural is usually formed by changing the ending to -es .	diagnosis metastasis	diagnoses metastases
If the singular term ends in the suffix -itis , the plural is usually formed by changing the -is ending to -ides .	arthritis meningitis	arthritides meningitides
If the singular term ends in the suffix -nx , the plural is usually formed by the -x ending to -ges .	phalanx meninx	phalanges meninges
If the singular term ends in the suffix -on , the plural is usually formed by changing the ending to -a .	criterion ganglion	criteria ganglia
If the singular term ends in the suffix -um , the plural usually is formed by changing the ending to -a .	diverticulum ovum	diverticula ova
If the singular term ends in the suffix -us , the plural is usually formed by changing the ending to -i .	alveolus malleolus	alveoli malleoli

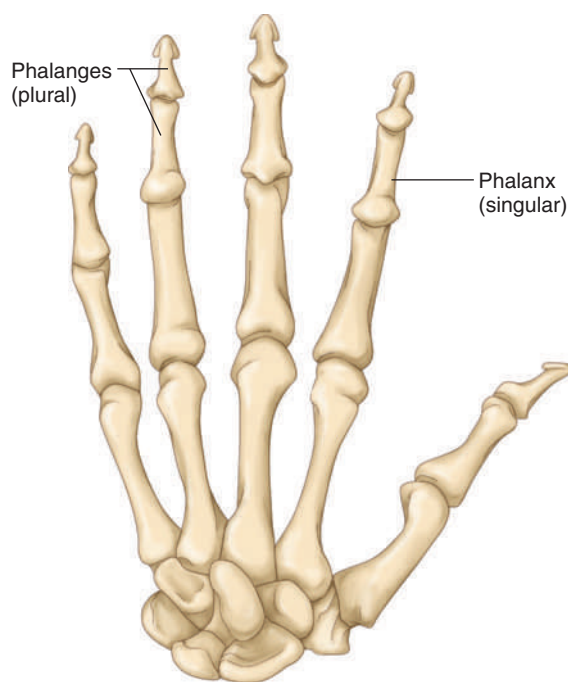


FIGURE 1.10 Singular and plural endings. A phalanx is one finger or toe bone. Phalanges are more than one finger or toe bones.

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-**LAHS**-toh-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

<p>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.</p>	<p>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.</p>	<p>A syndrome (SIN-drohm) is a set of the signs and symptoms that occur together as part of a specific disease process.</p>
<p>A diagnosis (dye-ag-NOH-sis) (DX) is the identification of a disease (plural, <i>diagnoses</i>). To diagnose is the process of reaching a diagnosis.</p>	<p>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.</p>	<p>A prognosis (prog-NOH-sis) is a prediction of the probable course and outcome of a disorder (plural, <i>prognoses</i>).</p>
<p>An acute condition has a rapid onset, a severe course, and a relatively short duration.</p>	<p>A chronic condition is of long duration. Although such diseases can be controlled, they are rarely cured.</p>	<p>A remission is the temporary, partial, or complete disappearance of the symptoms of a disease without having achieved a cure.</p>
<p>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).</p>	<p>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).</p>	<p>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).</p>

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.

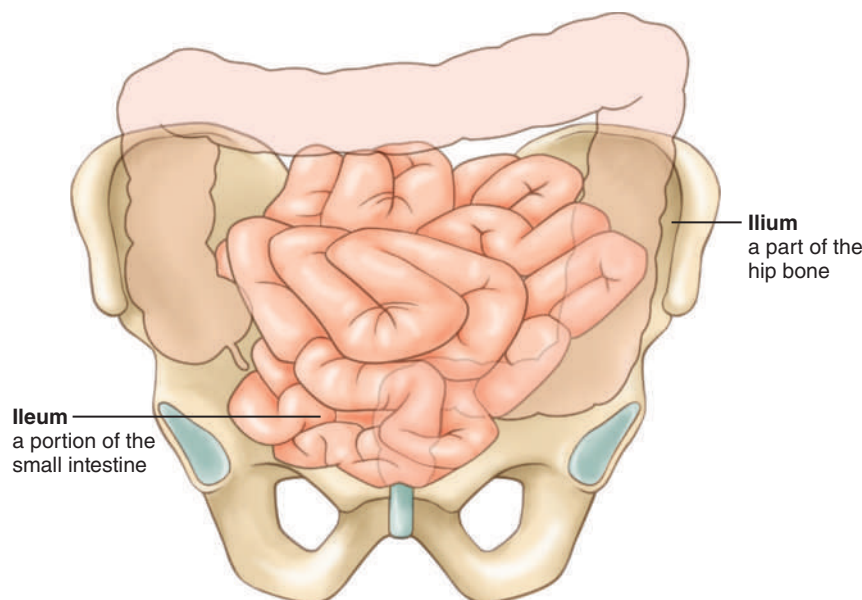


FIGURE 1.11 There is only one letter difference between *ileum* and *ilium*, but they are very different parts of the body.

■ **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.



Monkey Business Images/www.Shutterstock.com

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 1.11
Examples of Abbreviations Not to Be Used

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.



Downloadable audio is available for selected medical terms in this chapter to enhance your learning of medical terminology.

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.

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	_____	-scopy
1.20. flow or discharge	_____	-stenosis

DEFINITIONS

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 higher-than-normal blood 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 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 abnormal 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	Correct Answer	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

TERM SELECTION

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 intestine 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 who specializes in diagnosing and treating diseases and disorders of the skin.
- dermatologist dermatology neurologist neurology

SENTENCE COMPLETION

Write the correct term on the line provided.

- 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 abnormal passage, usually between two internal organs or leading 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 abnormal hardening of blood 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.

WORD SURGERY

Divide each term into its component word parts. Write these word parts, in sequence, on the lines provided. When necessary, use a slash (/) to indicate 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 any abnormal condition or disease caused by a fungus.

- 1.68. **Poliomyelitis** is a viral infection of the gray matter of the spinal cord.

- 1.69. **Neonatology** is the study of disorders of the newborn.

- 1.70. The term **endarterial** means pertaining to the interior or lining of an artery.

CLINICAL 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 muscle.
- 1.72. Mrs. Tillson underwent _____ to remove excess fluid from her abdomen.
- 1.73. The term **laser** 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 Valladares broke several bones in his fingers. The medical term for these injuries is fractured _____.

- 1.75. In case of a major disaster Cheng Lee, who is a trained paramedic, helps perform _____ . This is the screening of patients to determine their relative priority of need and the proper place of treatment.
- 1.76. Gina's physician ordered laboratory tests that would enable him to establish a differential _____ to identify the cause of her signs and symptoms.
- 1.77. Jennifer plans to go to graduate school so she can specialize in _____. This specialty is concerned with the study of all aspects of diseases.
- 1.78. John Randolph's cancer went into _____. Although this is not a cure, his symptoms disappeared and he felt much better.
- 1.79. Mr. Jankowski describes that uncomfortable feeling as heartburn. The medical term for this condition is _____.
- 1.80. Phyllis was having great fun traveling until she ate some contaminated food and developed _____. She felt miserable and needed to stay in her hotel because of the frequent flow of loose or watery stools.

WHICH IS THE CORRECT MEDICAL TERM?

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

- 1.81. The term _____ describes the surgical repair of a nerve.
 neuralgia neurorrhaphy neurology neuroplasty
- 1.82. The term _____ means loss of a large amount of blood in a short time.
 diarrhea hemorrhage hepatorrhagia otorrhagia
- 1.83. The term _____ means the tissue death of an artery or arteries.
 arteriomalacia arterionecrosis arteriosclerosis arteriostenosis
- 1.84. The term _____ means between, but not within, the parts of a tissue.
 interstitial intrastitial intermuscular intramuscular
- 1.85. The term _____ means enlargement of the liver.
 hepatitis hepatomegaly nephromegaly nephritis

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.

neo- = new

arteri/o = artery

-algia = pain and suffering

arthr/o = joint

-itis = inflammation

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

- 1.86. A medical specialist concerned with the diagnosis and treatment of heart disease is a/an _____.
- 1.87. The term meaning a runny nose is _____.
- 1.88. The term meaning the inflammation of a joint or joints is _____.
- 1.89. A medical specialist in disorders of the newborn is a/an _____.
- 1.90. The term meaning a surgical incision into a nerve is a/an _____.
- 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 _____.
- 1.95. The term meaning an inflammation of the nose is _____.

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

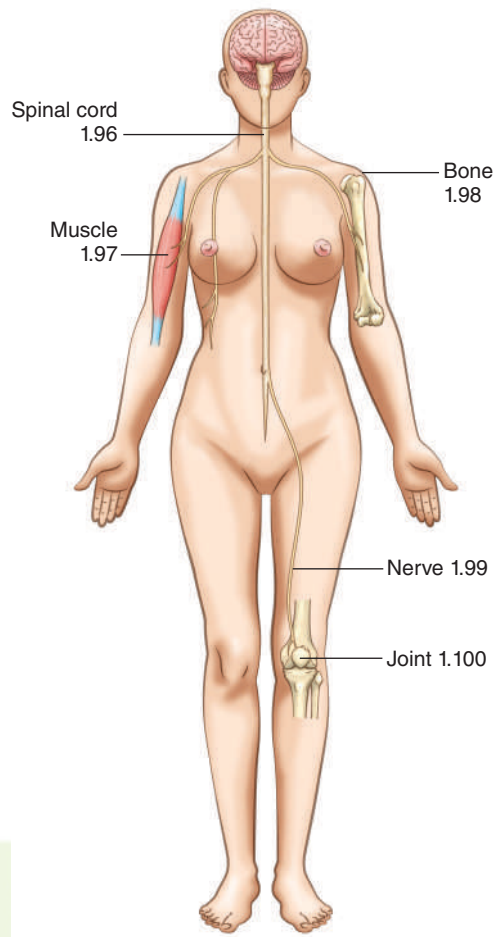
_____.

1.99. The combining form meaning nerve is

_____.

1.100. The combining form meaning joint is

_____.



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ENGAGE |

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.